



PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN

PROVINCE OF BOHOL
2016-2028





REPUBLIC OF THE PHILIPPINES
PROVINCE OF BOHOL
City of Tagbilaran



MESSAGE

As we move into the last year of our third term, we are proud to have served the Boholanos faithfully, continuously and without pause, even as the Boholanos themselves have exemplified the courage, determination and resiliency of Francisco Dagohoy in the wake of many calamities and challenges, most notably the **7.2-magnitude earthquake of 2013** and, recently, the attempted Abu Sayyaf entry in April of 2017. Through all these challenges, I can confidently declare to the world that the Boholano spirit remains triumphant!



This **Annual Report for CY 2017**, aside from showcasing an update on the Bohol Earthquake Assistance (BEA) Project, also summarizes all of our accomplishments in this calendar year. But more than just a documentation of what we have done, this report manifests our love for Bohol through our concerted efforts, always guided by our mantra: **InSPIRED HEAT-IT Bohol**, representing our development pillars and priorities: **Infrastructure, Social Well-being and Shelter, Peace and Order, Interconnectivity, Reforms in Local Governance, Equitable Economic Growth with Environmental Sustainability, and Disaster Risk Reduction & Management/Climate Change Adaptation.**

We are also grateful for the consistent affirmation of our good governance by external authorities, although we maintain that awards and recognition are not the be-all and end-all of governance.

As our term will be ending next year, we are also set on pursuing projects that make us even more excited, more optimistic, and more determined about Bohol's future. The Top 10 Major Development Projects of Bohol specified in this report are the product of dreams and aspirations of our past leaders and our people.

These achievements were made possible because of **full legislative support** from the **Sangguniang Panlalawigan**, dedicated Provincial Government officials and employees, active LGU partners and stakeholders, as well as national, regional and ODA partners, whose convergence made it easy to realize the legacy programs and projects for Bohol's sustainable development.

Let us continue to dream together, and realize our dreams together, inspired by and connected to our heroes, leaders, and loved ones, from whom we draw inspiration and guidance. "Happy are those who dream dreams, even big dreams, as long as they are willing to pay the price to make those dreams come true!"

March 23, 2018.


EDGAR M. CHATTO
Governor



Republic of the Philippines
PROVINCE OF BOHOL
City of Tagbilaran



PROVINCIAL DEVELOPMENT COUNCIL

EXCERPT FROM THE MINUTES OF THE MEETING OF THE PROVINCIAL DEVELOPMENT COUNCIL – FULL COUNCIL MEETING HELD ON DECEMBER 21, 2016 AT THE BOHOL TROPICS RESORT, TAGBILARAN CITY, BOHOL, PHILIPPINES.

In Attendance:

Gov. Edgar M. Chatto.....Chairman, Presiding Officer

and

Majority of the Members of the PDC Full Council

PDC FULL COUNCIL RESOLUTION NO. 01-2016

A RESOLUTION FAVORABLY ENDORSING THE PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP) 2016-2028 OF THE PROVINCE OF BOHOL TO THE SANGGUNIANG PANLALAWIGAN FOR APPROVAL AND FURTHER ENDORSEMENT OF THE SAME TO THE NATIONAL ECONOMIC DEVELOPMENT AUTHORITY (NEDA) AND OTHER NATIONAL GOVERNMENT AUTHORITIES

WHEREAS, as set in the Joint Memorandum Circular No.1 Series of 2007 of the Department of the Interior and Local Government (DILG), National Economic Development Authority (NEDA), Department of Budget and Management (DBM), and the Department of Finance (DOF), provincial local government units are mandated to prepare and implement their Provincial Development and Physical Framework Plan (PDPFP);

WHEREAS, the Province of Bohol, embarked on the process of updating its existing PDPFP, to ascertain that its long-term spatial and development priorities are grounded on current realities, challenges, opportunities and potentials, noting the importance of such plan to guide the development of the province for the next 12 years;

WHEREAS, Bohol Honorable Governor Edgardo M. Chatto, issued Executive Order No. 11 of 2015, creating the Sectoral Technical Working Groups (STWGs) for the updating and enhancement of the PDPFP of Bohol, to ensure participatory, inclusive, integrated and collaborative engagement of all stakeholders in crafting of the said plan;

WHEREAS, the updating of the PDPFP takes into consideration the recent enhancements of the planning and budgeting directives and mandates and thematic and sectoral concerns such as disaster risk reduction and management and climate change adaptation, poverty reduction, gender and development, culture and heritage, and environmental protection and conservation pursuant to, among others, Republic Act No. 10121 – the Philippine Disaster Risk Reduction and Management Act of 2010, Republic Act No. 9729 – Climate Change Act of 2009, DILG Memo Circular 2015-77 – Guidelines on Mainstreaming Climate Change Adaptation and Disaster Risk Reduction in Local Development Planning, DILG Memo Circular No. 2016-102 – Guidelines on the Preparation or Updating of Local Plans, and the NEDA-ADB Guidelines on Provincial/ Local Planning and Expenditure Management (PLPEM);

WHEREAS, through participatory processes involving the members of the STWGs, composed of representatives from local and national governments, civil society organizations, private sector, academe and other concerned groups, the following phases of planning were undertaken: analysis of the social, economic, physical environment, infrastructure and development administration aspects of the province, identification of development issues/ challenges and strategies, setting of vision, goals, objectives and targets, mapping and spatial planning, identification/ prioritization of programs and projects, and investment programming. In the process, the Bohol's Overarching Development Framework was revisited and updated, wherein strategic directions are derived for current and future Executive Legislative Agenda (ELA) setting, annual investment programming and budgeting;

WHEREAS, as the result of the planning exercises, the PDPFP has been crafted for the planning period 2016-2028, including its Local Development Investment Plan (LDIP), with its spatial development framework, map and sectoral plans presented to and deliberated by this Body;

WHEREAS, having discussed the merits of the PDPFP 2016-2028 and its importance to Bohol's sustainable development, this Body has found that such plan is worthy of favorable endorsement and approval;

WHEREFORE, upon proper motion duly seconded, be it resolved by this Body in a meeting duly convened –

To Favorably Endorse the Provincial Development and Physical Framework Plan (PDPFP) 2016-2028 of the Province of Bohol to the Sangguniang Panlalawigan for Approval and Further Endorsement of the same to the National Economic Development Authority (NEDA) and Other National Government Authorities

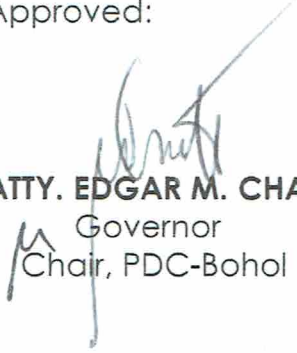
UNANIMOUSLY ADOPTED.

I hereby certify to the correctness of the foregoing Resolution.



ATTY. JOHN TITUS J. VISTAL
PPDC-Bohol
Head, PDC Secretariat

Approved:



ATTY. EDGAR M. CHATTO
Governor
Chair, PDC-Bohol



OFFICE OF THE SANGGUNIANG PANLALAWIGAN

EXCERPT FROM THE RECORD OF PROCEEDINGS OF THE REGULAR SESSION OF THE SANGGUNIANG PANLALAWIGAN OF BOHOL HELD AT SENATOR BENIGNO S. AQUINO, JR. SESSION HALL, TAGBILARAN CITY, ON FEBRUARY 03, 2017.

PRESENT:

Hon. Dionisio D. Balite, Ph.D. Vice Governor, Presiding Officer
Hon. Venzencio B. Arcamo. Senior Member
Hon. Kristine Alexie B. Tutor. Member
Hon. Abeleon R. Damalerio Member
Hon. Dionisio Victor A. Balite, Ph.D. Member
Hon. Ricky U. Masamayor. Member
Hon. Tomas D. Abapo, Jr. Member
Hon. Elpidio M. Jala. Member
Hon. Niño Rey F. Boniel Member
Hon. Agapito C. Avenido Member
Hon. Gloria B. Gementiza Member, PCL

ON OFFICIAL BUSINESS:

Hon. Romulo G. Cepedoza, D.M.D. Member, Liga Ng Mga Barangay

ABSENT:

Hon. Jade A. Bautista Member, On Leave

RESOLUTION NO. 2017-113

APPROVING THE PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP) 2016-2028 OF THE PROVINCE OF BOHOL, AND FAVORABLY ENDORSING THE SAME TO THE NATIONAL ECONOMIC DEVELOPMENT AUTHORITY (NEDA) AND OTHER NATIONAL GOVERNMENT AGENCIES PER RESOLUTION NO. 1, SERIES OF 2016 OF THE PROVINCIAL DEVELOPMENT COUNCIL (PDC) FULL COUNCIL.

(Sponsored by **Hon. Venzencio B. Arcamo**)
(Co-sponsored by the **Honorable Presiding Officer,**
Vice Governor, Atty. Dionisio D. Balite)

"WHEREAS, this August Body through the Office of the Vice Governor, Atty. Dionisio D. Balite, Ph.D., received the letter of Atty. John Titus J. Vistal, Head, Provincial Development Council (PDC) Secretariat, transmitting the Provincial



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- 2 -

Development Council (PDC) Full Council Resolution No. 01-2016, approved by the PDC Full Council during its Meeting on December 21, 2016;

"WHEREAS, the PDPFP was presented and discussed during the PDC Full Council Meeting with the presence of the Members of the Sangguniang Panlalawigan;

"WHEREFORE, be it resolved, as it is hereby resolved, by the Sangguniang Panlalawigan of Bohol in session duly assembled –

To approve the Provincial Development and Physical Framework Plan (PDPFP) 2016-2028 of the Province of Bohol, and favorably endorsing the same to the National Economic Development Authority (NEDA) and other National Government Agencies per Resolution No. 1, series of 2016 of the Provincial Development Council (PDC) Full Council;

"RESOLVED FURTHER, to furnish a copy of this resolution to all parties concerned for their information and appropriate action;

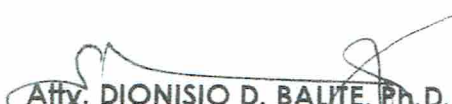
"APPROVED."

I hereby certify to the correctness of the above-quoted Resolution.



BONIFACIO M. QUIROG, JR., Ph.D.
SP Secretary

ATTESTED:



Atty. DIONISIO D. BALITE, Ph.D.
Prov'l. Vice Governor
(Presiding Officer)

CONTENTS

Bohol Provincial Development and Physical Framework Plan 2016-2028

	<u>Page</u>
<i>Message from the Governor</i>	
<i>Sangguniang Panlalawigan Resolution Approving the PDPFP</i>	
<i>Provincial Development Council Resolution Approving the PDPFP</i>	
CHAPTER I - Vision, Mission, Goals	
• <i>Province of Bohol's Vision and Mission Statement</i>	1
• <i>Overarching Development Framework</i>	2
• <i>PLGU Disaster Risk Reduction Management Vision and Mission</i>	5
• <i>Bohol's Disaster Risk Reduction Management Framework</i>	6
• <i>Framework for Open, Business-Friendly Governance and Shared Leadership</i>	6
• <i>Spatial Development Map/Opportunities Map</i>	7
CHAPTER II - Planning Environment	
• <i>Location, Land Area and Political Subdivisions</i>	9
• <i>Demographic Trends, Settlement Patterns and the Social Environment</i>	10
○ <i>Population and Settlements</i>	10
○ <i>Population Projection</i>	15
○ <i>Settlement Pattern and Hierarchy</i>	17
• <i>Physical Resources</i>	
○ <i>Main Geological Features of Bohol</i>	21
○ <i>Topography and Slope</i>	22
○ <i>Slope Range</i>	23
○ <i>Soil Types</i>	24
○ <i>Land and Water Resources</i>	26
○ <i>Surface Freshwater, Groundwater Resources and Bohol's Watersheds</i>	26
• <i>Economy</i>	
○ <i>Agriculture</i>	
○ <i>Land Utilization</i>	28
○ <i>Crops</i>	29
○ <i>Livestock And Poultry Development</i>	32
○ <i>Fish Production</i>	34
○ <i>Tourism</i>	
○ <i>Tourist Arrivals</i>	36
○ <i>Tourism Support Facilities and Services</i>	38
○ <i>Tourist Arrivals and Demand for Rooms and Economic Effects</i>	40
○ <i>Meetings, Incentives, Conventions, and Exhibitions (MICE) Facilities in Bohol</i>	42
○ <i>Ancillary Tourism Facilities and Services</i>	43

○ Trade and Industry	
○ Employment	44
○ Family Income and Expenditure	48
○ Manufacturing and Priority Sectors	49
○ Micro, Small and Medium Enterprise (MSME) Development	50
Vulnerability and Risk Assessment	
● Population Hazard Exposure	
○ Population Exposure to Earthquake-induced Landslide	5
○ Population Exposure to Ground Shaking	53
○ Population Exposure to Tsunami	55
○ Population Exposure to Liquefaction	57
○ Population Exposure to Storm Surge	59
○ Population Exposure to Rain-induced Landslide (RIL)	62
● Exposure of Built-up Areas to Hazards	
○ Built-up Areas Exposed to Earthquake-induced Landslide	64
○ Built-up Areas Exposed to Ground Shaking Hazard	67
○ Built-up areas Exposed to Tsunami	70
○ Built-up areas exposed to Liquefaction	71
○ Built-up areas exposed to Storm Surge	74
Present Initiative to Address Climate Change Concern	
○ Vulnerability Assessment	78
○ Forestry	79
○ Biodiversity	79
○ Coastal and Marine	79
○ Vulnerability Assessment Index	80
○ Land Area Potentials and Constraints	81
○ Land Use Classification	81
Climate of the Province	82
Existing Policies and Initiatives on Climate Change Adaptation	85
Climate Change Threats and Potential Impacts	86
Institutional Capacities of the Provincial Government of Bohol to Implement Climate Change Adaptation	
Protection Areas	91
Hazard Profile	
○ Flooding	92
○ Rainfall-Induced Landslide	96
○ Storm Surge	102
○ Geologic Hazards	105
○ Earthquake and Related Hazards	106
○ Earthquake Induced Landslide	110
○ Tsunami Hazard	114
○ Liquefaction Hazard	114

○ <i>Summary Matrix for Hazard Susceptibility</i>	116
Environmental Constraints/Constrained Areas	117
Current Disaster Risk Reduction Initiatives in Bohol	122
DRRM and CCA Capacity Assessment	124
Potential Exposures to Hazards	132
● <i>Disaster Risk Assessment of the Agriculture Sector</i>	
○ Agricultural Areas Exposed to Earthquake-Induced Landslide	137
○ Agricultural Areas Exposed to Ground Shaking Hazard	139
○ Agricultural areas exposed to Tsunami	141
○ Agricultural areas exposed to Liquefaction	144
○ Agricultural areas exposed to Storm Surge	146
○ Agricultural areas exposed to Rain Induced Landslide	148
○ Agricultural areas exposed to Flooding	150
○ Vulnerability Assessment for Agriculture	153
● <i>Transport, Access and Circulation Exposure</i>	
○ Roads Exposure to Earthquake-Induced Landslide Hazard	154
○ Roads Exposure to Ground Shaking Hazard	157
○ Road Exposure to Liquefaction Hazard	159
○ Roads Exposure to Rain-Induced Landslide Hazard	160
○ Roads Exposure to Storm Surge Hazard	165
○ Roads Exposure to Tsunami Hazard	169
● <i>Income, Employment, Service Access and Poverty</i>	170
○ Initiatives to Address Climate Change Concerns	
CHAPTER III - Situational Analysis (Issues and Concerns)	
● <i>Environment and Natural Resources Management Sector</i>	180
● <i>Social Development Sector</i>	258
● <i>Economic Development Sector</i>	343
● <i>Development Administration Sector</i>	444
● <i>Infrastructure Development Sector</i>	504
CHAPTER IV - Development Framework (Goals, Objectives, Targets)	
● <i>Environment and Natural Resources Management Sector</i>	565
● <i>Social Development Sector</i>	560
● <i>Economic Development Sector</i>	564
● <i>Development Administration Sector</i>	573
● <i>Infrastructure Development Sector</i>	584
CHAPTER V - Strategies	599
CHAPTER VI - Land Use and Physical Development	625
CHAPTER VII - Programs, Projects and Activities	

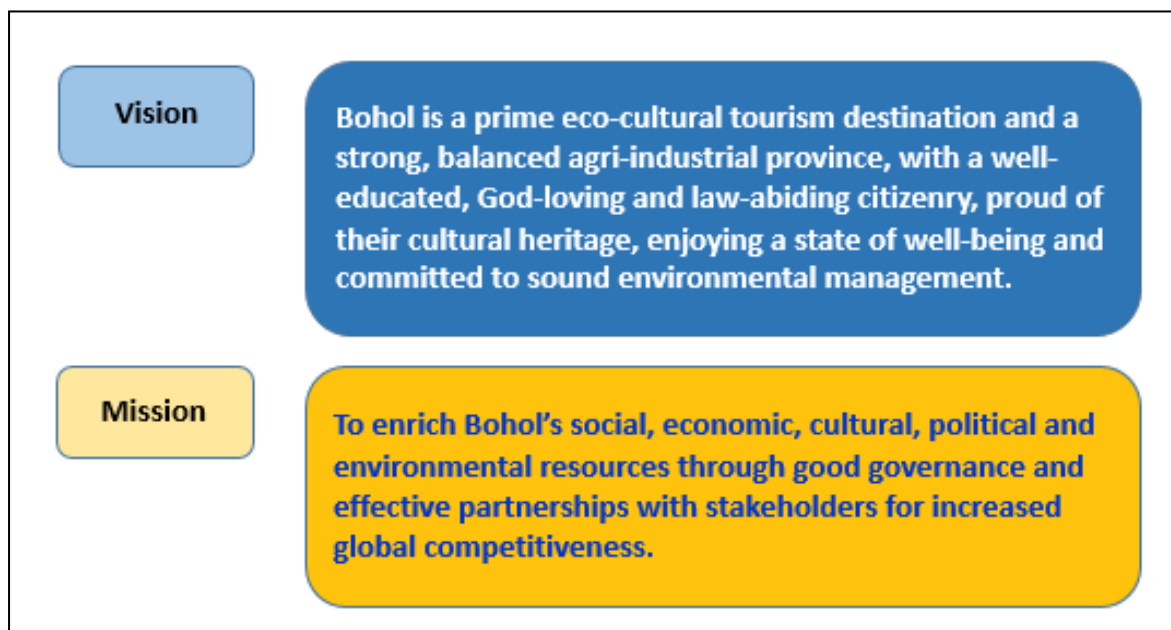
Sectoral Plans	
• <i>Environment and Natural Resources Management Sector</i>	645
• <i>Social Development Sector</i>	656
• <i>Economic Development Sector</i>	659
• <i>Development Administration Sector</i>	677
• <i>Infrastructure Development Sector</i>	700
Local Development Investment Plan (LDIP)	
• <i>Environment and Natural Resources Management Sector</i>	
• <i>Social Development Sector</i>	
• <i>Economic Development Sector</i>	
• <i>Development Administration Sector</i>	
• <i>Infrastructure Development Sector</i>	
CHAPTER VIII - Monitoring and Evaluation System	730

Chapter I

VISION, MISSION, GOALS AND STRATEGIES

The Province of Bohol's development has been guided by its vision and mission statements that have been crafted originally during the administration of Governor Rene Relampagos with assistance from the United State Agency for International Development (USAID) Gold Project. Through continuous consultative and participatory processes where practically all stakeholders and sectors were represented, the vision and mission statements were formulated and served as the overall guiding beacon of what Bohol wants to be, summarizing the aspiration of its people and the foundation of government's continued efforts of providing services, facilities and overall governance of the province.

The vision and mission statements, for several provincial administrations, have been adopted and revalidated to ensure that the province's goals, strategies and programs are aligned with such long-term development state. Below are the vision and mission statement of the Province of Bohol.



The Bohol overarching development framework is articulated using the acronym InSPIRED HEAT IT Bohol, which simply means **I**nfrastructure, **S**ocial Well-being, **P**eace and Order, **I**nterconnectivity, **R**eforms in Local Governance, **E**nvironmental Sustainability, **D**isaster Risk Reduction and Climate Change Adaptation (DRRM-CCA), **H**ealth and Sanitation, **E**ducation and Skills Development, **A**griculture and Food Security, **T**ourism and Livelihood, **I**nformation Technology, **B**oholano Culture and Heritage Preservation.

The updated development framework supports the achievement of the development vision of the Province and gives more emphasis on the following:



Infrastructure Support: on top of regular projects for roads and bridges, other infrastructure development interventions will be pursued for agriculture, social welfare service facilities, classrooms, hospitals and government buildings. Public-private partnerships will be strengthened to continue to implement programs for bulk water supply and power development. The strong partnership and collaboration with the national government agencies will be sustained for large infrastructure investments for airport, ports, and irrigation development.

Social Well-being and Shelter: development interventions and services for vulnerable groups, persons with disabilities including the conduct of mobile services. Collaboration with various stakeholders for the relocation of vulnerable communities as well as the completion of the construction of core shelter for the earthquake victims in the province. Enhancement of disaster preparedness and response capabilities shall also be continued. Through fund-sourcing, shall establish rehabilitation service facility. Also, to continue to advocate for the prevention of illegal recruitment and human trafficking.

Peace and Order: this is a continuing concern in the province, not just for anti-illegal drugs but for all forms of criminality including efforts to maintain internal security. Convergence for anti-criminality programs through the Provincial Peace and Order Council (PPOC) and Joint Task Force Dagon. Support shall be continued for the enhancement of capabilities of law enforcement agencies/ LGUs including the upgrading of facilities and equipment to fight and prevent crimes. Jail decongestion program and designation of additional anti-illegal drug court shall be supported in collaboration with appropriate national government agencies. A drug rehabilitation center will also be constructed.

Interconnectivity: sustaining partnerships and collaboration among LGUs, NGAs, CSOs, and the Private Sector in pursuing common development goals, through counterparting arrangements and sharing of technologies and skills. Strategic convergence with stakeholders for various socio-economic development initiative implementation in the province. Also to improve physical interconnectivity through various infrastructure projects for information technology, power, water, communications, roads and bridges.

Reforms in Governance: The PGBh shall continue to initiate reforms for more efficient, developmental, accountable and responsive governance. Strategies to achieve these include increase in local revenue generation, improvement of systems and processes and policy implementation especially for public financial management and human resource capacity development. The operation of local special bodies shall also be strengthened and local codes needed shall be enacted/ reviewed.

Equitable Economic Growth with Environmental Sustainability: the PGBh shall continue to improve the performance of the province's economic drivers on agriculture, tourism, trade and investments and new industries for IT – based services in collaboration with stakeholders. The establishment of micro-small-medium enterprises shall be supported and the operation of the Negosyo Center and Business One Stop Shop shall be sustained. In doing this, the protection and preservation of the environment shall be underscored and benefits shall trickle down to the grassroot level.

Disaster Risk Reduction & Management/ Climate Change Adaptation: Considering that the province is prone to multiple natural hazards, building capacities and awareness for disaster preparedness, mitigation, response shall be heightened. Among the strategies to be supported are: establishment of early warning system, awareness campaign at the community level, strengthening of local DRRM offices, upgrading of capabilities and facilities/ equipment, and mainstreaming of DRRM to local development plans.

The programs for Health, Education, Agriculture, Tourism, and Information Technology (HEAT-IT) shall also be continued:

Health and Sanitation: pursuing programs to improve hospital and sanitation services, hospital facilities and equipment upgrading, special universal Philhealth Program, medicine and medical supply management, specialization of hospital services, and sustaining effective health programs.

Education and Skills Development – improving school facilities, providing other avenues to develop the skills of labor force, which are responsive to the industries available in the province, implementation of the Dynamic Learning Program, establishment / operation of municipal libraries, CPG Scholarship Program, and strengthening partnerships with various national government agencies and stakeholders to pursue education and skills development.

Agriculture and Food Security: Continue to implement and expand the services for agriculture, fisheries, livestock sectors thru the different programs of the provincial government, NGAs and other LGUs. Modernization of agri-livestock and fishery facilities, promotion of agri-business, strengthening agri-database, and capacity development for project implementers.

Tourism and Livelihood: this shall include support to product development of new tourism sites and improvement of existing sites. Extensive promotion and marketing for Bohol's tourism industry, provision of infrastructure support to tourism, and creative tourism development.

Information Technology: Though this is mainly driven by the private sector, the Province is working closely for the availability of needed resources (human resource and skills) and infrastructure support (reliable power, communication network) for the IT industry, as well as facilitating, with LGUs to provide an investment-friendly environment for IT. Also to be sustained are the implementation of the Bohol Information System Strategic Plan, and the development/ maintenance of processes and application software/ systems.

Another priority item added is **Bohol** for **Boholano Culture and Heritage Preservation**, which covers the revitalization and promotion of our culture and the arts, creation of arts groups, capacity development support program for Boholano artists, and support for the creation of municipal culture office in LGUs. Furthermore, mainstreaming the Boholano culture and arts development across development sectors and planning shall be promoted.

On top of the Framework, the “**GREEN BOHOL**” banner is included to stress the province's priority to pursue sustainable development and the protection of the environment, supporting programs and projects that are climate change responsive, and the development/ utilization of renewable resources.

At the center of the Framework is the long-term vision-mission of Bohol, with still, **poverty reduction** as the main goal. While the province has been successful in reducing poverty

incidence among its people, the latest survey shows that 21.7% of the families are still living in poverty. While this figure is way below the 50.2% poverty incidence in year 2000 wherein Bohol was among the 20 poorest provinces in the country, the government would still sustain its socio-economic programs to uplift the lives and welfare of Boholano constituents.

The PGBh will be pushing for the attainment of other goals set for **Environment Protection and Management, Social Equity, Economic Development and Wealth Creation, Cultural Heritage and Boholano Values, and responsive, Transparent and Accountable Governance.**

Looking into the different development pillars, the identified goals and strategies for the province of Bohol at the medium-term, and the eventual implementation of programs and projects, as embodied in this Provincial Development and Physical Framework Plan (PDPFP), Local Development Investment Program (LDIP), Annual Investment Plan (AIP) and Annual Appropriations of the PGBh, other LGUs, and various national government agencies, Bohol hopes to promote **inclusive growth** for all that will eventually **lead to equitable and accelerated prosperity.**

PLGU Disaster Risk Reduction Management (DRRM) Vision and Mission Statements

Bohol's Disaster Risk Reduction and Management (DRRM) Vision and Mission Statements were crafted through consultative and participative approaches from the government, non-government organizations, private and business sectors.

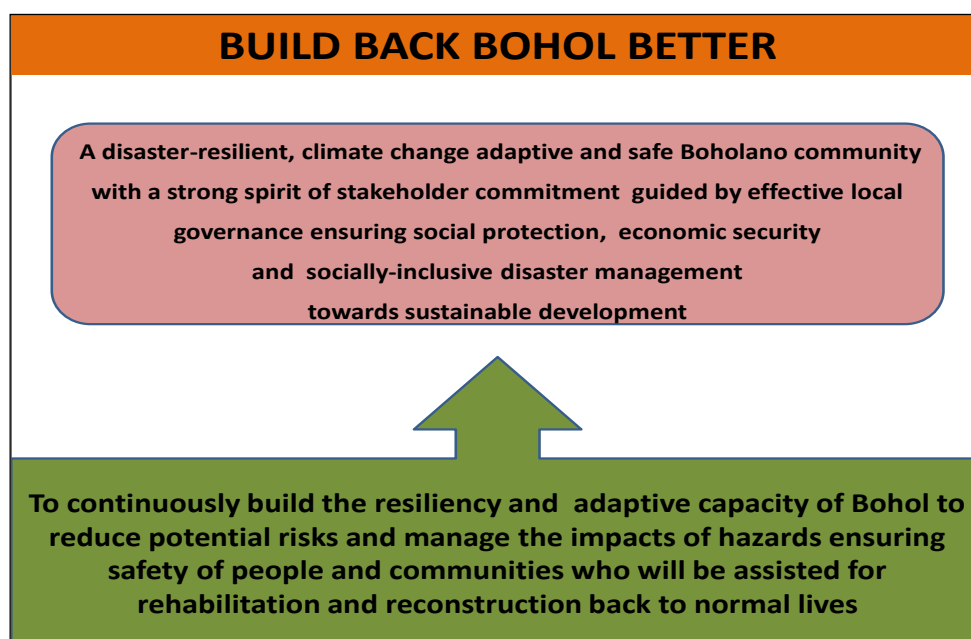
Vision

A disaster-resilient, climate change adaptive and safe Boholano community
with a strong spirit of stakeholder commitment guided by effective local
governance ensuring social protection, economic security
and socially-inclusive disaster management
towards sustainable development

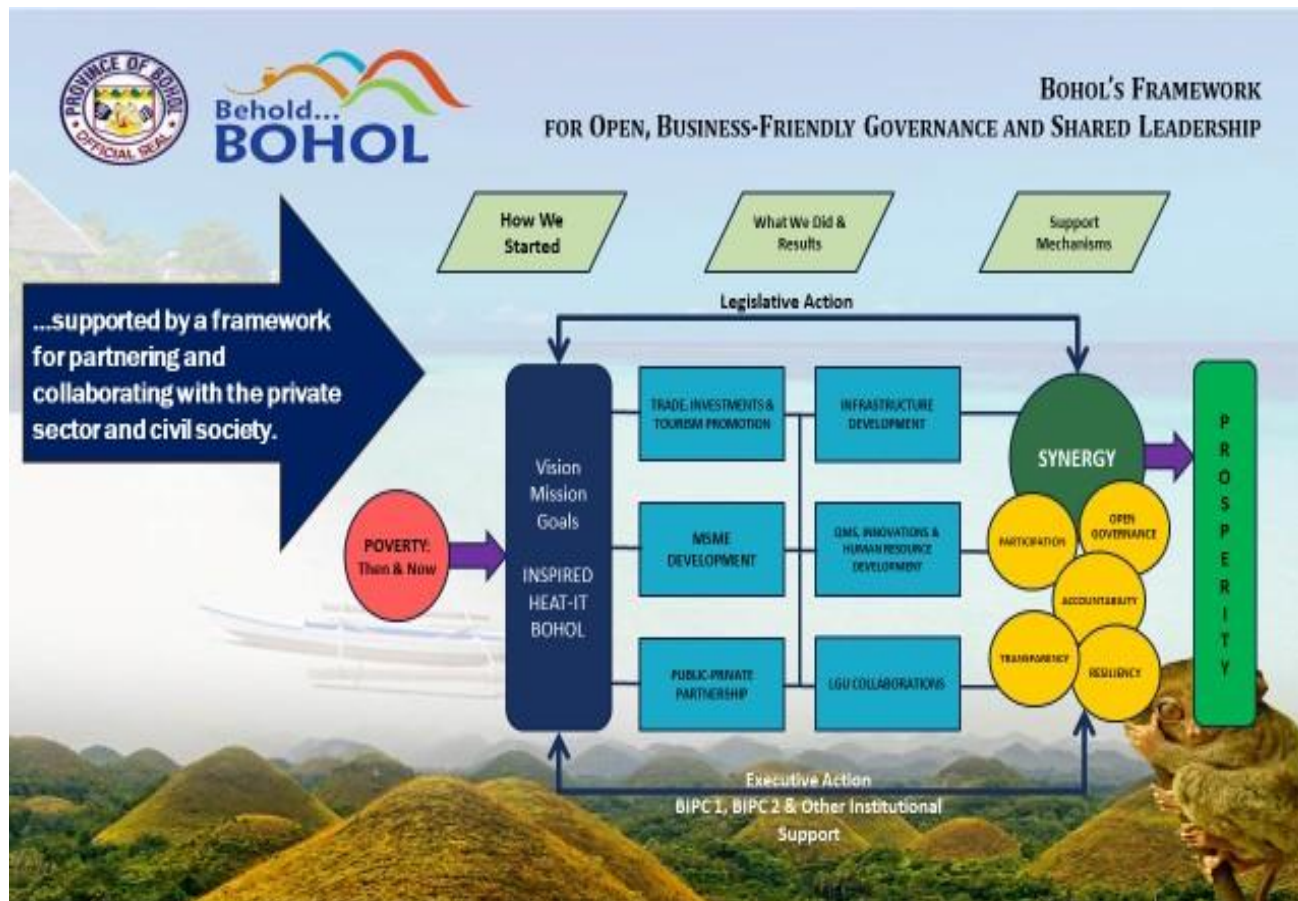
Mission

To continuously build the resiliency and adaptive capacity of Bohol to reduce potential risks and manage the impacts of hazards ensuring safety of people and communities who will be assisted for rehabilitation and reconstruction back to normal lives

Bohol Disaster Risk Reduction Management Framework



Bohol's Framework for Open, Business-Friendly Governance and Shared Leadership



Through the INSPIRED HEAT-IT BOHOL development framework, the Sangguniang Panlalawigan (SP) of Bohol was able to perform legislative actions on trade, investments and tourism promotion, MSME development, Public-Private Partnership (PPP), infrastructure development, Quality Management System (QMS), innovations and human resource development and local government unit (LGU) collaborations.

A synergy of support mechanisms was kept in place through public participation and open governance with accountability, transparency and resiliency. It is expected that all these efforts will eventually reduce poverty and lead to prosperity for all.

Spatial Development Map/ Opportunities Map of the Province of Bohol

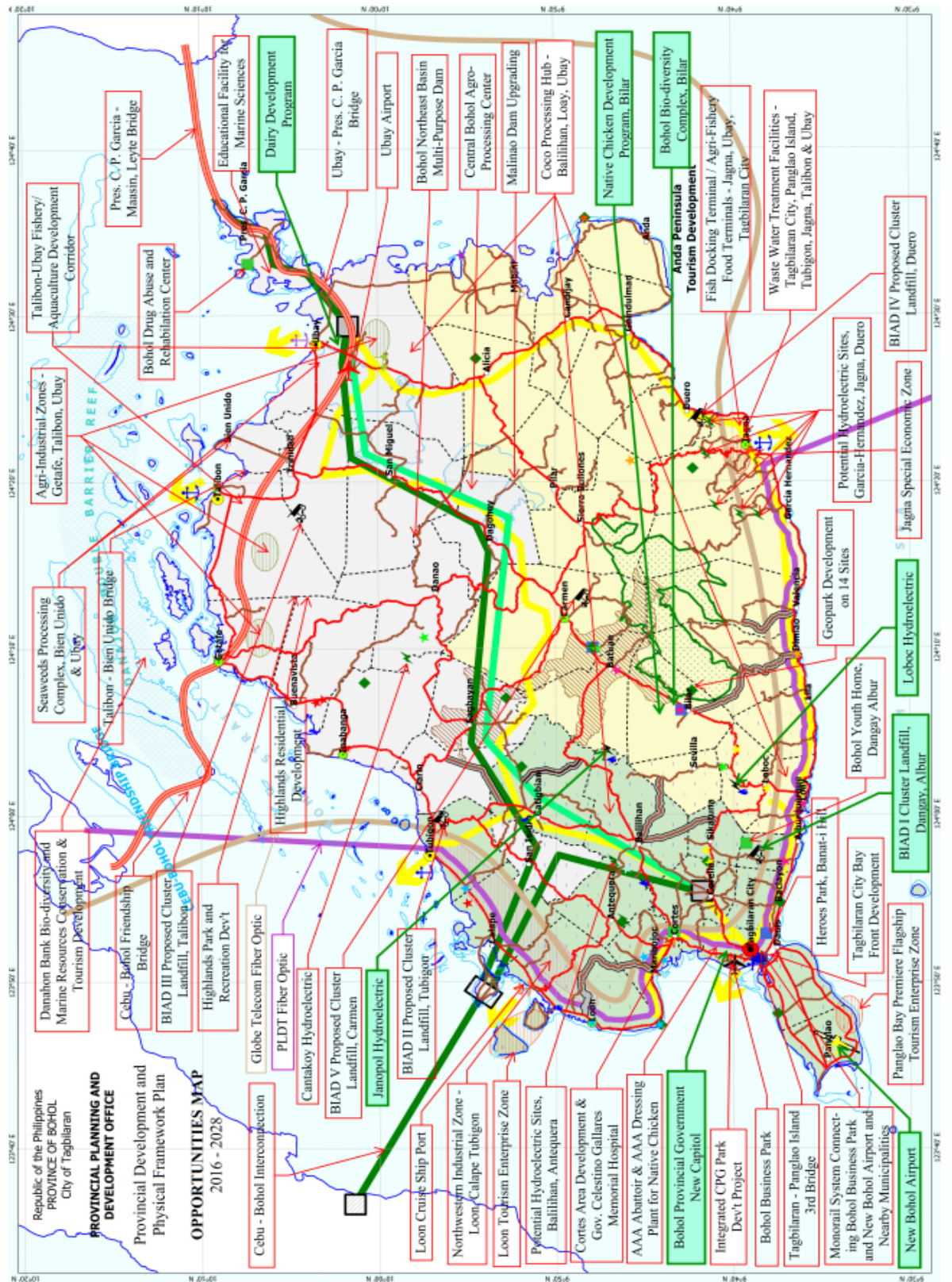
Through participatory planning processes, the Province of Bohol has plot its spatial development priorities for the next 12 years directly supporting the attainment of its vision, mission and goals. Created to craft its spatial development framework were Sectoral Technical Working Groups, composed of representatives of all Provincial Government departments/ offices, national government agencies, local government units, civil society organizations, private sector, academe, people's organizations, and other stakeholders. Through workshops, consultative meetings and group discussions, priority programs and projects to pursue in the short, medium and long-term were identified, validated and approved, making the framework an important guiding document for government and all other stakeholders to consider in making their respective plans, investment programs and budgets.

The spatial development map summarizes the major projects of the province of Bohol across all sectors and sets the blueprint of opportunities that not just the government can pursue but the private sector and other stakeholders as well. Important infrastructure projects, especially those that require financial resources, can be undertaken through public-private-partnership arrangements, allowing the private sector to directly participate in the provision of facilities and services to the public, while recouping their investments in appropriate time. This strategy would give government to use its limited resources to other equally important socio-economic programs and projects.

Consistent with its overarching development framework, Bohol shall move towards these development aspirations by adhering to the principles of sustainable development, giving premium to the protection and preservation of its natural environment, managing capacities of not just institutions, but more importantly its people and the environment.

Shown below is the spatial/ opportunities map of the Province of Bohol.

Opportunities Map Spatial Development Map Province of Bohol



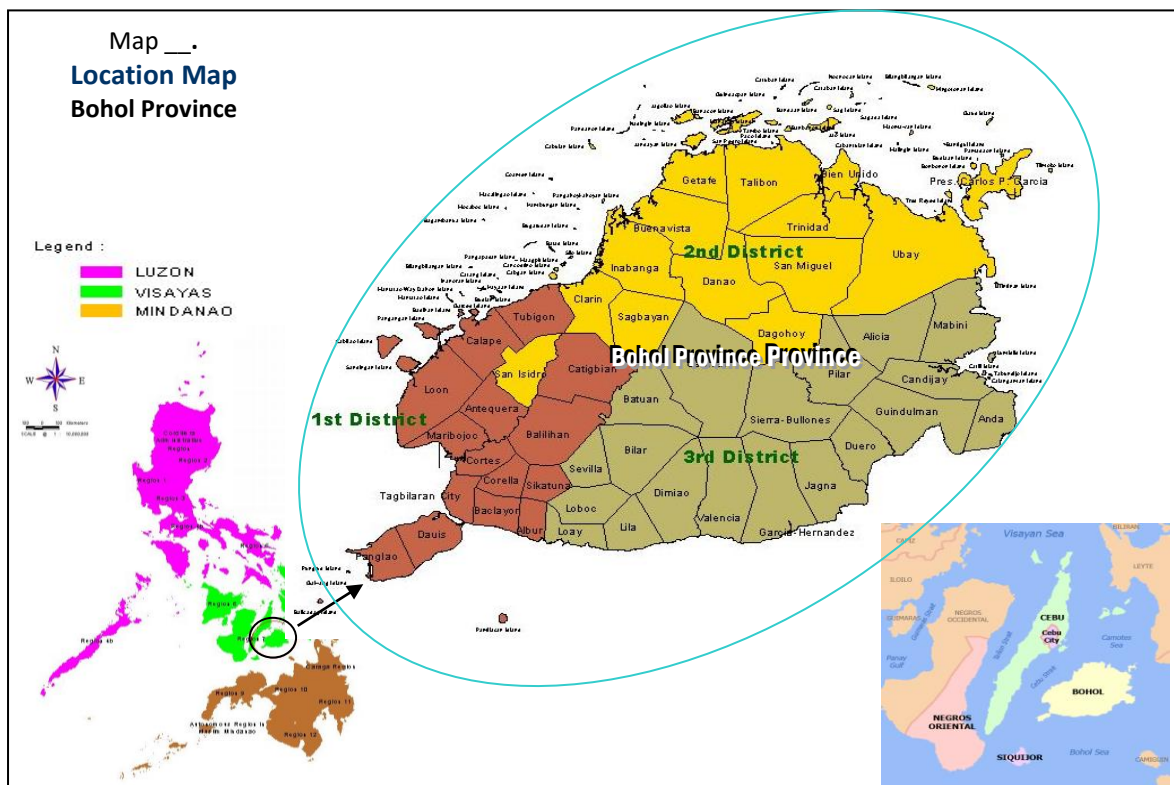
Chapter II

PLANNING ENVIRONMENT

- **Location, Land Area and Political Subdivisions**

Bohol is situated in Region 7 (Central Visayas), with the islands of Cebu at its northwest across the Bohol Strait, Leyte in the northeast separated by the Camotes Sea and Canigao Channel and Mindanao at its southern border with the Bohol Sea in-between. The main island is surrounded by about 73 smaller islands, with Panglao Island at the southwest and Lapinig Island in the northeast among its larger islands. Bohol Province has a total land area of 411,726 hectares. Located almost centrally in the Philippine archipelago, the island province of Bohol is about 1 hour and 45 minutes (556.16 nautical miles) by airplane directly south of Manila and about 30 minutes (39.7 nautical miles) southeast of Mactan Island, Cebu. Bohol is within north latitude 9°30'00" and 10°15'00" and east longitude 123°40'00" and 124°30'30".

Access to Bohol can be by air or sea transportation direct from Manila and some Mindanao provinces or via Cebu. There are also small sea crafts plying the Bohol-Leyte route. Tagbilaran City, the capital and only city of Bohol, is located on the southwest corner of the main island of the province, just across the smaller island of Panglao.



- **Demographic Trends, Settlement Patterns and the Social Environment**

The spatial distribution of populations and settlements across an area and their interconnectivity and accessibility from urban areas are important for delivering healthcare, distributing resources and economic development. Improving access of settlements especially of rural populations to other areas and markets is a key driver for development and plays an important role in poverty reduction. Development among rural populations depends on access to markets for buying and selling goods and to various social and economic services such as education, healthcare or banking and credit.

Current social conditions, as it impact on the quality of life of Boholanos, may be gauged from the following state of development, the quality of jobs, and the access which the poor have to decent earning opportunities that will be crucial determinants of poverty reduction.

Population and Settlements

- *Population Size, Distribution and Growth*

Bohol's total resident population, in the latest census survey conducted by the Philippine Statistics Authority (PSA) in 2015 registered at 1.313 million Boholanos.¹ It comprised 1.3 percent of the country's population of 101 million Filipinos, ranking 21st most populous province among the country's 81 provinces in 2015.

Among the three provinces comprising Region VII, Cebu (excluding Cebu City, Lapu-Lapu City, and Mandaue City) had the biggest population in 2015 with 2.94 million, followed by Bohol with 1.31 million. Siquijor had the smallest population with 96 thousand. The total population of Region VII accounted for about 6.0 percent of the Philippine population in 2015.

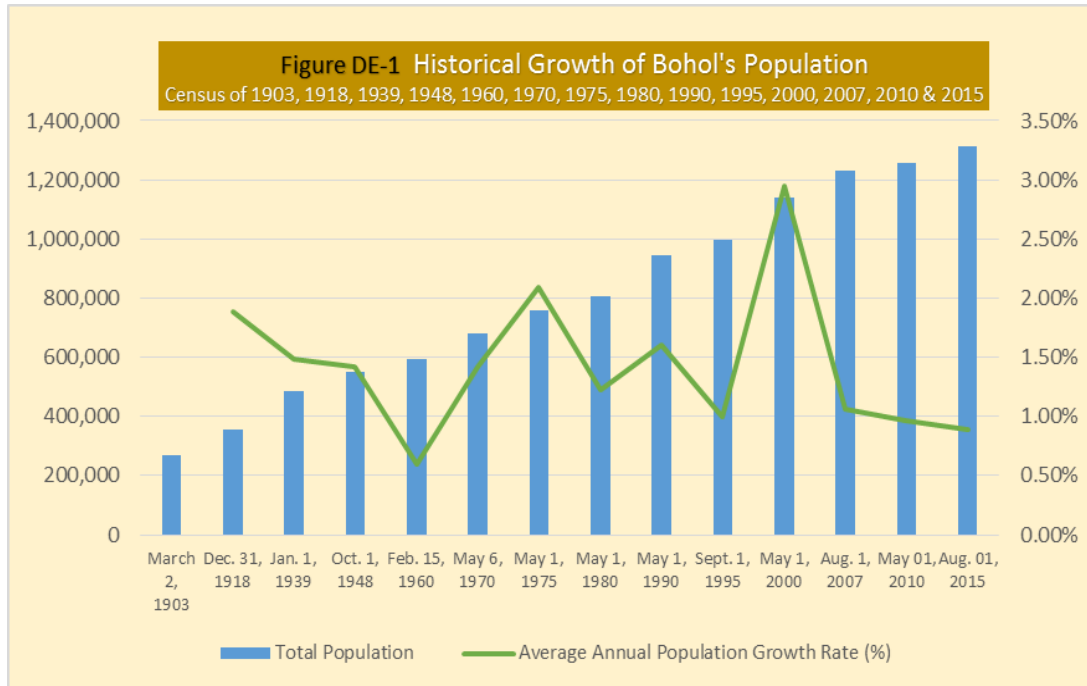
Table PE-1. Population by Province/Highly Urbanized City: Region VII - Central Visayas
(Based on the 2000, 2010, and 2015 Censuses)

Province/Highly Urbanized City	Population (in thousands)		
	2000	2010	2015
Bohol	1,139	1,255	1,314
Cebu (excluding Cebu City, Lapu-Lapu City, and Mandaue City)	2,161	2,619	2,939
<i>Cebu City</i>	719	866	923
<i>Lapu-Lapu City</i>	217	350	408
<i>Mandaue City</i>	260	331	363
Siquijor	82	91	96

Source: Philippine Statistics Authority (PSA)

¹ 2015 Census of Population and Housing conducted 01August2015, Philippine Statistics Authority pursuant to Republic Act No. 10625

Bohol's population has more than quadrupled in 2015 compared to a decade ago. Its population in 1903 was only about 269 thousand residents. It has since then been steadily increasing thru the years as illustrated in Figure DE-1.



The pace of increase in its population, however, started to slow down between 1990 to the present congruent with the national trend although both still experienced positive growth. The Philippine population increased by 1.72 percent annually, on the average, during the period 2010 to 2015. By comparison, the rate at which Bohol's population grew during the same period was very much lower at 0.87 percent. At this rate, Bohol's population will double in 79 years.

Among its LGUs, only eight had increased its growth in population while the rest experienced a slowing down of its pace of population growth including Tagbilaran City from 1990 to 2015. The fastest growing localities, in terms of population increase during the same period, were the Municipality of Panglao with a yearly population growth rate of 3.01 percent, followed by Dauis Municipality at 2.76%. Tagbilaran City grew only at 1.54% annually during the same period.

Map DE-1. Population Size Maps: Census of 2010 and 2015

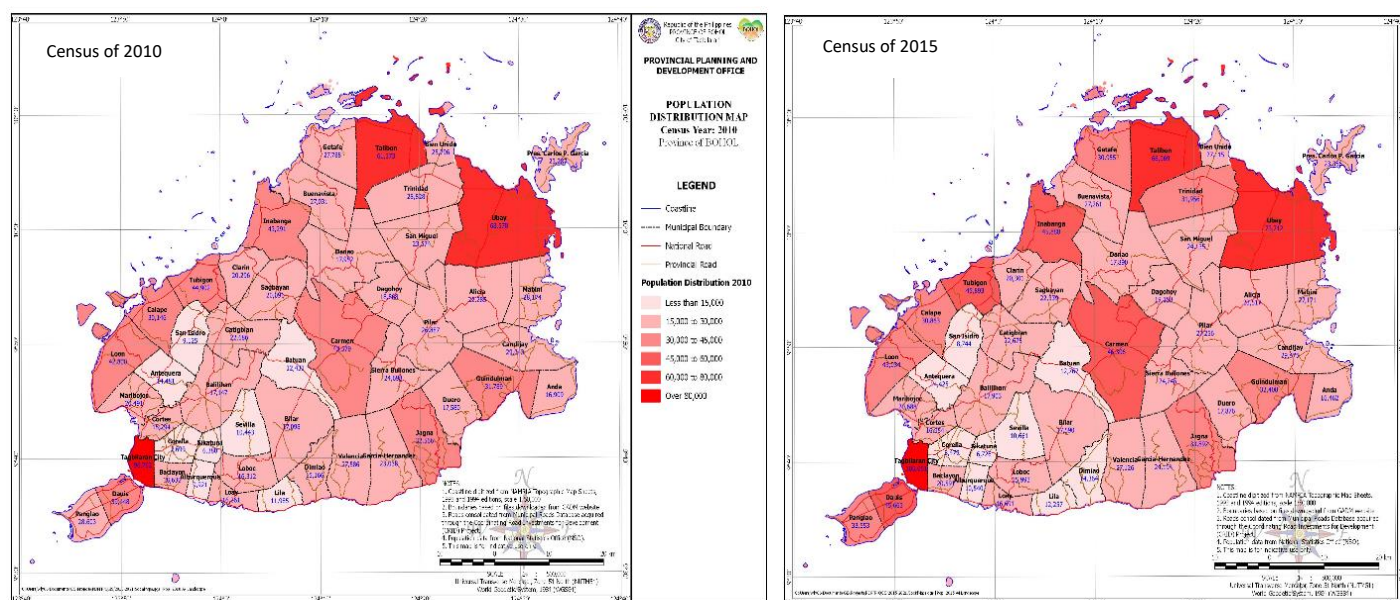


Table PE-2. Total Population by City/Municipality and Corresponding Annual Population Growth Rate (%), Census of 1990, 2000, 2010 & 2015
Bohol Province

City/ Municipality	Number of Barangays	Total Population				Annual Population Growth Rate (%)		
		May 01, 1990	May 01, 2000	May 01, 2010	Aug. 01, 2015	1990-2000	2000 - 2010	2010 - 2015 *
Philippines	42,036	60,703,810	76,506,928	92,337,852	100,981,437	2.34	1.9	1.70%
Central Visayas	2,447	4,594,124	5,706,953	6,800,180	6,041,903	2.19	1.77	-2.25%
Bohol	1,109	948,403	1,119,130	1,255,128	1,313,560	1.85	0.97	0.87
Alburquerque	11	6,881	8,715	9,921	10,540	2.39	1.30	1.14%
Alicia	15	18,653	21,605	22,285	23,517	1.48	0.31	1.02%
Anda	16	13,497	17,863	16,909	16,462	2.84	-0.55	-0.51%
Antequera	21	12,348	13,758	14,481	14,425	1.09	0.51	-0.07%
Baclayon	17	11,986	14,996	18,630	20,591	2.26	2.19	1.89%
Balilihan	31	14,850	16,837	17,147	17,903	1.26	0.18	0.81%
Batuan	15	11,438	11,835	12,431	12,767	0.34	0.49	0.50%
Bien Unido	15	19,047	2,176	25,796	27,115	1.53	1.52	0.94%
Bilar	19	14,926	16,628	17,098	17,590	1.08	0.28	0.54%
Buenavista	35	21,665	25,960	27,031	27,261	1.82	0.40	0.16%
Calape	33	24,608	27,921	30,146	30,863	1.27	0.77	0.44%
Candijay	21	26,102	30,389	29,043	29,475	1.53	-0.45	0.28%
Carmen	29	34,573	40,713	43,579	46,306	1.65	0.68	1.15%
Catigbian	22	17,362	21,461	22,686	22,675	2.14	0.56	-0.02%
Clarín	24	16,021	18,040	20,296	20,301	1.19	1.18	0.01%
Corella	8	6,150	6,048	7,699	8,479	-0.17	2.44	1.82%
Cortés	14	10,527	12,702	15,294	16,954	1.89	1.87	1.94%
Dagohoy	15	13,121	16,845	18,868	19,158	2.53	1.14	0.29%
Danao	17	12,671	17,265	17,952	17,890	3.14	0.39	-0.07%
Dauis	12	23,601	26,415	39,448	45,663	1.13	4.09	2.76%
Dimiao	35	11,697	14,151	15,166	14,364	1.92	0.69	-1.03%
Duero	21	14,242	16,485	17,580	17,876	1.47	0.64	0.32%

City/ Municipality	Number of Barangays	Total Population				Annual Population Growth Rate (%)		
		May 01, 1990	May 01, 2000	May 01, 2010	Aug. 01, 2015	1990-2000	2000 - 2010	2010 - 2015 *
Garcia-Hernandez	30	18,956	21,428	23,038	24,194	1.23	0.73	0.92%
Guindulman	19	26,225	31,028	31,789	32,408	1.69	0.24	0.36%
Inabanga	50	37,400	40,714	43,291	45,880	0.85	0.62	1.10%
Jagna	33	26,163	30,643	32,566	33,892	1.59	0.61	0.75%
Getafe	24	21,135	26,826	27,788	30,955	2.41	0.35	2.04%
Lila	18	8,556	10,322	11,985	12,257	1.89	1.50	0.42%
Loay	24	12,677	14,433	16,261	16,691	1.3	1.20	0.49%
Loboc	28	13,716	15,734	16,312	15,993	1.38	0.36	-0.37%
Loon	67	34,400	45,215	42,800	43,034	2.77	-0.55	0.10%
Mabini	22	21,854	27,250	28,174	27,171	2.23	0.33	-0.68%
Maribojoc	22	15,214	16,786	20,491	20,688	0.99	2.01	0.18%
Panglao	10	17,004	21,337	28,603	33,553	2.29	2.97	3.01%
Pilar	21	19,930	25,095	26,887	27,256	2.33	0.69	0.26%
Pres. Garcia	23	21,173	20,744	23,287	23,356	-0.2	1.16	0.06%
Sagbayan	24	15,364	18,346	20,091	22,339	1.79	0.91	2.00%
San Isidro	12	7,840	9,106	9,125	8,744	1.51	0.02	-0.80%
San Miguel	18	16,775	20,828	23,574	24,135	2.19	1.25	0.44%
Sevilla	13	9,165	10,281	10,443	10,661	1.15	0.16	0.39%
Sierra Bullones	22	21,101	25,499	24,698	24,745	1.91	-0.32	0.04%
Sikatuna	10	5,525	6,602	6,380	6,726	1.8	-0.34	1.00%
Tagbilaran City	15	56,363	77,700	96,792	105,051	3.26	2.22	1.54%
Talibon	25	41,873	54,147	61,373	66,969	2.6	1.26	1.65%
Trinidad	20	19,945	25,683	28,828	31,956	2.56	1.16	1.94%
Tubigon	34	34,302	40,385	44,902	45,893	1.64	1.07	0.41%
Ubay	44	48,902	59,827	68,578	73,712	2.04	1.37	1.36%
Valencia	35	20,879	24,363	27,586	27,126	1.55	1.25	-0.32%

Source: Philippine Statistics Authority * 2015 LGU APGR computed by PPDO using Exponential Growth Rate where $t = 5.3$ years

• **Density and Urbanization**

Although Bohol's provincial population density at 288 persons per square kilometer (p/k^2) is lower than that of the national and regional averages, it has 17 LGUs **with more than 337 residents p/k^2 of land. The top most densely populated LGUs are Tagbilaran City, Dauis, Bien Unido, Panglao, Baclayon, Tubigon, Cortes, Pres. Carlos P. Garcia, Talibon and Loon.** Tagbilaran City is as closely dense as Cebu City with Mandaue City being the most densely populated Highly Urbanized City in Region 7 outside of NCR with 14,402 p/k^2 of land, an additional 1,586 persons p/k^2 from the 18,402 p/k^2 in 2010. It is almost 10 times higher than the population density of the country.

In Bohol, Tagbilaran City was the most densely populated among the province's LGUs at 3,320 p/k^2 , followed by Dauis Municipality at 1,054 p/k^2 . Among the three legislative districts of Bohol, 1st District was the most densely populated and had the biggest share of Bohol's population in 2015. The concentration of population distribution in Bohol are found along its coast and island barangays.

Map DE-2: Population Density Maps, Census of 2010 and 2015: Philippines & Bohol Province

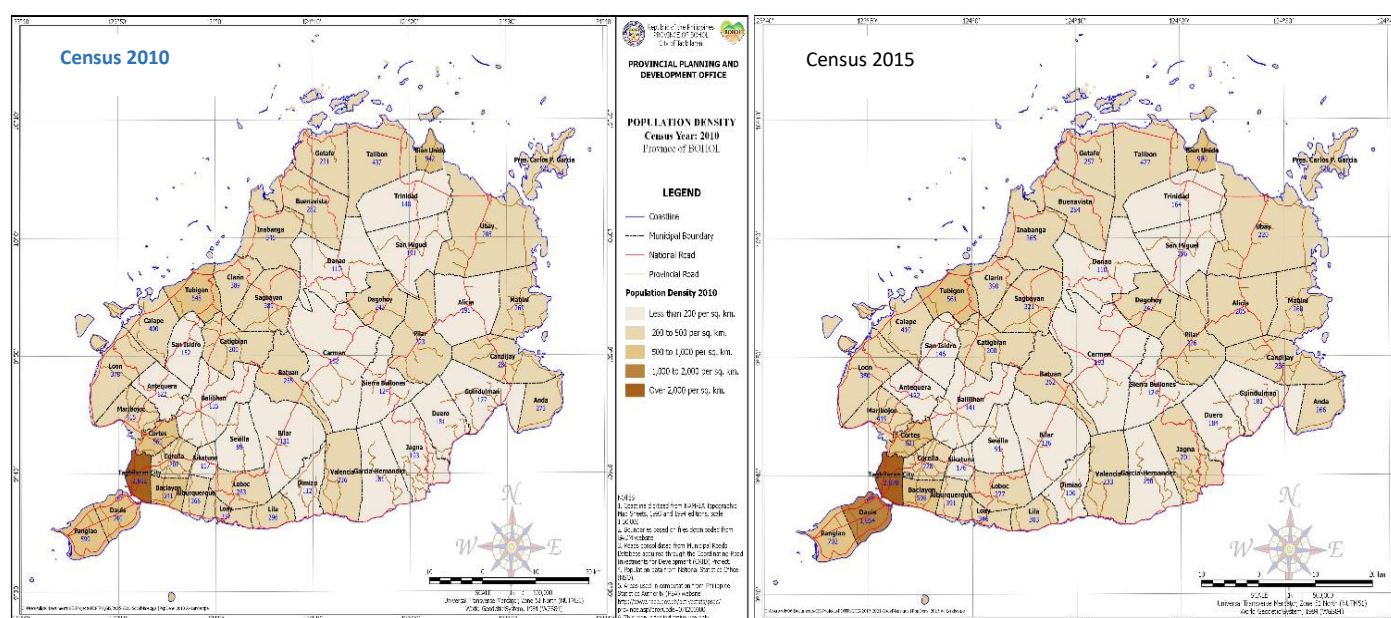


Table PE-3. Top 10 LGUs in Bohol Province by Population Size, Land Area and Population Density and Legislative District: 2015
Bohol Province

Area	Population	Land Area (square kilometers)	Population Density (persons per square kilometer)
PHILIPPINES ^{b1/}	1,340,821	300,000.00	337
Region VII – Central Visayas	45,663	1,053.84	598
Bohol	1,313,560	4,555.62	288
Tagbilaran City (Capital)	105,051	32.52	3,230
Dauis	45,663	43.33	1,054
Bien Unido	27,115	27.39	990
Panglao	33,553	47.78	702
Baclayon	20,591	35.55	579
Tubigon	45,893	81.87	561
Cortes	16,954	33.31	509
Pres. Carlos P. Garcia	23,356	46.67	500
Talibon	66,969	140.46	477
Loon	43,034	100.98	426
<i>First Legislative District</i>	<i>443,038</i>	<i>909.67</i>	<i>487</i>
<i>Second Legislative District</i>	<i>439,771</i>	<i>1,795.77</i>	<i>245</i>
<i>Third Legislative District</i>	<i>430,751</i>	<i>1,850.18</i>	<i>233</i>

Notes:

- Land area was based on cadastral survey (certified and provided to the Department of Budget and Management) from the Land Management Bureau, Department of Environment and Natural Resources.
- Estimated land area (certified and provided to the Department of Budget and Management) from the Land Management Bureau, Department of Environment and Natural Resources.

Source: Philippine Statistics Authority

The increase in Bohol's population is primarily a result of in-migration rather than the increase thru its natural births. In 2015, Bohol's Rate of Natural Increase (RNI) accounted only for 1.2 percent of its total population in that year. This means that the

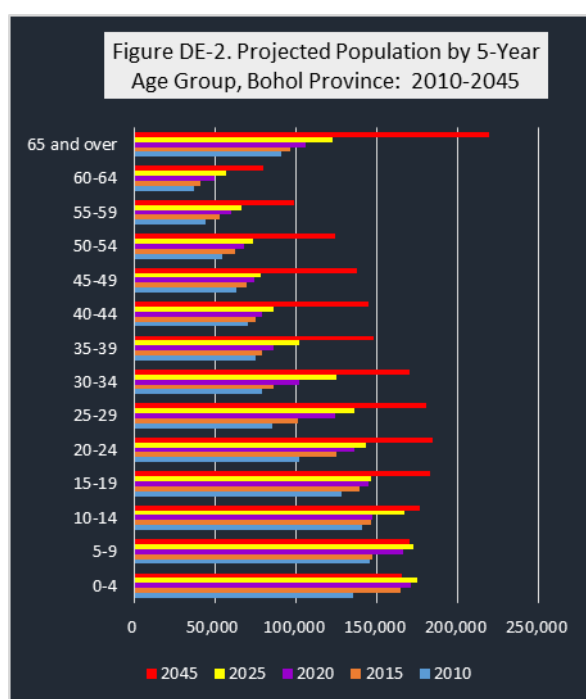
increase of Bohol's population is attributed largely to the influx of migrants to the province during the period 2010 to 2015. Among its component LGUs, Panglao had the most number of migrants in 2015 with RNI computed at almost 0 percent. Majority of the LGUs in Bohol had RNI of less than 1 percent. Only 11 towns, including Tagbilaran City, which had the highest RNI of about 5 percent, had RNI's greater than 1 percent.

In 2010, Bohol was 10.4 percent urban compared to 7.4 percent in 2007. In 2015, Bohol's urban population constituted 25 percent of its total population, a 17 percent increase in its urban population. This trend is foreseen to continue in the years to come when future development programs and projects of Bohol will be realized.

Population Projection

Bohol's population is projected to increase from its 2015 census count of 1.3 million to 1.5 million in 2020 and will reach the 2 million mark 2035 as projected by the Philippine Statistics Authority with projections based on medium assumption (Figure 2, Table 3). The increase is expected even with the projected slowing down in its average annual population growth rate in the coming years in accordance with the assumption of a declining fertility trend.

Just like the projected population estimates for the country, the projected population by age groups of Bohol for the period 2015 to 2045 will likewise increase across the years (Table 7). Generally, all age groups are projected to increase until the year 2045 except for the age group 0-14 years which is projected to decline after year 2025 to 2045 from a share of 31 percent dropping to 23 percent share of Bohol's total population. The Female Reproductive Age Group 15-49 years will gradually increase doubling its current number by year 2045. The projected population of Bohol's working age population 15-64 years is likely to have the biggest increase in population from 833 thousand in 2015 to 1.45 million potential workers in Bohol by 2045. This will be a big challenge in Bohol especially in providing employment to this group.



Also projected is the increase of those aged 65 and older who will almost triple in size accounting for 10 percent of Bohol's population by 2045 from only 7 percent in 2015. The Old Age Dependency Ratio of Bohol by then is estimated at 15 elderly persons per 100 persons in the working ages 15-64 years old compared to only 12 elderly persons

per 100 persons in 2015. Older people face special physical and mental health challenges which need to be recognized. Although older adults, those aged 60 or above, make important contributions to society as family members, volunteers and as active participants in the workforce with most still enjoying good mental health, many older adults will be at risk of developing mental disorders, neurological disorders or substance use problems as well as other health conditions such as diabetes, hearing loss, and osteoarthritis. Furthermore, as people age, they are more likely to experience several conditions at the same time. Government, in particular, should be ready to face these challenges.

Table PE-4. Population Projection Increase by Age Group, Bohol Province

Age Group/ Dependency Ratio (DR)	2010 (Actual)			Projection			
	Total	Male	Female	2015	2020	2025	2045
	1,252,793	635,815	616,978	1,388,200	1,516,800	1,651,100	2,183,200
Annual Growth Rates : (Medium Assumption)				1.82	1.79	1.71	1.22
Pop 0-4	135,262	70,239	65,023	164,900	171,200	175,100	165,300
% Share to Total Population	11%	11%	11%	12%	11%	11%	8%
Pop 0-14	422,148	218,567	203,581	458,800	485,000	514,500	511,700
% Share to Total Population	34%	34%	33%	33%	32%	31%	23%
Pop 15-64	740,076	378,268	361,808	832,600	925,400	1,013,800	1,452,300
% Share to Total Population	59%	59%	59%	60%	61%	61%	67%
Pop 60 & over	127,690	56,599	71,091	138,000	156,000	179,400	299,300
% Share to Total Population	10%	9%	12%	10%	10%	11%	14%
Pop 65 & over	90,569	38,980	51,589	96,800	106,400	122,800	219,200
% Share to Total Population	7%	6%	8%	7%	7%	7%	10%
Female 15-49	292,610	-	292,610	326,000	359,000	391,600	547,100
% Share to Total Female Population			47%	48%	48%	48%	51%
Total DR ¹	69	68	71	72	69	68	56
Child DR ²	57	58	56	55	52	51	35
Old Age DR ³	12	10	14	12	11	12	15

¹ Total Dependency Ratio (DR) = the ratio of the number of dependent population (0-14 years old and 65 yrs old) per 100 persons of working age population (15-65 yrs old)

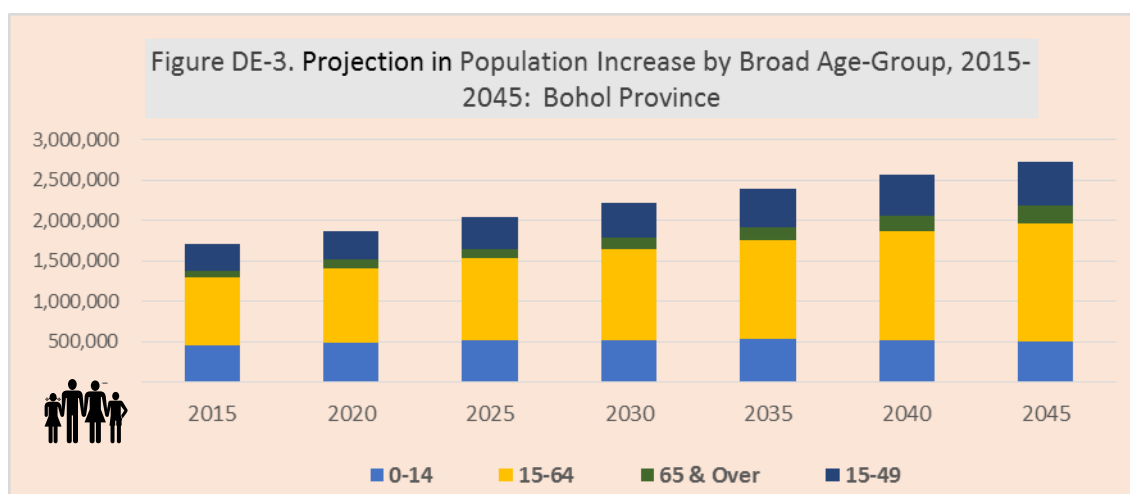
² Child Dependency Ratio (DR) = the number of economically dependent persons 0-14 yrs old per 100 persons in the working ages 15-64 yrs old

³ Old Dependency Ratio (DR) = the number of elderly persons (65 and above) per 100 persons in the working ages 15-64 yrs old

Source: Philippine Statistics Authority, 2010 Census-based Population Projections in collaboration with the Inter-Agency Working Group on Population Projections

The projected changing age structure of Bohol's population may also present an opportunity of economic-demographic advantage given a projected bigger working-age population together with a narrowing of young dependents. This would mean smaller number of children per household which generally leads to larger investments per child, more women to enter the formal workforce and more household savings (UNFPA).

If coupled with benefits of good health, quality education and decent employment,



this in effect will redound to a better future for Boholanos, one that UNFPA calls a “demographic dividend”.² With fewer births each year, the young dependent population of Bohol grows smaller in relation to the working-age population. With fewer people to support, it has a window of opportunity for rapid economic growth if the right social and economic policies are developed and investments made.

• ***Settlement Pattern and Hierarchy***³

The established settlement pattern and transport links of Bohol have evolved over a long period of time, and have been strongly influenced by its coastal location and geography. The province is roughly 4,555.62 square kilometers⁴ in land area, and in 2015, had a resident population of about 1.313 million. It is a physically small island province compared to the other island provinces of the country and contains 30 coastal towns including the City of Tagbilaran. About 43% of Bohol’s residents live in the coastal belt containing these towns. The rural share in Bohol contains the largest settlement comprising 75 percent of Bohol’s population. However, rural settlement patterns in Bohol are commonly dispersed with residential population mostly concentrated in the *Poblaciones* or in areas where major services and facilities are found or in barangay centers.

Population decline in some rural areas appears to have had adverse impacts on social cohesion and quality of life, and has undermined the economic viability of some rural enterprises as there are economic and environmental costs associated with dispersed and uncoordinated settlement patterns.

Settlement patterns continue to present challenges in managing hazard risks. Dispersed settlement patterns have led to widespread and mixed environmental impacts on air and water quality, and on biodiversity and landscape values. Settlements and the people, physical assets and infrastructure they contain, are also vulnerable to a number of natural (and human exacerbated) hazards. Bohol is susceptible to severe floods and other natural hazards. Some settlements in low-lying coastal areas are vulnerable to storm events that may have a greater frequency and intensity because of climate change. The issue of adapting coastal settlements to climate change strongly needs to be considered. Dispersed settlement patterns may have various other impacts on water quality and on heritage, and biodiversity as well.

² The accelerated economic growth may result from a decline in mortality and fertility and the subsequent change in the age structure of the population (UNFPA).

³ The settlement pattern is defined as the pattern of where people live in relation to their work, their schools, their hospitals and other social amenities and in relation to where other people live. A central place is a settlement which provides services for the area for which it is a center.

⁴ Land area was based on cadastral survey (certified and provided to the Department of Budget and Management) from the Land Management Bureau, Department of Environment and Natural Resources. Estimated land area (certified and provided to the Department of Budget and Management) from the Land Management Bureau, Department of Environment and Natural Resources.

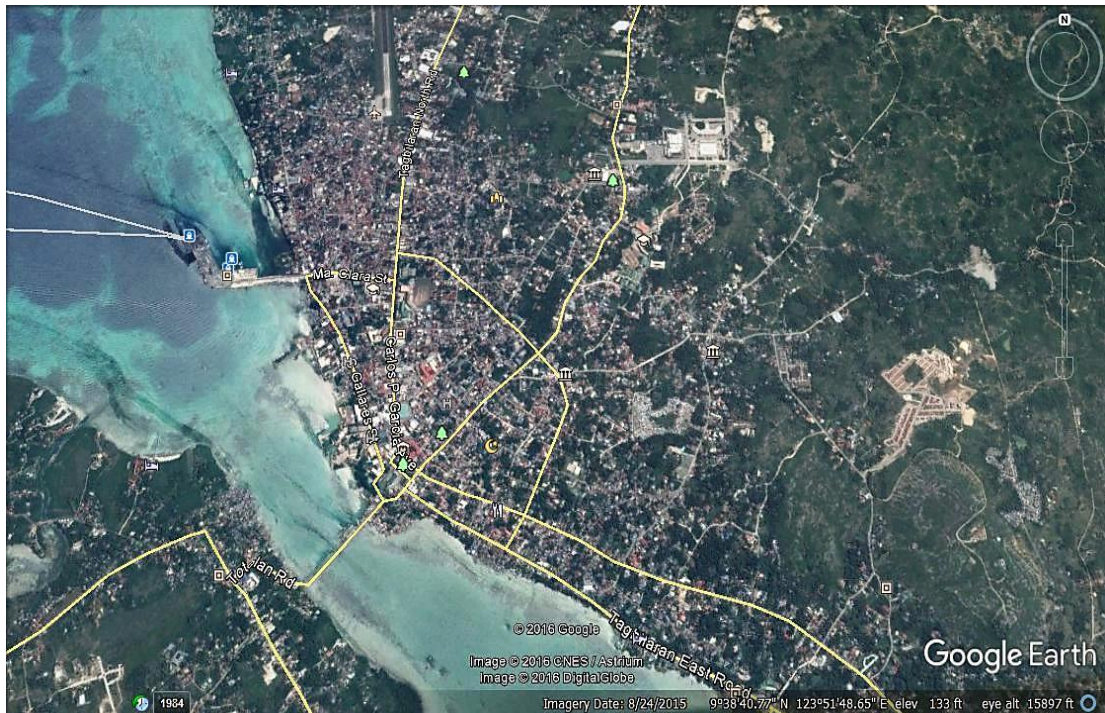


Photo of an urban-coastal settlement pattern in Bohol (along Tagbilaran City and Daus Municipality)

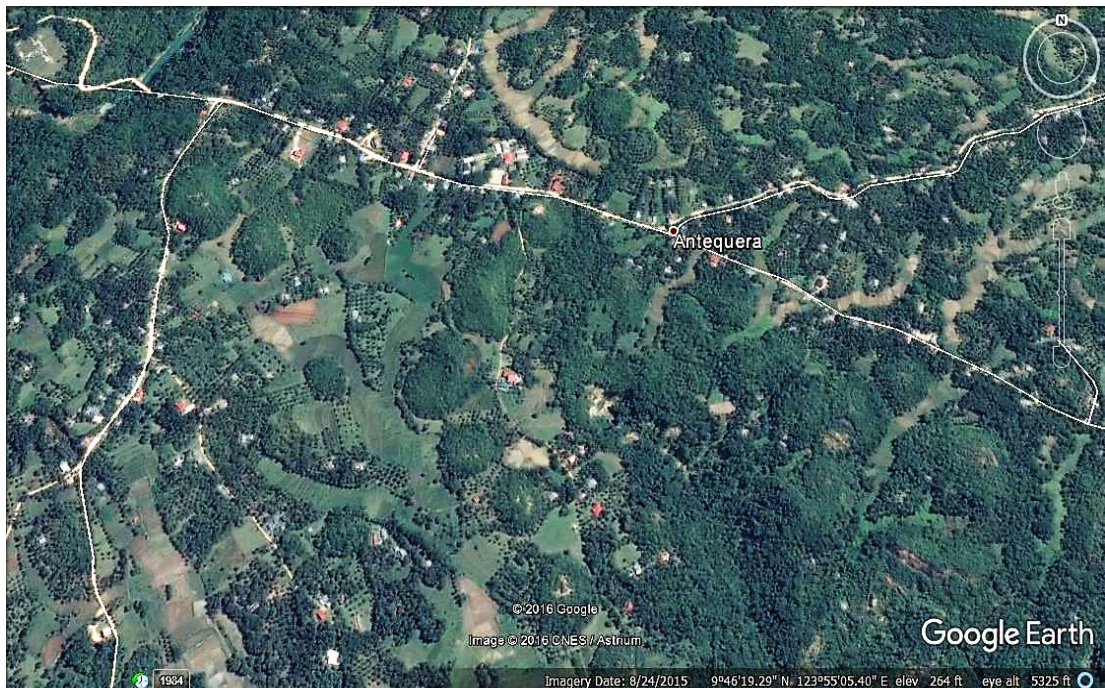
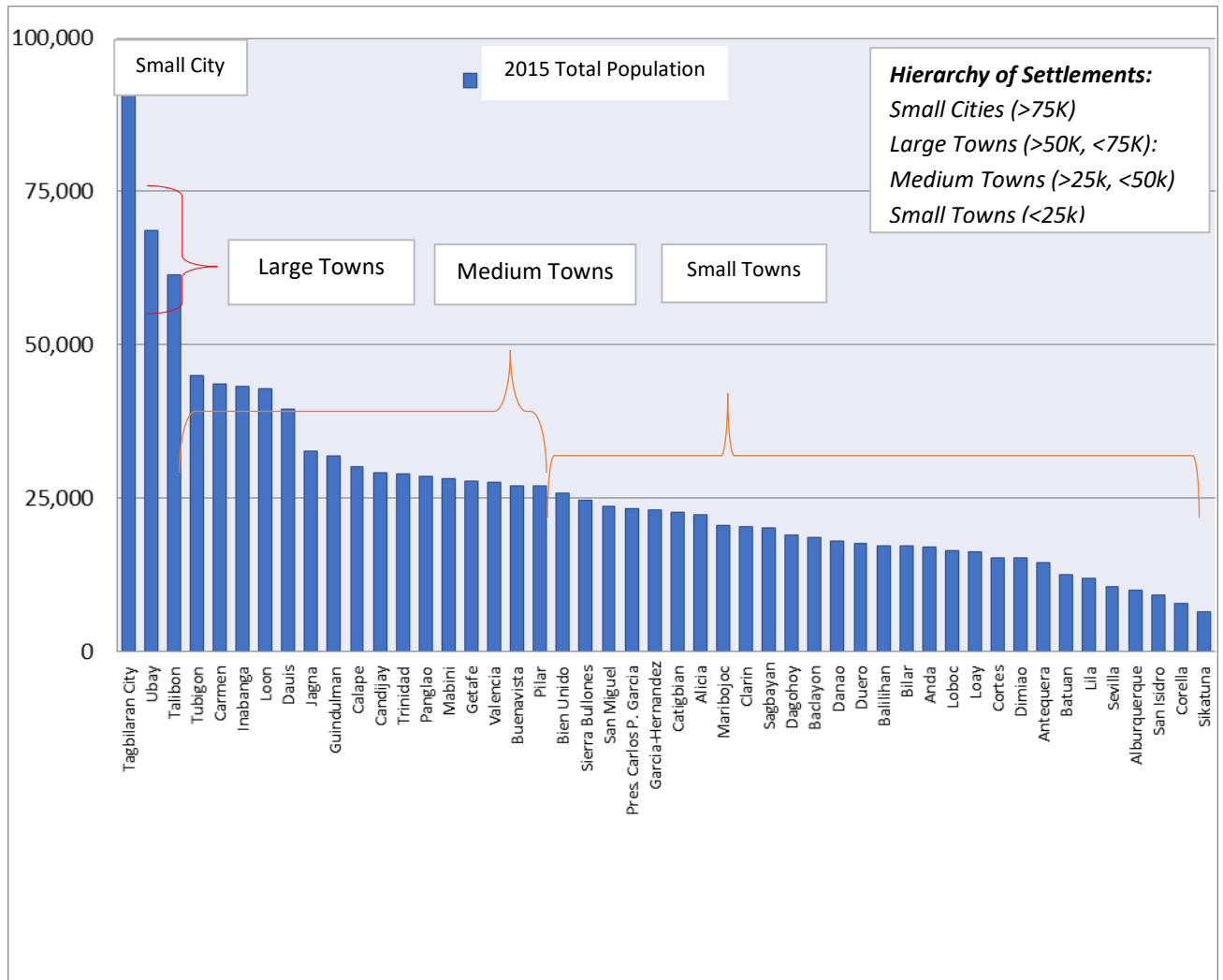


Photo of a rural settlement pattern in Bohol

Groups of settlements in Bohol are organized hierarchically from large settlements to smallest groups of settlements in terms of population size and distribution in the province. Figure 4 illustrates this settlements' hierarchy.

Figure PE-4. Hierarchy of Settlements of Component City & Municipalities



Per data derived from the PSA, the highest concentration of urban population is in Tagbilaran City with almost 90% of its population found in its urban areas increasing by 10% since 2007. This is followed by Talibon Municipality with 25% urban population, Panglao (18%), Ubay (12%) and Tubigon (11%) in 2010. The largest increase of urban population is in Dauis Municipality rising by 14% since 2007. Overall, 10% of Bohol's population in 2010 resided in its urban areas. In 2010, Bohol was 10 percent urban compared to 7 percent in 2007. By 2015, Bohol's urban population constituted 25 percent of its total population.

Bohol recorded 261,408 households in 2010, higher by 48,193 households compared with the 213,215 households posted in 2000. The average household size in 2010 was 4.8 persons, lower than the average household size of 5.3 persons in 2000. In 2015, Bohol registered an average family size of 4.54 persons, slightly higher than the national and regional averages (Table DE-5). The municipality of Lila had the largest average household size of 5.85 persons in 2015 while the municipality of San Isidro

had the smallest average household size at 3.98 persons in that same year. Total number of households in 2015 was recorded at 288,515.

Table PE-5. Household Population, Number of Households and Average Household Size of Top 10 Municipalities, Region 7 and Philippines, Y2015
Bohol Province

Region, Province, City, and Municipality		Household Population (in thousands)	Number of Households (in thousands)	Average Household Size
PHILIPPINES		14,807,171	3,559,160	4.16
REGION VII (Central Visayas)		6,008,987	1,388,475	4.33
BOHOL		1,308,785	288,515	4.54
1	Lila	12,224	2,090	5.85
2	Garcia-Hernandez	24,192	4,993	4.85
3	Valencia	27,067	5,587	4.84
4	Getafe	30,955	6,487	4.77
5	Sevilla	10,661	2,240	4.76
6	Panglao	33,244	7,020	4.74
7	Bien Unido	27,111	5,725	4.74
8	Tagbilaran City (Capital)	102,448	21,863	4.69
9	Baclayon	20,512	4,397	4.66
10	Loay	16,680	3,578	4.66

Source: Philippine Statistics Authority, 2015 Census of Population

Although the average size of households in Bohol has decreased, the number of households has consistently increased through the years. This may result in greater demand for residential developments and engender various settlement patterns in Bohol in the coming years.

- **Physical Resources**

Bohol is endowed with a rich biodiversity and natural resources that plays an essential role in guiding its future development for agriculture, industry, tourism, settlements, culture and infrastructure in both the medium and long-term time frame. It has a high diversity of flora and fauna found in the different ecosystems of the island such as its forests, reefs, farmlands, in zones along creeks and rivers, caves and marine areas. The quality of life in any given area is extremely dependent on the vibrant condition of these ecosystems and biological resources.

General Land and Water Characteristics and Resources

Bohol as island province has a total land area of 411,726 hectares with 654 kilometers of coastline and 6,245 square kilometers of municipal waters covering its major islands and islets. The province is within four major resource boundaries, i.e., upland/forestry, lowland/agriculture, coastal/marine and water boundaries.

Main Geological Features of Bohol⁵

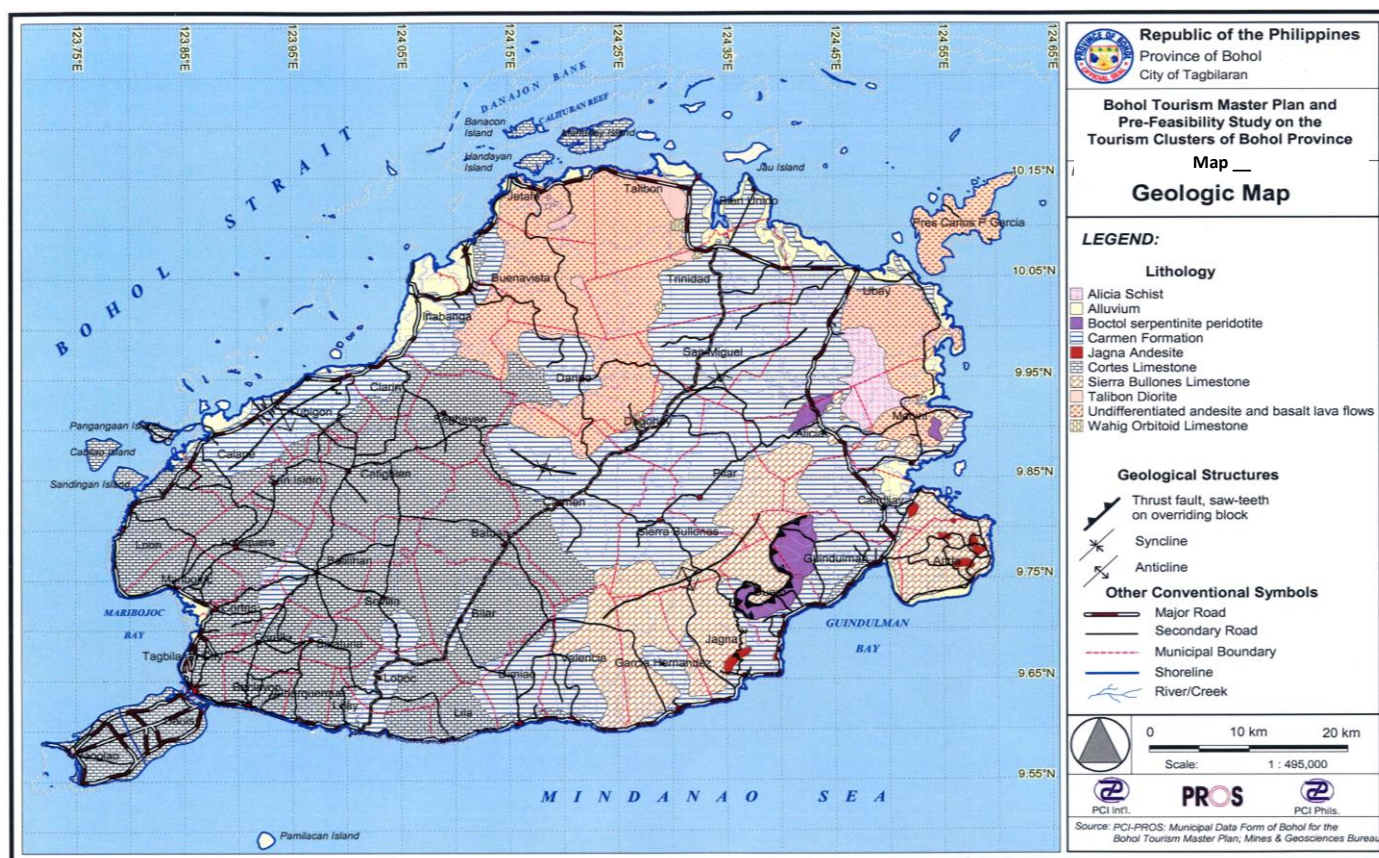
The island province of Bohol is predominantly a sedimentary island. It developed from the magmatic, tectonic mechanism that resulted from the underthrusting of the southwest Philippine Plate east of Samar and Surigao⁶. Ongoing erosion, transport and sedimentation continue to accumulate marine and terrestrial deposits in the Bohol basin. Bohol is composed of 12 rock formations that exhibit different landforms⁷. The oldest rock formation belongs to the Basement Complex particularly found at the eastern flank of the island. Because of the sub-crustal movements like faulting, seven (7) different geomorphologic landforms were produced, namely, the Anda Peninsula, Loon Peninsula, Northwestern Area, Central-Northern Sedimentary Area, Eastern Volcanic, Limestone-Haycock Hills and Central Volcanic (Map __).

The major part of Bohol Island occupies the southeastern portion of the Visayas sea basin. The basement rocks underlying Bohol are composed of metamorphic and ultramafic rocks. These types of rocks are found in the eastern part of the province, which roughly defines a north-northeast alignment. In the southwest is an ophiolite-metamorphic belt with a similar trend that extends from Zamboanga to Sulu Islands. The pre-tertiary diorite plutons in Bohol are believed to be representatives of a southeast facing arc system related to inactive northeast trending trench, a segment of which is defined by the associated ultramafic-metamorphic rock assemblages in the province.

⁵ Technical Report 2, Geology, Soil and Land Resources Appraisal and Training Project (Philippines), Bureau of Soils-UNDP 1980.

⁶ Calomarde, R.I. and Ariate, E.Z. 1982, Geology and Mineral Resources of Bohol, Geological Investigation Series 82-1, Bureau of Mines and Geo-Sciences, Region 7, Cebu City

⁷ ARCO, R.C. 1957, Geological Reconnaissance and Mineral Resources of Bohol Province, Philippine Bureau of Mines, Manila, unpublished.



Topography and Slope⁸

Topography Range

Bohol's terrain is variable from nearly flat at the plains to low rolling, moderate to very steep sloping with 5 to 50 meters high cliffs in the Sierra-Bullones limestone formation. The more rugged terrain is found in the southern part of the province although the Ubay volcanic rocks and Bocol serpentinite in the north and northeast are of moderate and rugged slopes in most of their outcrop areas. The central valley is almost rolling to moderately steep.

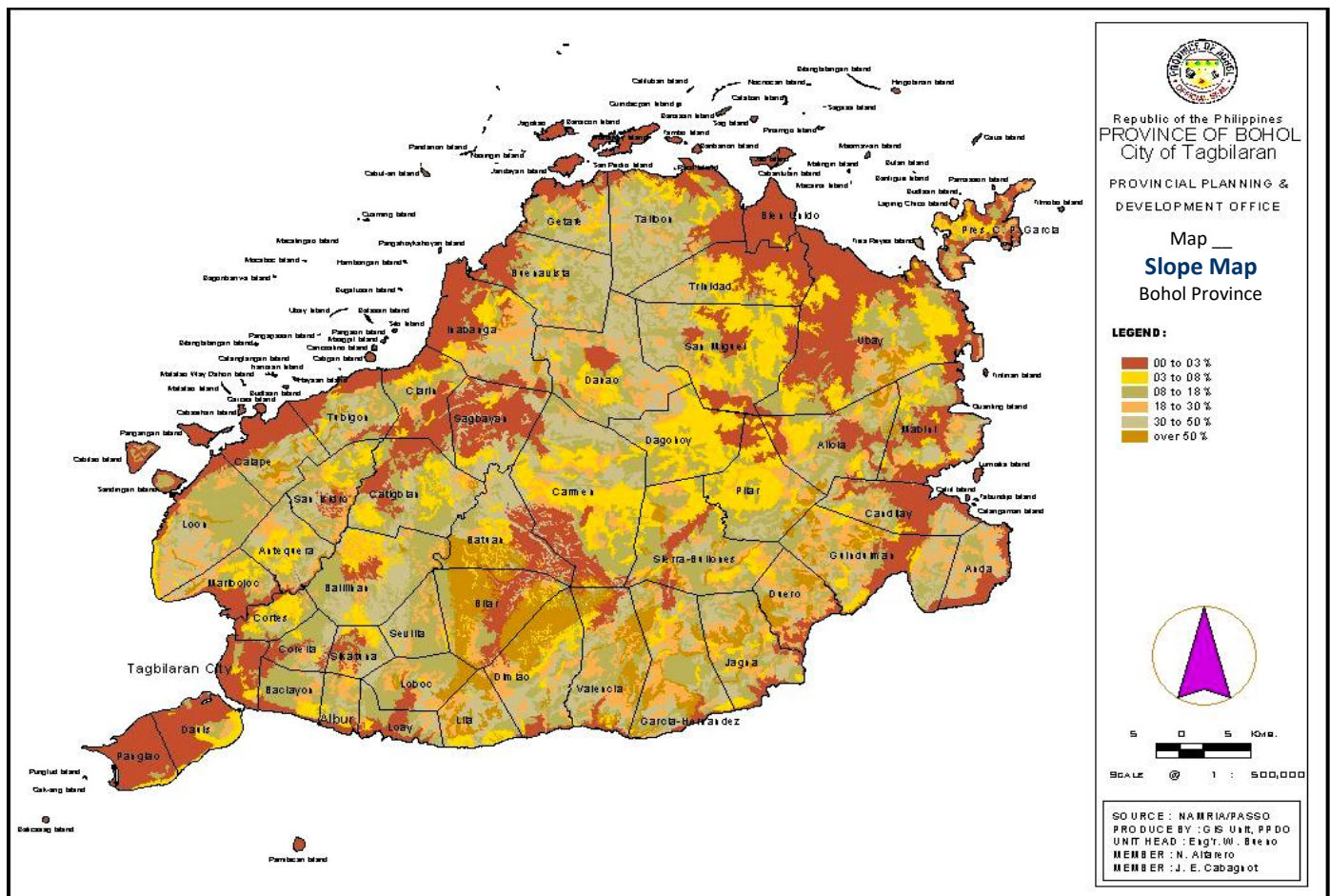
There are several mountain ranges found in Bohol. Two sets of them are found in the northeastern side of the mainland and located between the municipalities of Alicia and Ubay that generally trend to the north and south directions with a maximum elevation of about 404 meters above sea level. The northern end of the these mountain ranges is drained by the Lomangog River while the southern part by the east-flowing San Pascual River which empties into the Cogtong Bay. Farther east are two other mountain ranges, the Mt. Tanawan and Mt. Candungao with 460 and 500 meters elevation, respectively. Both are prominent landmarks rising as they do several meters above the surrounding landscape. From Mt. Tanawan going

⁸ Bureau of Soils and Water Management, DA, Region 7, Cebu City

southwestward, it declines gradually in height until it finally joins southwestwardly the foothills of Calape. The main range of hills extending from Calape joins to the southwestwardly trending mountain range from the interior, runs south and out to Loon Peninsula terminating in Punta Cruz, Maribojoc. The Sierra Bullones Range follows roughly the trend of the south coast. The highest point of this range and in the entire province is Mt. Mayana in Jagna town with a height of 827 meters above sea level.

Slope Range⁹

The province has six slope ranges from level to very steep. Level to nearly level sloping areas are mainly located along the coast and in the outer islands. The steep slopes are prevalent in the mountainous area, covered mainly by carbonate rocks (Wahig Limestone), volcanic extrusive and magmatic rocks (Ubay Volcanics and Jagna Andesite). *Map __* and *Table __* show the slope categories and the corresponding area covered in hectares.

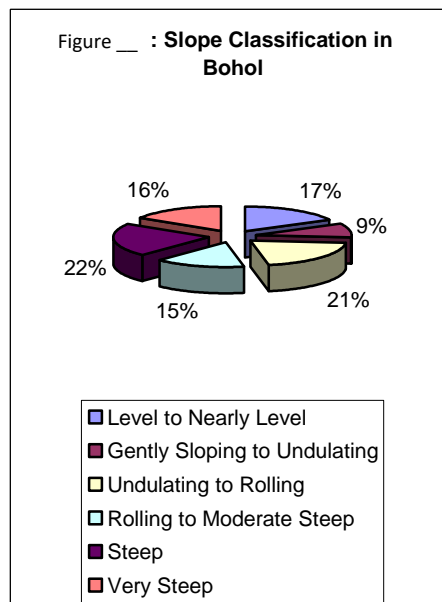


⁹ Philippine Land and Soil Management Atlas for Central Visayas

Table PE-6. **Slope Classification, Bohol Province**

Slope Category	Classification	Area Covered (Has)	% Distribution
0 - 3 %	Level to nearly level	71,289.00	17.31%
3 - 8 %	Gently sloping to undulating	37,519.00	9.11%
8 - 18 %	Undulating to rolling	84,902.00	20.63%
18 - 30 %	Rolling to moderately steep	62,473.00	15.17%
30 - 50 %	Steep hills& mountains	89,507.00	21.75%
50 % >	Very Steep hills	6,040.00	16.04%
Total		411,726	100%

Source: BSWM, DA Region 7, 1992



Soil Types¹⁰

According to the Bureau of Soils and Water Management (BSWM Region 7, Cebu) there are 22 different types of soil that can be found in Bohol, which differ mainly in physical, chemical and morphological characteristics.

The soil depth is relatively thin ranging from a minimum depth of 24 centimeters to a maximum of 30 centimeters. Most of the hills and ridges have meager to no soil cover due to fairly rapid surface drainage over most of the province's land. Clay soils with fine textures are predominant throughout the island province. The dominant soil type is Ubay Clay found in the northeastern part of Bohol constituting 19.34 percent or 79,644 hectares of the total land area of Bohol.

The soil derived from all rock types are generally clay and silty with sandy soil limited in some parts to the coastal area. Soils on steep to very steep side slopes (18-50%) are clay loam to clay. Gently sloping to undulating (3-8%) is clay while the narrow alluvial valleys are silty clay to clay. The soils in the province are predominantly brown having moderate to high inherent fertility.

¹⁰ Bureau of Soils and Water Management, Department of Agriculture 1992, Region 7, Cebu City

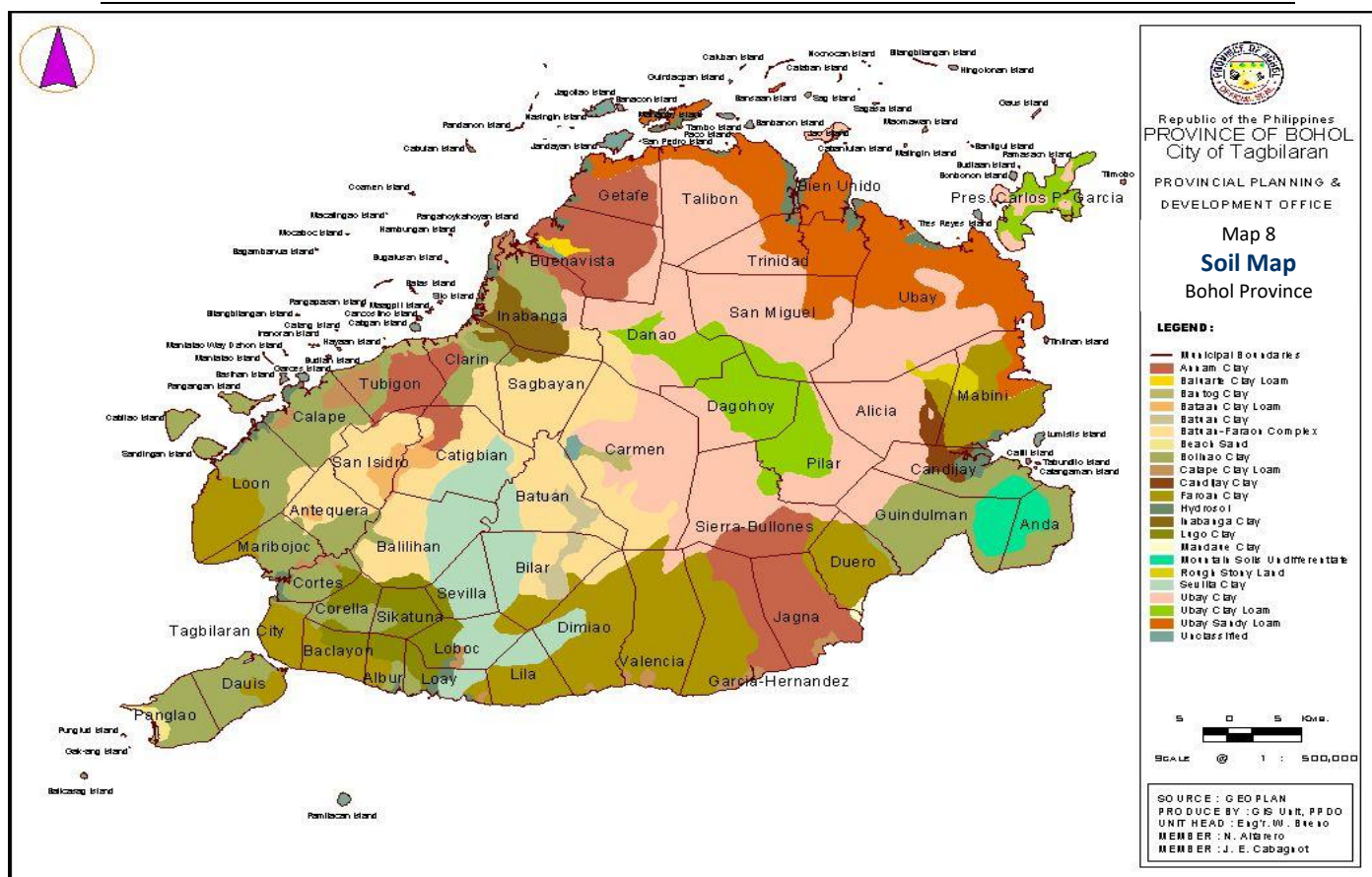


Table PE-7. Type of Soils In The Province Of Bohol

Soil Types	Area Covered (Hectares)	Percentage
Ubay Clay	79,644	19.34%
Faraon Clay	59,536	13.73%
Bolinao Clay	55,871	13.56%
Batuan-Faraon Clay	47,763	11.60%
Annan Clay	37,140	9.02%
Ubay Sandy Loam	62,414	15.16%
Sevilla Clay	23,906	5.81%
Lugo Clay	11,713	2.84%
Hydrosol	6,372	1.55%
Calape Clay	5,237	1.27%
Batuan Clay	2,705	0.65%
Batuan Clay Loam	2,395	0.58%
Bantog Clay	1,834	0.44%
Rough Stony Clay	1,490	0.36%
Candijay Clay	1,307	0.32%
Inabanga Clay	407	0.09%
Baluarte Clay Loam	401	0.10%
Beach Sand	531	0.13%
Mandaue Clay Loam	138	0.03%
Undifferentiated	5,833	1.42%
Unsurveyed areas (islets)	8,089	1.96%
Total	411,726	100%

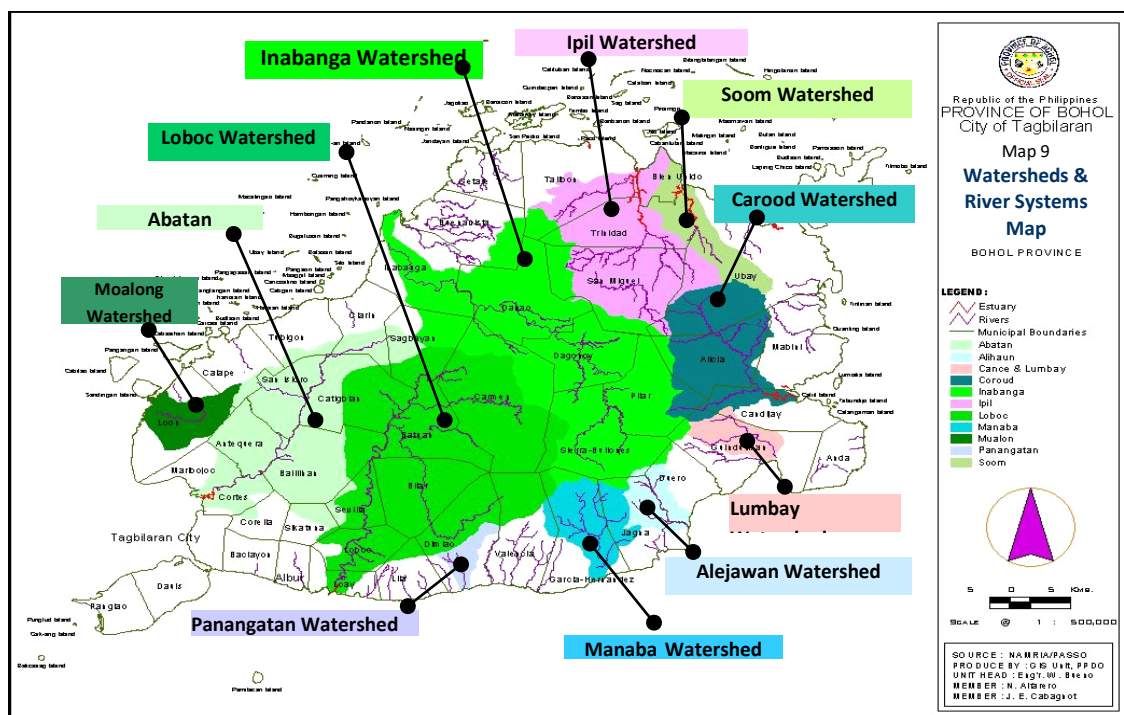
Source: BSWM Region 7 (Area was obtained using the planimeter)

Land and Water Resources

Bohol is highly susceptible to flooding, rain-induced landslides, storm surges and big waves which are brought about by climate change impacts which would greatly affect on forestry, biodiversity, water coastal/marine resources and the eco-cultural tourism assets in the province. Its water supply system for domestic, agricultural and industrial uses is mainly based on 2,224 springs, 59 rivers and 200 creeks. There are 22 rivers basins/watersheds that are valuable sources of water for drinking and irrigation (*Map _*). Surface water from rivers and streams in these basins are impounded and distributed for irrigation, electric generation, industrial use as well as for domestic use. Rainwater is also a good source of water in the province with an average rainfall varying from 1,331 mm/yr along the coastal areas to 2,006 mm/yr in the mountainous part of Bohol. At present, the quality of water in the province's catchments and streams is poor and will continue to deteriorate as human development activities increase. These water resources needs to be managed in order to meet the growing demand for domestic, agricultural, industrial, recreational and commercial uses as well as prevent public health hazards associated with increasing incidence of water contamination and pollution from negligent human activities.

Surface Freshwater, Groundwater Resources and Bohol's Watersheds¹¹

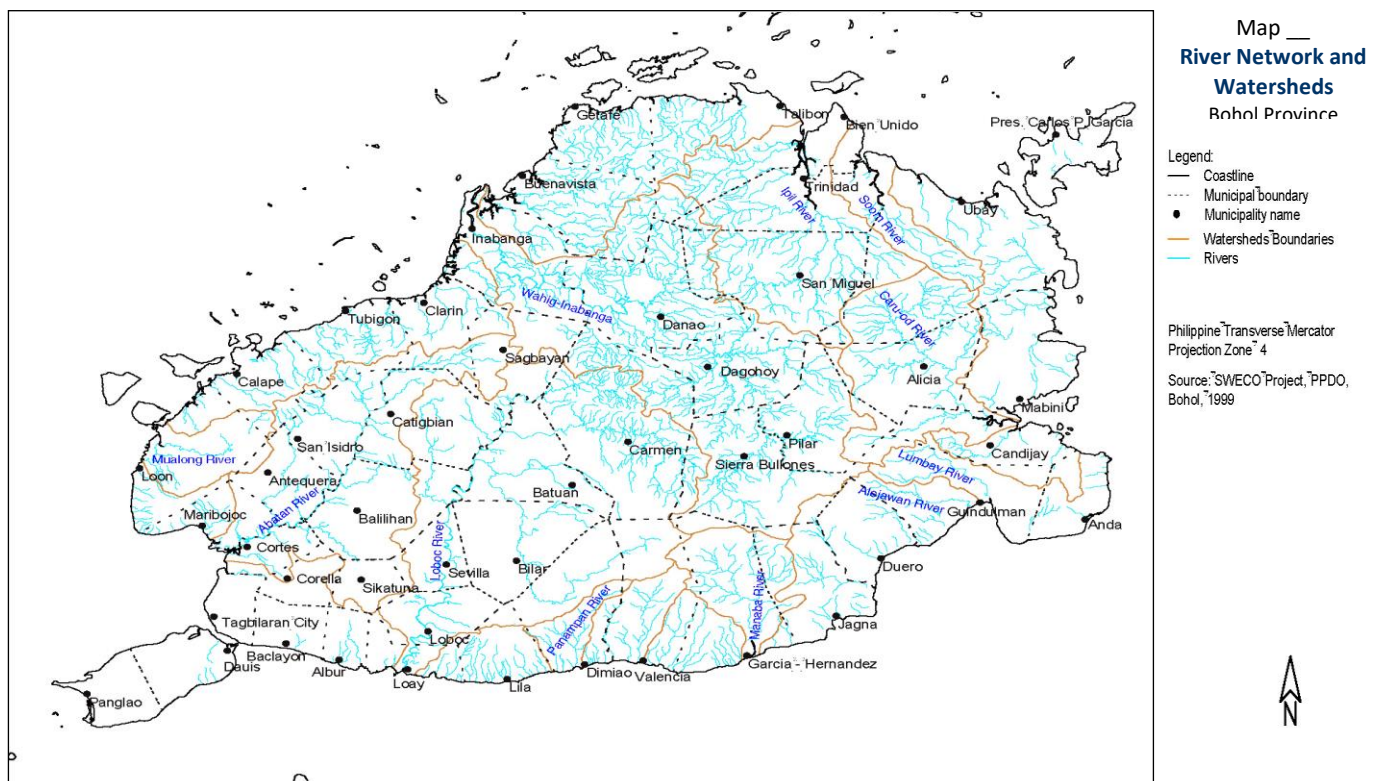
Surface water in Bohol feeds its watersheds. There are 3 major watersheds in the province that have been declared as protected areas under the NIPAS. The largest reserve is the Wahig-Inabanga Watershed (PP No 468, amended to PP No. 223) covering 16 municipalities with an aggregated area of 14,000 hectares. The second, and first to be proclaimed as a watershed forest reserve in Bohol, is the Loboc Watershed (PP No. 450) with an area of 10,450 hectares, part of which is inside the Rajah Sikatuna Protected Landscape (PP No. 127 as amended April 2000). The third is the Duero Watershed (PP No. 881) that covers an area of 3,620 hectares. The map below shows the location of these watersheds.



¹¹ PENRO-DENR 2015

The rivers and river estuaries in Bohol (Map __) are the other sources of surface water commonly serving as harbors and navigation routes, areas for aquaculture development (Inabanga River), fishing and sand quarrying (Abatan River) and recreation and tourism (Cambuhat River in Buenavista and the Loboc River in Loboc and Loay towns). They also provide water for irrigation (Malinao Dam on the Wahig River that feeds the Bohol Irrigation Project-Stage I) as well as domestic and industrial uses such as power supply (Loboc River Hydro-power Plant and mini hydro-power plants in Sevilla and Balilihan municipalities).

Groundwater resources are the major source of drinking water in Bohol. Data on surface and groundwater are scarce in the province. The survey of wells conducted by SWECO in 1999 revealed that the water for drinking do not satisfy the water quality standards for safety and potability. An estimated 5000 wells have water



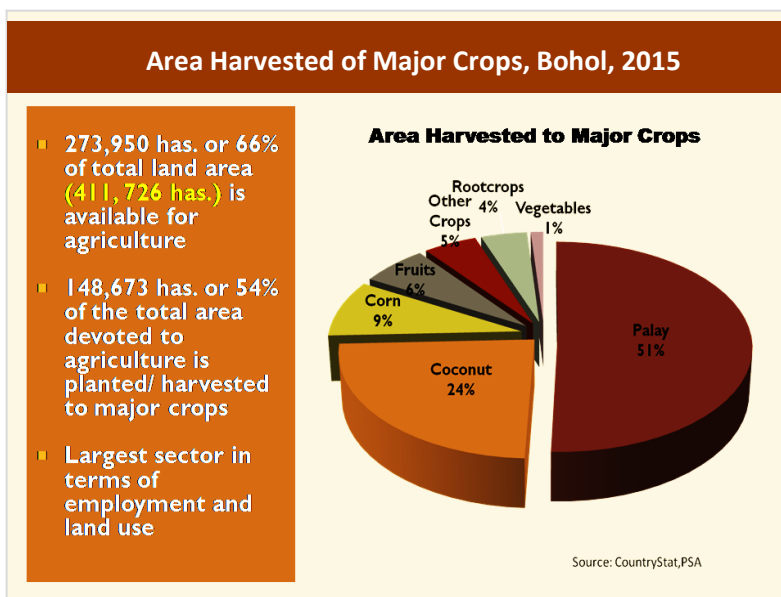
quality problems caused by higher salinity content, excessive amounts of iron and manganese and bacteriological pollution. Water for home consumption is often prone to contamination due to inadequate sanitation practices and characteristics in limestone inherent substrate (karst). It is important to enforce strict water production areas for drinking water purposes and establish buffer zones to protect the same from activities that will harm them.

- **Economy**

- Agriculture**

- **Land Utilization**

Bohol has a total land area of 411,726 hectares of which around 356,400 hectares are suitable for cultivation. The land available for agricultural use is 273,950 hectares¹², which is approximately 66% of the total area of the province. However, not all of these lands have been fully utilized. CountryStat, PSA records show that the area planted/ harvested to major crops is 148,673 hectares which is only 54% of the total area devoted to



agriculture. These are mostly planted with palay, corn, coconut, vegetables, fruits, rootcrops and other crops. [Figure EC-1](#) shows the area harvested to major crops. Based on data, about 42% of the province population is dependent or working in the agriculture, indicating that most of the poor households in the province are in the agriculture sector. Hence, agriculture remains to be the major source of employment and livelihood in the province.

With this level of land utilization, there is still a substantial potential of 82,450 hectares for the province to enhance its agricultural productivity and harness other crops suitable for its soil and weather conditions. These will eventually increase economic opportunities and benefits for the people.

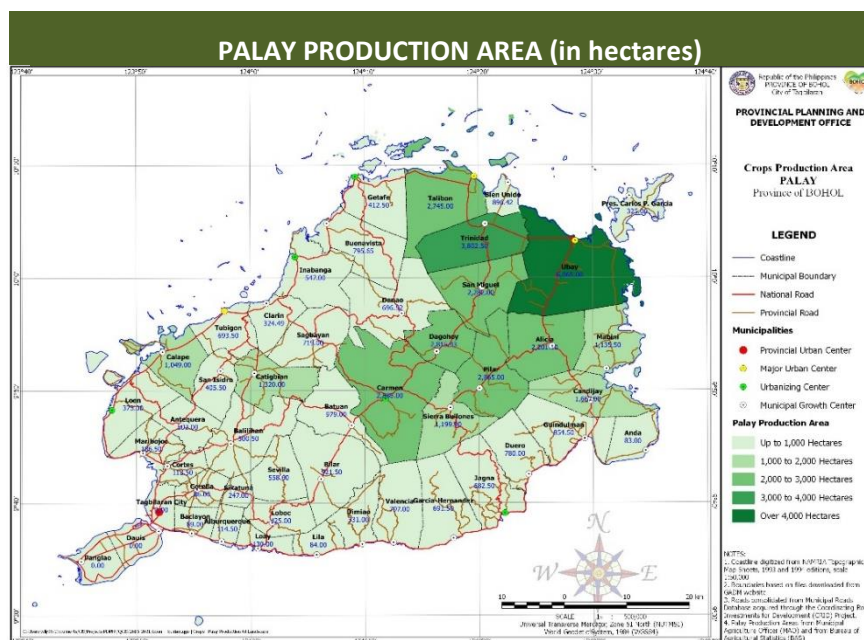
However, there is an apparent necessity to address certain issues that have been hindering the full development of agricultural land in Bohol. Foremost of it all is still the large area of idle lands in the province, unutilized or underutilized for agriculture. Technologies to maximize the upland areas have not yet been fully accepted and practiced by farmers. Many of the rural poor are landless, or have limited farm lands with an average farm size of only 0.6 hectare which may not be appropriate to achieve viable financial returns. These farmers still remain to engage in subsistence farming. Economic activities must be enhanced by providing farmers with technical know-how not just on production but also value adding in their produce to maximize income. We must not only facilitate land distribution and lease for the beneficiaries, but also the proper and economic usage of land. Development of agricultural lands has also been impeded by lack of accessibility and limited road networks that link farms to production support facilities and markets.

¹² Bohol Agriculture Master Plan, 2005

Crops Development

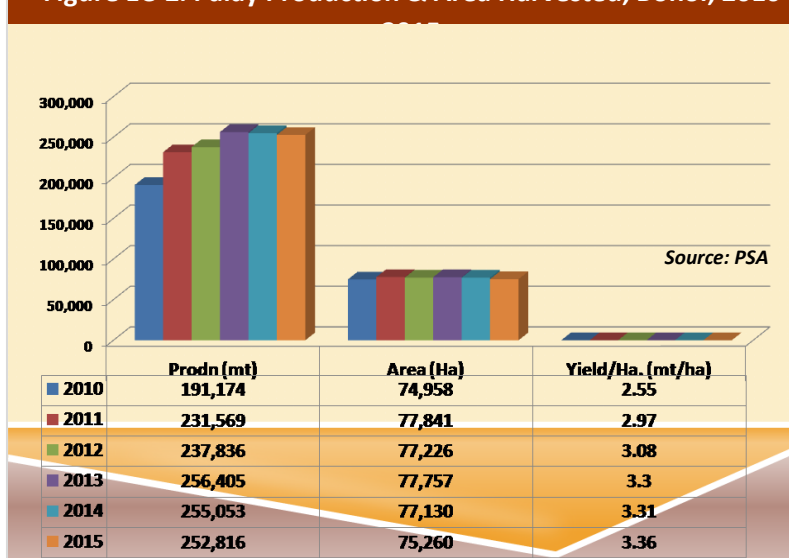
• Palay

Rice is the major staple food in the province and is utilizing a significant area of its agricultural land. Current 2015 PSA data shows a total of 75,260 hectares of land harvested with palay, of which 37,205 hectares are irrigated and 38,055 hectares are rainfed. Major rice producing municipalities in terms of land area planted are: Ubay, Trinidad, Pilar, Dagohoy, Alicia, San Miguel, Talibon, Candijay, Catigbian and Carmen. Land holdings of small rice farmers are generally limited, ranging from 0.6 to 2 hectares. Rice farming served as the primary source of subsistence for about 57,780 farming households.



Palay production in the province in 2015 reached 252,816 metric tons for irrigated and rainfed types of riceland which decreased slightly compared to the previous two years. It had been observed that although the number of hectares harvested decreased but as to the yield per hectares, it increased slightly compared to the previous years. Palay production trend has been increasing for the past five years at a rate of 24% even with the erratic weather condition due to climate change. *Figure EC-2* shows the comparative palay production from 2010 to 2015. As reflected in the table/graph, palay production shows an increasing trend for the last 3 years. Only in 2014 & 2015 that slight decrease in area planted was noted that resulted to a decrease in the production. Erratic weather condition due to climate change maybe was the reason for the farmers not to till their lands. It was in October, 2013 that the province experienced 7.2 magnitude earthquakes. Still average yield per hectare

Figure EC-2. Palay Production & Area Harvested, Bohol, 2010-



12,363 metric ton production in 2014. The Boholano farmers preferred to cultivate white corn that yellow corn. The usage of yellow corn is for feeds.

- **Fruit crops**

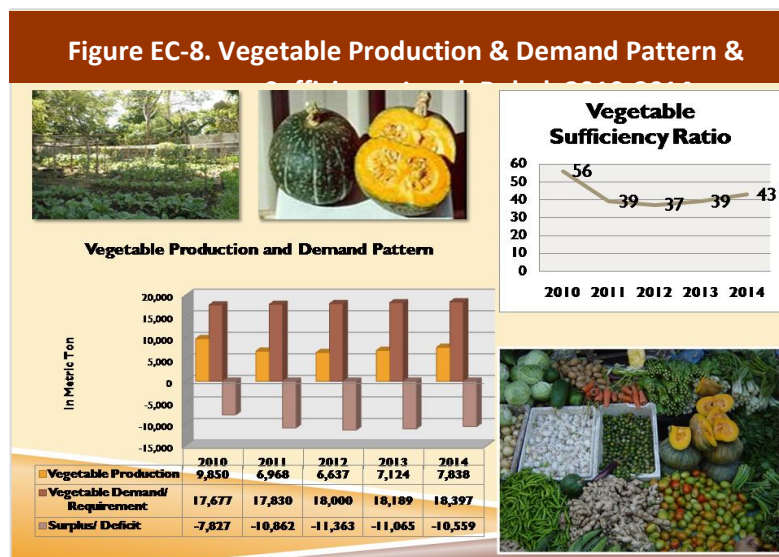
In 2014, overall production of selected fruits in the province has decreased to 45,656 metric tons compared to the 2013 figure of 55,756 metric tons. Major fruits in the province include banana, mango, papaya, watermelon and pineapple. With an estimated 29.22 kilos per capita consumption per year fruits sufficiency decreases from 89 % to 72%. We are deficit in term of fruits production to the needs of the Boholanos plus influx of tourists. There must be a strategy to address the problem. The Provincial Government of Bohol thru the Office of the Provincial Agriculturist is distributing fruit tree seedlings. An ordinance will be grafted for the provision of one hectare vacant land with fruit tree seedlings sexual or asexual.

Banana is the dominant fruit in the province in terms of land area and production volume. Banana production in 2014 reached 25,725.16 metric tons, lower by about 26% from its 2013 production levels. The trend is decreasing since 2013. The production area are Tubigon, Jagna, Batuan, Carmen, Sierra Bullones, Pilar, Alicia, Ubay, Trinidad, Candijay, Guidulman and Calape

Mango production, on the other hand, showed a fluctuating performance, marking a slight increase of 1.4% of the year 2014 from that of the previous year 2013. It has been observed that the area planted by mango in the province has never increase since 2010, signifying the reluctance of the Boholano farmers in expansion of the mango industry. Mango planting is mostly dominated by backyard growers. There are about 27 municipalities identified as mango producing areas in the province with the municipality of Ubay having the highest number of bearing trees followed by Buenavista Farming systems for mangoes need to be improved. Mango plantation, specifically for Carabao varieties, should also be expanded through clustered mango farms and aggressive expansion of mango plantation in key mango growing municipalities.

- **Vegetables**

In 2014 total production of major vegetables in the province reached 7,838 metric tons, higher by 10% from the 2013 production of 7,124 metric tons. Large volume of Bohol's production were attributed from harvests of eggplant (2,129 metric tons), tomato (1,870 metric tons), ampalaya (1,144 metric tons), squash (1,007 metric tons). Harvests were also made from stringbeans, pechay, okra, and habichuelas.



The estimated consumption of vegetable is almost thrice its production level resulting to a huge deficit for the past four years. Based on the 2014 PSA production data of only 7,838 metric tons as against the estimated consumption of 18,397 metric tons, Bohol has an enormous deficit in its supply of vegetables with only 43% sufficiency level to support the vegetable food requirements of Boholanos. At present, majority of the vegetables like carrots, cabbage and potato come from Cebu and Cagayan de Oro City. More so, rapid expansion of population in the province and even in the entire region logically increases the demand for these vegetables, making the increase in its production a very crucial agricultural thrust. It is worthy to note that the utilization of suitable land for vegetables, especially for high value varieties, should be maximized. Highland and vegetable farming should be enhanced and the promotion of home lot vegetable gardening should be intensified. The Provincial Government thru its program Bahay Kubo, FAITH, HOPE and Gulayan sa Paaralan is allocating sum of money for best practitioners by district for the purpose to increase vegetable sufficiency in the province. Bohol has some municipalities with land suitable for vegetable farming. Key production low land areas are identified in Calape, Tubigon, Catigbian, Corella, Bilar, Carmen and Balilihan. Highland vegetable farming, on the other hand, is identified ideal in the municipalities of Jagna, Duero, Sierra Bullones, Guindulman and Candijay and Garcia Hernandez. It is also necessary to encourage the production of high quality vegetables in order to meet the demands of the market, especially in growth centers in the province and in the region.

○ **Livestock And Poultry Development**

Livestock and poultry significantly contribute to the economic status of the province and its people. Being a good source of milk, meat and eggs, animal protein requirement of the Boholanos are sufficiently met by our local production of livestock and poultry. With an average farmer's land area of 0.25 hectare, the carabao, considered to be the "beast of burden" is commonly recognized to be the farming buddy of farmers. Despite being a large contributor to greenhouse gases, livestock and poultry wastes are also good sources of organic fertilizer and renewable energy. Livestock and poultry raising is a good source of income as it provides alternative livelihood and entrepreneurial opportunities at the household and community levels.

The province of Bohol has the following conditions that make livestock and poultry production favorable:

- Bohol as an island is bounded by bodies of water that provide natural boundaries and defense against livestock diseases. To date, the province is FMD and Avian-flu-free area, thus having the advantage edge for exporting livestock to other provinces;
- Geographically located in the central part of Visayas, the province is part of the nautical highway, thus providing easy access to markets within Visayas, Mindanao and Luzon;
- As a prime tourist destination, production requirement of meat, eggs, milk and milk products is high for local consumption and domestic markets;

- Demand for livestock and poultry product is huge considering that it is the "BIDA" or the basic commodity during celebrations especially on fiestas, thanksgiving and social reunions;
- Bohol has a vast agricultural areas where farm products and by-products can be utilized as feed resource and the existing non-arable areas can be utilized for livestock production;
- It is fortunate that the largest government production center in the country, the Ubay Stock Farm, is located in the province where livestock production management, breed preservation, technical services and researches are offered, demonstrated and showcased;
- The presence of national dairy facilities such as the National Dairy Authority (NDA) multiplier farm and processing center as well as the Philippine Carabao Center (PCC) dairy farm, processing and research center has boosted the development of our local dairy industry;
- There is the presence of organized active network of volunteers called Barangay Livestock Aides "BALA" and village-based AI Technicians "VBAIT" providing immediate services in terms of livestock-related needs of our farmers or livestock raisers even in the far-most communities; and
- The Provincial Government considers dairy and native chicken as its commodity champions and has poured out its strong support with resources and policies.

Generally, production is still backyard and livestock and poultry remains to be the most convenient immediate option in critical times like hospitalization and emergencies, educational needs and immediate source of cash. Initiatives have been developed to enhance production and health management yet, more has to be done on the aspects of waste management, the provision of support pre and post-harvest facilities to meet public safety standards and product development requirements. More so, there is a need to educate our local producers, traders and livestock handlers on the importance of value chain and the necessary interventions needed for the total development of the industry to achieve not only production sufficiency but value adding of products to open entrepreneurial opportunities.

○ **Fish Production**

Fishing is the second source of income and livelihood in the province. Out of the province' 47 municipalities, 30 are coastal that are highly dependent on fishing, and of the total 1,109 barangays, 303 are coastal and 64 are island barangays. Bohol has a coastline length of 654 kilometers and about 6,245 square kilometers of municipal waters. The number one source of animal protein in Bohol comes from our coastal ecosystems.

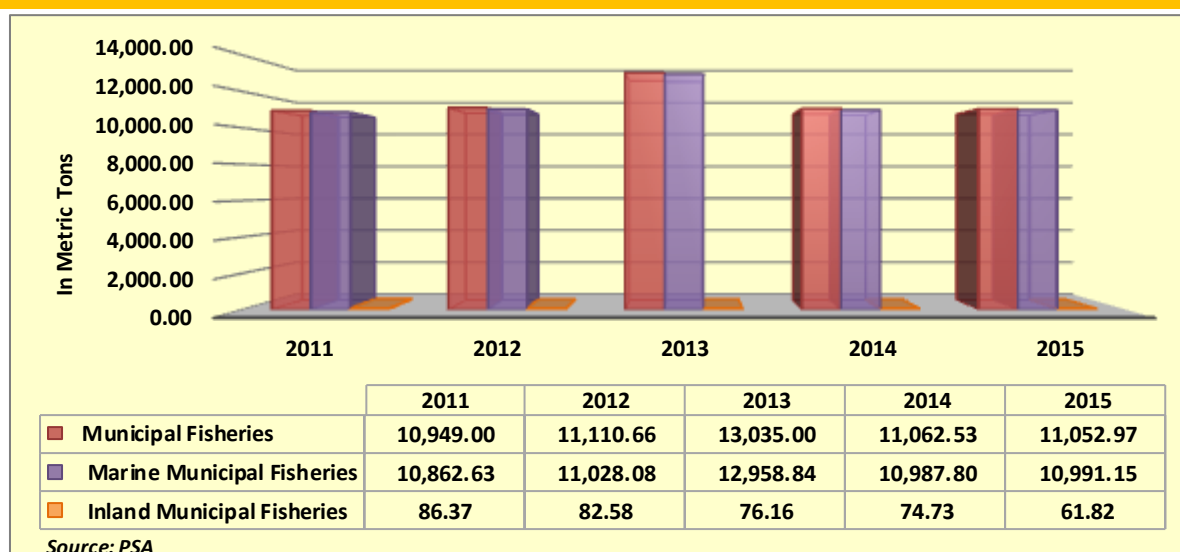
As of the 2015 Census of Population, Bohol has a total population of 1,314,000, of which about 33% are directly dependent on marine ecosystem for livelihood through fishing. Out of this population, more than 47,772 are registered Municipal Fisherfolk and 20,125 are full time Commercial Fishers and the rest are those involved in ancillary industries related to fishing, such as fishing gear trading, fish sellers, fish processors and fish consolidators. BFAR

data shows that as of March 2016, the number of boats in the province reached 9,611 and gears registered are 6,407.

- **Municipal Fishing**

The province has municipal waters that cover an area of 624,506 hectares. It is in these areas where most of fisherfolks get their catch. However, municipal fishing in the province has been observed to have a declining trend of fish catch for the past 2 years from the 2013 production of 13,035 metric tons, it decreased by 15% into 11,053 metric tons in 2015 from 11,062 metric tons fish catch in the previous year, (*Figure EC-31*). Marine municipal production contributed 99% of the total municipal fisheries volume of production, while a measly 1% comes from the inland municipal fisheries.

Figure EC-31. Municipal Fisheries Volume of Production, 2011-2015



These levels of fish production can be attributed to the seasonality of fishery resources and the weather which oftentimes create an unfavorable condition for fishing. Fisherfolks are also confronted with limited resources to upgrade their fishing gears and methods that could have facilitated the increase in their fish catch. There are only about 8,952 motorized fishing boats in the province compared to the 11,686 non-motorized fishing boats in coastal municipalities. Generally, fishing methods are still traditional which limits the volume of catch of poor fishermen.

- **Commercial Fishing**

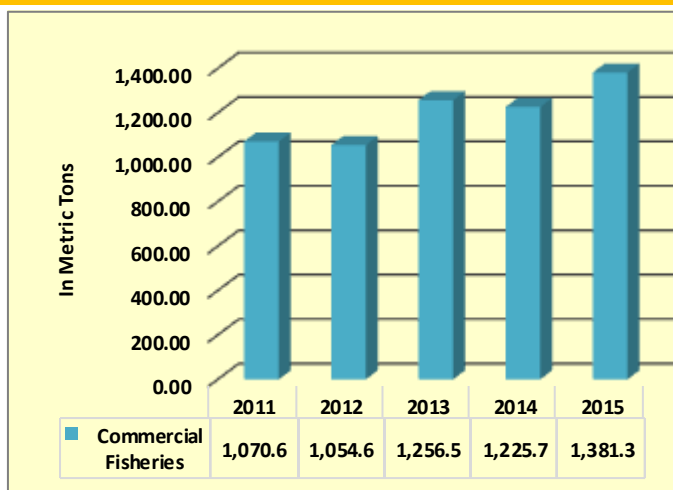
Commercial fishing in the province has been observed to have an irregular trend of fish catch for the past 5 years (*Figure 32*). From a high commercial production in 2013, it decreased the following year and increased again to 1,381 metric tons in 2015. This can be attributed to the fishing restrictions in the waters of Bohol Sea and

other fishing grounds for commercial fishers. Weather conditions and rough seas also affected this trend, resulting to lesser fishing activities undertaken within the appropriate commercial fishing areas of the province.

Bohol has a minimal number of registered commercial fishing boats, mostly owned and operated by few people - those that operate ice plants and distribution networks. These commercial fishers have been

upgrading their fishing vessels as well as the technologies they use for fishing.

Figure 32. Commercial Fisheries Volume of Production



- **Aquaculture**

In 2015, Bohol's aquaculture production has posted a decrease in output with a combined total of 91,523 metric tons, marking a decrease of 30% from the 2011 level (*See Table PE-8*). Seaweeds production accounts a significant share in the aquaculture industry in the province. In 2015, it accounted about 96% of the total aquaculture production.

Table PE-8. Aquaculture Volume of Production, Bohol, 2011-2015

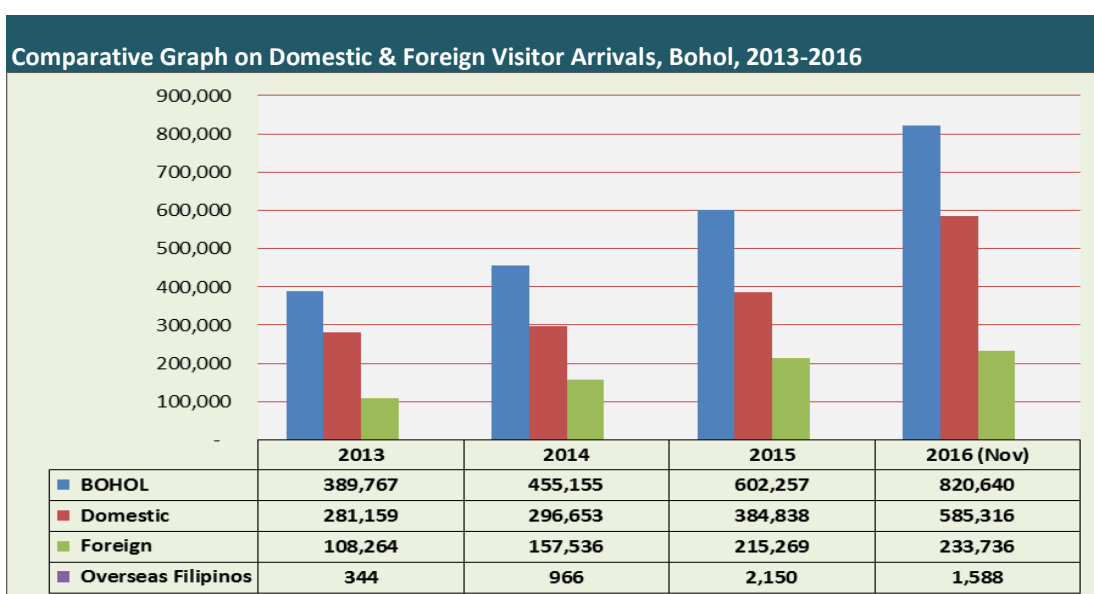
	2011	2012	2013	2014	2015
BOHOL	130,679.75	129,015.47	117,711.48	102,574.86	91,522.93
Brakishwater Fishpond	3,345.66	3,463.43	3,128.17	1,896.86	2,411.68
Freshwater Fishpond	73.77	74.74	72.43	57.99	54.64
Marine Pen	112.93	125.18	138.79	138.98	101.53
Oyster	420.17	394.12	313.79	726.38	582.60
Seaweeds	126,715.88	124,947.92	114,046.65	99,752.95	88,372.48
Small Farm Reservoir	11.34	10.08	11.65	1.70	-

Source: CountryStat, Philippine Statistics Authority (PSA)

Tourism

○ Tourist Arrivals

Over the past four (4) years, Bohol surely has intensified in its progress as a prime eco-cultural tourist destination of the Philippines. Despite global economic and environmental challenges, the current flow of domestic and foreign tourists signifies stability and constant growth economically, as well as in the upcoming investments. Statistical figures of tourist arrivals from the Department of Tourism (DOT), Regional Office – VII (RO-VII) through the Bohol Tourism Office (BTO) serve as proof of this constant increase from 2013 to 2016, as shown in *Figure EC-1* below. Excluding excursionists who come only to Bohol for day-tours, a total of 820,640 arrivals have been reported as of November 2016, with a growth rate of 36.26% reckoned from the 602,257 arrivals in 2015. This latest figure of 820,640 is far greater than the 2013 tourist arrivals of only 389,767, demonstrating 110.55% increase in a span of three (3) years with an average yearly increase of 28.45%.

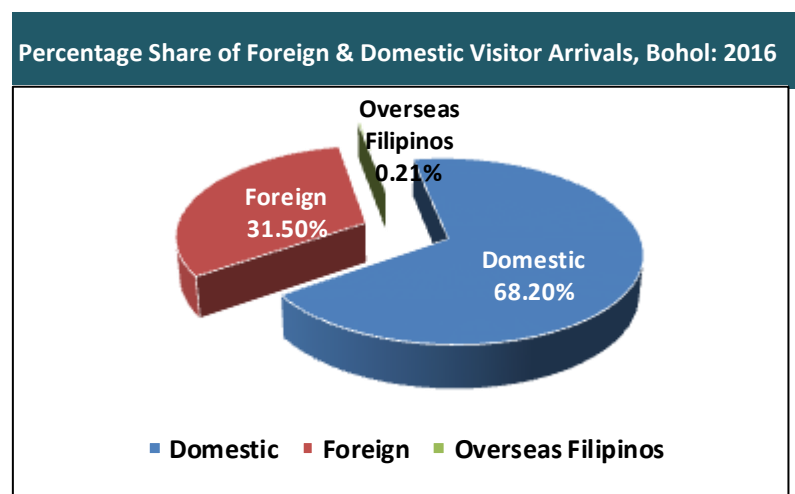


Source: Department of Tourism (DOT) 7

Although Bohol's tourist arrivals are dominated by the domestic market, data also shows that there is an increasing interest coming from the foreign market. In 2015, *Figure EC-1* immediately above shows that foreign tourists shared 35.74% of tourist arrivals in the province, higher than the 27.78% and 34.61% share in 2013 and 2014, respectively. However, as of November 2016 foreign tourists shared 28.48% of tourist arrivals in contrast to the dominant domestic tourist arrivals with an all-time high of 71.32% share.

As can be seen from *Figure EC-1* above, domestic tourist arrivals show consistent growth from 2013 to 2016 with an average yearly increase of 29%. This yearly increases could have been the result of factors such as: the vibrant tourism marketing and promotions and recovery efforts of the Provincial and Local Government Units of Bohol coupled with the shared efforts and commitment of the business and private sector; domestic and

foreign tourists may have since forgotten the series of debacles that occurred in Bohol in 2013 which entirely changed their travel plans and priorities; global economic environment may have improved since its meltdown in previous years; and others.













Source: Department of Tourism (DOT)

The Figure above shows that for the past three (4) years (2013-2016) on average, domestic tourists account for about two-thirds of the arrivals at 68.20% while foreign tourists is at 31.50%. Overseas Filipinos were also coming in on average at 0.21% for the last three (4) years.

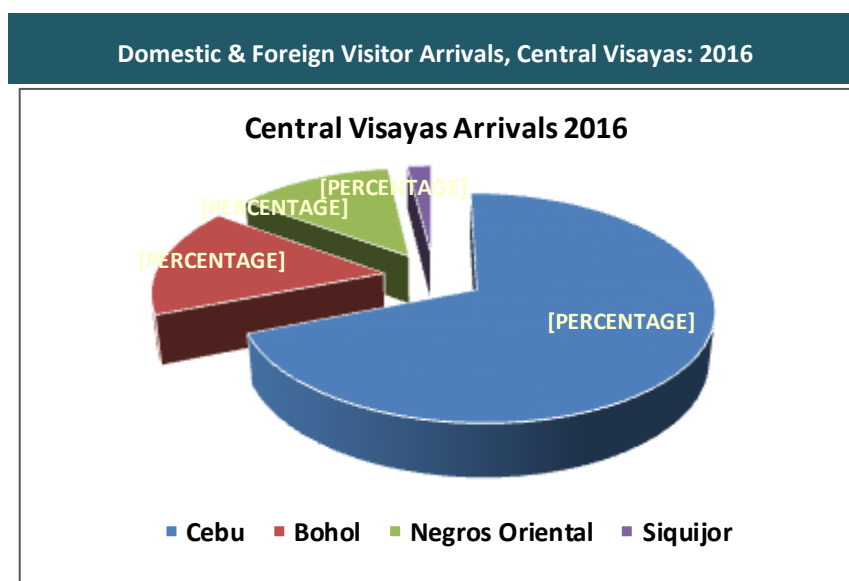
Bohol's 2016 foreign tourist arrivals show that China has the largest number of market share at 32.33% that translate to 59,289 visitors, having an increase of 46.25% from 2015; followed by Korea at 21.39%, USA at 11.08%, France at 6.37%, and Japan at 5.32% comprising the top five foreign tourists of the same year. Table EC-1 below shows Bohol's top 10 foreign tourists.

Table PE-9. Ten (10) Foreign Travelers, Bohol: 2015-2016

Country	Market Share	2015	2016 (Nov)	Growth Rate	
China		32.33%	40,539	59,289	46.25%
Korea		21.39%	48,777	39,229	-19.57%
USA		11.08%	17,177	20,317	18.28%
France		6.37%	8,836	11,690	32.30%
Japan		5.32%	8,709	9,747	11.92%
Germany		5.03%	7,393	9,231	24.86%
Taiwan		4.39%	3,101	8,042	159.34%
Australia		4.18%	5,758	7,662	33.07%
United Kingdom		3.49%	6,579	6,407	-2.61%
Canada		2.38%	4,132	4,372	5.81%
Others		4.03%	9,188	7,391	-19.56%

Source: Department of Tourism (DOT) 7

In the regional context, Bohol has consistently been one among the ideal destinations in Central Visayas that include Cebu, Negros Oriental and Siquijor as shown in *Figure EC-3* below. Recently, Bohol now comes next to Cebu as the region's most visited having a 16% share of both foreign and domestic markets in 2016.



Source: Consolidated Data by the BTO & DOT7

Cebu being an international gateway, obviously receives a huge chunk of tourist arrivals - 69% domestic and foreign, Bohol comes in second with 16% , Negros Oriental with 13% , and lastly Siquijor with 2% share in these arrivals.

- **Tourism Support Facilities and Services**

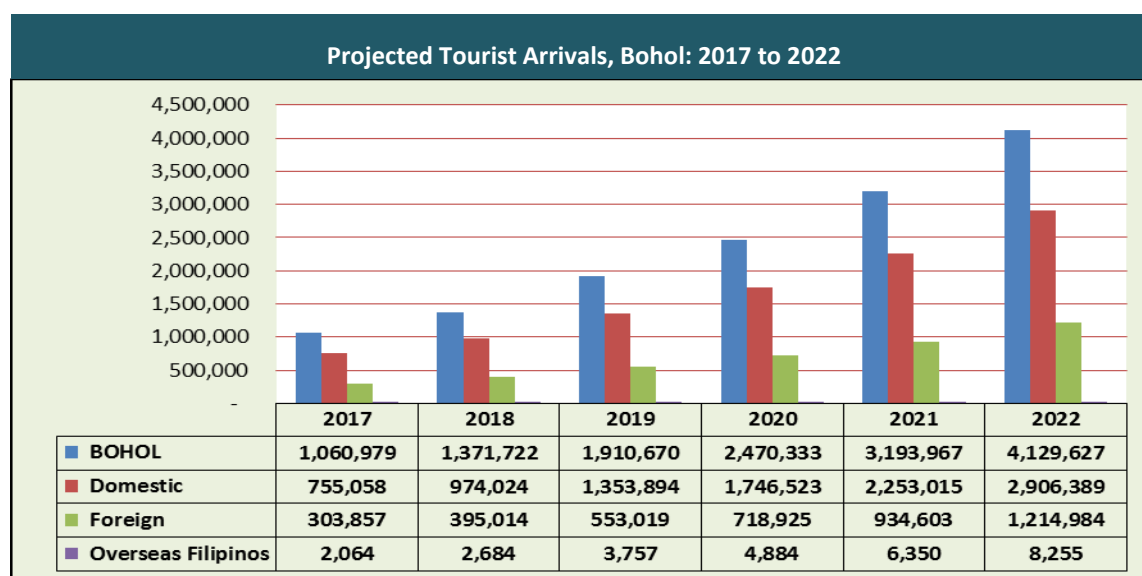
- Tourism Accommodation Establishments**

As of December 2016 a total of 6,370 available rooms have been recorded all over the province. Thirty-two (32) LGU's have declared to have 360 registered accommodation establishments. These include hotels, resorts, tourist inns, apartels, pension houses and motorist hotels. Panglao remains to have the highest number of registered accommodation establishments (113), followed by Tagbilaran City (82), Anda (22), Dauis (21), and Baclayon (16).

Accommodation establishments have continued to sprout and expand in their services for the past years. These facilities vary from upscale family-sized accommodation with private toilet and bath (T&B) facilities with a small kitchen, to budget single occupant rooms with T&B facilities. The biggest in the city has around 112 rooms and in Panglao with 383 rooms. In other towns offering lesser accommodation facilities, these may vary

from five (5) to ten (10) establishments with three (3) to ten (10) rooms. Establishments can cater from low-budget backpackers to high-end tourists.

Tourism investors and service providers have seen the industry's promising conditions and its potentials for further development. Projected average yearly increase of tourist arrivals from 2017 to 2019 is at 29% and when the New Bohol International Airport is expected to be operational in 2018, projected tourists arrivals will surge to an average of 39%.



Along with this projected rush of tourist influx in the province, it is also assumed that there will be shortage in the availability of rooms. *Table 2* shows the projected tourist arrivals and room demand by 2016 to 2022.

Table PE-10. Projected Tourist Arrivals and Room Demand, Bohol: 2016-2022

Year	Projected Tourists*	Daily Room Requirement**	Current Supply	Shortage
2016	820,640	8,442	6,370	-2,072
2017	1,060,979	11,188	6,370	-4,818
2018	1,371,722	14,828	6,370	-8,458
2019	1,910,670	20,759	6,370	-14,389
2020	2,470,333	19,652	6,370	-13,282
2021	3,193,967	26,044	6,370	-19,674
2022	4,129,627	34,516	6,370	-28,146

Note:

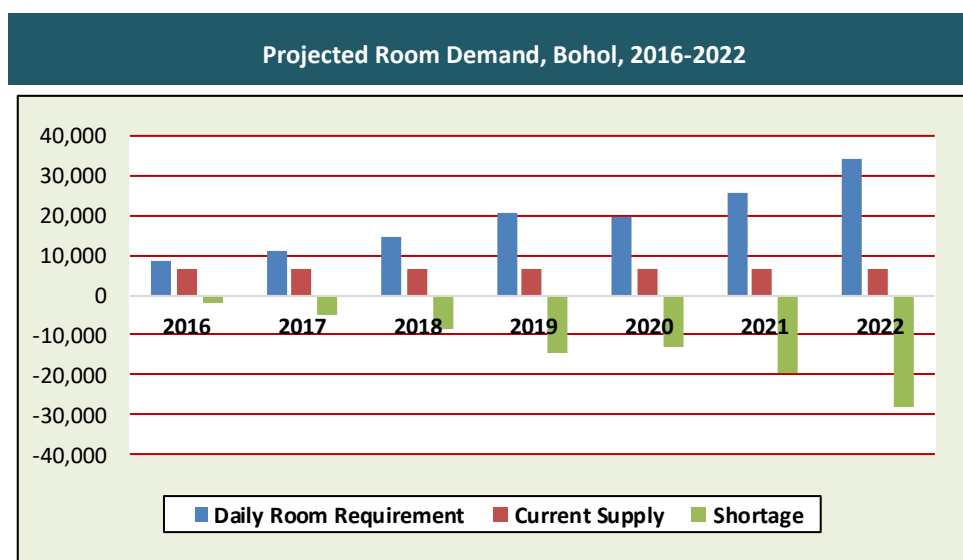
* Tourist Arrivals in year 2016 are based on actual figures from DOT7; Tourist Arrivals from 2017 to 2018 and from 2020 to 2022 are projected to increase annually at an average of 29%;

** Tourist Arrivals in 2019 is projected to increase at an average of 39% upon operation of the New Panglao Airport in the middle of 2018;

** Daily Room Requirement projections from 2016 to 2018 and from 2020 to 2022 are derived based on DOT7's Occupancy Rate of 32.53% in 2016; Daily Room Requirement in 2019 is projected to increase at an average of 40% upon operation of the New Panglao Airport.

Source: Department of Tourism (DOT)

Based on Table 2 immediately above, the current supply of rooms in 2017 is not able to meet the actual demand for rooms. With the 32.53% projected increase in room demand starting 2017, continuous increase in this shortage is anticipated, and even more when the New Bohol Airport will be functional in 2018. By 2022, this shortage is expected to hit 28,146 rooms (please see Figure 3 below for graphical presentation).



Source: Bohol Tourism Office (BTO)

For prospective developers of accommodation facilities, the process of land acquisition, planning, construction and eventual operation will take at least two years, making the room shortage a dilemma even with pipeline projects to date. If the industry does not act accordingly, the demand for rooms becomes severe. This scenario has been a long-standing issue which must be addressed promptly. Failure to do so will alienate the market due to inability to supply the needed accommodation of tourists.

○ **Tourist Arrivals and Demand for Rooms and Economic Effects**

With the available data of tourist arrivals and room demand, direct and indirect employment opportunities can also be projected. Worldwide, it has been shown that direct employment in accommodation establishments averages at 1.75 persons per room. These include administration staff, marketing, front office, catering and kitchen, housekeeping, maintenance, and security. It may also comprise restaurant and banquet service staff on a full and part-time basis, entertainers, and spa and sports management personnel. On the other hand, indirect employment generated by the industry averages at two (2) persons per room. These consist of jobs created in different sectors which provide goods and housekeeping supplies, laundry services, printing and related

services, vehicle-for-hire services, tour operators, souvenir shops and suppliers, beauty and barber shops, flower shop supplies and personnel. The resulting picture for employment created as a direct result of additional rooms constructed and operated is shown in Table 3 below as follows:

Table PE-11. Projected Room Demand and Jobs to be Generated, Bohol: 2016-2022

Year	Rooms Required	Current Supply	Room Demand	JOBS TO BE GENERATED		
				Direct Jobs (1.75)	Indirect Jobs (2.0)	Total
2016	8,442	6,370	2,072	3,626	4,144	7,770
2017	11,188	6,370	4,818	8,432	9,636	18,068
2018	14,828	6,370	8,458	14,802	16,916	31,718
2019	20,759	6,370	14,389	25,181	28,778	53,959
2020	19,652	6,370	13,282	23,244	26,564	49,808
2021	26,044	6,370	19,674	34,430	39,348	73,778
2022	34,516	6,370	28,146	49,256	56,292	105,548

Using the same factors and the additional rooms, tourism should be currently employing in 2016 over 3,626 persons directly in accommodation establishments and accounts for 4,144 indirect jobs. Total employment provided by the industry is 7,770 full-time persons. Opportunities created with this booming industry must be felt in the job market. In the moderate projections by the year 2022 another 105,548 jobs would be created bringing the industry total to over 100,000 persons employed by tourism and affiliated sectors. The optimistic view, which factors-in the various government responses to the industry needs, including the upcoming operation of the New Panglao Airport - new employment is expected to soar.

The job generation of the industry includes several services which will necessarily sprout especially that micro and small medium enterprises (MSMEs) are the trend nowadays. Given this income opportunities, private sector investments are anticipated to be as brisk as those inclined and into the provision of rooms. A primary concern with the existing rooms however is the range of quality *i.e. some meet the criteria in terms of international standards for the Department of Tourism (DOT)*, while a lot fall below even to the standards of the DOT. To get all of these rooms under a provincial accreditation

program that can successfully monitor quality, quantity and level of service, the evolution of separate sets of physical standards may need to be considered *i.e. cultural and international level of standards*. A system of promotions can then be set to allow operators to enhance from a lower to higher physical standard with the corresponding incentives. This will be possible with the implementation of the formulated Quality Standards for Sustainable Tourism in Bohol.

○ **Accommodation Establishments in Bohol**

Based on data provided by the DOT (Table 4 below), the number of accommodation facilities almost doubled from 232 in 2013 to 429 in 2016. Moreover, the number of rooms significantly increased from 3,912 in 2013 to 6,370 in 2016. In 2016, accommodation facilities are located in 32 municipalities and 1 city in the province of Bohol.

Table PE-12. Accommodation Establishments

Year	No. of Accommodation Facilities	No. of Rooms
2013	232	3,912
2014	284	4954
2015	360	5054
2016	429	6370

Source: Department of Tourism (DOT)

○ **Meetings, Incentives, Conventions, and Exhibitions (MICE) Facilities in Bohol**

The term "*MICE*" in the context of travel is an acronym for Meetings, Incentives, Conferences and Exhibitions. It refers to a specialized niche of group *tourism* dedicated to planning, booking and facilitating conferences, seminars and other events. In terms of MICE tourism, Bohol have MICE facilities that can cater to groups of tourists, investors and businessmen alike. MICE facilities in Bohol can accommodate 11,681 individuals with facilities from Tagbilaran City comprising the bulk at 6,687 capacity followed by Tagbilaran City at 3,569, and other locations at 1,425 capacity (Table 5).

Table PE-13. MICE Facilities in Bohol

MICE Facilities in Bohol	Capacity
Panglao Island	3,569
Tagbilaran City	6,687
Baclayon	500
Bilar	40
Talibon	185
Tubigon	350
Valencia	350

Source: Department of Tourism (DOT)

○ **Ancillary Tourism Facilities and Services**

Owing to the increasing entry of tourists availing tour packages to different sites in the province, the number of tour operators as well as transport/vehicle-for-hire ventures has also increased. In 2015 to 2016 there has been a total of 15 DOT-accredited travel agencies, 34 tour guides, 44 accommodation establishments, 27 hotels and 25 resorts are members of the Bohol Association of Hotels, Resorts and Restaurants (BAHRR). Moreover, 30 DOT-accredited land tourist transport services operators are registered having 78 cars, 103 vans, two (2) coasters, and 16 buses.

Food services and restaurants have also become a viable and profitable business to enhance tourism development in the province. Excluding fast-food services, there are 24 restaurant members of BAHRR.

○ **Tourism Infrastructure and Support Facilities**

Major entry points to the province, like the airport and seaport in Tagbilaran City, also the seaports in Tubigon, Ubay, Talibon and Jagna, are key tourism infrastructures that connect Bohol to Manila, the Visayas and Mindanao. Shipcalls have increased by 15.09% based on the total figure of 27,447 in 2016 compared to previous figure of 23,849 in 2013; passenger traffic also increased by 27.12% based on the total figure of 5,129,869 in 2016 compared to the previous figure of 4,035,556 in 2013, as recorded by the Philippine Ports Authority (PPA).

In terms of incoming flights, 2016 had an increase of 15.28% based on the total figure of 3,501 in 2016 reckoned to the total figure of 3,037 in 2014; incoming passengers also had an increase of 42.92% based on the total figure of 429,914 in 2016 reckoned to the total figure of 300,815 in 2014, as recorded by the Civil Aviation Authority in the Philippines (CAAP).

Communication facilities are continually undergoing improvements in the province linking tourists to the world. At present, there are two (2) telephone companies and five

(5) cellular networks in operations. Internet service providers also abound providing wi-fi broadband, cable internet and dial-up connections.

Trade and Industry

○ **Employment**

● **Employment and Labor Force Participation Rate**

The total population of Bohol as of 2015 is 1,313,560 based on Philippine Statistics Authority (PSA) data. About 95.6% individuals out of Bohol's labor force in 2015 are employed (Table EC-1 below). This employment rate is much higher by 2.0% at the regional level (Region 7) and 2.2% at national level (Philippines).

The average employment growth rate of Bohol from 2010 to 2014 is estimated to be at 94.5%. As can be seen from the Table 1 below, there is a slight decrease in Bohol's employment rate in 2013 compared to 2010 at -0.4%. This scenario on Bohol's employment could be the result of the brunt of the twin disasters (Bohol earthquake and typhoon Yolanda) that struck Bohol and parts of Central Visayas in 2013. During that bleak period, businesses as well as the tourism industry suffered a setback in terms of tourist arrivals and investors coming in to Bohol.

The period of distress in 2013 forced some of the industry players (business and tourism) to close-shop causing retrenchment and unemployment. However, in 2015 and 2016, the rate of employment for Bohol increased by 2.1% and 2.9%, respectively, compared to year 2013 higher than at the regional level (Table EC-1). This could be due to the bullish recovery efforts by the Provincial Leadership of Governor Chatto coupled with the aids from the National Government, the international community, and the resiliency of the Boholanos.

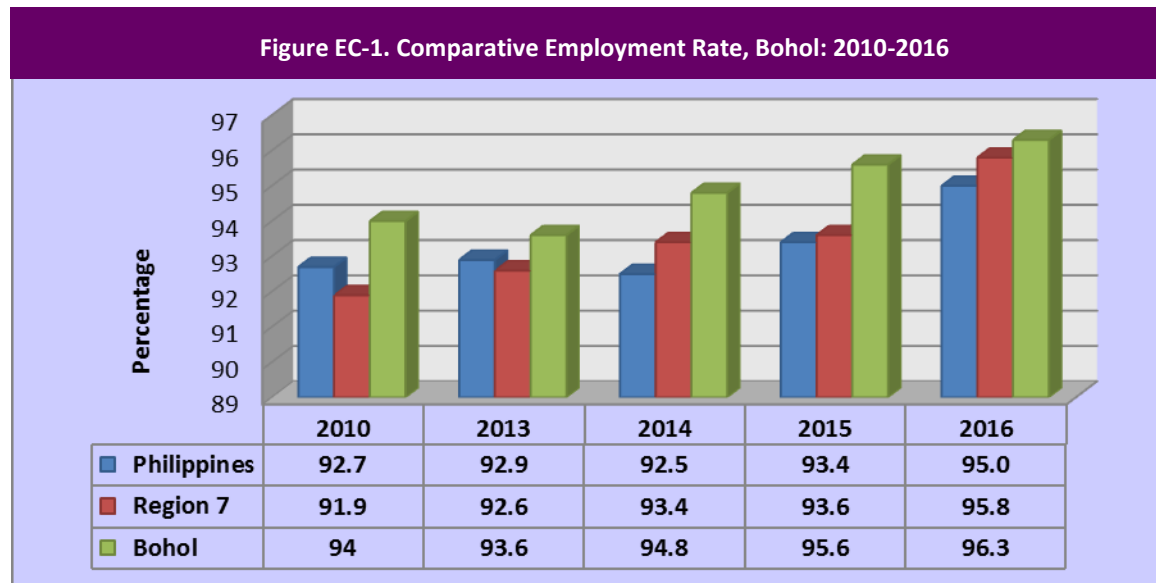
Table PE-14. Employment and Labor Force Participation Rate: 2010-2016

	2010	2013	2014	2015	2016
EMPLOYMENT RATE					
Philippines	92.7	92.9	92.5	93.4	95.0
Region 7	91.9	92.6	93.4	93.6	95.8
Bohol	94	93.6	94.8	95.6	96.3
LABOR FORCE PARTICIPATION RATE					
Philippines	64.5	64.1	63.8	63.7	68.8
Region 7	65	64.8	64.1	68.1	66.8
Bohol	63	58.2	60.2	66.3	65.8

Source: Philippine Statistics Authority (PSA), Labor Force Survey

Based on PSA statistical data, Bohol's labor force participation rate (LFPR) from 2010 to 2016 is fluctuating. It is evident that LFPR of Bohol decreased by -7.6% in 2013 reckoned

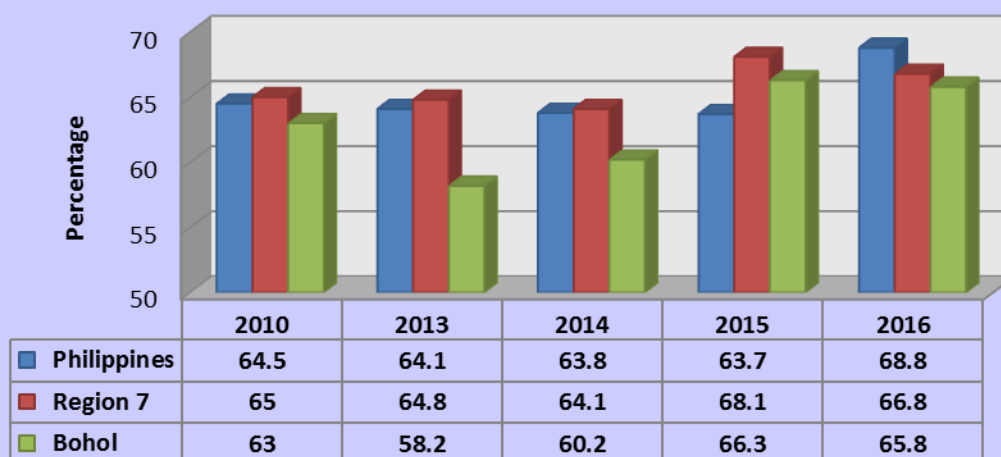
from 2010 but bounced back dramatically by 14% in 2015 (reckoned from the disaster year of 2013) for the same reasons previously stated. Bohol's labor force participation rate is the percentage of the total number of persons in the labor force to its total population of 15-year olds and over in accordance with PSA's definition of LFPR. On the other hand, Bohol's labor force refers to its population of 15-year olds and over who are either employed or unemployed or simply put, the economically active; also in accordance with PSA's definition of labor force.



Source: Philippine Statistics Authority (PSA)

Figure EC-1 above is a graphical representation of the statistical data that compare the extent of employment rate at the national, regional and provincial level for Bohol. It is evident from the graph shown above that the employment trend in 2013 dipped slightly but dramatically bounced back in 2014 until 2016. As stated earlier, this fluctuating graphical trend could be attributed to natural calamities that struck Bohol in 2013 and the essential recovery efforts initiated by the provincial leadership.

Figure EC-2. Comparative Labor Force Participation Rate, Bohol: 2010-2016

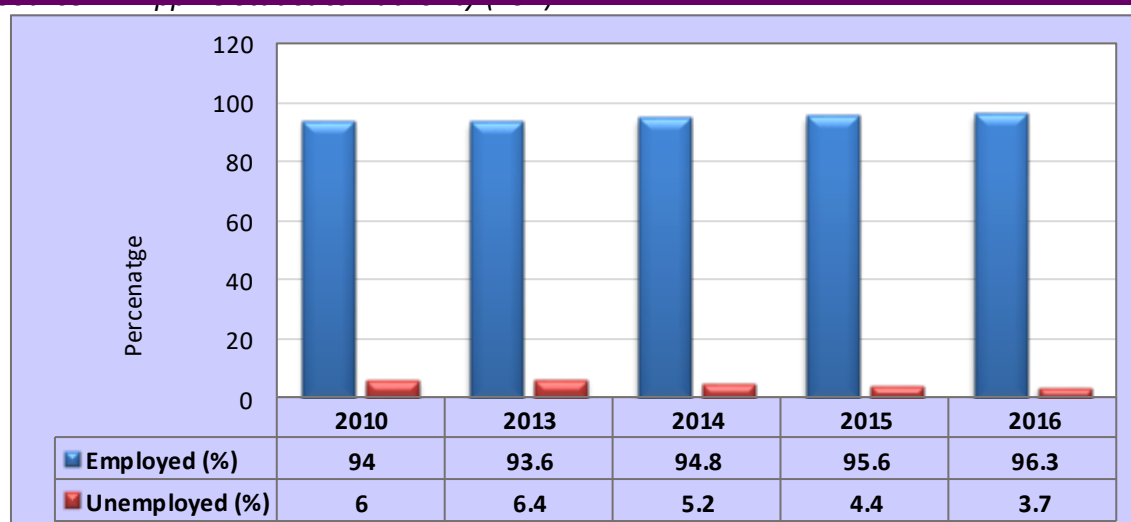


Source: Philippine Statistics Authority (PSA)

Shown in Figure EC-2 above is a graphical representation of the statistical data that compare the labor force participation rate (LFPR) at the national, regional and provincial level for Bohol. It is obvious from the graph as shown above that the trend in LFPR from 2010 to 2016 is fluctuating but dramatically increased in 2015. The 65.8% LFPR of Bohol in 2016 (Table EC-1) implies that an average of six (6) in ten (10) of the population aged 15 years and over are either employed or unemployed. In that same year 2016, the 65.8% LFPR of Bohol is slightly lower by 1.0% compared to Region 7's, and slightly lower at the national level by 3%. This lower turn-out comparison in LFRR is understandable considering the fact that the population of Bohol's 15 years old and over is much lower than Cebu and Negros Oriental, respectively.

- **Employment and Unemployment**

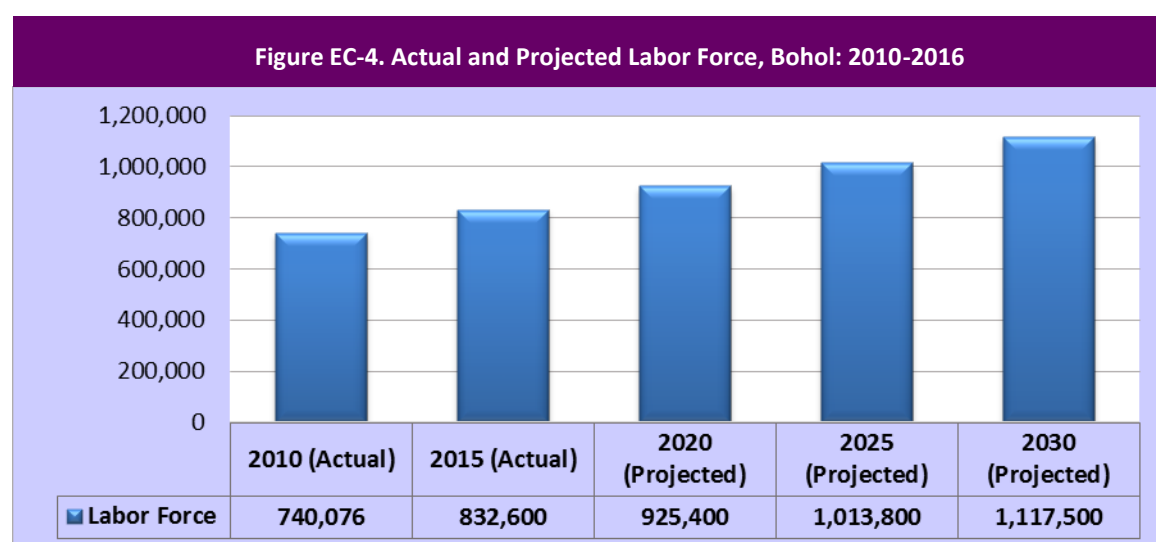
Figure EC-3. Employment and Unemployment Rate, Bohol: 2010-2016



As can be seen from *Figure EC-3* immediately above, employment rate for 2015 is at 95.6% with a low corresponding unemployment rate of 4.4%. A decrease in the rate of employment can be observed in 2013 based on the 2010 figure of 94%. The decrease could be attributed to the natural calamities that struck Bohol on that year. However, rate of employment bounced back in 2014 at 94.8%.

On the other hand, the increase in unemployment at 6.4% in 2013 reckoned from 2010 at 6% was probably brought about by the chain reaction of the debacle which ranges from destruction of Bohol's famous tourism destinations to power supply shortages and rolling blackouts province-wide. However, due to the recovery efforts of the Provincial leadership coupled with the aids from the National Government, the international community, and the resiliency of the Boholanos, as stated earlier, contributed a lot in generating employment increases in 2014 and 2015.

- **Actual and Projected Labor Force**



Source: Philippine Statistics Authority (PSA)

It can be inferred, that an increase in annual population growth will automatically mean an increase in the labor force for Bohol (15-64 years old). Labor force, according to PSA definition, includes those individuals who are either employed or unemployed. Figure EC-4, shows the actual labor force figures for 2010 and 2015, respectively, and the projected labor force of Bohol for 2020-2030 per PSA data. From Figure EC-4, the year 2020 indicates a labor force figure of 925,400 or an 11.14% increase from 832,600 actual labor force count in 2015. This 2020 labor force figure is projected to further increase to 1,117,500 in 2030 two years beyond the end of 2028 planning period.

In *Figure EC-4*, the actual labor force figure in 2015 is 832,600 and in accordance with PSA data about 95.6% (Figure EC-3) of these are 795,965 individuals who are employed. The unemployed component of the actual labor force figure in 2015 is about 4.4% (Figure EC-3) or about 36,634 individuals. By 2030, the employed and unemployed

variable components of the projected labor force will also both increase to 1,117,500. These increases would surely affect the economic situation of the province if left unheeded. Major infrastructure projects of the government and the business sector as well as those in the agriculture and tourism sectors funneled down to their respective value chains must be put in place to accommodate and offset the expected growth of the labor force at the end of the planning period in 2028 and beyond.

- **Family Income and Expenditure**

According to the National Statistical Coordination Board/ Philippine Statistics Authority (NSCB/PSA), the level of average family income during a period of time is obtained by dividing the total income of families by the total number of individual families. Table EC-3 on Family Income and Expenditure shown below indicates an increasing trend in the average family income from 1994 to 2009 at PhP38,187.00 to PhP148,638.00. If one translates this increase in incremental periods between 1994 and 2009 in terms of percentage rate of increase by yearly comparison, one can observe varying increases from 1994 to 2009. Accordingly, there were years wherein increases were comparatively high or low percentage-wise although generally speaking these were continuing increases from 1994 to 2009. Moreover, annual average family expenditure shows an increasing trend from 1994 to 2009 at PhP28,841.00 to PhP129,881.00. Comparative increases vary from year to year percentage-wise.

Table PE-15. **Family Income and Expenditure (At Current Prices): 1994, 1997, 2000, 2006, 2009**
Province of Bohol

(in pesos P)	2009	2006	2000	1997	1994
Total Number of Families	250,153	238,088	210,182	202,806	186,580
Annual Average Family Income (P)	148,638	114,535	77,291	56,940	38,187
Annual Average Family Expenditure (P)	129,881	94,675	66,907	50,754	28,841
Annual Average Family Saving (P)	18,757	19,860	10,384	6,186	9,346
Annual (Average) Per Capita Income (P)	31,882*	25,452*	16,478	12,853	8,533
Average Per Capita Expenditure (P)	27,871*	21,038*	14,364	11,410	6,444
Source: Family Income and Expenditure Survey (FIES), NSO					
Note: *PPDO estimate based on Average Family Size					

However, on the annual average saving characteristics of the Boholano family, one can observe a fluctuating trend from 1994 to 2009. Decreases in annual average family savings occurred in 2009 and 1997 at PhP18,757.00 and PhP6,186.00, respectively. These decreases which caused a fluctuating trend for the period 1994 to 2009 translate to -5.55% and -33.81%, respectively. It is recognizable from the Table above that the figures from the annual average family savings are obtained by deducting the annual average family expenditure from the annual average family income or simply put, the difference between available income and current consumption expenditures.

It can be inferred that the decrease in family savings in 1997 and the later year in 2009 may have been caused by high consumption expenditures due to inflation. This inflation in 2009 could have been brought about by the global economic and financial crisis that occurred in 2008 that trickled down to the grassroots level.

The annual average per capita income for every Boholano was on an upward trend from 1994 to 2009. A dramatic increase from PhP16,478.00 in year 2000 to PhP25,452.00 in year 2006 occurred which translate to a 54% increase. The gradual increasing trend of the annual average per capita income of the Boholanos from 1994 to 2009 as shown from the Table above only goes to show that - in the context of economic well-being - every Boholano family with an average of five (5) members is economically stable and not severely impoverish. A contributing factor to this Boholano attribute is reflected on their annual average family savings which kept on increasing from 1994 to 2009 (as shown in the Table above), except for minor decreases in 1997 and 2009. This trend on family savings reflects the expenditure behavioral patterns of the Boholano families for 15 years. This could substantiate the Boholano trait of being frugal in their finances wherein they do not spend below their means, reflective of their being conscious of “saving for the rainy days”.

- **Manufacturing and Priority Sectors**

Bohol’s manufacturing sector is composed of small-scale, home-based enterprises with assets below Php 3 Million. Majority of these businesses are involved in hand weaving and food processing. Bohol is well-known as the weaving capital of Central Visayas. A number of skilled craftsmen and artisans work as subcontractors of baskets and loomwovens for exporters who are based either in Manila or Cebu. Both the basketweaving and loomweaving sectors employ more than 5,000 workers in the province.

There are no large-scale factories operating in the province. The Philippine Mining Service Corporation in Garcia-Hernandez generates quarried limestone which is shipped to the PhiViDec Industrial Estate in Mindanao for sintering. Sintered ore is a major raw material in the iron industry.

In the area of food processing, there are quite a number of backyard food processors in the municipalities. Livelihood opportunities are provided by local and national government agencies and private sector organizations to assist housewives and out-of-school youth to engage in productive endeavors to help them increase their household incomes.

- **Micro, Small and Medium Enterprise (MSME) Development**

Comprising the bulk of enterprises in the province, the MSME sector is considered as a critical driver in the province's economic growth. Based on the Department of Trade and Industry's (DTI) business name registration listing from 2010 to 2015 (Figure 5), the number of new businesses was seen at an increasing annual average growth rate of 30.15%. A slight decrease was seen in 2014 due to the 7.2 magnitude earthquake in 2013 that affected a number of municipalities in the province. For the same period (2010-2015), MSMEs in the province have generated a total of 41,185 jobs or an average rate of increase of 11.50% per year.

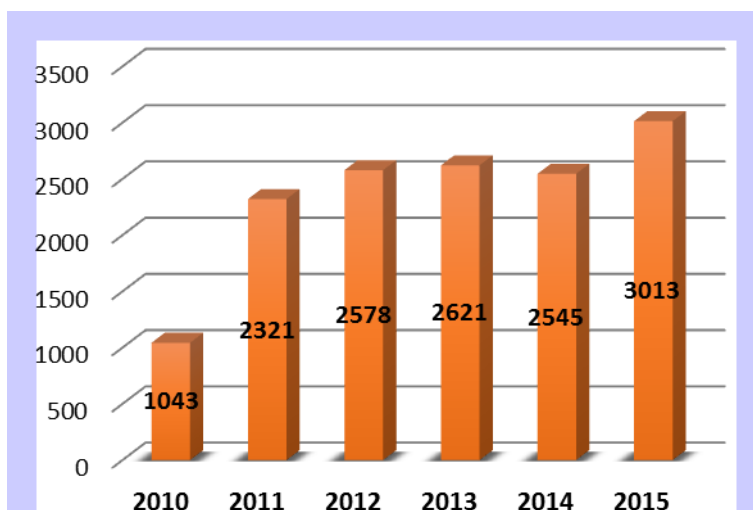


Figure EC-5. Business Name Registration, Bohol: 2010-2015

In terms of investments, MSMEs have invested a total of PhP 6.5 Billion to the economy of the province from 2010 to 2015. Investments in the retail and services sector are the most prominent investment areas in the province and these are mainly due to the growing tourism industry in the province.

Meanwhile, with the strong economic fundamentals in the country and the opening of the new Bohol air gateway (New Bohol Airport), investments in the different sectors that support the tourism industry in the province are projected to increase. These developments are estimated to have a huge positive economic impact to the provincial economy.

Despite the strong performance and positive outlook of MSMEs in the province and with the recent economic integration among ASEAN countries, a number of concerns need to be addressed in order for these MSMEs to be more competitive. MSMEs are constrained by the various factors that prevent them from realizing their potentials and surviving and growing in a highly competitive environment. The key challenges that MSMEs often face are high cost of doing business, lack of access to finance and market information and low productivity and competitiveness. These concerns have been the focus of interventions and programs among the different national government agencies, local government units, private sector partners and other stakeholders in the province.

VULNERABILITY AND RISK ASSESSMENT

- **Population Hazard Exposure**

- **Population Exposure to Earthquake-induced Landslide (EIL)**

There are 939 inhabitants or roughly 0.05% of Bohol's population in 2010 are highly exposed to EIL. They are found in Bilar, Garcia-Hernandez, Guindulman, Bilar, Jagna, Lila, Loay, Loboc, Pilar, Sevilla, Sierra Bullones, Sikatuna and Valencia. The rest of the towns and City of Tagbilaran have moderate (0.82%) and low (2.5%) population exposure to EIL. Anda, Baclayon, Bien Unido, Calape, Clarin, Cortes, Dauis, Getafe, Inabanga, Loay, Loon, Maribojoc, Panglao, Pres. C.P. Garcia, San Miguel, Talibon, Trinidad, Tubigon and Ubay. The rest of the 23 municipalities have either 1% or 2% population exposure to EIL.

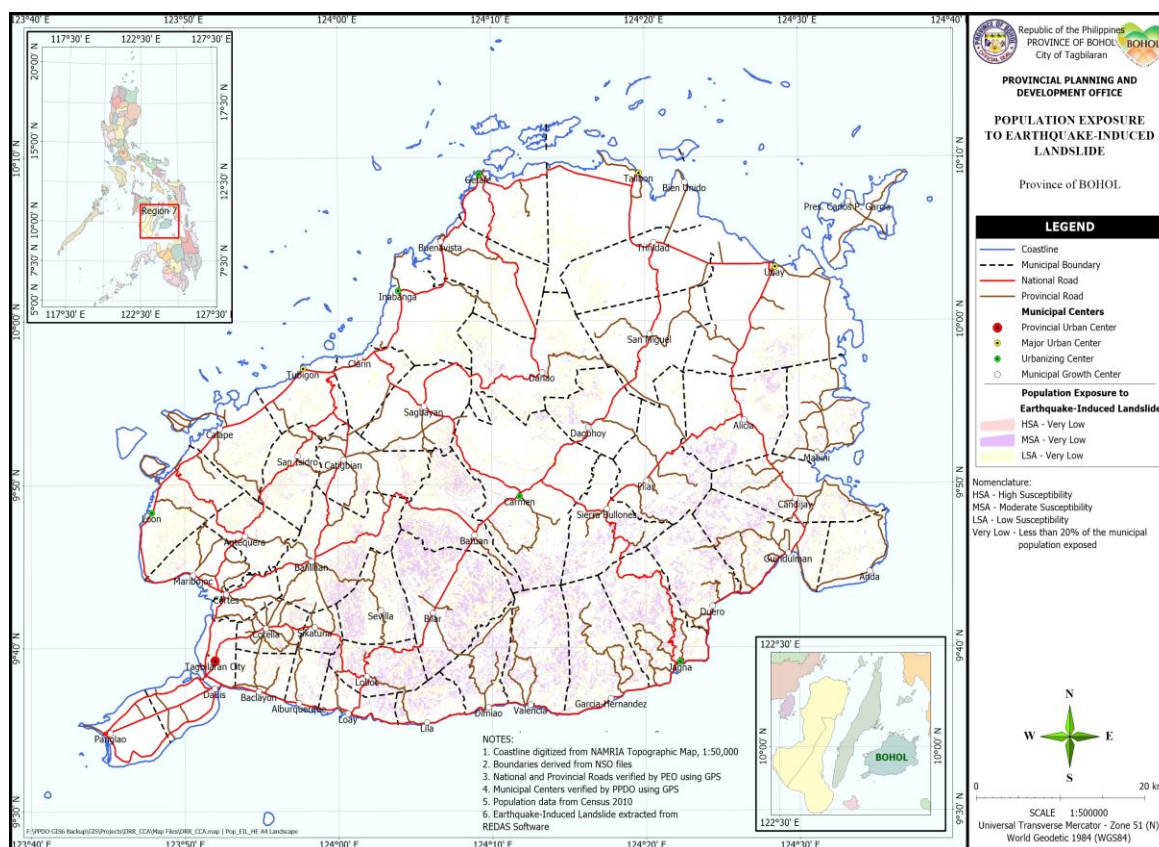
Table PE-16: **Population Exposure to Earthquake-induced Landslide by Municipality**
Bohol Province

Municipality	Population 2010	Exposed Population			Percent Population Exposure		
		High Susceptible Areas	Moderate Susceptible Areas	Low Susceptible Areas	High Susceptible Areas	Moderate Susceptible Areas	Low Susceptible Areas
Albuquerque	9,921	9	243	621	0.094%	2.449%	6.256%
Alicia	22,285	9	412	1,129	0.040%	1.848%	5.066%
Anda	16,909	0	122	1,500	0.000%	0.721%	8.873%
Antequera	14,481	0	98	1,108	0.000%	0.678%	7.651%
Baclayon	18,630	0	103	766	0.001%	0.553%	4.110%
Balilihan	17,147	5	476	2,097	0.031%	2.777%	12.231%
Batuan	12,431	8	763	2,205	0.066%	6.138%	17.741%
Bien Unido	25,796	0	0	0	0.000%	0.000%	0.000%
Bilar	17,098	135	1,455	2,629	0.791%	8.512%	15.374%
Buenavista	27,031	0	11	602	0.000%	0.040%	2.227%
Calape	30,146	0	61	904	0.000%	0.204%	3.000%
Candijay	29,043	9	511	2,037	0.029%	1.759%	7.014%
Carmen	43,579	57	480	2,190	0.130%	1.101%	5.025%
Catigbian	22,686	0	170	1,193	0.001%	0.751%	5.257%
Clarin	20,296	0	14	368	0.000%	0.068%	1.815%
Corella	7,699	0	108	563	0.002%	1.409%	7.319%
Cortes	15,294	0	46	305	0.000%	0.301%	1.997%
Dagohoy	18,868	1	129	767	0.003%	0.684%	4.063%
Danao	17,952	0	120	1,146	0.002%	0.668%	6.383%

Bohol Provincial Development and Physical Framework Plan (PDPFP) 2016-2028

Municipality	Population 2010	Exposed Population			Percent Population Exposure		
		High Susceptible Areas	Moderate Susceptible Areas	Low Susceptible Areas	High Susceptible Areas	Moderate Susceptible Areas	Low Susceptible Areas
Dauis	39,448	0	5	152	0.000%	0.013%	0.384%
Dimiao	15,166	34	582	768	0.226%	3.835%	5.063%
Duero	17,580	8	614	1,655	0.045%	3.493%	9.412%
Garcia-Hernandez	23,038	25	838	2,700	0.111%	3.636%	11.718%
Getafe	27,788	0	3	203	0.000%	0.012%	0.731%
Guindulman	31,789	20	1,024	2,822	0.063%	3.220%	8.878%
Inabanga	43,291	0	26	945	0.000%	0.059%	2.182%
Jagna	32,566	16	855	3,030	0.050%	2.624%	9.305%
Lila	11,985	158	532	952	1.320%	4.435%	7.946%
Loay	16,261	33	395	685	0.201%	2.426%	4.211%
Loboc	16,312	119	1,230	2,103	0.729%	7.538%	12.893%
Loon	42,800	0	48	1,298	0.000%	0.113%	3.033%
Mabini	28,174	0	241	1,601	0.000%	0.856%	5.684%
Maribojoc	20,491	0	39	613	0.000%	0.190%	2.991%
Panglao	28,603	0	1	13	0.000%	0.004%	0.045%
Pilar	26,887	31	399	789	0.114%	1.486%	2.936%
Pres. C. P. Garcia	23,287	0	2	134	0.000%	0.008%	0.576%
Sagbayan	20,091	0	95	851	0.000%	0.471%	4.234%
San Isidro	9,125	0	104	929	0.002%	1.142%	10.177%
San Miguel	23,574	0	14	258	0.000%	0.060%	1.095%
Sevilla	10,443	15	480	1,600	0.148%	4.599%	15.324%
Sierra Bullones	24,698	122	776	1,174	0.493%	3.142%	4.752%
Sikatuna	6,380	1	246	787	0.023%	3.858%	12.334%
Tagbilaran City	96,792	0	63	355	0.000%	0.065%	0.367%
Talibon	61,373	0	4	265	0.000%	0.006%	0.432%
Trinidad	28,828	0	12	285	0.000%	0.041%	0.988%
Tubigon	44,902	0	60	1,071	0.000%	0.134%	2.385%
Ubay	68,578	0	134	823	0.000%	0.196%	1.200%
Valencia	27,586	122	1,297	2,649	0.441%	4.702%	9.602%
Total	1,255,128	939	15,441	53,639	0.0515%	0.8303%	2.7228%

Map PE-7. Population Exposure Map to Earthquake-induced Landslide
Bohol Province



Population Exposure to Ground Shaking

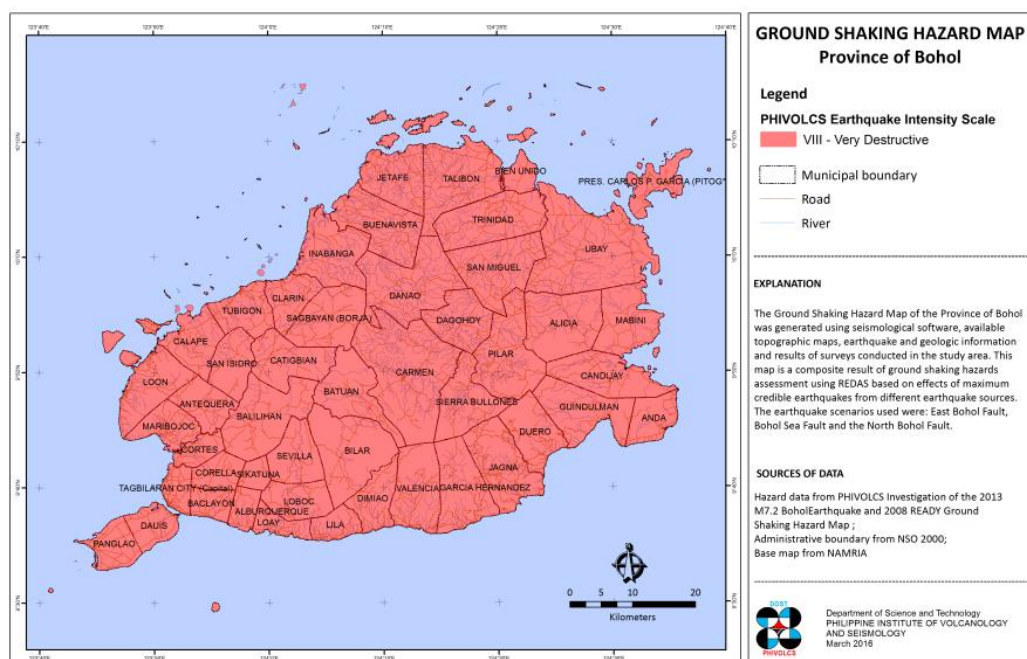
All of the 47 municipalities and the city in Bohol are highly susceptible to ground shaking at Intensity 7 and 8. About 21% or 258,048 Boholanos and 76% or 950,718 people are highly exposed to ground shaking with intensity 7 and 8, respectively.

Table No. PE-17. Population Exposure to Ground Shaking Hazard Per Municipality
Bohol Province

Municipality	Municipal Population 2010	Exposed Population		Percent Population Exposure	
		Intensity 8 and above Ground Shaking	Ground Shaking up to Intensity 7	Intensity 8 and above Ground Shaking	Ground Shaking up to Intensity 7
Albuquerque	9,921	9,919		99.975%	
Alicia	22,285	22,285		100.000%	
Anda	16,909	16,798		99.344%	
Antequera	14,481	9,053	5,428	62.517%	37.483%
Baclayon	18,630	17,267		92.683%	
Balilihan	17,147	16,095	1,052	93.865%	6.135%
Batuan	12,431	12,431		100.000%	

Municipality	Municipal Population 2010	Exposed Population		Percent Population Exposure	
		Intensity 8 and above Ground Shaking	Ground Shaking up to Intensity 7	Intensity 8 and above Ground Shaking	Ground Shaking up to Intensity 7
Bien Unido	25,796	608	17,796	2.356%	68.988%
Bilar	17,098	17,098		100.000%	
Buenavista	27,031	15,118	8,041	55.928%	29.747%
Calape	30,146	1,065	29,081	3.532%	96.466%
Candijay	29,043	28,851		99.339%	
Carmen	43,579	43,045	534	98.775%	1.225%
Catigbian	22,686	12,721	9,965	56.075%	43.925%
Clarín	20,296	12,743	7,514	62.785%	37.021%
Corella	7,699	7,699		100.000%	
Cortes	15,294	15,219		99.512%	
Dagohoy	18,868	18,835	33	99.824%	0.176%
Danao	17,952	9,024	8,928	50.268%	49.732%
Dauis	39,448	34,283	4,441	86.907%	11.258%
Dimiao	15,166	15,156		99.931%	
Duero	17,580	17,302		98.419%	
Garcia-Hernandez	23,038	22,968		99.695%	
Getafe	27,788	21,573	1,669	77.635%	6.007%
Guindulman	31,789	31,608		99.429%	
Inabanga	43,291	31,279	8,638	72.253%	19.954%
Jagna	32,566	32,163		98.764%	
Lila	11,985	11,741		97.967%	
Loay	16,261	16,016		98.495%	
Loboc	16,312	16,312		100.000%	
Loon	42,800	1,179	41,621	2.754%	97.246%
Mabini	28,174	27,157		96.391%	
Maribojoc	20,491	13,523	6,183	65.994%	30.173%
Panglao	28,603	27,488	123	96.103%	0.429%
Pilar	26,887	26,887		100.000%	
Pres. C.P. Garcia	23,287	1,120	20,164	4.809%	86.591%
Sagbayan	20,091	6,251	13,860	31.113%	68.986%
San Isidro	9,125	508	8,617	5.569%	94.431%
San Miguel	23,574	22,837	737	96.873%	3.127%
Sevilla	10,443	10,443		100.000%	
Sierra Bullones	24,698	24,698		100.000%	
Sikatuna	6,380	6,380		100.000%	
Tagbilaran City	96,792	96,418		99.613%	
Talibon	61,373	10,404	39,885	16.952%	64.988%
Trinidad	28,828	24,699	4,115	85.679%	14.273%
Tubigon	44,902	22,139	19,325	49.305%	43.037%
Ubay	68,578	66,969	299	97.654%	0.436%
Valencia	27,586	27,576		99.964%	
Total	1,255,128	950,718	258,048	75.74%	20.55%

Map PE-9. **Population Exposure Map to Ground Shaking**
Bohol Province



Population Exposure to Tsunami

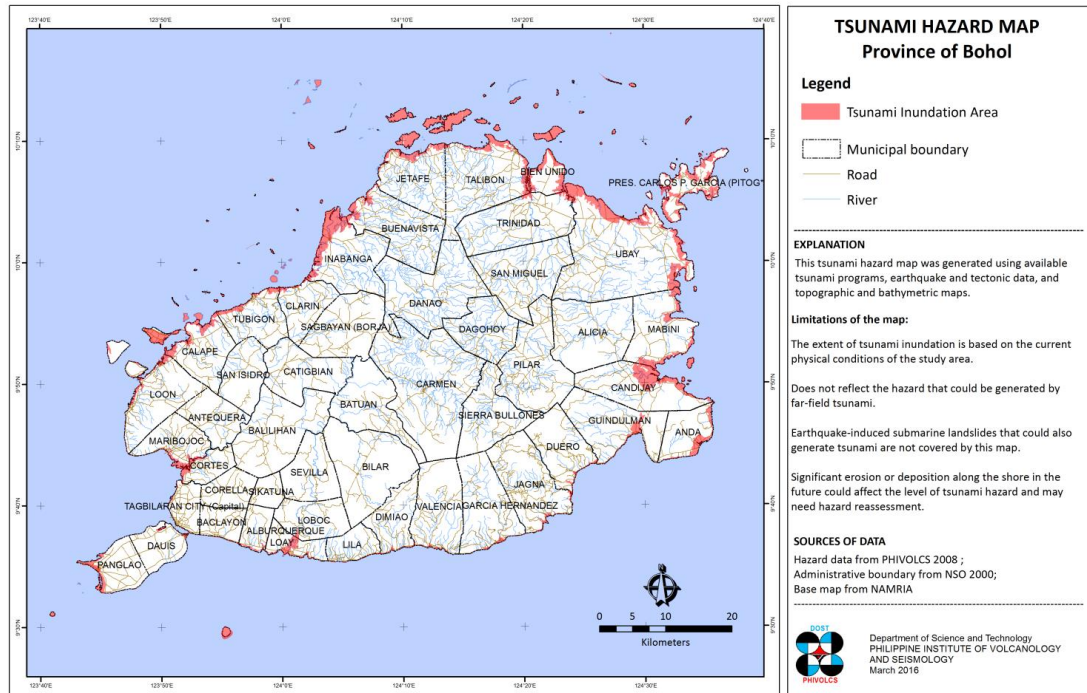
Thirty municipalities and the city, with a total population of 143,727 or 11.45% of the Bohol's population, are highly exposed to tsunami. These areas are located along Bohol's coastal zones including its island barangays and islets. The municipalities of Ubay, Talibon, Bien Unido, Inabanga and Getafe had the highest inhabitants heavily exposed or at risk. Only 17 municipalities, located at the hinterlands, are safe from tsunami. These are the municipalities of Alicia, Antequera, Balilihan, Batuan, Bilar, Carmen, Catigbian, Corella, Dagohoy, Danao, Pilar, Sagbayan, San Isidro, San Miguel, Sevilla, Sierra-Bullones and Sikatuna.

Table PE-18. **Population Exposure to Tsunami Hazard Per Municipality**
Bohol Province

Municipality	Municipal Population 2010	Exposed Population to Tsunami Hazard	Percentage of Exposed Population to Tsunami Hazard
Alburquerque	9,921	616	6.210%
Alicia	22,285	0	0.000%
Anda	16,909	4,026	23.809%
Antequera	14,481	0	0.000%
Baclayon	18,630	1,973	10.593%
Balilihan	17,147	0	0.000%
Batuan	12,431	0	0.000%
Bien Unido	25,796	13,139	50.936%
Bilar	17,098	0	0.000%
Buenavista	27,031	1,433	5.302%

Municipality	Municipal Population 2010	Exposed Population to Tsunami Hazard	Percentage of Exposed Population to Tsunami Hazard
Calape	30,146	9,479	31.444%
Candijay	29,043	4,530	15.596%
Carmen	43,579	0	0.000%
Catigbian	22,686	0	0.000%
Clarin	20,296	794	3.910%
Corella	7,699	0	0.000%
Cortes	15,294	1,673	10.938%
Dagohoy	18,868	0	0.000%
Danao	17,952	0	0.000%
Dauis	39,448	1,790	4.538%
Dimiao	15,166	455	3.000%
Duero	17,580	1,471	8.368%
Garcia-Hernandez	23,038	1,490	6.466%
Getafe	27,788	10,283	37.006%
Guindulman	31,789	4,544	14.295%
Inabanga	43,291	12,135	28.030%
Jagna	32,566	3,322	10.202%
Lila	11,985	449	3.747%
Loay	16,261	4,080	25.092%
Loboc	16,312	247	1.516%
Loon	42,800	4,392	10.261%
Mabini	28,174	3,973	14.100%
Maribojoc	20,491	3,305	16.130%
Panglao	28,603	5,320	18.601%
Pilar	26,887	0	0.000%
Pres. Carlos P. Garcia	23,287	9,572	41.104%
Sagbayan	20,091	0	0.000%
San Isidro	9,125	0	0.000%
San Miguel	23,574	0	0.000%
Sevilla	10,443	0	0.000%
Sierra Bullones	24,698	0	0.000%
Sikatuna	6,380	0	0.000%
Tagbilaran City	96,792	1,524	1.575%
Talibon	61,373	13,405	21.841%
Trinidad	28,828	1,192	4.134%
Tubigon	44,902	7,598	16.921%
Ubay	68,578	14,513	21.163%
Valencia	27,586	1,003	3.635%
T o t a l	1,255,128	143,727	11.45%

Map PE-10. Population Exposure Map to Tsunami
Bohol Province



Population Exposure to Liquefaction

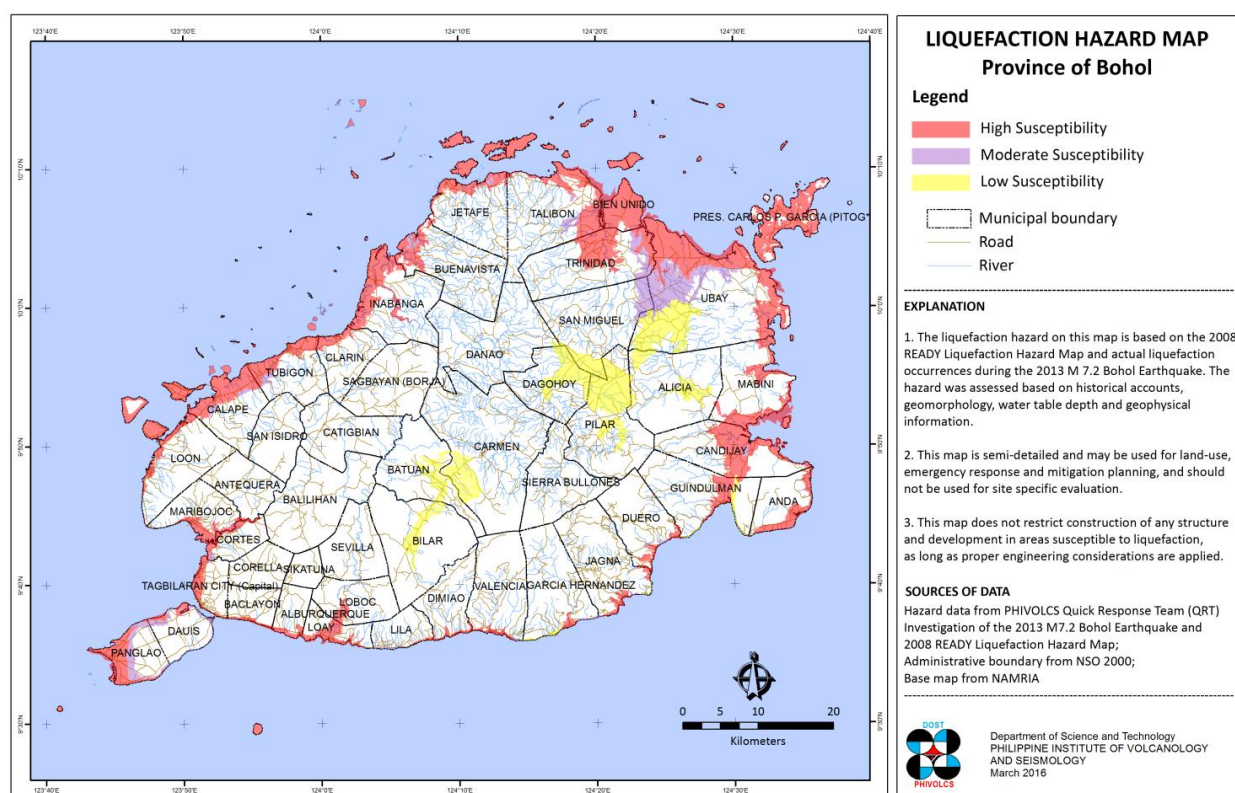
A very high percentage of population in Bohol are exposed to high susceptibility to liquefaction at 26.54% or 333,127 inhabitants compared to those at moderate (34,006 or 2.71%) and low susceptibility (40,947 or 3.26%). There are 14 municipalities and the city with high percentage of population exposed to liquefaction, namely, 1) Tagbilaran City (31,393), 2) Ubay (29,754), 3) Talibon (24,750), 4) Tubigon (22,754), 6) Calape (19,082), 7) Bien Unido (18,406), 8) Pres. C. P. Garcia (17,798), 9) Loon (16,129), 10) Panglao (15,390), 11) Getafe (14,097), 12) Trinidad (12,743), 13) Candijay (10,317), 14) Mabini (8,617) and 15) Maribojoc (7,937). The municipalities that are not exposed to liquefaction and are safe from high susceptibility are Balilihan, Catigbian, Corella, Pilar, Sagbayan, San Isidro, Sevilla, Siarra Bullones, San Miguel and Sikatuna.

Table PE-19. Population Exposure to Liquefaction Hazard Per Municipality
Bohol Province

Municipality	Municipal Population 2010	Exposed Population			Percent Population Exposure		
		High Susceptible Areas	Moderate Susceptible Areas	Low Susceptible Areas	High Susceptible Areas	Moderate Susceptible Areas	Low Susceptible Areas
Albuquerque	9,921	2,169			21.867%		
Alicia	22,285	19		4,756	0.086%		21.340%
Anda	16,909	6,415			37.939%		
Antequera	14,481	239			1.653%		
Baclayon	18,630	4,866			26.117%		
Balilihan	17,147						
Batuan	12,431			3,092			24.874%
Bien Unido	25,796	18,406			71.351%		
Bilar	17,098			3,118			18.237%
Buenavista	27,031	6,066	1,538		22.440%	5.689%	
Calape	30,146	19,082	1,293		63.298%	4.288%	
Candijay	29,043	10,315	220	24	35.515%	0.758%	0.082%
Carmen	43,579			2,933			6.731%
Catigbian	22,686						
Clarín	20,296	6,171			30.407%		
Corella	7,699						
Cortes	15,294	2,955	897		19.322%	5.866%	
Dagohoy	18,868			7,209			38.207%
Danao	17,952			25			0.137%
Dauis	39,448	2,354	6,231		5.969%	15.796%	
Dimiao	15,166	1,548			10.204%		
Duero	17,580	4,093	747		23.282%	4.248%	
Garcia-Hernandez	23,038	2,374	307	1,020	10.307%	1.334%	4.429%
Getafe	27,788	14,097			50.730%		
Guindulman	31,789	7,453		974	23.446%		3.063%
Inabanga	43,291	15,081			34.836%		
Jagna	32,566	7,406	326	129	22.740%	1.001%	0.397%
Lila	11,985	1,024	603		8.543%	5.027%	
Loay	16,261	7,773	41		47.800%	0.251%	
Loboc	16,312	2,243			13.749%		
Loon	42,800	16,129	710	121	37.686%	1.658%	0.282%
Mabini	28,174	8,617			30.584%		
Maribojoc	20,491	7,937		24	38.732%		0.119%
Panglao	28,603	15,392	4,762		53.814%	16.650%	
Pilar	26,887			6,948			25.841%
Pres. C. P. Garcia	23,287	17,798			76.431%		
Sagbayan	20,091						
San Isidro	9,125						
San Miguel	23,574		3,214	1,679		13.634%	7.123%
Sevilla	10,443						
Sierra Bullones	24,698						
Sikatuna	6,380						
Tagbilaran City	96,792	31,393	319		32.433%	0.329%	

Municipality	Municipal Population 2010	Exposed Population			Percent Population Exposure		
		High Susceptible Areas	Moderate Susceptible Areas	Low Susceptible Areas	High Susceptible Areas	Moderate Susceptible Areas	Low Susceptible Areas
Talibon	61,373	24,750	922		40.328%	1.503%	
Trinidad	28,828	12,743	2,247		44.204%	7.794%	
Tubigon	44,902	22,754	845		50.676%	1.881%	
Ubay	68,578	29,754	8,638	8,885	43.387%	12.596%	12.957%
Valencia	27,586	3,710	147	10	13.450%	0.532%	0.035%
TOTAL	1,255,128	333,127	34,006	40,947	26.54%	2.71%	3.26%

Map PE-11. Population Exposure Map to Liquefaction
Bohol Province



Population Exposure to Storm Surge

Thirty (30) of the coastal municipalities in Bohol are highly exposed to storm surge hazard. About 46,227 or 3.68 % of the province's population are exposed with 5,912 hectares affected. The top 5 municipalities with high percentage of exposure are Getafe (8,048 or 29.45%), Bien Unido (8,048 or 31.20%), Talibon (7,151 or 11.65%) and Ubay (2,444 or 3.56%). The 18 municipalities of Alicia, Antequera, Balilihan, Batuan, Bilar, Carmen, Catigbian, Corella, Dagohoy, Danao, Loboc, Pilar, Sagbayan,

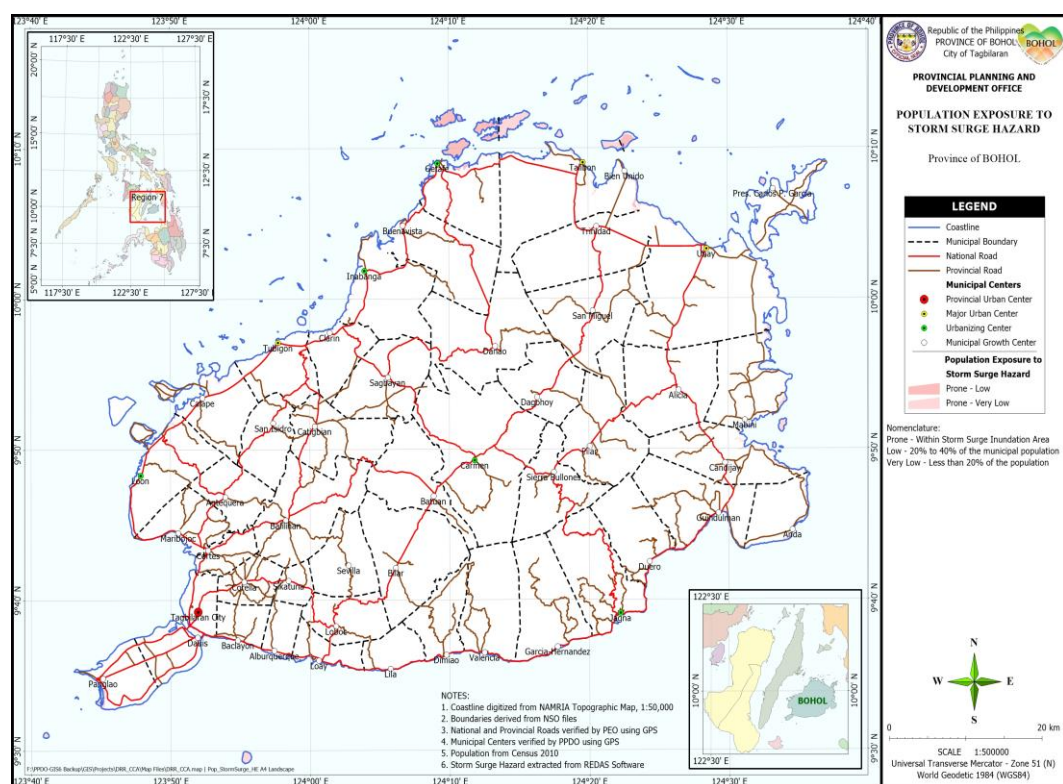
San Isidro, San Miguel, Sevilla, Sierra Bullones and Sikatuna are safe from exposure to liquefaction.

Table PE-20. Population Exposure to Storm Surge Hazard Per Municipality
Bohol Province

Municipality	Municipal Population 2010	Area Affected (Ha.)	Population Exposed to Storm Surge Hazard	Percentage of Population Exposed to Storm Surge Hazard
Albuquerque	9,921	29.173	265	2.673%
Alicia	22,285			
Anda	16,909	137.440	740	4.377%
Antequera	14,481			
Baclayon	18,630	167.455	1,337	7.179%
Balilihan	17,147			
Batuan	12,431			
Bien Unido	25,796	402.469	8,048	31.198%
Bilar	17,098			
Buenavista	27,031	14.277	150	0.554%
Calape	30,146	117.062	1,146	3.803%
Candijay	29,043	175.312	416	1.434%
Carmen	43,579			
Catigbian	22,686			
Clarin	20,296	26.691	342	1.683%
Corella	7,699			
Cortes	15,294	27.749	227	1.487%
Dagohoy	18,868			
Danao	17,952			
Dauis	39,448	2.679	14	0.035%
Dimiao	15,166	9.953	58	0.384%
Duero	17,580	33.634	331	1.882%
Garcia-Hernandez	23,038	38.530	401	1.741%
Getafe	27,788	1,459.342	8,184	29.452%
Guindulman	31,789	54.237	486	1.530%
Inabanga	43,291	113.253	1,469	3.392%
Jagna	32,566	41.172	641	1.970%
Lila	11,985	39.323	337	2.812%
Loay	16,261	68.098	875	5.381%
Loboc	16,312			
Loon	42,800	108.848	1,138	2.660%
Mabini	28,174	391.137	1,567	5.563%

Municipality	Municipal Population 2010	Area Affected (Ha.)	Population Exposed to Storm Surge Hazard	Percentage of Population Exposed to Storm Surge Hazard
Maribojoc	20,491	88.349	787	3.842%
Panglao	28,603	234.153	2,013	7.039%
Pilar	26,887			
Pres. Carlos P. Garcia	23,287	409.255	3,095	13.290%
Sagbayan	20,091			
San Isidro	9,125			
San Miguel	23,574			
Sevilla	10,443			
Sierra Bullones	24,698			
Sikatuna	6,380			
Tagbilaran City	96,792	13.824	696	0.719%
Talibon	61,373	1,181.233	7,151	11.652%
Trinidad	28,828	3.255	7	0.025%
Tubigon	44,902	60.105	1,448	3.226%
Ubay	68,578	440.888	2,444	3.564%
Valencia	27,586	23.423	410	1.488%
Total	1,255,128	5,912	46,227	3.683%

Map PE-12. Population Exposure Map to Storm Surge
Bohol Province



Population Exposure to Rain-induced Landslide (RIL)

A total of 66,291 or 5.28% of the Boholanos are living in areas highly susceptible to RIL while 180,801 or 14.40% and 400,211 or 31.88% of Boholanos are exposed to moderately and low susceptible areas, respectively. Potentially vulnerable segments of society such as its school-age population and low-income families are particularly susceptible to rainfall-induced landslides. The top 10 municipalities with population highly susceptible to RIL are Guindulman (8,096), Anda (7,148), Jagna (6,018), Mabini (5,887), Candijay (3,299), Ubay (2,955), Maribojoc (2,841), Valencia (2,726) and Garcia-Henandez (2,708).

There are 5,371 or 0.42% Boholanos exposed to possible landslide deposit accumulation zone. These are located in 13 municipalities of Mabini (747), Duero (663), Maribijoc (536), Guindulman (472), Valencia (347), Garcia-Hernandez (345), Jagna (325), Candijay (297), Pilar (236), Sagbayan (36), Ubay (14), Catigbian (10) and Balilihan (8).

The affected population living within the RIL susceptible areas, comprising about 20% of the total population, is composed of mostly poor families living within the periphery or at the foot of hills or mountains and flood-prone areas. They are at risk relative to their location since falling boulders and rocks may directly hit their homes and endanger their lives and properties. With the current annual rate of 1.06% population growth, it is expected that there would be a moderate increase in exposure to identified prone areas or high susceptibility areas.

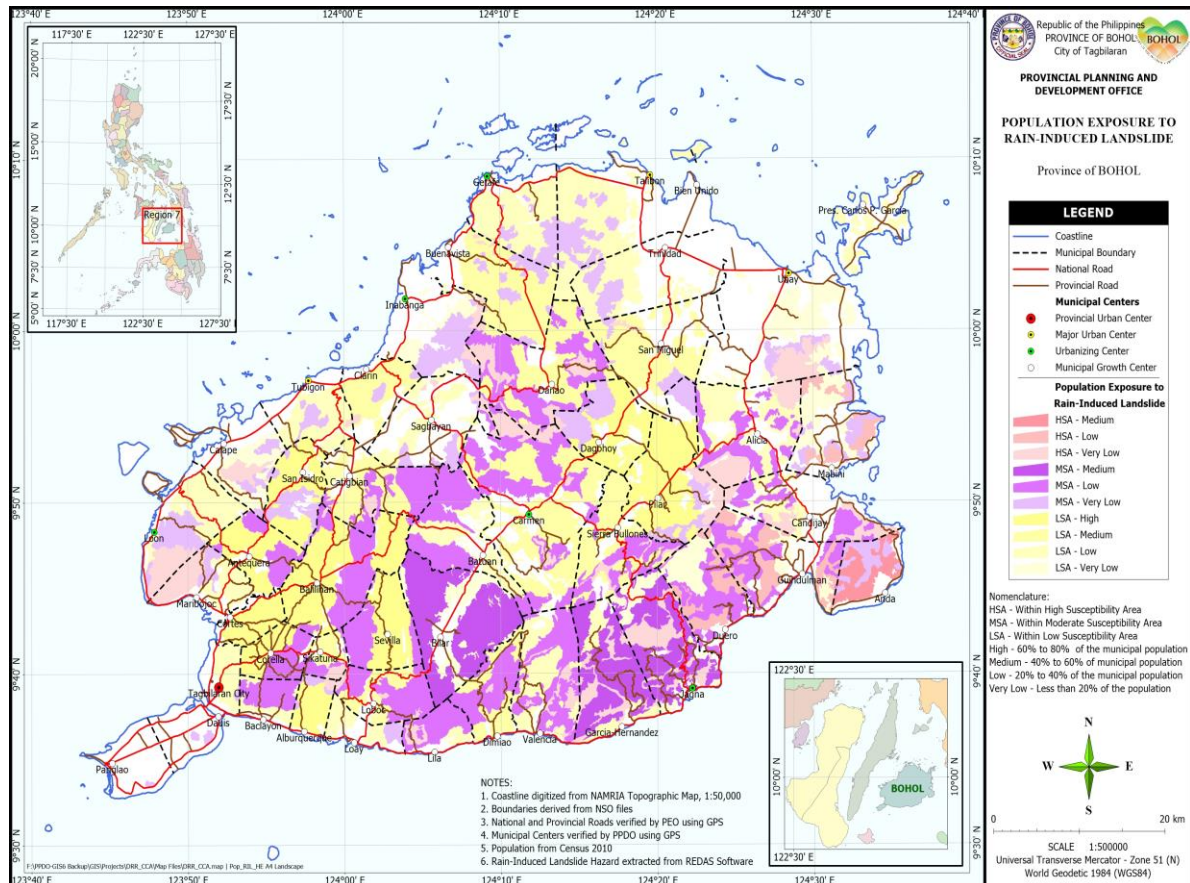
Table PE-21. **Population Exposure to Rain-induced Landslide by Municipality**
Bohol Province

Municipality	Municipal Population	Exposed Population				Population Exposure Percentage			
		High Susceptible Areas	Moderate Susceptible Areas	Low Susceptible Areas	Possible Landslide Deposit Accumulation Zone	High Susceptible Areas	Moderate Susceptible Areas	Low Susceptible Areas	Possible Landslide Deposit Accumulation Zone
Alburquerque	9,921	136	723	6,662		1.374%	7.287%	67.153%	
Alicia	22,285	2,358	4,895	8,468	131	10.581%	21.964%	38.001%	0.588%
Anda	16,909	7,148	2,335		1,203	42.272%	13.810%		7.117%
Antequera	14,481		3,678	8,887			25.397%	61.372%	
Baclayon	18,630		5,341	4,497			28.668%	24.140%	
Balilihan	17,147	128	4,164	12,358	8	0.746%	24.283%	72.071%	0.047%
Batuan	12,431		4,341	4,842			34.918%	38.948%	
Bien Unido	25,796			7,253				28.118%	
Bilar	17,098		9,735	2,711			56.935%	15.855%	
Buenavista	27,031	623	1,628	11,686		2.305%	6.021%	43.232%	
Calape	30,146	1,384	1,122	5,478		4.589%	3.722%	18.171%	
Candijay	29,043	3,299	5,984	6,164	297	11.358%	20.605%	21.224%	1.024%

Bohol Provincial Development and Physical Framework Plan (PDPFP) 2016-2028

Municipality	Municipal Population	Exposed Population				Population Exposure Percentage			
		High Susceptible Areas	Moderate Susceptible Areas	Low Susceptible Areas	Possible Landslide Deposit Accumulation Zone	High Susceptible Areas	Moderate Susceptible Areas	Low Susceptible Areas	Possible Landslide Deposit Accumulation Zone
Carmen	43,579	1,533	10,481	17,967		3.517%	24.050%	41.229%	
Catigbian	22,686	611	5,597	11,507	10	2.692%	24.674%	50.724%	0.046%
Clarín	20,296	603	494	11,970		2.970%	2.436%	58.978%	
Corella	7,699		2,529	4,973			32.851%	64.591%	
Cortes	15,294			11,305				73.919%	
Dagohoy	18,868	356	2,930	12,215		1.886%	15.527%	64.741%	
Danao	17,952	1,669	4,539	9,539		9.296%	25.283%	53.137%	
Dauis	39,448		2,126				5.389%		
Dimiao	15,166	219	4,940	8,400		1.446%	32.572%	55.390%	
Duero	17,580	3,613	6,566	1,272	663	20.554%	37.348%	7.236%	3.773%
G-Hernandez	23,038	2,708	10,203	5,940	345	11.753%	44.288%	25.782%	1.495%
Getafe	27,788	74	897	6,823		0.266%	3.228%	24.555%	
Guindulman	31,789	8,096	6,935	3,695	472	25.468%	21.817%	11.623%	1.485%
Inabanga	43,291	1,384	6,269	6,413		3.197%	14.480%	14.813%	
Jagna	32,566	6,018	14,226	3,133	325	18.478%	43.684%	9.622%	0.999%
Lila	11,985	1,257	4,494	2,806		10.488%	37.494%	23.410%	
Loay	16,261	113	1,518	4,879		0.695%	9.336%	30.006%	
Loboc	16,312	760	6,394	6,589		4.656%	39.196%	40.394%	
Loon	42,800	2,607	5,468	8,764		6.091%	12.775%	20.477%	
Mabini	28,174	5,887	4,828	5,098	747	20.894%	17.138%	18.093%	2.650%
Maribojoc	20,491	2,841	1,668	6,226	536	13.862%	8.140%	30.382%	2.617%
Panglao	28,603		212				0.740%		
Pilar	26,887	1,652	2,566	19,910	236	6.145%	9.542%	74.051%	0.878%
Pres. C. Garcia	23,287			7,317				31.422%	
Sagbayan	20,091	329	1,489	5,553	36	1.638%	7.410%	27.640%	0.182%
San Isidro	9,125	6	1,511	6,355		0.063%	16.557%	69.642%	
San Miguel	23,574	179	756	11,373		0.761%	3.205%	48.242%	
Sevilla	10,443		2,280	7,752			21.831%	74.229%	
Sierra Bullones	24,698	1,743	6,026	13,094		7.056%	24.400%	53.017%	
Sikatuna	6,380	694	1,366	3,403		10.884%	21.405%	53.345%	
Tagbilaran City	96,792		1,325	34,727			1.369%	35.878%	
Talibon	61,373		2,383	19,949			3.882%	32.505%	
Trinidad	28,828		1,312	6,205			4.552%	21.523%	
Tubigon	44,902	585	1,994	12,721		1.303%	4.441%	28.331%	
Ubay	68,578	2,955	1,269	13,516	14	4.308%	1.851%	19.709%	0.020%
Valencia	27,586	2,726	9,267	9,814	347	9.882%	33.594%	35.576%	1.256%
Total	1,255,128	66,291	180,801	400,211	5,371	5.282%	14.405%	31.886%	0.428%

Map PE-13. **Population Exposure Map to Rain-induced Landslide**
Bohol Province



Exposure of Built-up Areas to Hazards

Built-up Areas Exposed to Earthquake-induced Landslide

This exposure describes the extent of exposed built-up areas in Bohol to earthquake induced landslide per municipality. The Table below measures the exposure as expressed in terms of percentage to total municipal land allocation for built-up zones to determine the low, moderate and high built-up areas and assets exposure within the high susceptible hazard areas. For Bohol, the exposure dataset for built-up areas was derived from the land cover assessment from NAMRIA of 2010 which indicates the approximate extent of the built-up areas within the province.

The total allocation for built-up areas in the province is 8,633.98 hectares or 2.09 % of Bohol's total land area. Among the top 10 areas with big allocation are 1) Tagbilaran City (1,742.55), 2) Panglao (1,005.35), 3) Daus (939.11), Candijay (437.33), 5) Baclayon (334.20), 6) Tubigon (234.73), 7) Jagna (196.93), 8) Loon (199.94), Anda (184.99) and 10) Buenavista (182.42). The

City of Tagbilaran remains to be the primary urban center in Bohol, and it is followed by the three municipalities that are first class municipalities in the province, namely, Talibon, Ubay and Tubigon, the towns that are expected to experience rapid urbanization and to continue to play significant roles in the socio-economic development of the province. Moreover, growth is expected in other municipalities with ports and other infra-support facilities including those being developed or planned to be developed as growth centers like Loon, Ubay and Jagna.

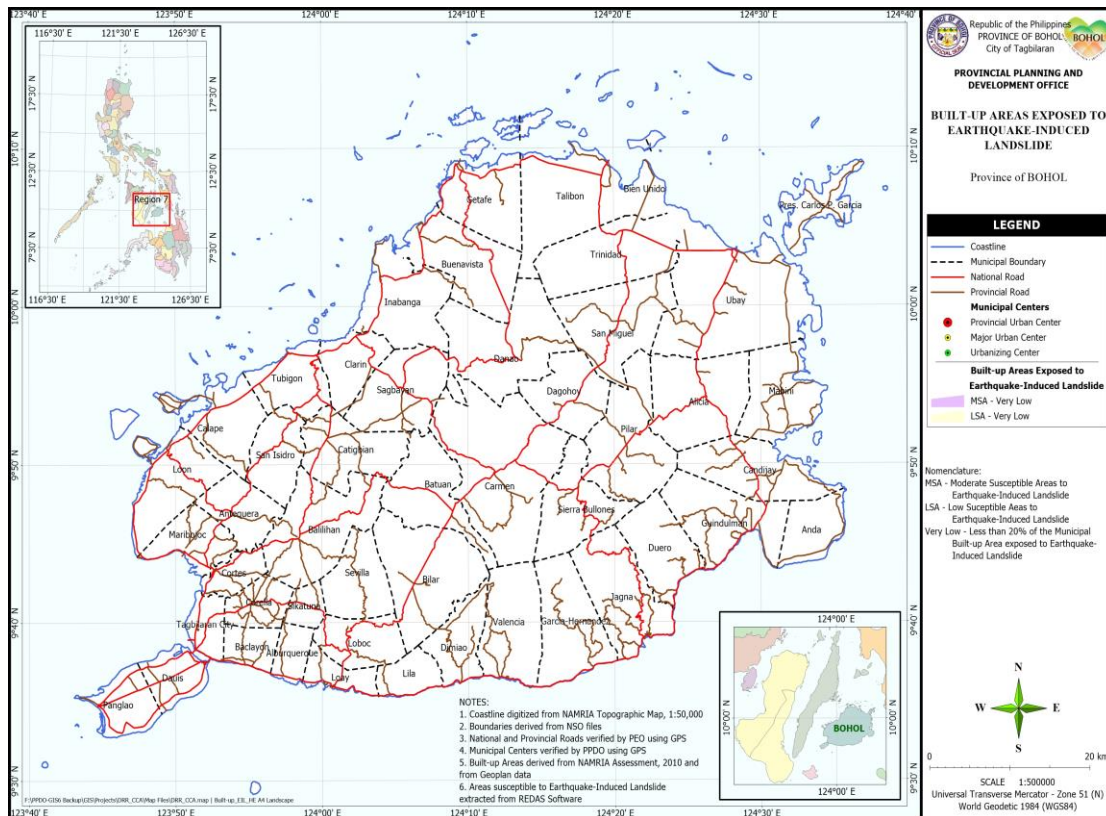
As shown in the table below, 19 municipalities have very low exposure to moderately susceptible to earthquake induced landslide constituting a total area of 3.98 hectares or 0.047% to the total built-up of the province. Among them are Albuquerque, Alicia, Anda, Baclayon, Balilihan, Batuan, Candijay, Carmen, Corella, Cortes, Dauis, Duero, Garcia-Hernandez, Jagna, Lila, Loboc, Pilar, Sagbayan, Sevilla and Tagbilaran City. The remaining 29 municipalities are safe or not exposed to EIL

Table PE-23. Built-Up Areas Exposed To Earthquake-Induced Landslide By Municipality
Bohol Province

Municipality	Built-up Areas (Ha.)	Very Low Exposure		Low Susceptible Areas (Ha.)	
		Moderately Susceptible Areas (Ha.)	Low Susceptible Areas (Ha.)	Moderately Susceptible Areas (Ha.)	Low Susceptible Areas (Ha.)
Albuquerque	135.381	0.547	1.081	0.404%	0.798%
Alicia	124.141	0.395	3.253	0.318%	2.621%
Anda	184.994	0.039	0.884	0.021%	0.478%
Antequera	30.118				
Baclayon	334.201	0.253	2.512	0.076%	0.752%
Balilihan	89.548	0.079	2.563	0.088%	2.863%
Batuan	50.448	0.155	3.316	0.307%	6.574%
Bien Unido	71.131				
Bilar	59.248				
Buenavista	182.419				
Calape	99.936				
Candijay	437.327	0.114	1.579	0.026%	0.361%
Carmen	160.512	0.017	0.806	0.010%	0.502%
Catigbian	26.494		1.327		5.007%
Clarin	148.345				
Corella	16.178		0.063		0.390%
Cortes	151.340	0.063	1.234	0.042%	0.815%
Dagohoy	51.327		0.455		0.887%
Danao	52.190				

Municipality	Built-up Areas (Ha.)	Very Low Exposure		Low Susceptible Areas (Ha.)	
		Moderately Susceptible Areas (Ha.)	Low Susceptible Areas (Ha.)	Moderately Susceptible Areas (Ha.)	Low Susceptible Areas (Ha.)
Dauis	939.114	0.080	0.631	0.009%	0.067%
Dimiao	37.584		0.065		0.172%
Duero	156.249	0.039	0.451	0.025%	0.289%
Garcia-Hernandez	130.143	0.042	0.653	0.032%	0.502%
Getafe	82.271				
Guindulman	172.086		0.047		0.027%
Inabanga	97.366				
Jagna	196.926	0.409	3.070	0.208%	1.559%
Lila	20.336	0.089	0.663	0.438%	3.262%
Loay	134.404		1.324		0.985%
Loboc	93.786	0.354	2.372	0.378%	2.529%
Loon	194.657				
Mabini	69.887				
Maribojoc	69.845				
Panglao	1,005.348				
Pilar	85.271	0.002	0.992	0.003%	1.163%
Pres. C.P. Garcia	62.144				
Sagbayan	43.632	0.004	0.082	0.009%	0.187%
San Isidro	40.952		0.279		0.682%
San Miguel	27.644				
Sevilla	87.486	1.568	5.627	1.793%	6.432%
Sierra Bullones	83.235	0.000	3.941	0.001%	4.734%
Sikatuna	20.810		0.043		0.209%
Tagbilaran City	1,742.559	0.283	2.519	0.016%	0.145%
Talibon	114.171				
Trinidad	38.241				
Tubigon	234.735		1.482		0.631%
Ubay	177.482				
Valencia	70.333		0.651		0.925%
Total	8,498.596	3.985	42.884	0.047%	0.505%

Map PE-14. Built-up Areas Exposure Map to Earthquake-induced Landslide
Bohol Province



Built-up Areas Exposed to Ground Shaking Hazard

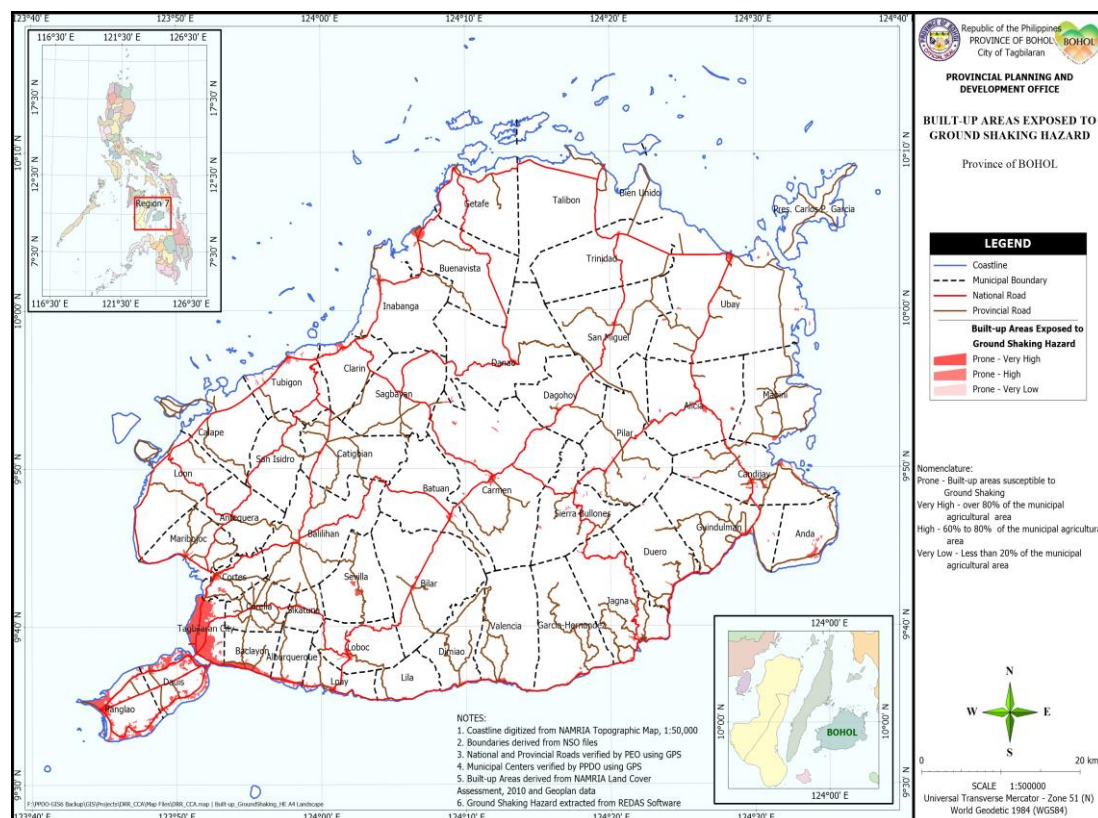
Of the 47 municipalities and its city, about 7,739.84 hectares or 89.64% of the total built-up allocation in Bohol (8,633.98 hectares) are exposed to ground shaking with Intensity 8. Tagbilaran City has the biggest areas (1,742 hectares or 99.72%) of exposure to ground shaking, followed by Panglao (975.73 or 97.05%) and Dauis (939.14 or 89.97%).

Table PE-24. Built-Up Areas Exposed To Ground Shaking Per Municipality
Bohol Province

Municipality	Municipal Built-up Area (Ha.)	Built-up Areas Prone to Ground Shaking (Ha.)	Percentage of Built-up Areas Prone to Ground Shaking
Alburquerque	135.381	135.145	99.825%
Alicia	124.141	124.141	100.000%
Anda	184.994	184.586	99.779%
Antequera	30.118	28.658	95.155%
Baclayon	334.201	318.008	95.155%

Municipality	Municipal Built-up Area (Ha.)	Built-up Areas Prone to Ground Shaking (Ha.)	Percentage of Built-up Areas Prone to Ground Shaking
Balilihan	89.548	89.548	100.000%
Batuan	50.448	50.448	100.000%
Bien Unido	71.131		
Bilar	59.248	59.248	100.000%
Buenavista	182.419	180.110	98.734%
Calape	99.936		
Candijay	437.327	435.863	99.665%
Carmen	160.512	160.512	100.000%
Catigbian	26.494	24.932	94.105%
Clarin	148.345	120.387	81.154%
Corella	16.178	16.178	100.000%
Cortes	151.340	151.340	100.000%
Dagohoy	51.327	51.327	100.000%
Danao	52.190	52.190	100.000%
Daus	939.114	844.922	89.970%
Dimiao	37.584	37.584	99.999%
Duero	156.249	148.683	95.158%
Garcia-Hernandez	130.143	129.764	99.709%
Getafe	82.271	77.179	93.811%
Guindulman	172.086	169.778	98.659%
Inabanga	97.366	97.311	99.943%
Jagna	196.926	191.916	97.456%
Lila	20.336	20.335	99.996%
Loay	134.404	133.020	98.970%
Loboc	93.786	93.786	100.000%
Loon	194.657		
Mabini	69.887	69.575	99.554%
Maribojoc	69.845	60.762	86.995%
Panglao	1,005.348	975.734	97.054%
Pilar	85.271	85.271	100.000%
Pres. Carlos P. Garcia	62.144	9.126	14.684%
Sagbayan	43.632		
San Isidro	40.952		
San Miguel	27.644	27.644	100.000%
Sevilla	87.486	87.486	100.000%
Sierra Bullones	83.235	83.235	100.000%
Sikatuna	20.810	20.810	100.000%
Tagbilaran City	1,742.559	1,742.073	99.972%
Talibon	114.171	0.853	0.747%
Trinidad	38.241	33.249	86.944%
Tubigon	234.735	183.962	78.370%
Ubay	177.482	162.299	91.445%
Valencia	70.333	70.329	99.994%
Total	8,633.977	7,739.307	89.638%

Map PE-15. Built-up Areas Exposure Map to Ground Shaking
Bohol Province



Built-up areas Exposed to Tsunami

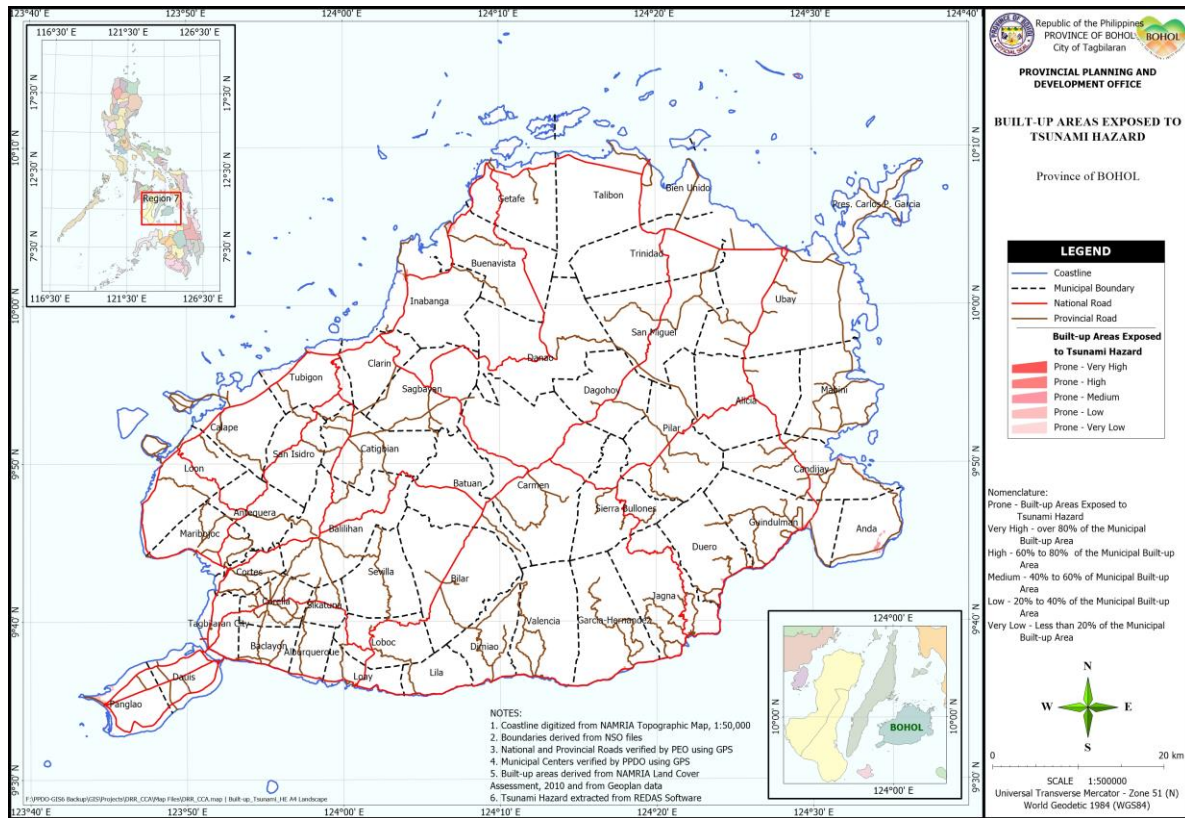
A total of 1,359.66 or 15.75% of the built-up areas of Bohol are exposed to tsunami. It can be found in the municipalities of Alburquerque, Anda, Baclayon, Bien Unido, Buenavista, Calape, Candijay, Clarin, Cortes, Dauis, Dimiao, Duero, Garcia-Hernandez, Getafe, Guindulman, Inabanga, Jagna, Lila, Loay, Loboc, Loon, Mabini, Maribojoc, Pres. C. P. Garcia, Tagbilaran City, Talibon, Tubigon, Ubay and Valencia. Municipalities that are safe to tsunami hazard are Alicia, Antequera, Balilihan, BATuan, Bilar, Carmen, Catigbian, Corella, Dagohoy, Danao, Pilar, Sagbayan, San Miguel, San Isidro, Sevilla, Sierra-Bullones, Sikatuan and Trinidad.

Table PE-25. Built-Up Areas Exposed to Tsunami Hazard by Municipality
Bohol Province

Municipality	Municipal Built-up Area (Ha.)	Municipal Built-up Area Exposed to Tsunami Hazard (Ha.)	Percentage of Municipal Built-up Area Exposed to Tsunami Hazard
Alburquerque	135.381	26.319	19.441%
Alicia	124.141		
Anda	184.994	102.722	55.527%
Antequera	30.118		

Municipality	Municipal Built-up Area (Ha.)	Municipal Built-up Area Exposed to Tsunami Hazard (Ha.)	Percentage of Municipal Built-up Area Exposed to Tsunami Hazard
Baclayon	334.201	22.766	6.812%
Balilihan	89.548		
Batuan	50.448		
Bien Unido	71.131	60.428	84.954%
Bilar	59.248		
Buenavista	182.419	53.521	29.340%
Calape	99.936	34.543	34.565%
Candijay	437.327	90.509	20.696%
Carmen	160.512		
Catigbian	26.494		
Clarin	148.345	8.414	5.672%
Corella	16.178		
Cortes	151.340	4.199	2.774%
Dagohoy	51.327		
Danao	52.190		
Dauis	939.114	36.621	3.900%
Dimiao	37.584	15.097	40.168%
Duero	156.249	87.423	55.951%
Garcia-Hernandez	130.143	52.570	40.394%
Getafe	82.271	13.025	15.832%
Guindulman	172.086	69.768	40.542%
Inabanga	97.366	65.670	67.446%
Jagna	196.926	91.554	46.492%
Lila	20.336	1.237	6.084%
Loay	134.404	44.414	33.045%
Loboc	93.786	0.061	0.065%
Loon	194.657	11.011	5.657%
Mabini	69.887	12.273	17.562%
Maribojoc	69.845	10.879	15.575%
Panglao	1,005.348	230.005	22.878%
Pilar	85.271		
Pres. Carlos P. Garcia	62.144	32.001	51.495%
Sagbayan	43.632		
San Isidro	40.952		
San Miguel	27.644		
Sevilla	87.486		
Sierra Bullones	83.235		
Sikatuna	20.810		
Tagbilaran City	1,742.559	18.086	1.038%
Talibon	114.171	28.079	24.594%
Trinidad	38.241		
Tubigon	234.735	48.911	20.837%
Ubay	177.482	62.227	35.061%
Valencia	70.333	25.324	36.006%
Total	8,633.977	1,359.661	15.748%

Map PE-16. Built-up Areas Exposure Map to Tsunami
Bohol Province



Built-up areas exposed to Liquefaction

The built-up areas of the thirty-seven municipalities and 1-city are highly exposed to liquefaction hazard with 4,951.39 hectares or roughly 57.35% of the total areas allocated for built-up. Panglao (803.25 hectares) and Tagbilaran City (609.67 hectares) has the biggest area exposed to liquefaction followed by Candijay (341.63 has), Davao (282.59 has) and Tubigon (205.36 has). Eleven municipalities are safe from liquefaction exposure (Antequera, Balilihan, Catigbian, Corella, Danao, Sagbayan, San Isidro, San Miguel, Sevilla, Sierra Bullones and Sikatuna).

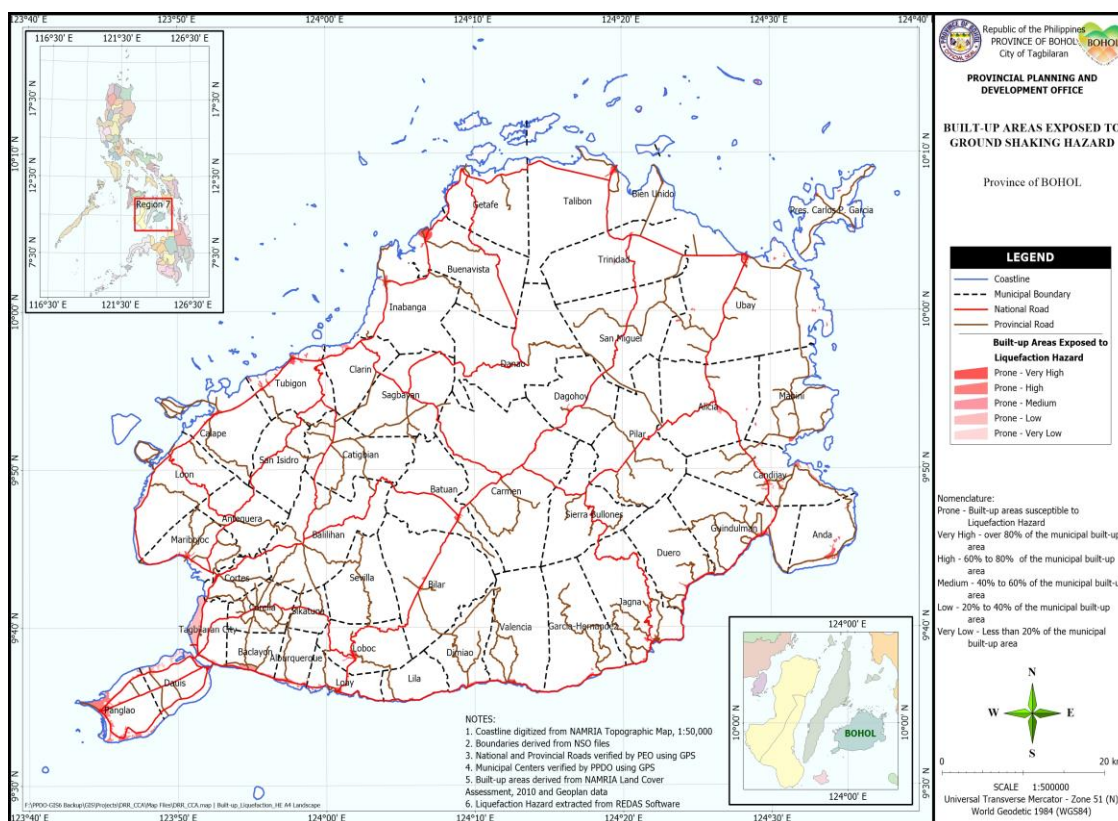
Table PE-26. Built-Up Areas Exposed To Liquefaction Hazard Per Municipality
Bohol Province

Municipality	Municipal Built-up Area (Ha.)	Built-up Areas Exposed to Liquefaction Hazard (Ha.)	Percentage of Municipal Built-up Areas Exposed to Liquefaction Hazard
Alburquerque	135.381	101.035	74.630%
Alicia	124.141	63.405	51.075%
Anda	184.994	176.262	95.280%

Municipality	Municipal Built-up Area (Ha.)	Built-up Areas Exposed to Liquefaction Hazard (Ha.)	Percentage of Municipal Built-up Areas Exposed to Liquefaction Hazard
Antequera	30.118		
Baclayon	334.201	175.499	52.513%
Balilihan	89.548		
Batuan	50.448	45.821	90.827%
Bien Unido	71.131	65.944	92.708%
Bilar	59.248	44.645	75.353%
Buenavista	182.419	180.955	99.197%
Calape	99.936	98.987	99.050%
Candijay	437.327	341.625	78.117%
Carmen	160.512	5.719	3.563%
Catigbian	26.494		
Clarin	148.345	79.665	53.702%
Corella	16.178		
Cortes	151.340	42.480	28.069%
Dagohoy	51.327	40.985	79.852%
Danao	52.190		
Dauis	939.114	282.590	30.091%
Dimiao	37.584	30.444	81.002%
Duero	156.249	143.739	91.993%
Garcia-Hernandez	130.143	87.526	67.254%
Getafe	82.271	56.707	68.927%
Guindulman	172.086	157.939	91.779%
Inabanga	97.366	86.601	88.944%
Jagna	196.926	158.172	80.321%
Lila	20.336	19.198	94.405%
Loay	134.404	120.713	89.813%
Loboc	93.786	78.735	83.951%
Loon	194.657	80.283	41.243%
Mabini	69.887	56.166	80.368%
Maribojoc	69.845	66.641	95.413%
Panglao	1,005.348	803.251	79.898%
Pilar	85.271	12.899	15.127%
Pres. Carlos P. Garcia	62.144	60.332	97.084%
Sagbayan	43.632		
San Isidro	40.952		
San Miguel	27.644		

Municipality	Municipal Built-up Area (Ha.)	Built-up Areas Exposed to Liquefaction Hazard (Ha.)	Percentage of Municipal Built-up Areas Exposed to Liquefaction Hazard
Sevilla	87.486		
Sierra Bullones	83.235		
Sikatuna	20.810		
Tagbilaran City	1,742.559	609.674	34.987%
Talibon	114.171	99.982	87.572%
Trinidad	38.241	33.249	86.944%
Tubigon	234.735	205.358	87.485%
Ubay	177.482	170.863	96.270%
Valencia	70.333	67.303	95.691%
Total	8,633.977	4,951.392	57.348%

Map PE-17. Built-up Areas Exposure Map to Liquefaction
Bohol Province



Built-up areas exposed to Storm Surge

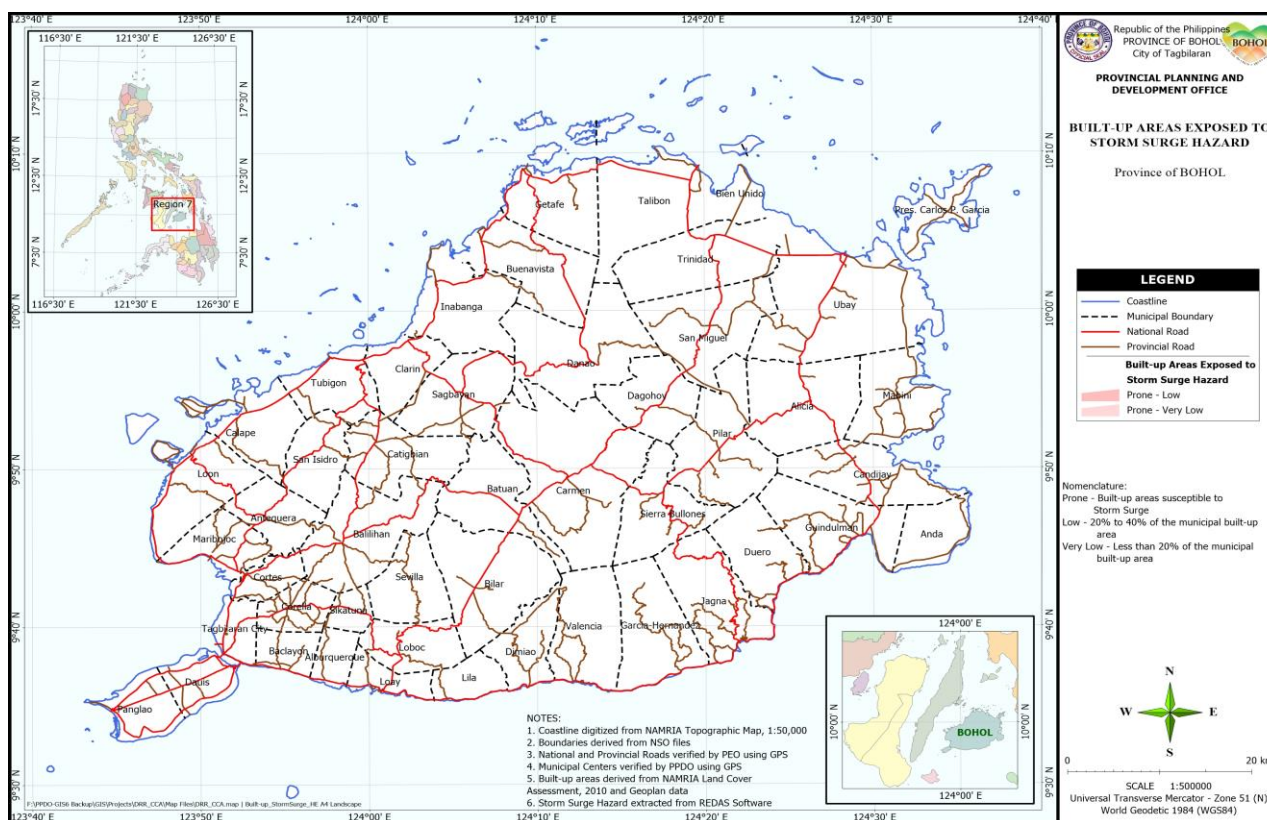
Of the total built-up areas in the province, a portion of 359.28 hectares or 4.16% are highly exposed to liquefaction. These areas can be found the coastal towns of Alburquerque, Anda, Baclayon, Bien Unido, Buenavista, Calape, Candijay, Clarin, Daus, Dimiao, Duero, Garcia-Hernandez, Getafe, Guindulman, Inabanga, Jagna, Lila, Loboc, Loon, Mabini, Maribojoc, Panglao, Pres. C.P. Garcia, Tagbilaran City, Talibon, Tubigon, Ubay and Valencia. Seventeen hinterland municipalities are not exposed to liquefaction.

Table PE-27. Built-Up Areas Exposed To Storm Surge Hazard By Municipality
Province of Bohol

Municipality	Municipal Built-up Area (Ha.)	Municipal Built-up Area Exposed to Storm Surge Hazard (Ha.)	Percentage of Municipal Built-up Area Exposed to Storm Surge Hazard
Alburquerque	135.381	11.898	8.788%
Alicia	124.141		
Anda	184.994	11.374	6.148%
Antequera	30.118		
Baclayon	334.201	23.359	6.989%
Balilihan	89.548		
Batuan	50.448		
Bien Unido	71.131	26.644	37.458%
Bilar	59.248		
Buenavista	182.419	4.500	2.467%
Calape	99.936	1.399	1.400%
Candijay	437.327	4.870	1.114%
Carmen	160.512		
Catigbian	26.494		
Clarin	148.345	2.633	1.775%
Corella	16.178		
Cortes	151.340		
Dagohoy	51.327		
Danao	52.190		
Daus	939.114	0.014	0.001%
Dimiao	37.584	2.280	6.067%
Duero	156.249	29.031	18.580%
Garcia-Hernandez	130.143	12.242	9.407%
Getafe	82.271	11.457	13.926%
Guindulman	172.086	15.765	9.161%
Inabanga	97.366	4.326	4.443%
Jagna	196.926	22.134	11.240%
Lila	20.336	4.024	19.789%
Loay	134.404	15.026	11.180%
Loboc	93.786		
Loon	194.657	2.931	1.506%
Mabini	69.887	2.847	4.074%
Maribojoc	69.845	2.977	4.262%

Municipality	Municipal Built-up Area (Ha.)	Municipal Built-up Area Exposed to Storm Surge Hazard (Ha.)	Percentage of Municipal Built-up Area Exposed to Storm Surge Hazard
Panglao	1,005.348	72.052	7.167%
Pilar	85.271		
Pres. Carlos P. Garcia	62.144	12.580	20.244%
Sagbayan	43.632		
San Isidro	40.952		
San Miguel	27.644		
Sevilla	87.486		
Sierra Bullones	83.235		
Sikatuna	20.810		
Tagbilaran City	1,742.559	10.438	0.599%
Talibon	114.171	23.100	20.233%
Trinidad	38.241		
Tubigon	234.735	3.816	1.626%
Ubay	177.482	15.087	8.500%
Valencia	70.333	10.474	14.892%
Total	8,633.977	359.279	4.161%

Map PE-18. Built-up Areas Exposure Map to Storm Surge
Bohol Province



Built-up areas exposed to Rain-induced Landslide (RIL)

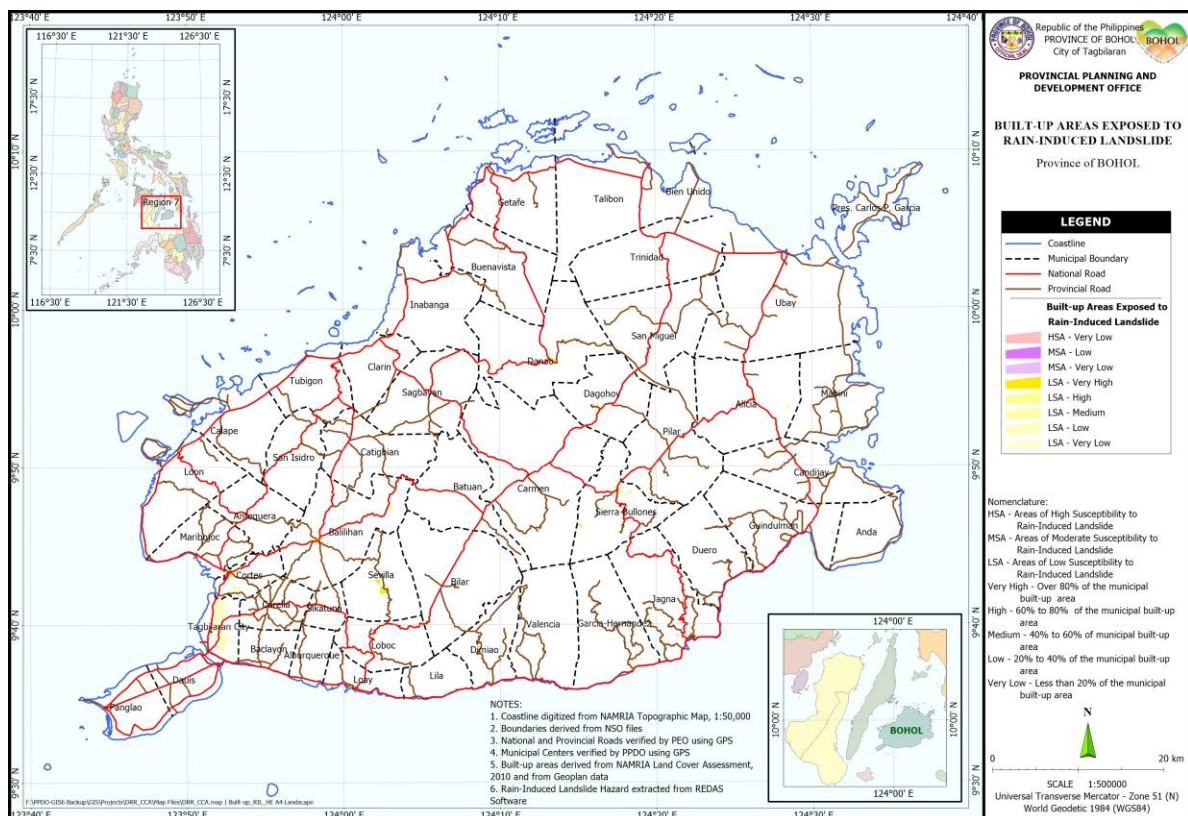
There are 8,633.98.54 hectares of municipal built-up areas or 2.09% of the total area in Bohol. Four municipalities (Anda, Garcia-Hernandez, Guindulman and Jagna) constituting an area of 7.81 hectares are exposed to highly susceptible RIL. While 17 municipalities are exposed to moderate RIL with 95.30 hectares and 1,558.6 hectares are low susceptible. Anda has the biggest area (5.92 has.) exposed to high susceptibility, followed by Jagna (1.43 has) Candijay, Dagohoy, Duero, Loboc, Loon, Maribojoc, Sikatuna, and Valencia all have areas ranging from 0.3 hectare but less than 10 hectares. The municipalities of Bilar, Buenavista, Calape, Catigbian, Lila and San Miguel have no built-up areas within highly susceptible nor moderately susceptible areas.

Table PE-28. **Built-Up Areas Exposed To Rain-Induced Landslide Per Municipality**
Bohol Province

Municipality	Municipal Built-up Area (Ha.)	Built-up Area			Percentage of Municipal Built-up Area		
		Highly Susceptible to Rain-Induced Landslide (Ha.)	Moderately Susceptible to Rain-Induced Landslide (Ha.)	Lowly Susceptible to Rain-Induced Landslide (Ha.)	Highly Susceptible to Rain-Induced Landslide (Ha.)	Moderately Susceptible to Rain-Induced Landslide (Ha.)	Lowly Susceptible to Rain-Induced Landslide (Ha.)
Alburquerque	135.38			19.72			14.567%
Alicia	124.14		1.82	64.03		1.464%	51.580%
Anda	184.99	5.92	0.76		3.198%	0.411%	
Antequera	30.12			4.20			13.958%
Baclayon	334.20		11.54	3.95		3.453%	1.183%
Balilihan	89.55			83.06			92.755%
Batuan	50.45			3.43			6.806%
Bien Unido	71.13			12.32			17.319%
Bilar	59.25						
Buenavista	182.42						
Calape	99.94						
Candijay	437.33	0.00	0.16	65.39	0.001%	0.037%	14.953%
Carmen	160.51		3.28	15.37		2.045%	9.573%
Catigbian	26.49						
Clarin	148.35			44.18			29.785%
Corella	16.18			16.18			100.000%
Cortes	151.34			108.76			71.866%
Dagohoy	51.33			41.31			80.475%
Danao	52.19			44.83			85.895%
Dauis	939.11		3.32			0.354%	
Dimiao	37.58			8.72			23.194%
Duero	156.25		6.93	3.76		4.436%	2.405%
Garcia-Hernandez	130.14	0.43	33.23	8.96	0.330%	25.537%	6.888%
Getafe	82.27			7.06			8.579%
Guindulman	172.09	0.03	2.57	2.31	0.016%	1.494%	1.342%
Inabanga	97.37			0.82			0.843%

Jagna	196.93	1.43	13.88	25.04	0.728%	7.047%	12.717%
Lila	20.34						
Loay	134.40			8.30			6.174%
Loboc	93.79			15.34			16.357%
Loon	194.66		6.04	0.71		3.104%	0.365%
Mabini	69.89		6.43	1.20		9.202%	1.710%
Maribojoc	69.84			2.64			3.774%
Panglao	1,005.35		0.98			0.097%	
Pilar	85.27		0.25	58.61		0.297%	68.738%
Pres. C. P. Garcia	62.14			12.97			20.877%
Sagbayan	43.63			7.77			17.801%
San Isidro	40.95			14.93			36.449%
San Miguel	27.64						
Sevilla	87.49		1.19	86.29		1.364%	98.636%
Sierra Bullones	83.23			67.47			81.062%
Sikatuna	20.81			15.98			76.814%
Tagbilaran City	1,742.56		0.28	635.18		0.016%	36.451%
Talibon	114.17			15.32			13.421%
Trinidad	38.24			4.99			13.056%
Tubigon	234.73			15.41			6.563%
Ubay	177.48			10.28			5.789%
Valencia	70.33		2.62	1.89		3.725%	2.690%
Total	8,633.98	7.81	95.30	1,558.69	0.090%	1.104%	18.053%

Map PE-19. Built-up Areas Exposure Map to Rain-induced Landslide
Bohol Province



Present Initiatives to Address Climate Change Concerns

Climate Change and **Disaster Risk Reduction** are closely interrelated and effective disaster risk reduction will enhance climate change adaptive capacity, the State shall integrate disaster risk reduction into climate change programs and initiatives. Cognizant of the need to ensure that national and subnational government policies, plans, programs and projects are founded upon sound environmental considerations and the principle of sustainable development, it is hereby declared the policy of the State to systematically integrate the concept of climate change in various phases of policy formulation, development plans, poverty reduction strategies and other development tools and techniques by all agencies and instrumentalities of the government.

PGBh thru PPDO provided technical assistance in mainstreaming DRR-CC in the updating of their CLUPs and CDPs (28 Out of 48 LGUs). Ongoing PGBh inter-local government unit collaboration in the conduct of climate- related activities with CCC-OP, DFAT-ANU-Australia, NEDA, Rockefeller Foundation, UNDP, World Bank, Philippine Australian Scholars, Bohol Island State Universities, Academe, Business Sector and NGOs eg. Conduct of Bohol 1st Climate Change Summit, Capacity Assessment Training for Trainers' (TOT) Course Mechanics, ecoTown Product-Climate Proofing, Strengthening Capacity Development of the 5-Provinces for climate Change Adaptation and ICLEI – ACCCRN project to build resiliency to climate change across all urban systems and groups, in particular the poorest and the most marginalized and it further aims to catalyze attention, funding and action to strengthen cities resilience to climate change impacts.

Regular budget allocated for CCA initiatives. Allocation from their annual appropriations adequate funds for the formulation, development and implementation, including training, capacity building and direct intervention, of their respective climate change programs and plans.

On going implementation of Environmental Management System (ISO 14001) involving all PGBh offices e.g measures on energy saving, waste reduction, health prevention and pollution control, etc. Conduct public awareness campaigns on the effects of climate change and energy-saving solutions to mitigate these effects, and initiatives, through educational and training programs and micro-credit schemes, especially for women in rural areas.

Vulnerability Assessment

Vulnerability Assessment is a systematic examination of impacts of climate change and disasters on natural and socio-economic systems (IPCC 2007) that examines the underlying socio-economic, institutional, and, to a lesser extent, political and cultural factors, that determine how people cope with climate hazards. It makes use of vulnerability indicators from different sectors e.g. sensitivity, exposure and adaptive capacity that can help identify and target vulnerable sectors or populations, raise awareness, and are part of a monitoring strategy (Downing et al. 2001). The elements at risk to population, built-up areas, agriculture, forestry which focus on the rain-induced landslide assessment.

FORESTRY

Population growth and economic activities have created pressures on Bohol's environment and natural resources. High demand for physical infrastructure like roads, water systems and power, settlement areas as well as greater demand for goods and services are expected to add pressure on its environment that are looked upon as major necessities for the province's development but often create environmental stress. Such developments in the province need to pro-actively integrate DRR-CCA mechanisms to prevent adverse impact on the critical resources and exposure of people and property to danger. Environmentally constrained areas are prone to natural hazards, severe erosion or more specifically, hydrological and geological produced changes. The NIPAS Law does not cover these areas. However, they should be subject to restrictions in land uses in order to prevent the unpredictable occurrence of disaster both natural and man-made that will endanger lives and properties (refer Annex Map Development Constrained Areas in the province of Bohol).

Nature Protection and Landscape Management. The latest data shows that Bohol has a total area of 75,766 hectares under protection as initial component of the National Integrated Protected Area System's (NIPAS Act or RA 7586) that are Environmentally Constrained and Environmentally Critical Areas. Protection purposes are for the conservation of biological diversity (flora and fauna) and natural heritage areas, conservation of forest cover, as well as provision for livelihood opportunities, water conservation and sustainable development for those living in and around these areas. All development within these areas shall follow the provision embodied in the NIPAS Law and they should be subject to restrictions in land uses in order to prevent the occurrences of accidents that endanger lives and properties.

BIODIVERSITY

Bohol is richly endowed with vast biodiversity and natural resources that plays an essential role in guiding future development for agriculture, industry, tourism, settlements, culture and infrastructure in both the medium and long-term time frame. The state of the economy and the quality of life in any given area are extremely dependent on climate, air, land, water, forest, marine ecosystems and biological resources. The management of Bohol's ecosystem is supported with a Provincial Ordinance known as the Bohol Environment Code which provides for the policy direction and funding requirements in local environmental management and protection for the province. It is important that policy-makers are well-informed on the relevant concerns confronting environment issues.

COASTAL AND MARINE

Vulnerability Assessment of the Coastal Tourism to Impacts of Climate Change in Bohol. The total population in the coastal area of Bohol comprises 42 percent of its provincial population in 2010 compared to 28 percent in 1990. Of the total coastal population, 12 percent of the province's populace were residing in the island barangays of Bohol.

The study was conducted by Ms. Hyacinth N. Suarez from the College of Arts and Sciences, Holy Name University, Tagbilaran City pertaining to the vulnerability of the coastal tourism

in Island Province of Bohol specifically in Panglao to impacts of climate change. There are five (5) climate change impacts were predetermined during the study: storm surge inundation, 5-meters sea level rise, seawater intrusion, coral bleaching and health issue (e.g. dengue). Combining all the climate change impacts, the average degree or level of risk is high. The challenge for the municipalities of the province is how to improve or sustain the adaptive capacity to enhance preparedness or resiliency over time.

Vulnerability Assessment (VA) Index

The VA index was derived from the weighted average per municipality from the sensitivity value multiplied the sensitivity indicator plus the exposure value multiplied by the exposure indicator plus the exposure value multiplied by the adaptive capacity. The result of the exercise was based on the one the flooding hazard which would affect greatly to forestry, coastal/marine, mining, agricultural lands, and biodiversity. It is expressed using the formula:

$$\text{VA Index} = \text{the sum of the weighted average (sensitivity value} \times \text{sensitivity indicator)} \\ + (\text{exposure value} \times \text{exposure indicator}) + (\text{exposure value} \times \text{adaptive capacity})$$

Sensitivity indicators include the rainfall data, slope, proximity of farm to river and forest cover while the sensitivity indicators weight has a value of 1.0 distributed to the number of indicators.

Exposure indicators include the flooded area for production, no flooding for 3-years, income loss and estimated value of dam with exposure value weight of 1.0 distributed to the number of indicators.

Adaptive capacity indicators include the presence of maps, history of flooding, flood control and drainage devices, plans/budget, enforcement and regulations, etc. with assigned adaptive capacity weight of 1.0 distributed to the number of indicators.

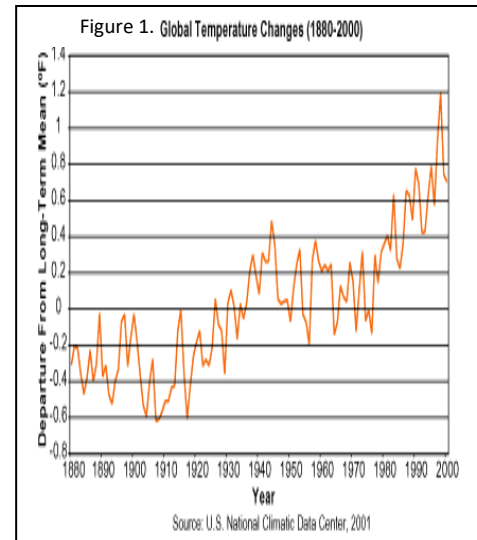
After getting the average weighted percentage, Bohol has eight (8) municipalities which are very low to vulnerability index, 34 municipalities are low; and six (6) municipalities are moderate (refer to Table PE-29 below). This information is very important in prioritizing climate change related interventions, policies strategies that will be integrated in the enhanced PDPFP for Bohol.

Vulnerability Category	Number of Municipalities	Name of Municipalities
Very low	8	Anda, Batuan, Bilar, Corella, Lila, Panglao, Tagbilaran City, Ubay
Low	34	Alburquerque, Alicia, Antequera, Baclayon, Balilihan, Bien Unido, Buenavista, Calape, Candijay, Carmen, Catigbian, Clarin, Cortes, Dagohoy, Danao, Dauis, Dimiao, Duero, Garcia-Hernandez, Guindulman, Inabanga, Jagna, Getafe, Loay, Loboc, Loon, Mabini, Maribojoc, Pres. C. P. Garcia, San Miguel, Sevilla, Sikatuna, Talibon, Trinidad
Moderate	6	Pilar, Sagbayan, San Isidro, Sierra-Bullones, Tubigon, Valencia
Total	48	

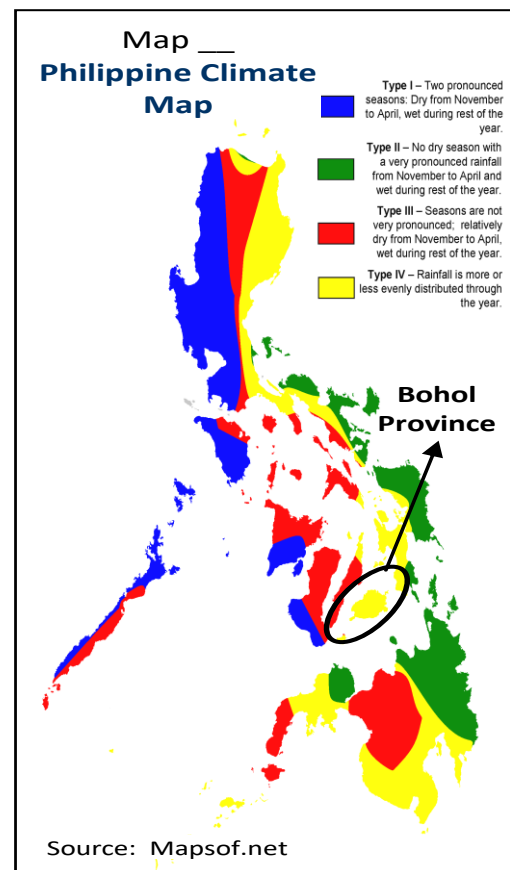
Climate of the Province

Climate Profile

The effects of climate change are now being felt in the Province of Bohol. Impact of this change has affected Bohol's forest, its biodiversity, water, agricultural, fishery resources and cultural assets with wide-range adverse impact on human health and loss of life. The ten (10) warmest years on record in the world all occurred in the years 1880 to 2000 (Figure 1). Temperature changes are known to affect the transmission of infectious diseases like malaria, dengue and respiratory tract infections. Rising incidence of morbidity cases from these infectious diseases, particularly respiratory tract infections has been recorded in Bohol with pneumonia as a leading cause of illness in the province affecting 10% of Bohol's population in 2015, mostly children.



Based on the distribution of rainfall during the year, Bohol's climate, as classified by PAG-ASA belongs to Corona's 4th Type, characterized by rainfall more or less evenly distributed throughout the year. The rainfall varies from about 1,200 mm/yr around the coast to slightly more than 2,200 mm/yr in the mountainous areas of the province. Based on the climatological records of the Tagbilaran City weather station, the province has an annual average of 161 rainy days. The average rainfall has illustrated a declining trend of 250 mm over a period of 35 years of about 7mm a year due likely to climatic change in the Southeast Asian Region. Intensification of the southwest monsoon usually occurs during the months of July to October. The coastal area of the province is warm in contrast with the interior part, which is colder especially during the night. Mean temperature is at 27.40 degrees centigrade. Prevailing wind direction is towards northeast with an average speed of 2 miles, per record obtained from PAG-ASA. Prevailing wind direction is towards northeast with an average speed of 2 miles per record. Bohol is not included in the so-called typhoon belt of the country, as typhoons rarely pass in the province. Those passing below or above the island contribute to the greater volume of precipitation. The frequency of typhoon passage is 0-10% from the average of 20 typhoons passing over the Philippines per year.¹⁴



¹⁴ DENR-BSWM 1991 Preliminary Climatic Classification of 15 selected Provinces in the Philippines

Bohol is among the areas in the Philippines threatened by drastic effects of global warming. It is ranked 9th among top 20 provinces vulnerable to a one (1) meter sea level rise.¹⁵ Its seascape as an eco-tourism asset is vulnerable to threats of global warming that may result in sea-level rise, causing loss of tourism and business investments. Cutting of trees in the upland communities is commonly practiced. There is degradation of marine environment due to pollution from industries, agriculture, including animal husbandry, and settlements. Coastal erosion and sedimentation is not properly addressed. Dumping and burning of solid wastes that include toxic materials and chemicals still pose a problem as well as the overflowing of sewers. There is an increase in frequency and intensity of the El Niño and La Niña phenomenon which results to agricultural and ecological problems (e.g. disruption of wildlife) and damage to property.

Changes in rainfall patterns, typhoon frequency and the irregular period of occurrence, sea level rise are now becoming noticeable. The connection between local environmental threats and climate change is an emerging concern among local government units. It is in the context that local government must play a major role in implementing measures on climate change mitigation and adaptation due to their authority to control the necessary changes.

Based on the distribution of rainfall during the year, Bohol's climate as classified by PAG-ASA belongs to Corona's 4th Type, characterized by rainfall more or less evenly distributed throughout the year. Intensification of the southwest monsoon usually occurs during the months of July to October. The rainfall varies from about 1,200 mm/yr around the coast to slightly more than 2,200 mm/yr in the mountainous areas in the province. Based on the climatological records of Tagbilaran City weather station, the province has an annual average of 161 rainy days. Average rainfall and trend has illustrated a declining trend of 250 mm over a period of 35 years of about 7mm a year due likely to climatic change in the Southeast Asian Region. The coastal area of the province is warm in contrast with the interior part, which is colder especially during the night. Mean temperature is at 27.40 degrees centigrade. Prevailing wind direction is towards northeast with an average speed of 2 miles per record. Bohol is not included in the so-called typhoon belt of the country, as typhoons rarely pass in the province. Those passing below or above the island contribute to the greater volume of precipitation. The frequency of typhoon passage is 0-10% from the average of 20 typhoons passing over the Philippines per year.¹⁶

Based on the data on climate change scenario, the projected seasonal temperature increase, seasonal rainfall change and frequency of extreme events in 2020 and 2050 under the medium-range emission scenario in the provinces in Region 7 are presented in Table a, Table b and Table c, respectively. Example for Bohol province the projected values are (for Dec. Jan and Feb.)

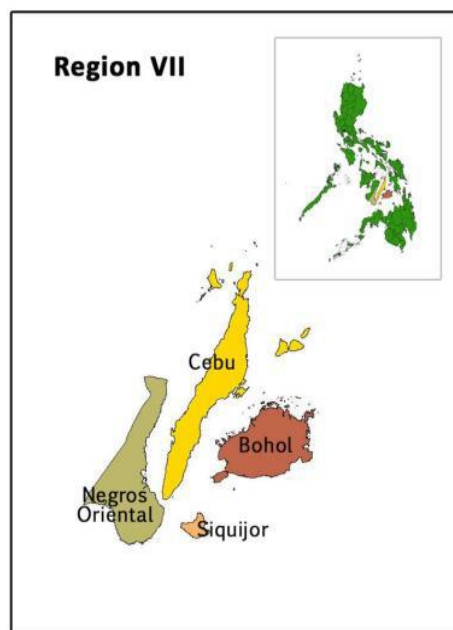
¹⁵ Source: Climate Hotspot, Climate Change Impacts in the Philippines conducted by Greenpeace Southeast Asia, Climate and Energy Campaign, 2007

¹⁶ DENR-BSWM 1991 Preliminary Climatic Classification of 15 selected Provinces in the Philippines

Climate Projections in 2020 and 2050 in Provinces in Region 7

Bohol is facing the real impacts of climate change, which threatens the development prospects and exacerbates the vulnerability of the poor communities. With projected changes in precipitation, temperature, intensity of tropical cyclones and frequency of extreme weather events, considerable efforts would be required to prepare in dealings with the impacts of climate change on the different climate-sensitive sectors e.g. agriculture, forestry, biodiversity, water, coastal/marine resources and health. Adaptation will be an essential part to response the threats of climate change.

Scientific basis for adaptation and vulnerability assessment studies and report are already conducted by PAGASA which provides the opportunity to understand the future changes in climate and how these changes will affect the province in the future and what adaptation efforts will be done. Based on the data on climate change scenario, the projected seasonal temperature increase, seasonal rainfall change and frequency of extreme events in 2020 and 2050 under the medium-range emission scenario in the provinces in Region 7 are presented in Table 5, Table 6 and Table 7, respectively. To use the tables and arrive at values of seasonal mean temperature and seasonal rainfall in 2020 and 2050 in any of the provinces, the projections are added to the observed values (presented in each of the tables). For Bohol province, the projected values are:



- DJF mean temperature = $(26.6^{\circ}\text{C} + 0.9^{\circ}\text{C}) = 27.5^{\circ}\text{C}$;
- DJF rainfall = $\{376.1\text{mm} + 376.1(9.8\%)\text{mm}\} = (376.1 + 36.9\text{m})$ or 413mm;
- Number of days with $T_{\text{max}} > 35^{\circ}\text{C}$ in Tagbilaran City during the 2006-2035 period (centered at 2020) = 1,710;
- Number of dry days in Tagbilaran City during the 2006-2035 period (centered at 2020) = 6,836; and
- Number of days with rainfall $> 300\text{mm}$ in Tagbilaran City during the 2006-2035 period (centered at 2020) = 1.

Table PE-30: Seasonal temperature increases (in $^{\circ}\text{C}$) in 2020 and 2050 under medium-range emission scenario in provinces in Region 7

Provinces	OBSERVED BASELINE (1971-2000)				CHANGE in 2020 (2006-2035)				CHANGE in 2050 (2036-2065)			
Bohol	26.6	28.0	28.2	27.8	0.9	1.2	1.2	1.0	1.8	2.3	2.3	1.9
Cebu	26.8	28.4	28.2	27.9	0.9	1.2	1.1	1.0	1.9	2.4	2.1	1.9
Negros Oriental	27.0	28.4	28.0	27.8	0.9	1.2	1.0	1.0	1.9	2.3	2.0	1.9

Table PE-31: Seasonal rainfall change (in %) in 2020 & 2050 under medium-range emission scenario in Provinces in Region 7

Provinces	OBSERVED BASELINE (1971-2000)				CHANGE in 2020 (2006-2035)				CHANGE in 2050 (2036-2065)			
Bohol	376.1	209.6	412.9	514.5	9.8	-7.1	4.5	6.8	21.2	-11.9	18.9	22.6
Cebu	324.0	228.3	595.1	607.4	17.7	0.8	7.7	7.7	19.6	0.5	18.9	17.8
Negros Oriental	225.8	226.0	639.5	636.9	15.0	-4.9	9.3	4.7	17.4	-6.8	20.7	10.5

Table PE-32: Frequency of extreme events in 2020 & 2050 under medium-range emission scenario in Provinces in Region 7

Provinces	Stations	No. of Days w/ Tmax>35 °C			No. of Dry Days			No. of Days w/ Rainfall >100mm		
		OBS (1971-2000)	2020	2050	OBS	2020	2050	OBS	2020	2050
Bohol	Tagbilaran	260	1710	3413	8176	6836	6473	15	21	23
Cebu	Mactan	25	1488	2463	7112	5720	5693	12	4	17
Negros Oriental	Dumaguete	66	826	1499	8451	6032	5642	5	7	6

EXISTING POLICIES AND INITIATIVES ON CLIMATE CHANGE ADAPTATION

Republic Act No. 7929 “Climate Change Act of 2009 defines “An Act Mainstreaming Climate Change into Government Policy Formulations, Establishing the Framework Strategy and Program on Climate Change”. It is the policy of the State to afford full protection and the advancement of the right of the people to a healthful ecology in accord with the rhythm and harmony of nature. In this light, the State has adopted the Philippine Agenda 21 framework which explicitly emphasized on the framework of sustainable development, to fulfill human needs while maintaining the quality of the natural environment for current and future generations. Towards this end, the State adopts the principle of protecting the climate system for the benefit of humankind, on the basis of climate justice or common but differentiated responsibilities and the Precautionary Principle to guide decision-making in climate risk management. As a party to the United Nations Framework Convention on Climate Change (UNFCCC), the State adopts the ultimate objective of the Convention which is the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system which should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner. As a party to the Hyogo Framework for Action, the State likewise adopts the strategic goals in order to build national and local resilience to climate change-related disasters.

In **Section 14 of RA 9729** which is the **Local Climate Change Action Plan**, further states that the Local Government Units (LGUs) shall be the frontline agencies in the formulation, planning and implementation of climate change action plans in their respective areas, consistent with the provisions of the Local Government Code, the Framework, and the National Climate Change Action Plan. Barangays shall be directly involved with municipal and city governments in prioritizing climate change issues and in identifying and implementing best practices and other solutions. Municipal and city governments shall consider climate change adaptation, as one of their regular functions. Provincial governments shall provide technical assistance, enforcement and information

management in support of municipal and city climate change action plans. Inter-local government unit collaboration shall be maximized in the conduct of climate-related activities.

Bohol Environment Code of which the Climate Change and Disaster Risk Reduction is explicitly included under Article XIV of the updated code. E.g.

- No burning policy
- Green Building
- DRR-CCA Governance Center
- Clustering of Sanitary Landfill (13 municipalities)
- Materials Recovery Facility in every barangay
- TARSIER 117

Regional Center for Climate Change thru a collaboration with the Provincial Government of Bohol (PGBH) and Bohol Island State University (BISU)

Bohol Existing Profile and Plans

- Provincial Disaster Risk Reduction and Management Plan for Bohol (PDRRMP)
- Draft Contingency Plan
- Bohol Hazard Profile
- Bohol DR-VA Report for Bohol
- PDPFP for enhancement
- On-going development of Bohol Local Climate Change Action Plan (BLCCAP)

CLIMATE CHANGE THREATS AND POTENTIAL IMPACTS

Table PE-33. Trends in Climate Change Impacts

Climate Change Impacts	Areas or location affected (Municipalities/Barangays)	Trend	Intensity	Frequency of Occurrence
Sea level rise	30 coastal towns including Tagbilaran City	same areas	increasing	every year
Prolonged drought	47 towns and 1-city	expanding to coastal areas	increasing	every year
El Nino events	47 towns and 1-city	expanding to coastal areas	increasing	every year
Floods	336 out of 1,109 brgys (47 towns and 1-city)	expanding to other areas	Increasing	every year (flash flooding, seasonal, river overflow, coastal flooding due to heavy rains, dam overflow)
Storm surge	30 coastal towns and 1-city	same areas	increasing	every year
Monsoon rains a) Southwest Monsoon or Habagat; b) Northeastern Monsoon or Amihan	47 towns and 1-city	expanding to interior part of the province	increasing even dry season	every year

Institutional Capacities of the Provincial Government of Bohol to Implement Climate Change Adaptation

The collated tables of the capacity development indicators (technical/functional capacities) for each of the national agencies and the prioritized provinces. For ease of information management, the Section contains only the summaries of the capacities of the participating institutions on climate change adaptation level. These are presented in a matrix format. The matrices are easy reading and descriptive of the level of capacities of the agencies and the provinces. For the serious development worker, it is important to decipher the nuances of the ratings vis-à-vis capacity development issues and indicators, hence they are encouraged to examine the matrices.

A) Core Development Issues

The Provincial Government of Bohol has identified the core development issues thru the Focal Persons and validated by the participants in the capacity assessment roll out are as follows:

Core Development Issues	
Component	Major Issues
Policy	<ul style="list-style-type: none"> ▪ Policies in ensuring sustainability of CCA initiatives ▪ Unclear mandates in mainstreaming CCA in local development planning
Institutional Arrangements	<ul style="list-style-type: none"> ▪ No defined institutional arrangement to sustain the CCA initiatives ▪ Undefined lines of coordination ▪ No clear roles and responsibilities of relevant agencies ▪ Weak mechanism for coordination
Knowledge management	<ul style="list-style-type: none"> ▪ Lack of information on CCA ▪ Lack of tools for decision making
Resource management	<ul style="list-style-type: none"> ▪ Inadequate physical, financial and human resources

B) Overall rating of capacities

Figure below presents the summary rating of the current technical and functional capacities of LGU Bohol for each of the core development issues (policy, institutional arrangements, knowledge management and resource management) using the capacity development indicators developed by LGU Bohol.

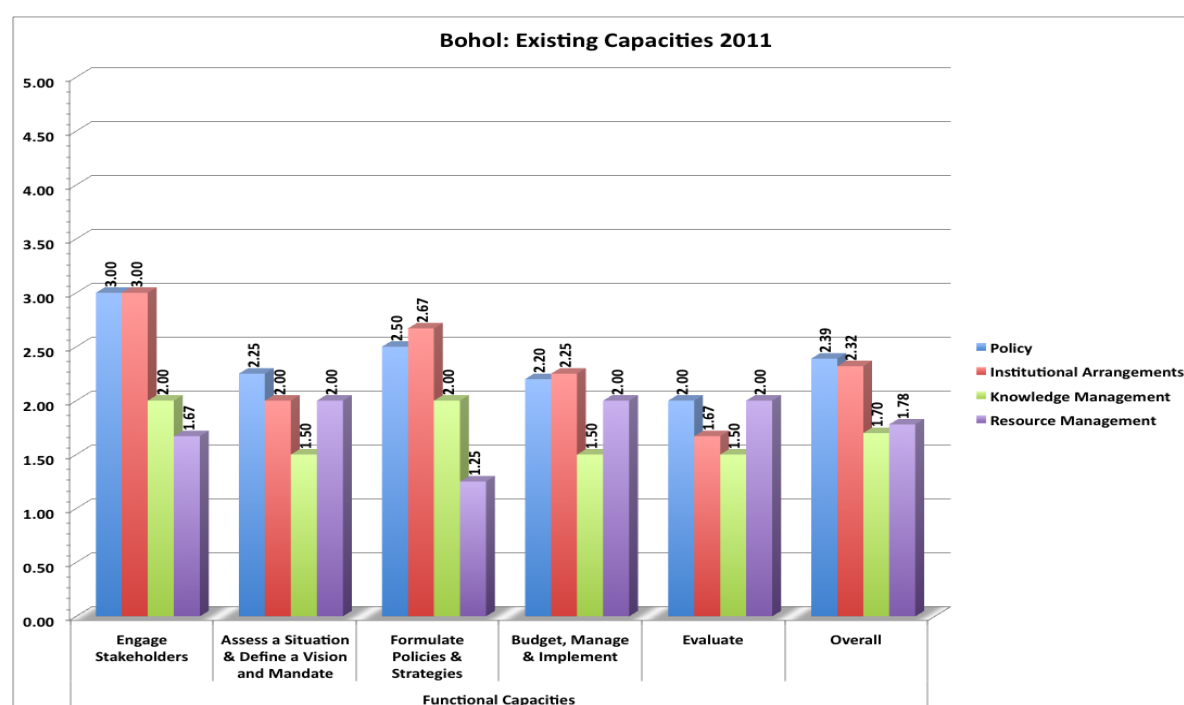
Overall current capacities vis-à-vis the identified core development issues are rated 2.05, indicating that LGU Bohol has barely just developed a CCA approach. With regards to its policy and institutional arrangements, overall ratings are 2.39 and 2.32, respectively, and these ratings are indicative that the CCA approach as regards these core development issues are starting to be implemented. While those of knowledge management and resource management are 1.70 and 1.78, indicating that the CCA approach for these core development issues are currently being developed. In terms of functional capacities, LGU Bohol rates highest for functional capacity to engage in multi-stakeholder dialogue (2.42), but lowest for functional capacity to monitor and evaluate (1.79), following the functional capacity to assess a situation and create a vision and mandate (1.94), then the capacity to budget, implement and manage (1.99) and the capacity to formulate policies and strategies (2.11). These clearly indicate that LGU Bohol's strongest capacities in terms of their CCA approach are the functional capacities to engage in multi-stakeholder dialogue (getting key stakeholders to be engaged in the implementation of CCA in their P/P/Ps) and to formulate policies and strategies for

CCA implementation. The weakest and critical capacities are those for knowledge and resource management. Thus, capacity development interventions must be focused in these functional capacities which are rated 2.0 and below. These include capacity to monitor and evaluate vis-à-vis policy environment (2.0); and vis-à-vis institutional arrangements (1.67), capacity to assess a situation and create a vision vis-à-vis resource management (2.0); vis-à-vis institutional arrangements (2.0); and vis-à-vis knowledge management (1.50), and to monitor and evaluate (1.67) vis-à-vis institutional arrangements, all functional capacities vis-à-vis knowledge management and resource management with ratings varying from 1.5 to 2.0 and from 1.25 to 2.0, respectively.

Table PE-34: Summary rating of the CCA capacities of LGU Bohol

BOHOL EXISTING CAPACITIES 2011	Policy	Institutional Arrangements	Knowledge Management	Resource Management	Average
Engage Stakeholders	3.00	3.00	2.00	1.67	2.42
Assess a Situation & Define a Vision and Mandate	2.25	2.00	1.50	2.00	1.94
Formulate Policies & Strategies	2.50	2.67	2.00	1.25	2.11
Budget, Manage & Implement	2.20	2.25	1.50	2.00	1.99
Evaluate	2.00	1.67	1.50	2.00	1.79
Average	2.39	2.32	1.70	1.78	2.05

Bohol Comparative distribution of the rated capacities of LGU Bohol



c) Assessment of capacities

C.1 Engage in multi-stakeholder dialogue

There are adequate capacities in addressing policy and institutional arrangements, but not in the case of knowledge and resource management. The LGU of Bohol still needs to develop capacities to conduct multi-stakeholder analysis for CCA and to develop strategic alliance with various partners for CCA programs and projects (both rated 1.0). It also needs to strengthen the capacities to engage stakeholders in identifying their need data needs and sources, access relevant data and information on CCA from national agencies, international organizations and other institutions, facilitate documentation of CCA practices by stakeholders, engage and empower stakeholders to actively participate and mobilize resources, and regularly convene dialogues among LGU offices to obtain feedback and suggestions on CCA initiatives (all rated 2.0). It clearly has to initiate the creation of space and mechanisms for consultation within and outside the LGU Bohol.

There is however, the capacity to lead staff through the process of incorporating CCA consideration and elements into LGU Bohol's thrusts and programs, as well as in creating and other local groups to widen base and knowledge workers.

C.2) Assess a situation, create a mandate and vision

The LGU of Bohol has established the capacity to mainstream existing national policies into local policies and programs but articulated clearly are the needs to learn how to fully document impacts in the locality, implement the bottom-up approach in mainstreaming CCA into local initiatives, introduce and apply best practices gleaned from international/national experiences. On the other hand, in terms of institutional arrangements, there are needs to introduce coordination mechanism, and institutionalize coordination among the key players in order to sustain current CCA programs and projects embodied in the PDPFP. For knowledge management, clearly articulated are the needs to develop the capacities to identify/analyze vulnerability to climate change and identify other gaps in relation to knowledge management. Moreover, there also is the need to strengthen the capacity to identify skills development needs for personnel and staff, and equipment and software needed to sustain operations of the CCA Center.

C.3) Formulate Policy and Strategy

The capacity to set policies and strategies relating to human resource activities, including that of crafting mechanisms to evaluate personnel development (functional/technical capacities rated the lowest) hardly exists, so that these are special concerns that require enhancement. Similarly, capacity to craft program to continuously build up number of highly knowledgeable and skilled staff who are able to develop technologies, synthesize issues, make decisions and develop strategic alternatives; and to craft mechanisms to evaluate personnel development are other areas that should be further developed.

It should be noted that the capacity to introduce policy reforms develop strategy to integrate CCA elements into the LGU Bohol thrusts and programs and capacity to formulate climate-tolerant and green-life strategies and programs, including the capacity to enter into agreement with NGAs, NGOs and private sectors to operationalize participatory consultations and transparency on CCA strategies and also, capacity to direct the Provincial Land Use Committee to incorporate CCA measures in the Land Use Plans of LGUs are rated the highest (3.0); although these must be continuously enhanced by the review process.

C.4) Budget, manage and implement

In terms of technical/functional capacity to budget, manage and implement, LGU Bohol has limited capacities. The CCA approaches/strategies have been planned and developed, and barely just being implemented, especially in terms of the capacity to fully implement relevant local policies on environment and CCA, and the capacity to allocate internal budget for CCA. For the other capacity indicators, such as the capacity to encourage private sector investment for CCA, capacity to appropriate funding, including equipment and facilities for local CCA databanking, capacity to introduce efficient and transparent procurement and financial management system for CCA initiatives, capacity of the local planning units to develop and design local CCA strategies, and others need interventions for enhancement, in addition to those which are rated 1.0. These particular capacities include the capacity to develop and maintain a reliable and user-friendly local CCA information system (knowledge management) rated 1.0, and the capacity to provide training and skills development for CCA focal persons (resource management). These are articulations of the need to prioritize capacity development and enhancement in these areas.

C.5) Monitor and evaluate

The capacities to monitor and evaluate outcome of the strategic objectives with CCA considerations and elements, and to design monitoring and feeding mechanism exist, but needs further enhancement. What must be prioritized also are the capacities to provide local policy recommendations based on lessons learned from CCA projects in the local levels and also, to monitor and evaluate how CCA data and information are fed into policies and programs (outcomes from having effectively monitored and evaluated every component and element during implementation) and capacity of timely downloading and uploading of data and information into existing CCA information system in the PLGU/MLGUs (knowledge outcomes).

Result of the latest Assessment of PGBh Institutional Capacity to Implement RA 9729 mandates

Table below describes the institutional capacity of the Provincial Government of Bohol to implement the mandates under Climate Change Act. It briefly described the actions and interventions taken based on the mandates of the provincial government relevant to the Climate Change Act with assigned rating agreed by the core team from PPDO during the workshop. The overall rating for the PGBh is four (4) which is equivalent to moderately met.

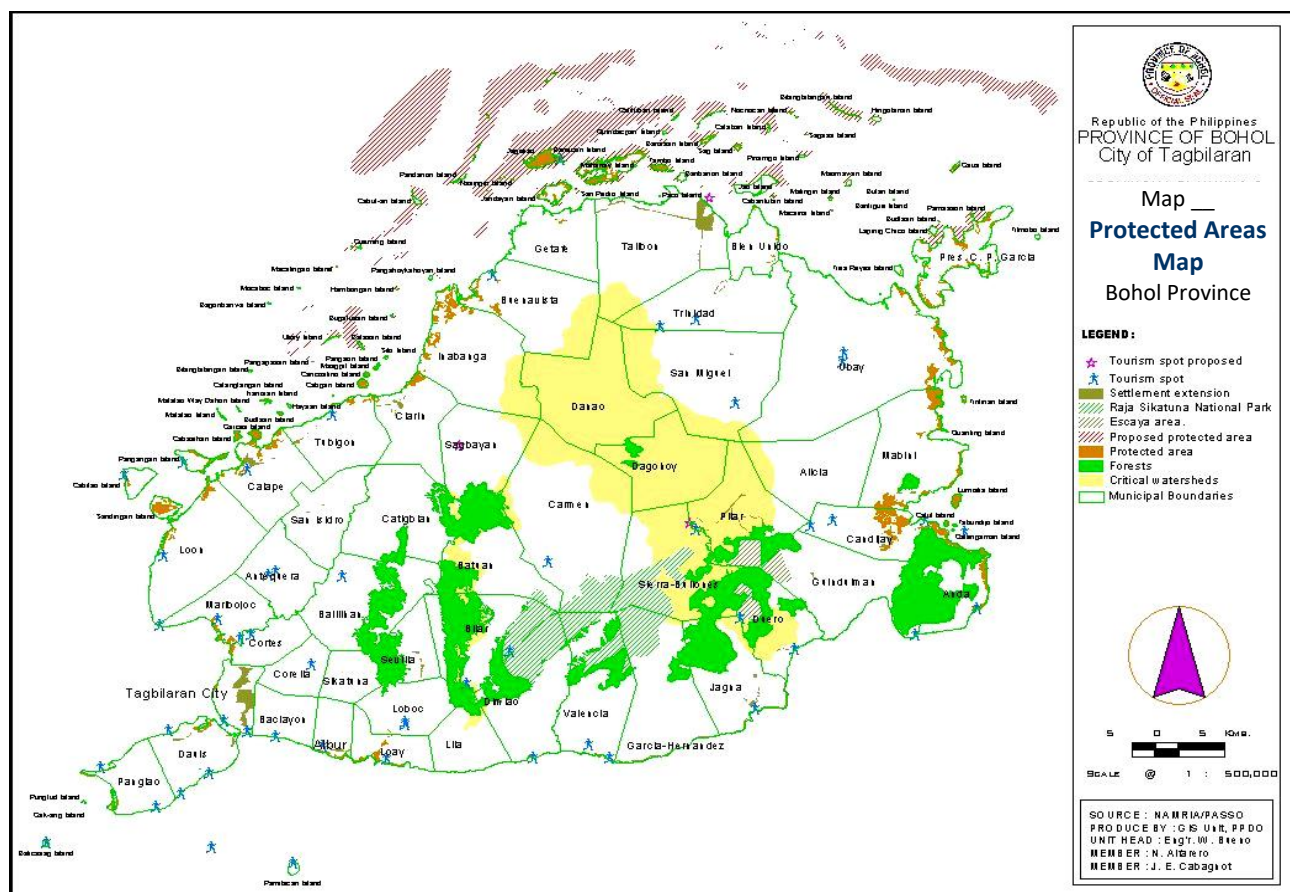
Table PE-35. Assessment of Provincial Institutional Capacity to Implement LGU Mandates under the Climate Change Act (RA 9729)		
Mandates for Provincial LGUs	Briefly describe the actions taken or being undertaken with regards to the mandate	Compliance Rating
Provide technical assistance, enforcement and information management in support of municipal and city climate change action plans.	PGBh thru PPDO provided technical assistance in mainstreaming DRR-CC in the updating of their CLUPs and CDPs (28 Out of 48 LGUs).	3
Conduct Inter-local government unit collaboration in the conduct of climate- related activities.	Ongoing PGBh collaboration with CCC-OP, ANU-Australia, NEDA, Philippine Australian Scholars, Bohol Island State Universities, Academe, Business Sector and NGOs eg. Conduct of Bohol 1 st Climate Change Summit, ecoTown Product-Climate Proofing, Strengthening Capacity Development of the 5-Provinces for Climate Change Adaptation	4

Allocate from their annual appropriations adequate funds for the formulation, development and implementation, including training, capacity building and direct intervention, of their respective climate change programs and plans.	Regular budget allocated for CCA initiatives	5
Conduct public awareness campaigns on the effects of climate change and energy-saving solutions to mitigate these effects, and initiatives, through educational and training programs and micro-credit schemes, especially for women in rural areas.	On going implementation of Environmental Management System (ISO 14001) involving all PGBh offices e.g measures on energy saving, waste reduction, health prevention and pollution control, etc.	4

Rating: 5 – Fully met; 4 – Moderately met; 3 – Fairly met; 2 – Poorly met; and 1 – Not yet met

Protection Areas

The total area classified as timberland or forestland in Bohol is 101,401 hectares or 25 percent of the total land area of the province. Out of this area, more than one-half are protected areas comprising a total area of 75,766 hectares under protection as part of the initial component of the National Integrated Protected Area System (NIPAS Act or RA 7586) which is environmentally constrained and environmentally critical areas (see *Table__-Annex 1*). Of these areas only 17% covered with forests and the rest are grass and shrub lands. Bohol has a larger coverage of woodland (10.69%) compared to Cebu and some other provinces in the region. Wetland constitutes 4.92%, which includes mangrove, nipa, beach sands and fishponds while built-up areas comprise 10.22% of Bohol's area (*Bohol Ecological Profile, DENR 1992*). Based on a standard of 40% forest cover to total land area to maintain an ecological sound environment, the province is currently rated as critically below that standard.



The latest data shows that Bohol protection shall geared towards the conservation of biological diversity (flora and fauna) and natural heritage areas, conservation of forest cover, provision of livelihood opportunities, water conservation and sustainable development for those living in and around the areas vulnerable to any type of hazards and shall follow the provision embodied in the NIPAS Law.

Areas Prone to Natural Hazards

A) HAZARD PROFILE¹⁷

A.1 Hydro-Meteorological Hazards

Flooding

Bohol as an island is frequently affected by flash flood during the typhoon and the monsoon season. Based on data gathered by the province, for the years 2004-2015, there were 20 municipalities with 112 barangays affected by flood. The total estimated cost of damage to agriculture and infrastructure was P1,112,274,000.00 damaging about 623 hectares of ricefields. There was an incomplete report from the Office of Civil Defense on the number of families and persons affected by flood. On the other hand, the report generated from the Mines and Geosciences Bureau (MGB-7) generally does not have data on the impact or cost of damages.

Flood-prone areas in Bohol include the influence areas of the eleven major rivers namely: Inabanga, Loboc, Abatan (Maribojoc), Moalong (Loon), Ipil (Trinidad), Soom (Trinidad), Carood (Mabini), Lumbay (Pilar), Alejawan (Duero), Manaba (Garcia) and Panangatan (Dimiao) Rivers. Aside from the areas where the rivers are located, the following towns were sites of flooding in 2011, namely: Jagna, Valencia, Guindulman, Alicia, Bien Unido, Clarin, Sagbayan, and Antequera. These areas adjacent to the rivers have been the subject of seasonal destructive flash flooding which caused substantial damage to agricultural land and crops, infrastructure, dwelling and occasional loss of lives. The primary factor which contributes to the occurrence of these hazards is the denudation of the forest cover in the upper watershed areas and river tributaries. This causes heavy siltation resulting in the incapability of the river waterways to handle heavy flash flood water flow from the rain catchment areas.

Based on the data generated by the MGB-7 (Table ____), the municipalities susceptible to high flooding are Jagna, Inabanga, Danao and Dagohoy with flood-prone areas that are more than 300 hectares. Municipalities susceptible to moderate flooding are Antequera, Carmen, Guindulman, Loay and Valencia while other municipalities susceptible to low flooding are Balilihan, Candijay, Cortes, Duero, Loboc, Maribojoc, Pilar, San Isidro and Sierra Bullones. In terms of the number of barangay susceptible to floods and flashfloods, Inabanga has the highest number of barangays (21 barangays). The total area prone to high flooding is 3,162.83 hectares or approximately eight (8) percent of the total area of Bohol.

¹⁷This section can be integrated later in the sectoral study about the Physical Environment

There are 112 barangays located in 18 municipalities in Bohol with a total area of 3,162.83 hectares or approximately 0.768 percent of total area of the province that are flood-prone. Tagbilaran City and 29 municipalities of Bohol are not susceptible to flood. Carmen and Sierra Bullones both have one barangay each which are prone to flood while Duero and Pilar have two flood-prone barangays each.

The municipality of Inabanga has the highest number of barangays, totalling 21, which are flood-prone, followed by Jagna with 13 barangays and Dagohoy and Danao with 11 barangays each. However, the municipality of Dagohoy has the biggest area prone to flood which is 709.32 hectares followed by Danao (525.61 has.), Inabanga (415.71 has.), Jagna (307.26 has.), Loay (222.16 has.) and Valencia (163.47 has.) Map for the Flood Control Map (see Annex Map) shows that the flood path is situated in Inabanga-Danao-Dagohoy area, San Isidro-Antequera area, Maribojoc, Loboc-Loay area, Valencia, Jagna, Duero, Guindulman, and Candijay. There are proposed flood control points in Sierra Bullones, Alicia, Guindulman, Duero, Jagna, Lila and Loboc.

Conditions Contributing to Flooding. Flooding in the major rivers of Bohol is aggravated by excessive siltation due to erosion. The denudation of mountains and forest lands due to various human activities is the primary cause of erosion. Another cause that aggravates the problem of siltation is the cultivation of lands along the riparian zones of the river. Soil erosion in Bohol frequently occurs in areas that have been farmed or at construction sites in a highly slope areas. Most of the accelerated removal of soil is man-made. According to the Bureau of Soils and Water Management (BSWM) report, more than 66% of the soils in the province are affected by erosion at different degrees (slightly, moderate and severe) and less than 31% of the island show no apparent erosion. Eight out of the eleven (11) watersheds in Bohol are experiencing 26 to 38 percent soil erosion rates. These sites are now at a critical stage with an annual soil erosion rate of ten (10) cubic meters per hectare. Table __ shows the past flood events in the province in backward chronological order. The months of January and March in 2011 brought flashfloods to 83 barangays of 13 municipalities. The minimum area affected is about 633 hectares of ricefields and other crops including fishponds as this figure may go higher had the data gathered on damages been complete.

Table PE-36. Matrix for Past Flood Events

DESCRIPTION	POPULATION/AREAS AFFECTED	IMPACTS
February 2015 (Senyang)	Loboc, Inabanga, Clarin, San isidro, Tubigon, Alicia, Garcia-Hernandez, Valencia, Duero	Damaged cost- P1.0 billion
2014		
*March 24, 2011 Flashfloods	2 barangays each of Sierra Bullones, Jagna and Duero, 8 barangays of Dimiao and 12 barangays of Garcia Hernandez	2 dead due to drowning in Sierra Bullones 220 has. of crops damaged worth P700,000.00
	Mayana, Brgy. Centro Calabacita, Purok 7, Brgy. Alejawan, Jagna	2 families and 10 persons affected; 1 house each partially and totally damaged; No data available on cost
	Sitio Ilaya, Brgy. Matin-ao and	2 dead and damaged road and spillway

DESCRIPTION	POPULATION/AREAS AFFECTED	IMPACTS
March 16, 2011 Flashfloods	Purok 1, Brgy. Danicop, Sierra Bullones, Bohol	but no data available on damage cost
	Sitio Tiwi, Brgy. Manaba and Sitio Conveyor, Brgy. West Canayaon, Garcia Hernandez	No data available
	Sitio Ilawod and vicinities, Brgy. Balbalan, Dimiao, Bohol	No data available
*January 28, 2011 Flashfloods	7 barangays in Alicia and 4 barangays in Inabanga, Bohol	25 has. ricefields damaged P2.8M damage cost
*January 27, 2011 Floods	4 barangays in Guindulman, Bohol	25 households -knee depth Ricefields/fishponds (30 to 50 hectares affected) Fishpond (about 10 has. affected)
	5 barangays in Trinidad, Bohol	253 hectares of ricefields are damaged
	13 barangays in Inabanga, Bohol	Ricefields affected Evacuation of 16 households at the chapel
	5 barangays in Bien Unido, Bohol	5 hectares of crops affected 5 Residential houses living near the fishpond affected
	2 barangays in Clarin, Bohol	Water over flow at Bacani bridge
	Poblacion Sagbayan, Bohol	Ricefields are mostly affected estimated 60 to 70 hectares
*January 5, 2011 Floods	5 barangays in Guindulman 3 barangays in Alicia Brgy. Song-on, Loon, Bohol	Nipa plants and ricefields were damaged but no damage cost is available
*Oct. 15, 2010 Flashfloods	Brgy. Genomoan, Loon, Bohol	2 children dead
*February 9, 2009 Low Pressure Area/ Flashfloods	Garcia-Hernandez	Total Crop Damage- Php 4,240,000.00 Total Infra Damage- Php 15,000.000.00
	4 barangays in Loboc, Bohol	Php 704,290.00
*February 7, 2009 Low Pressure Area/ Flashfloods	Valencia, Bohol	Php 3,000,000.00-(40mtrs) rehabilitation; (100cu.m) 30,000.00 ; 100,000.00, 50,000.00 for removal Php 85,750,000.00 (Infra & Agri) Res.No. 30 Series of 2009
	Antequera, Bohol	No data available
*Dec. 31, 2008 Flashfloods	Clarin and Tubigon, Bohol	P10.47 million damages
*March 5, 2008 Minor Flashfloods	Brgy. Pondol, Pananquilon, and Bagacay in Loon and Calape	P10.993 million damages
*January 2, 2008 Flashfloods	Tubigon, Bohol	No data available
	So. Bunuga, Brgy. Danicop, Sierra Bullones, Bohol	No data available
	So. Pag-asa & Little Ilaod, Brgy.	Several houses damaged but no data

DESCRIPTION	POPULATION/AREAS AFFECTED	IMPACTS
Aug-Sept. 2007 Seasonal flashfloods with depths > 1m	Poblacion, Sierra Bullones, Bohol	available on the worth of damage
	Purok 1 & 2, Brgy. Sta. Cruz, Sierra Bullones, Bohol	Several houses damaged but no data available on the damage cost
	Brgy. Camalian, Ubay, Bohol	Several houses damaged but no data available on the worth of damage
	Puroks 1 to 6, Brgy. Banlasan, Tubigon, Bohol	All households damaged but no data available on the worth of damage
	Puroks 4, 5 & 7, Brgy. Panadtaran, Tubigon, Bohol	No data available
	So. Sto. Nino, Suba, Brgy. Pinayagan Sur, Tubigon, Bohol	20 houses damaged but no data available on the worth of damage
Aug-Sept. 2007 Rare flashfloods with depths > 1m	Puroks 2, 4, 5 & 6, Brgy. Humayhumay, Ubay, Bohol	No data available
Aug-Sept. 2007 Seasonal flashfloods with depths < 1m	Brgy. Canlusong, Valencia, Bohol	No data available
Aug-Sept. 2007 Rare flashfloods with depths < 1m	Low-lying areas, Brgy. Banlasan, Tubigon, Bohol	Several houses damaged but no data available on damage cost
Aug-Sept. 2007 Seasonal flashfloods with depths < 0.5m	Areas near Taug Creek, Brgy. Cutcutan, Valencia, Bohol	No data available
	Puroks near Catug-an Creek, Brgy. Poblacion Or., Valencia, Bohol	No data available
	Puroks 2, 3, 4 & 5, Brgy. Achila, Ubay, Bohol	Several houses damaged but no data available on the worth of damage
	Purok 4, Brgy. Potohan, Tubigon, Bohol	Several houses damaged but no data available on damage cost
December 2006 Flashfloods/ extreme heavy rainfall with depths < 5m	Brgy. Pooc Occidental, Tubigon, Bohol	No data available
*December 2005– 2006 Severe Rains	Getafe, Bohol	P15.85 million damages
2005 Flashfloods/ extreme heavy rainfall with depths > 5m	So. Ingod, Brgy. Centro, Tubigon, Bohol	No data available
*October 17, 2004 Flashfloods	Brgy. Tubod Mar, Jagna, Bohol	No data available

Source: *Office of Civil Defence (OCD)-Bohol and the rest -Mines and Geosciences Bureau – Region 7

There was only one incident of flashflood in 2010 affecting 2 barangays in Loon, Bohol. The municipalities of Garcia Hernandez, Jagna, Loboc and Antequera were severely affected by flashfloods in 2009. Garcia Hernandez suffered more than P4 million crops damages and P15 million damages on its infrastructure while Valencia spent P3 million for its rehabilitation efforts arising from P85.75M damages from agriculture and infrastructure.

The towns of Tubigon, Calape and Loon were hit by flashfloods in 2008 with P21.463 million damages. The months of August and September in 2007 brought flashfloods to Ubay, Valencia, Sierra Bullones and Tubigon which caused damages to several houses. Getafe suffered P15.85 million damages caused by severe rains in December 2005 to 2006. Most of these towns that were hit by flashfloods have high, moderate or low susceptibility to flooding.

Rainfall-Induced Landslide

Based from the Rainfall-Induced Landslide Hazard Map generated by the MGB-Region 7, the municipalities susceptible to high rain-induced landslides are: Alicia, Bilar, Buenavista, Cortes, Duero, Jagna, Loboc, Maribojoc, Sierra Bullones, and Tubigon. However, data obtained by the Provincial Planning and Development Office (PPDO) of Bohol shows that Balilihan, Guindulman, Sikatuna and Talibon are also prone to rain-induced landslides. Unfortunately, there are no data available on casualties and damages.

From July 1997 to July 2011, there were 14 municipalities and 23 barangays that were hit by landslides. At least 85 hectares of ricefields were damaged, 30 families and 416 persons affected although these figures could go higher as most of the incidents have no available data. Bohol suffered worst rain-induced landslides in March 2011 that affected the municipalities of Bilar, Jagna, Tubigon, Talibon, Buenavista, and Sierra Bullones. Mostly affected or damaged are the roads but there were no data available on the cost of damages. Barangay Mayana of Jagna, Bohol suffered from landslides thrice in 2006 (March, August, September) and in July 2005 (Table __).

Table PE-37. Matrix for Past Rainfall-Induced Landslide Events

DESCRIPTION	POPULATION/AREAS AFFECTED	IMPACTS
July 31, 2011 Localized landslide in old limestone quarry	Brgy. Lincod, Maribojoc, Bohol (N9°43'42.0", E123°52'17.8")	1 family and 6 persons affected 2 dead, 4 injured; P600,000.00 damaged private and commercial properties
March 16, 2011 @ 3:30 p.m. Landslide/Slope failure, underlain by porous, cavernous, coralline limestone	Sitio Ilaya, Brgy. Bugang Sur, Bilar, Bohol; 1 partially damaged house	Damaged road but no available data on cost
March 2011 Landslide/Slope failure	Brgy. Can-ipol, Jagna, Bohol	Damaged road but no available data on cost
March 2011 Localized Slope failure	So. Katiwian, Brgy. Calabacita, Jagna, Bohol	Damaged road but no available data on cost

DESCRIPTION	POPULATION/AREAS AFFECTED	IMPACTS
underlain by weathered mudstone & limestone		
March 2011 Road Slip/Subsidence, tension cracks along 200-m road length	Purok Caimito, Brgy. Cawayanan, Tubigon, Bohol	Damaged road but no available data on cost
March 2011 Landslide/Rockfall/Wedge failure, underlain by highly fractured/heavily jointed volcanic rocks	Tagbilaran North Road Km 102.000 Brgy. Burgos, Talibon, Bohol	Damaged road but no available data on cost
March 2011 Slump/Landslide, underlain by weathered agglomerate	Sitio Mabca, Brgy. Overland, Buenavista, Bohol	Damaged road but no available data on cost
March 2011 Landslide	Brgy. Libertad, Tubigon, Bohol	Damaged road but no available data on cost
March 2011 Landslide/Localized Slope failure, underlain by moderately weathered limestone	Km 82 Brgy. Lataban and So. Danao, Brgy. Magsaysay, Sierra Bullones, Bohol	Damaged road but no available data on cost
June 3, 2008 Minor Landslide	Brgy. Sagasa, Balilihan, Bohol	No available data
March 17, 2008 Landslide	Loboc, Bohol	No available data
Early March 2008 Landslide/Road Slip, underlain by shales interbedded with sandstone	Loboc-Carmen Road in Brgy. Gotozon, Loboc, Bohol (N9039'03.50", E124°01'39.70")	Damaged road but no available data on cost
February 18, 2008 Landslide/Road Slip, recurred in early 2011/ steep slope cut in the '70's, underlain by limestone	National Highway in Poblacion Central (Liloan) Cortes, Bohol (N9°43'18.60", E123°52'28.20")	Damaged road but no available data on cost
January 11, 2007 Minor Landslide	Loboc-Sikatuna, Bohol	No available data
September 13, 2006 Landslide	Mayana, Jagna, Bohol	No available data
August 23, 2006 Landslide	Mayana, Jagna, Bohol	No available data
March 20, 2006 Landslide	Mayana, Jagna, Bohol	No available data
March 6, 2006 Landcracks	Sierra Bullones, Bohol	No available data
March 2, 2006 Landcracks	Cortes, Bohol	No available data
February 27, 2006 Landcracks	Alicia, Bohol	No available data
December 16, 2005	Brgy. Imelda, Duero, Bohol	1 house damaged;

DESCRIPTION	POPULATION/AREAS AFFECTED	IMPACTS
Landslide underlain by tuffaceous sediments	(N9°45'19.7", 9°45'31.2", E124°22'46.5", 124°23'51.0") 1 family and 5 persons affected	No available data on damage cost
October 15, 2005 Landslide/ Rotational Slip after heavy rainfall; underlain by limestone	So. Ilaya, Brgy. Labogon, Duero, Bohol (N9°44'44.4", 9°45'00", E124°23'03.6", E124°25'13")	No available data
July 11, 2005 Landslide	Mayana, Jagna, Bohol	P5M - damaged houses P4.5M – infrastructure P5.3M – agriculture Total damages – P14.8M
1980's/ July 11, 2005 Landslide/Rockfall, underlain by shale, tuffaceous siltstone and tuffaceous sandstone, with possible presence of a fault	Brgy. Mayana, Jagna, Bohol (N9°43'55.5", E124°20'56.1") More or less 255 persons affected	Damaged road and 51 residences but no available data on cost
November 2001 Landslide/ Rotational Slip	Brgy. Candasog, Loboc, Bohol (N9°38'50.0", E124°02'25.1") 15 has.	No available data
November 22, 1998 Debris/ Rock fall underlain by highly fractured & brecciated ultramatics, clastics and limestone	Tagbilaran-Guindulman Road, Bohol; 20 hectares; 30 families and more or less 150 persons affected	No available data
1070's/ July 1997 Landslide/rockfall/wedge failure/slope failure	DWRP/Angilan River, Duero, Bohol; 50 hectares	No available data

Only the July 31, 2011 and July 11, 2005 landslides had data on cost of damages which is P600,000.00 and P14.8 million respectively.

Of the 47 towns and 1 city, only Panglao is not susceptible to rainfall-induced landslide (RIL) owing to its plain topography and the absence of mountains or hills. Loon has the most number of barangays (35) with low susceptibility to RIL. While Jagna has the highest number of barangays (25) with high susceptibility to RIL, it shares with Valencia in having the most number of barangays (31) with moderate susceptibility to RIL. All in all, there are 33,306.7462 hectares of Bohol that have a high susceptibility to rainfall-induced landslides while 102,336.1107 hectares are moderately susceptible and 149,666.3391 hectares have low susceptibility. With respect to the total land area of Bohol, 8.09% is highly susceptible, 24.86% moderately susceptible and 36.35% is with low susceptibility to RIL.

Table PE-38. Summary of Rainfall-Induced Landslide Susceptibility in Bohol

Municipality	High		Moderate		Low	
	No. of Barangay	Land Area (m ² .)	No. of Barangay	Land Area (m ² .)	No. of Barangay	Land Area (m ² .)
Alburquerque	1	1,467,095	4	3,396,862	11	18,840,460
Alicia	8	22,514,498	15	27,528,545	13	43,555,285
Anda	15	23,708,747	13	13,054,693	0	0
Antequera	0	0	12	17,019,805	20	33,037,297
Baclayon	0	0	12	18,167,373	11	7,900,230
Balilihan	3	1,054,966	22	39,141,677	31	81,323,007
Batuan	0	0	13	45,546,907	15	31,025,717
Bien Unido	0	0	0	0	7	2,586,672
Bilar	0	0	18	94,812,953	17	23,664,873
Buenavista	8	1,996,176	13	12,774,117	25	72,768,460
Calape	9	8,787,785	9	7,948,401	18	23,284,257
Candijay	13	16,937,247	17	20,621,433	17	15,720,233
Carmen	9	14,846,425	23	57,456,658	29	97,565,508
Catigbian	9	3,709,200	16	30,231,695	20	38,439,362
Clarín	2	928,878	6	3,051,958	22	32,337,400
Corella	0	0	5	16,963,839	8	20,554,599
Cortes	0	0	0	0	14	25,035,051
Dagohoy	2	1,225,878	7	21,205,591	14	42,471,552
Danao	12	24,333,738	15	56,541,908	15	55,392,127
Dauis	0	0	5	635,194	0	0
Dimiao	4	611,318	20	28351083	32	24,038,584
Duero	13	18,564,280	19	28,173,474	6	20,608,387
GHernandez	21	18,028,674	27	61,122,343	20	15,790,368
Getafe	2	340,792	6	14,565,467	14	51,318,364
Guindulman	14	34,880,127	13	31,260,000	13	11,470,434
Inabanga	9	5,183,626	21	26,639,192	30	18,027,733
Jagna	25	25,944,747	31	55,339,371	16	15,991,023
Lila	6	4,127,844	15	19,765,183	7	4,008,565
Loay	2	238,172	7	4,205,817	16	13,472,906
Loboc	8	2,742,857	21	31,446,898	25	18,457,576
Loon	19	15,746,036	27	18,618,690	35	36,720,320
Mabini	18	16,580,034	20	14,739,356	16	24,021,579
Maribojoc	8	16,023,736	8	6,376,459	15	18,136,374
Pilar	9	10,937,063	12	20,198,807	20	75,692,497

Municipality	High		Moderate		Low	
	No. of Barangay	Land Area (m ² .)	No. of Barangay	Land Area (m ² .)	No. of Barangay	Land Area (m ² .)
Pres. Garcia	0	0	0	0	20	17,495,289
Sagbayan	6	1,818,715	11	10,412,270	18	24,592,197
San Isidro	1	60,444	10	15,539,372	12	38,108,871
San Miguel	3	1,944,151	5	6,239,812	17	63,744,345
Sevilla	0	0	7	22,720,038	13	41,925,676
Sierra Bullones	12	6,065,677	17	24,883,581	22	45,029,349
Sikatuna	2	2,825,537	6	5,470,049	9	9,767,845
Tagbilaran City	0	0	2	733,829	12	17,298,159
Talibon	0	0	7	20,606,090	23	67,941,114
Trinidad	0	0	4	13,442,904	13	37,035,058
Tubigon	1	691,063	8	6,022,812	20	32,275,358
Ubay	5	18,466,171	6	8,868,368	30	52,117,300
Valencia	19	9,735,765	31	41,520,233	31	36,076,030
TOTAL	298	333,067,462	586	1,023,361,107	812	1,496,663,391

Based from Rainfall-Induced Landslide Assessment generated by MGB (Table __), Summary of Rainfall-Induced Landslide Susceptibility in Bohol), the municipalities susceptible to high rain-induced landslide are: Anda, Buenavista, Calape, Candijay, Carmen, Catigbian, Danao, Duero, Garcia Hernandez, Guindulman, Jagna, Loon, Mabini, Maribojoc Sierra Bullones, and Valencia. In terms of number of barangays susceptible to rainfall-induced landslide, Jagna is the highest having 25 RIL-prone barangays, followed by Garcia Hernandez (21), Loon and Valencia (both 19), Mabini (18) and Anda (15).

In terms of land area, Guindulman has the biggest area (3,488.0127 has.) prone to rainfall-induced landslide, followed by Jagna (2,594.4747 has.), Danao (2,433.3738 has.), Anda (2,370.8747 has.), Alicia (2,251.4498 has.), Duero (1,856.4280 has.), Ubay (1,846.6171 has.), Garcia Hernandez (1,802.8674 has.), Candijay (1,693.7247 has.), Mabini (1,658.0034 has.), Maribojoc (1,602.3736 has.), Loon (1,574.6036 has.), Carmen (1,484.6425 has.), and Pilar (1,093.7063 has.). The rest of the highly susceptible municipalities have areas less than a thousand hectares.

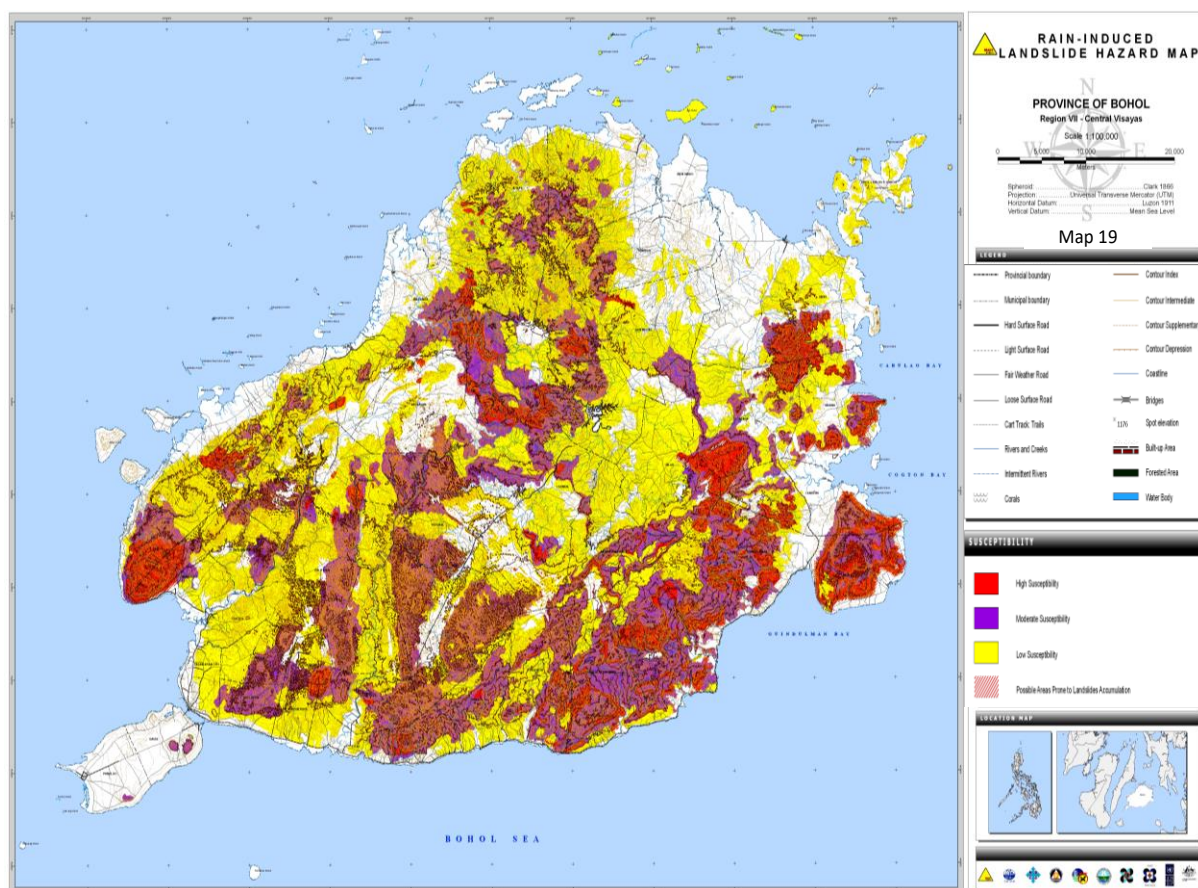
The municipality of Bilar has the biggest area (9,481.2953 has.) among the municipalities which are moderately-susceptible to rainfall-induced landslide, followed by Garcia Hernandez (6,112.2343 has.), Carmen (5,745.6658 has.), Danao (5,654.1908 has.), Jagna (5,533.9371 has.), Batuan (4,554.6907 has.), Valencia (4,152.0233 has.), Balilihan (3,914.1677 has.), Loboc (3,144.6898 has.), Guindulman (3,126.00 has.), and Catigbian (3,023.1695 has.). Other moderately susceptible towns with less than 3,000 hectares but more than 2,000 hectares are Dimiao, Duero, Alicia, Inabanga, Sierra Bullones, Sevilla, Dagohoy, Candijay, Talibon and Pilar. The rest of the moderately susceptible municipalities

with areas from 1,000 to less than 2,000 hectares are Lila, Loon, Baclayon, Antequera, Corella, San Isidro, Mabini, Getafe, Trinidad, Anda, Buenavista and Sagbayan.

Areas susceptible to high rainfall-induced landslide are those with slope range greater than 45 percent (very steep lands), with a total land area of the province at 8.09 percent or 33,306.7462 hectares. In this category, although it has only 14 susceptible barangays compared to Jagna's 25 barangays Guindulman has the biggest share with 3488.0127 hectares at 10.47% of the highly susceptible areas or 0.85% percent of Bohol's total land area.

There are a total of 298 barangays (33,306.7462 has.) in the province which are highly susceptible to rainfall-induced landslide while 586 (102,336.1107 has.) barangays are moderately susceptible and 812 barangays (149,666.3391 has.) have low susceptibility to RIL. In summary, about 8.09% of Bohol's total land area is highly susceptible, 24.86% is moderately susceptible and 36.35% has low susceptibility to RIL. About 30% of the province's area is not susceptible to RIL. The Rain-induced Landslide Hazard Map (see RIL map on Annex) shows the following:

1. Areas with low to gentle slopes and lacking tension cracks have low landslide susceptibility rating (yellow shade).
2. Areas with moderate landslide susceptibility rating have inactive/old landslides and tension cracks which are located away from the community. These areas usually have moderate slopes (purple or violet shade).
3. Areas with high landslide susceptibility rating have active/recent landslides and tension cracks that would directly affect the community. Those with steep slopes and drainage that are prone to landslides damming are also highly susceptible to landslides (red shade).
4. The possible landslides debris accumulation zones are the area where landslides debris could accumulate.



It could be gleaned from RIL Map below that most of the rain-induced landslide susceptible areas are located in the southeastern and southwestern portion of Bohol. There are 13 municipalities and one city that are not highly susceptible to rain-induced landslide, namely: Antequera, Baclayon, Batuan, Bien Unido, Bilar, Corella, Cortes, Dausi, Panglao, Pres. Garcia, Sevilla, Tagbilaran City, Talibon and Trinidad. Most towns have barangays which are moderately-susceptible to RIL except for Bien Unido, Cortes, and Pres. Garcia. The municipalities of Panglao, Dausi, and Anda have low susceptibility to rain-induced landslide.

Storm Surge

On June 25, 2008, six municipalities in Bohol, namely: Talibon, Loon, Lila, Getafe, Dimiao and Guindulman experienced Typhoon “Frank” with a total damage of P3.2M. On Nov. 11-12, 2007, Tropical Storm “Lando” affected the municipalities of Pres. Garcia, Bien Unido, Talibon, Buenavista, Getafe and Trinidad with a total damage cost of P1.387M. Whirlwind “Alimpus” in November 19, 2007 brought P1M worth of damaged houses in Pres. Garcia. The whole province of Bohol was affected by a low pressure area on May 12, 2008, Tropical Depression “Butchoy” on May 8, 2008 and Tropical Depression “Ambo” on April 14, 2008 but there was no data available on the damages and cost (Table PE-39).

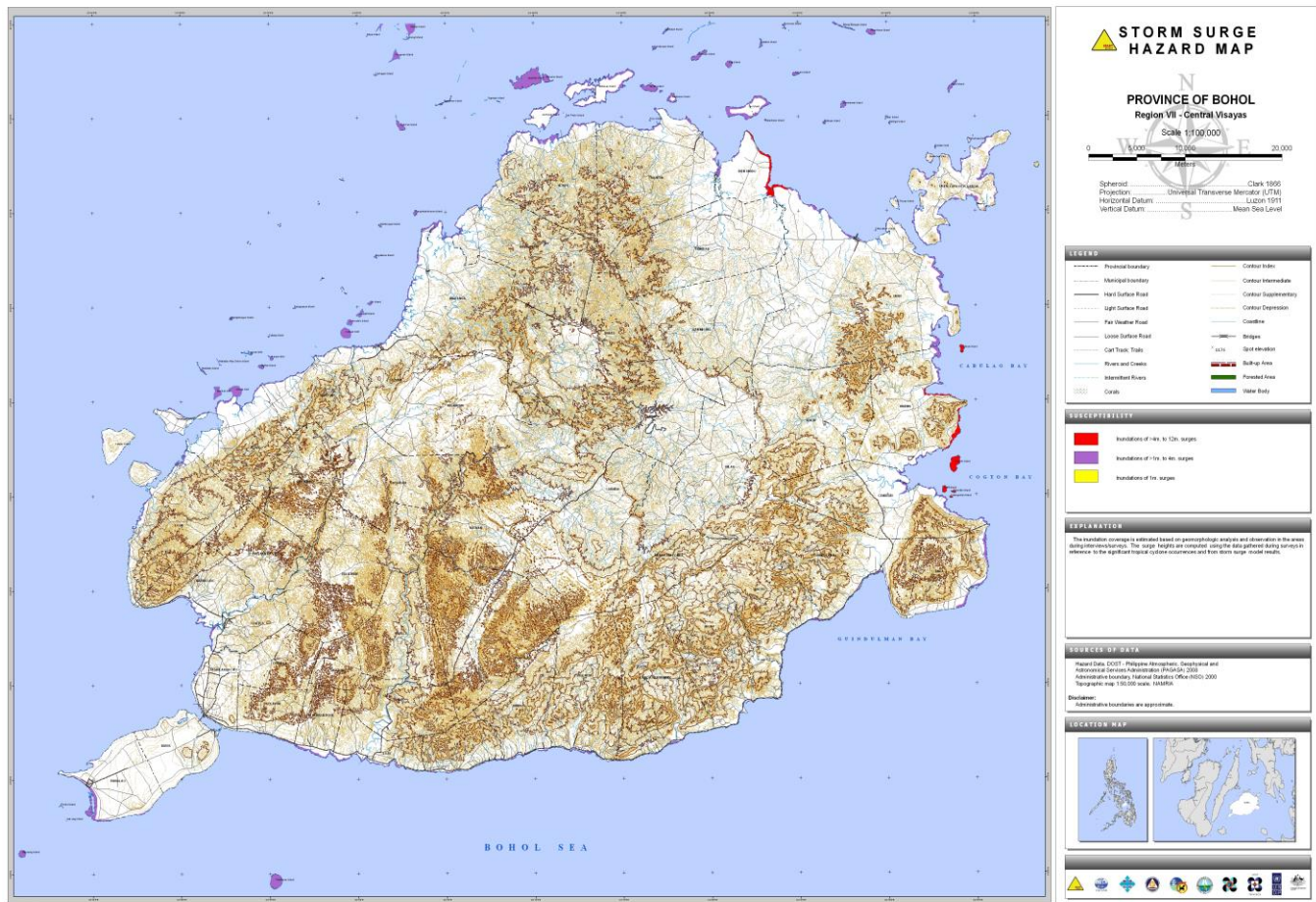
Table PE-39. Matrix for Past Storm Surges/Big Waves Events

DESCRIPTION	POPULATION/AREAS AFFECTED	IMPACTS
June 25, 2008 Typhoon “Frank”	Talibon, Loon, Lila, Getafe, Dimiao, Guindulman	Total Damages – P3.2M Talibon – P1M Loon – P1.5M Lila – P0.1M Getafe – P0.3M Dimiao – P0.2M Guindulman – P0.1M
May 12, 2008 Low Pressure Area	Provincewide	No data
May 8, 2008; TD “Butchoy”	Provincewide	No data
April 14, 2008; TD Ambo”	Provincewide	No data
Nov. 11-12, 2007 TS “Lando”	Pres. Carlos P. Garcia Bien Unido Zamora, Talibon Buenavista Getafe Trinidad	Total Damages – P1.387M Pres. Garcia – P0.472M Bien Unido/Getafe – No data Zamora, Talibon – P0.76M Buenavista – No data Trinidad – P0.055M
Nov. 19, 2007 Whirlwind “Alimpus”	Pres. Carlos P. Garcia	Damaged houses – P1M
June 16, 2007; “Alimpus”	Loon	No data

Based on Storm Surge Map below, most of the storm surge-prone areas are located in the southeastern, southwestern, northern and western portions of Bohol, just like the rain-induced landslide susceptible municipalities. Again, the Municipality of Anda is particularly prone to storm surge while the municipalities of Pres. Carlos Garcia, Panglao, Dauis, Ubay and Talibon are not susceptible to storm surge. The inundation coverage is estimated based on geomorphologic analysis and observation in the areas during interviews/surveys. The surge heights are computed using the data gathered during surveys in reference to the significant tropical cyclone occurrences and from storm surge model results. Sources of data are the Hazard Maps from Philippine Institute of Volcanology and Seismology (PHIVOLCS-DOST) 2008, Administrative boundary from the National Statistics Office (NSO) 2000 and the Topographic Map 1:50,000 scale from NAMRIA. Based on Table PE-40, Summary for Storm Surge/Big Waves Susceptibility, there are nineteen municipalities in Bohol that are not susceptible to storm surge, namely: Alicia, Antequera, Balilihan, Batuan, Bilar, Carmen, Catigbian, Corella, Dagohoy, Danao, Loboc, Pilar, Sagbayan, San Isidro, San Miguel, Sevilla, Sierra Bullones, Sikatuna and Trinidad. Getafe has the highest land area (1,459.3415 has.) susceptible to storm surge, followed by Talibon (1,181.2330 has.), Ubay (440.8979 has.), Bien Unido (402.4686 has.), and Mabini (3991.1375 has.). On the other hand, Loon has the most number of barangays (26) susceptible to storm surge, followed by Pres. Garcia (21), Ubay (20), Getafe (19), and Talibon (17). The 28 municipalities and Tagbilaran City covering a total of 316 barangays susceptible to storm surge have a combined land area of 5,918.7404 hectares. This covers around 1.4375% of the total land area of Bohol.

Table PE-40. Summary For Storm Surge/Big Waves Susceptibility

Municipality	No. of Barangay	Total Land Area (sq. m.)
Alburquerque	6	291,729
Anda	8	1,374,400
Baclayon	5	1,674,550
Bien Unido	14	4,024,686
Buenavista	4	142,768
Calape	14	1,170,617
Candijay	4	1,753,119
Clarin	6	266,912
Cortes	2	277,492
Dauis	5	26,788
Dimiao	8	99,534
Duero	9	336,343
G-Hernandez	11	383,157
Getafe	19	14,593,415
Guindulman	7	542,374
Inabanga	15	1,132,530
Jagna	13	398,066
Lila	10	393,233
Loay	13	680,983
Loon	26	1,088,480
Mabini	15	3,991,375
Maribojoc	9	883,488
Panglao	8	2,341,532
Pres. Garcia	21	4,092,553
Tagbilaran City	5	138,244
Talibon	17	11,812,330
Tubigon	14	633,596
Ubay	20	4,408,879
Valencia	8	234,231
TOTAL	316	59,187,404



Geologic Hazards

Bohol is prone to geologic hazards like ground shaking, liquefaction, earthquake- induced land slide and tsunami because of the presence of East Bohol Fault and another fault located in the Bohol Sea going to Mindanao Sea facing the southern part of Bohol. The presence of Negros Trench and PFZ Central Leyte Fault may also contribute to the generation of earthquake. Geologic hazards result from geologic processes acting on or beneath the earth's surface. These include movement of plate in the earth's crust or from local concentration of heat and are source of hazards to people and their natural and built-up environment on the earth's surface.

Minor and major fault lines are evident on the island as shown by terraced encarpments occurring in its southern and central parts. The terraced escarpments in the Ilihan Formation as well as the graben at the Anda Peninsula are manifestations of these faults. Steep escarpments notably in Loon, Tagbilaran and in Anda Peninsula further prove vertical upliftment caused by tectonics. Earthquakes have been felt in Bohol but only an average of one perceptible shock is reported each year. Major faults usually trend towards the northeast. Three earthquakes with a magnitude above 4 of the Richter Scale (highest was 4.7 ms which occurred in June) were reported in 1998 in the province of Bohol.

Earthquake and Related Hazards

Earthquake is the result of the sudden release of energy in the earth's crust that creates seismic waves. At the earth's surface, earthquakes manifest themselves by shaking and sometimes displacement of the ground. When the epicenter of a large earthquake is located offshore, the seabed may be displaced sufficiently to cause a tsunami. Earthquakes can also trigger landslides, and occasionally volcanic activity.

Minor and major fault lines are evident on the island as shown by terraced escarpments occurring in its southern and central parts. The terraced escarpments in the Ilihan Formation as well as the graben at the Anda Peninsula are manifestations of these faults. Steep escarpments notably in Loon, Tagbilaran and in Anda Peninsula further prove vertical upliftment caused by tectonics. Earthquakes have been felt in Bohol but only an average of one perceptible shock is reported each year. Major faults usually trend towards the northeast.

Bohol experienced an earthquake with a magnitude of 6.9 and depth of 33 km. in February 4, 1941. Another earthquake with a magnitude of 6.5 hit Bohol in Feb. 8, 1990 with a depth of 34 km. Three earthquakes with a magnitude above 4 of the Richter Scale (highest was 4.7 ms which occurred in June) were reported in 1998 in the province of Bohol.¹⁸

At 8:12 am on 15 October 2013, a 7.2-magnitude earthquake struck Bohol and nearby provinces as recorded by the PHIVOLCS seismic monitoring network. The epicenter was plotted at 6 kilometers S24W (9.86 deg N, 124.07 deg E) of Sagbayan municipality at a focal depth of 12 kilometers. From January 2009 up to October 15, 2013, there were eight earthquake incidents that hit the province of Bohol.

Dr. Art Daag of the Geology Division of PHIVOLCS said that the Bohol quake is – historically – the largest quake that happened in the area and was apparently caused by a fault previously unknown to them. It was described as an earthquake with energy equivalent to “32 Hiroshima bombs”.

PHIVOLCS reported that the M7.2 Bohol Earthquake was generated on the north-western sector of Bohol island by a NE-SW trending reverse fault (hereto named as North Bohol Fault (NBF), which had no previous surface manifestation. The NBF is categorized as a thrust fault or a (reverse) fault wherein the blocks move upward and downward relative to each other.

A “ground rupture” pushed up a stretch of ground, creating a wall of rock above the epicenter. The PHIVOLCS Quick Response Team (QRT) measured surface ruptures, manifested as prominent fault scarps, ranging from 0.10 meter to as much as 5 meters in vertical displacements exposed in Brgy. Anonang in Inabanga Municipality. The mapped surface of the NBF is 6 kilometers long, from Brgy. New Anonang in Buenavista to Brgy. Napo in Inabanga. The NBF generally trends N40E and dips at 50SE. The PHIVOLCS QRT continues to map the probable extension of NBF northeast of Inabanga towards Getafe and southwest towards Loon and Maribojoc.

¹⁸ Philippine Institute of Volcanology and Seismology (PHIVOLCS)

Other geomorphic manifestations observed in Brgy. Anonang include 2.5 meter vertical displacement of Cawasan Creek in Sitio Calubian, producing a small waterfall at the point where the fault transects the creek. Other typical features associated with reverse faulting, such as scallops, bulges and warps, were also observed in the deformation zone, which extended as wide as 30 meters in some places.

Further south-westward of Brgy. Anonang in Sitio Tangub, Brgy. Liloan Norte, PHIVOLCS QRT measured a shift in the trend of the fault trace to N55-60E and a decrease in the vertical displacement to 0.15 meter. PHIVOLCS QRT observed the presence of a spring along the trace of the surface rupture, which appeared only after the earthquake as confirmed by the sitio residents.

In the next barangay of Napo, still in Inabanga and north of Inabanga River, the surface rupture trends N40-60E, with vertical displacements ranging from 0.10 to 0.40 meter. Towards the NE from Brgy. Anonang in Inabanga to Brgy. New Anonang in Buenavista, the surface rupture trending N40E is manifested by displaced rice paddies. Vertical displacements range from 0.3 to 0.5 meter.

The fault probably terminates in Sitio Haligi, Brgy. New Anonang in Buenavista, where an originally flat-lying ricefield became gently sloping. The difference in elevation is measured at 0.10 meter. This feature is different from the previously observed abrupt break along the surface rupture and is common along the termini of active faults.

Although the PHIVOLCS QRT has not yet finished mapping the SW extension of NBF, it is likely that the fault extends towards north of Maribojoc. A seaward shift of the high tide mark after the earthquake was observed by the residents in Brgy. Punta Cruz, Maribojoc. This shift in high tide mark may imply that Maribojoc is on the upthrown block of the reverse NBF. The PHIVOLCS QRT measured the shift to be about 50 meters. The QRT further reported that other typical features associated with reverse faulting, such as scallops, bulges and warps, were also observed in the deformation zone, which extended as wide as 30 meters in some places.

PHIVOLCS said that the quake's impact are surface rupture, ground shaking, liquefaction which means "a process by which water-saturated sediment temporarily loses strength and acts as a fluid, like when you wiggle your toes in the wet sand near the water at the beach" according to the United States Geological Survey. Other impacts include earthquake-induced landslides in majority of the hardest-hit municipalities, including the Chocolate Hills, causing major damage to some of our road network. Several sinkholes also appeared after the earthquake.

The 7.2-magnitude earthquake collapsed bridges, toppled buildings and churches, sending terrified residents into deadly stampedes. It caused widespread damage to buildings and infrastructures – notably roads, bridges, houses, churches and even icons of Boholano culture and heritage. Historic churches dating from the Spanish colonial period suffered the most. The tremor lasted for a minute and triggered a blackout. The towns that felt the strongest ground shaking at PEIS VII-VIII (destructive to very destructive ground shaking)

were located in the north- and south-western of Bohol, which include Maribojoc, Loon, Tubigon, Calape, Clarin Inabanga, Buenavista, Danao, Sagbayan, Catigbian, San Isidro, Antequerra, Balilihan and Cortes. Damage to houses and infrastructures were also reported in Tagbilaran City and in the southern municipalities of Loboc, Carmen, Lila, Valencia, Albuquerque, Baclayon and Loay.

There were 211 dead persons, 877 injured and 8 missing persons while damages to major infrastructures, houses, government buildings, tourism facilities, properties and other businesses were estimated to cost Billions of Pesos. The deadly earthquake occurred on a Tuesday, a national holiday for the Muslim festival of Eid al-Adha, which has thankfully saved more lives and reduced casualties. Had it occurred on a Sunday, thousands of churchgoers may have been buried under the rubbles of the crumbled churches. More so, had it occurred on a working day, more children, students, teachers and staff may have also been injured or worst killed inside totally damaged classrooms and school buildings.

Table PE-41. Matrix For Past Earthquake Events

DESCRIPTION	POPULATION/AREAS AFFECTED	IMPACTS
October 15, 2013	17 hardest municipalities: North and south-western part of Bohol; Maribojoc, Loon, Tubigon, Calape, Clarin Inabanga, Buenavista, Danao, Sagbayan, Catigbian, San Isidro, Antequerra, Balilihan and Cortes; Southern municipalities of Loboc, Carmen, Lila, Valencia, Loay Albuquerque, Baclayon and Tagbilaran City	Intensity 7.2 211 dead persons 877 injured and 8 missing persons Php 7.4 billion damaged to major infrastructures, houses, government buildings, tourism facilities, properties and other businesses
July 18, 2011 Earthquake	09.64°N, 124.58°E - 17 km S 36° E of Guindulman (Bohol) 03:10 PM	Intensity II No damage
	09.61°N, 124.53°E - 17 km S 15° E of Guindulman (Bohol) 05:02 PM	No damage
June 11, 2011 Earthquake Magnitude 3.3 hits in the Province of Bohol	Loboc, Bohol Tagbilaran City Cortes, Bohol	Intensity III Intensity II No Damage
August 28, 2010 Earthquake	Brgy. Tabahan, Brgy. Bulawan, Guindulman, Bohol	No damage
June 21, 2010 Earthquake	Dauis, Bohol	No damage
May 7, 2010 Earthquake	Jagna Garcia-Hernandez Duero Tagbilaran City	Intensity - III Intensity – III Intensity – II No Damage
March 26, 2010 Earthquake	Tagbilaran, Dauis, Corella	No data
January 8, 2009 Earthquake	Anda, Bohol	No damage

The Ground Shaking Hazard Map (see Map on Annex) was generated under the READY Project using available hazard data from the PHIVOLCS-DOST, NSO and NAMRIA. The sources of data came from the Hazard Data generated by the Philippine Institute of Volcanology and Seismology (PHIVOLCS-DOST) in 2008, the National Statistics Office (NSO) in 2000 for the Administrative boundary and the NAMRIA for the Topographic Map 1:50,000 scale. At one glance on the map, it is quite glaring that about three-fourth of Bohol's total land area is susceptible to Intensity 8 (in red shade) while about one-fourth is prone to Intensity 7 (in pink shade) which runs from Talibon going northwest to Calape, Loon and Maribojoc.

Table PE-42 shows the summary of earthquake susceptibility to earthquake of Bohol's municipalities. Only 23 municipalities with 381 barangays out of Bohol's 1,109 barangays are susceptible to Intensity 7 while all of the 47 towns and one city with a total of 887 barangays are prone to Intensity 8. The 381 barangays prone to Intensity 7 have a total land area of 98,949.4335 hectares which is 24.03% of Bohol's total land area. On the other hand, the Intensity 8-prone barangays have a total land area of 302,273.9082 hectares or 73.42% of the total land area of the province. All of the fifteen barangays of Tagbilaran City are prone to Intensity 8 which may have an adverse effect on the Central Business District should an earthquake with such intensity hit the city.

Table PE-42. Summary For Earthquake Susceptibility

Municipality	Susceptibility Level			
	Intensity 7		Intensity 8	
	Barangay	Land Area (sq.m.)	Barangay	Land Area (sq.m.)
Alburquerque	0	0	11	26,363,037
Alicia	0	0	15	118,335,078
Anda	0	0	16	50,352,615
Antequera	15	24,866,419	15	29,964,269
Baclayon	0	0	17	31,713,811
Balilihan	9	6,157,300	31	119,741,019
Batuan	0	0	15	91,281,433
Bien Unido	13	23,101,895	2	3,508,681
Bilar	0	0	19	134,951,293
Buenavista	15	67,123,687	24	34,016,623
Calape	33	72,457,438	1	25,366
Candijay	0	0	21	93,105,632
Carmen	3	6,583,395	29	213,661,109
Catigbian	18	29,064,007	18	54,567,757
Clarin	18	37,562,022	18	14,856,951
Corella	0	0	8	38,897,600
Cortes	0	0	14	30,071,089
Dagohoy	1	446,576	15	73,252,428

Municipality	Susceptibility Level			
	Intensity 7		Intensity 8	
	Barangay	Land Area	Barangay	Land Area
Danao	16	88,452,260	13	55,673,469
Dauis	5	4,154,139	12	41,207,256
Dimiao	0	0	35	55,289,585
Duero	0	0	21	74,896,568
G-Hernandez	0	0	30	99,851,224
Getafe	3	27,517,032	24	68,482,136
Guindulman	0	0	19	101,428,262
Inabanga	20	32,837,220	40	67,876,210
Jagna	0	0	33	105,752,345
Lila	0	0	18	33,350,442
Loay	0	0	24	29,557,344
Loboc	0	0	28	57,331,014
Loon	67	97,036,882	1	452
Mabini	22	86,898,747	22	86,898,747
Maribojoc	12	26,971,346	16	25,889,135
Panglao	2	370,811	10	47,394,290
Pilar	0	0	21	121,179,717
Pres. Garcia	23	43,873,441	5	1,753,528
Sagbayan	19	60,020,017	15	33,410,205
San Isidro	12	53,139,434	3	6,429,688
San Miguel	4	7,231,765	18	107,238,612
Sevilla	0	0	13	66,822,158
Sierra Bullones	0	0	22	85,536,843
Sikatuna	0	0	10	20,895,668
Tagbilaran City	0	0	15	29,336,707
Talibon	21	110,386,546	12	24,218,837
Trinidad	6	36,300,744	20	80,045,239
Tubigon	23	46,385,787	19	14,309,698
Ubay	1	555,425	44	227,923,368
Valencia	0	0	35	94,094,544
TOTAL	381	989,494,335	887	3,022,739,082

Earthquake Induced Landslide

The Earthquake-Induced Landslide (EIL) Hazard Map (Map below) was produced by simulating the largest possible earthquake magnitude occurring in the area. Landslide potentials were calculated using the computed Factor of Safety (FoS), simulated ground shaking by Fukushima and Tanaka, and critical acceleration of slope by Newmark method. The result shows the possible landslide initiation zones at varying degrees, i.e., high,

moderate and low. Hachured areas show the possible depositional extent of landslide materials and are considered part of the areas that may be affected by landslides.

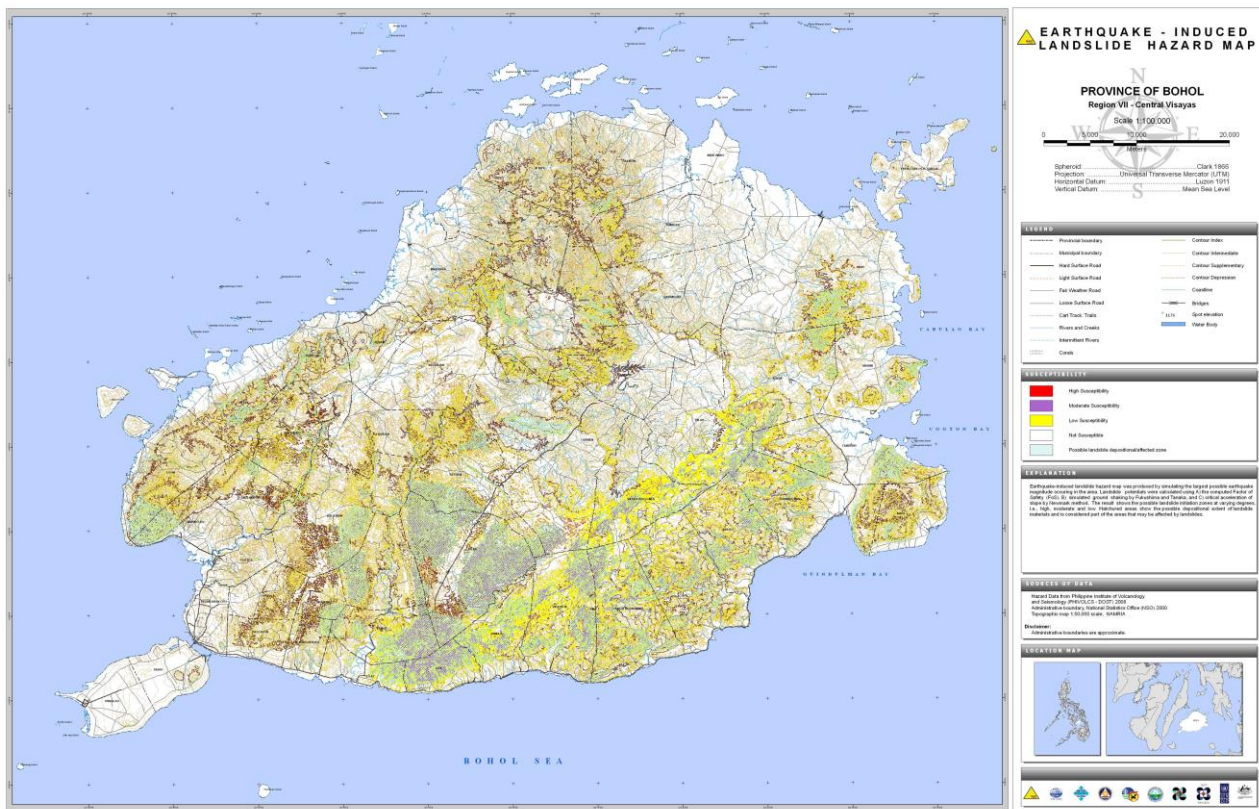


Table PE-43 shows that the municipality of Loon has the highest number of barangays (52) with low susceptibility to earthquake-induced landslide (EIL) and Valencia has the highest number of barangays (34) with moderate susceptibility while both Valencia and Loboc have the highest number of barangays (22) that are highly susceptible to EIL.

Municipalities susceptible to high exceedance earthquake-induced landslide are Bilar, Carmen, Dimiao, Garcia Hernandez, Jagna, Lila, Loboc, Sierra Bullones and Valencia. These areas susceptible to high exceedance earthquake-induced landslide will be triggered by earthquake generators from East Bohol Fault and Negros Trench. Areas susceptible to high exceedance earthquake-induced landslide are steep slope.

Table PE-43. Summary For Earthquake-Induced Landslide Susceptibility

Municipality	Susceptibility Levels					
	High		Moderate		Low	
	No. of Barangay	Land Area (sq.m.)	No. of Barangay	Land Area (sq.m.)	No. of Barangay	Land Area (sq.m.)
Alburquerque	5	23,334	10	848,886	11	2,429,444
Alicia	7	63,089	15	3,537,428	15	8,279,021
Anda	0	0	15	618,817	15	5,238,640

Municipality	Susceptibility Levels					
	High		Moderate		Low	
	No. of Barangay	Land Area (sq.m.)	No. of Barangay	Land Area (sq.m.)	No. of Barangay	Land Area (sq.m.)
Antequera	0	0	21	561,776	21	5,016,953
Baclayon	2	808	9	456,091	13	2,643,130
Balilihan	6	53,219	30	5,292,219	31	18,123,129
Batuan	8	67,663	15	7,570,349	15	19,401,609
Bilar	18	1,598,134	18	15,491,435	19	27,047,249
Buenavista	0	0	15	83,281	23	4,204,381
Calape	0	0	15	394,470	18	5,230,686
Candijay	6	28,671	20	2,280,024	20	7,574,727
Carmen	4	667,911	26	4,788,782	29	14,853,761
Catigbian	2	2,009	17	1,360,527	21	7,336,280
Clarín	0	0	10	95,594	18	1,763,915
Corella	1	1,179	7	816,122	8	3,653,257
Cortes	0	0	9	116,888	14	654,588
Dagohoy	1	8,032	10	1,041,130	14	5,067,418
Danao	2	4,914	14	1,565,781	17	12,898,827
Dausi	0	0	2	5,919	4	125,403
Dimiao	19	204,597	30	3,423,317	35	3,230,031
Duero	9	77,402	20	4,605,047	21	9,661,484
G-Hernandez	15	415,368	30	6,197,753	30	12,779,230
Getafe	0	0	4	65,338	11	2,708,909
Guindulman	5	115,586	15	5,189,652	17	12,403,464
Inabanga	0	0	18	126,594	28	3,674,513
Jagna	8	146,480	32	5,271,279	33	12,188,800
Lila	13	807,982	18	2,297,851	18	3,636,209
Loay	8	74,312	16	1,119,458	22	1,737,722
Loboc	22	725,685	28	5,068,279	28	8,313,832
Loon	0	0	31	363,684	52	7,359,600
Mabini	0	0	19	763,655	21	4,705,441
Maribojoc	0	0	11	281,738	17	341,704
Panglao	0	0	1	3,997	1	39,406
Pilar	7	177,593	19	2,362,107	21	4,129,137
Pres. Garcia	0	0	3	3,602	17	292,853
Sagbayan	0	0	22	684,339	24	4,021,605
San Isidro	1	393	12	1,150,989	12	7,946,250
San Miguel	0	0	8	115,897	11	1,719,710
Sevilla	6	97,021	13	4,389,039	13	11,885,370
Sierra Bullones	15	428,626	19	2,863,919	22	4,292,093
Sikatuna	3	4,629	10	994,371	10	2,842,434
Tagbilaran City	0	0	6	38,746	8	194,467
Talibon	0	0	4	83,117	10	3,315,254
Trinidad	0	0	3	155,993	7	3,016,726

Municipality	Susceptibility Levels					
	High		Moderate		Low	
	No. of Barangay	Land Area (sq.m.)	No. of Barangay	Land Area (sq.m.)	No. of Barangay	Land Area (sq.m.)
Tubigon	0	0	16	177,127	19	3,028,484
Ubay	0	0	13	822,881	19	4,699,798
Valencia	22	768,748	34	6,847,956	35	9,747,827
TOTAL	215	6,563,385	733	102,393,244	887	298,527,771

Out of the 47 municipalities, Bien Unido has no data on earthquake-induced landslide susceptibility (EIL). There are 21 municipalities that have no high susceptibility to EIL while Corella, Dagohoy and San Isidro have only one barangay each with high susceptibility. On the other hand, Baclayon, Catigbian and Danao have two barangays each with high susceptibility. There are a total of 215 barangays with 656.34 hectares that are highly susceptible to EIL, 733 barangays or 10,239.32 hectares moderately susceptible and 887 barangays or 29,852.77 hectares with low EIL susceptibility. About 0.16% of Bohol's total land area is highly susceptible to EIL while 2.48% are moderately susceptible and 7.25% have low EIL susceptibility. All in all, there are 40,748.44 hectares or 9.89% of Bohol's total land area is susceptible to EIL in various degrees (high, moderate, low). About 90% of Bohol's land area is not EIL susceptible.

There are 768,748 sq. m. of land area that is highly susceptible, 6,847,956 sq. m. moderately susceptible and 69,291,559 sq.m. with low susceptible to EIL. On a percentage basis, 0.0186% of Bohol's land area is highly susceptible, 0.1663% moderately susceptible and 1.6829% is lowly susceptible to EIL.

Twenty-four per cent (24%) of Bohol's total land area (98,949.4335 hectares) is susceptible to Intensity 7 earthquake while there are 302,273.9082 hectares or 73% of Bohol's total land area that is prone to Intensity 8 earthquake. There are 388 or about 35% of the 1,109 barangays in Bohol that are prone to Intensity 7 while there are 894 or about 80% of Bohol's total barangays are prone to Intensity 8. Some barangays may be prone to both Intensity 7 and 8 while others are exclusively susceptible to either of the intensity.

There are 23 municipalities that are prone to Intensity 7, namely: Antequera, Balilihan, Bien Unido, Buenavista, Calape, Carmen, Catigbian, Clarin, Dagohoy, Danao, Getafe, Inabanga, Loon, Mabini, Maribojoc, Panglao, Pres. Garcia, Sagbayan, San Isidro, San Miguel, Talibon, Trinidad, and Tubigon. The rest of the 25 municipalities are all susceptible to Intensity 8.

The municipality of Loon has the most number of barangays (67) prone to Intensity 7, followed by Calape (33), Tubigon (23), Pres. Garcia (23), Mabini (22), Talibon (21), Inabanga (20), Sagbayan (19), Catigbian (18) and Clarin (18). On the other hand, Ubay has the most number of barangays (44) that are susceptible to Intensity 8, followed by Inabanga (40), Dimiao (35), Valencia (35), Jagna (33), Balilihan (31), Garcia Hernandez (30), Carmen (29), Loboc (28) and Buenavista (24).

Table PE-44. Summary Matrix for Hazard Susceptibility

Municipality	Geologic Hazards				Hydro-meteorologic Hazards			
	EQ	Liquefaction	EIL	Tsunami	Floods	RIL	SS	Others
Alburquerque								
Alicia								
Anda								
Antequera								
Baclayon								
Balilihan								
Batuan								
Bien Unido								
Bilar								
Buenavista								
Calape								
Candijay								
Carmen								
Catigbian								
Clarin								
Corella								
Cortes								
Dagohoy								
Danao								
Dauis								
Dimiao								
Duero								
G-Hernandez								
Getafe								
Guindulman								
Inabanga								
Jagna								
Lila								
Loay								
Loboc								
Loon								
Mabini								
Maribojoc								
Panglao								
Pilar								
Pres. Garcia								
Sagbayan								
San Isidro								
San Miguel								
Sevilla								
Sierra Bullones								
Sikatuna								
Tagbilaran City								
Talibon								
Trinidad								

Municipality	Geologic Hazards				Hydro-meteorologic Hazards			
	EQ	Liquefaction	EIL	Tsunami	Floods	RIL	SS	Others
Tubigon								
Ubay								
Valencia								

Legend:
 EQ – Earthquake
 EIL – Earthquake-Induced Landslide
 RIL – Rainfall-Induced Landslide
 SS – Storm Surge

For tsunami, there are 28 municipalities that are susceptible while the rest of the 20 inland municipalities are not tsunami-prone, namely: Alicia, Antequera, Balilihan, Batuan, Bilar, Candijay, Carmen, Catigbian, Corella, Dagohoy, Danao, Loboc, Pilar, Sagbayan, San Isidro, San Miguel, Sevilla, Sierra Bullones, Sikatuna, and Trinidad. Most of the liquefaction-prone municipalities are the same municipalities that are also tsunami-prone.

For floods, there are only 18 municipalities that are susceptible to this hydro-meteorological hazard, namely: Antequera, Balilihan, Candijay, Carmen, Cortes, Dagohoy, Danao, Duero, Guindulman, Inabanga, Jagna, Loay, Loboc, Maribojoc, Pilar, San Isidro, Sierra Bullones, and Valencia. Only the municipality of Panglao is not susceptible to rain-induced landslide (RIL) among the 47 towns and one city.

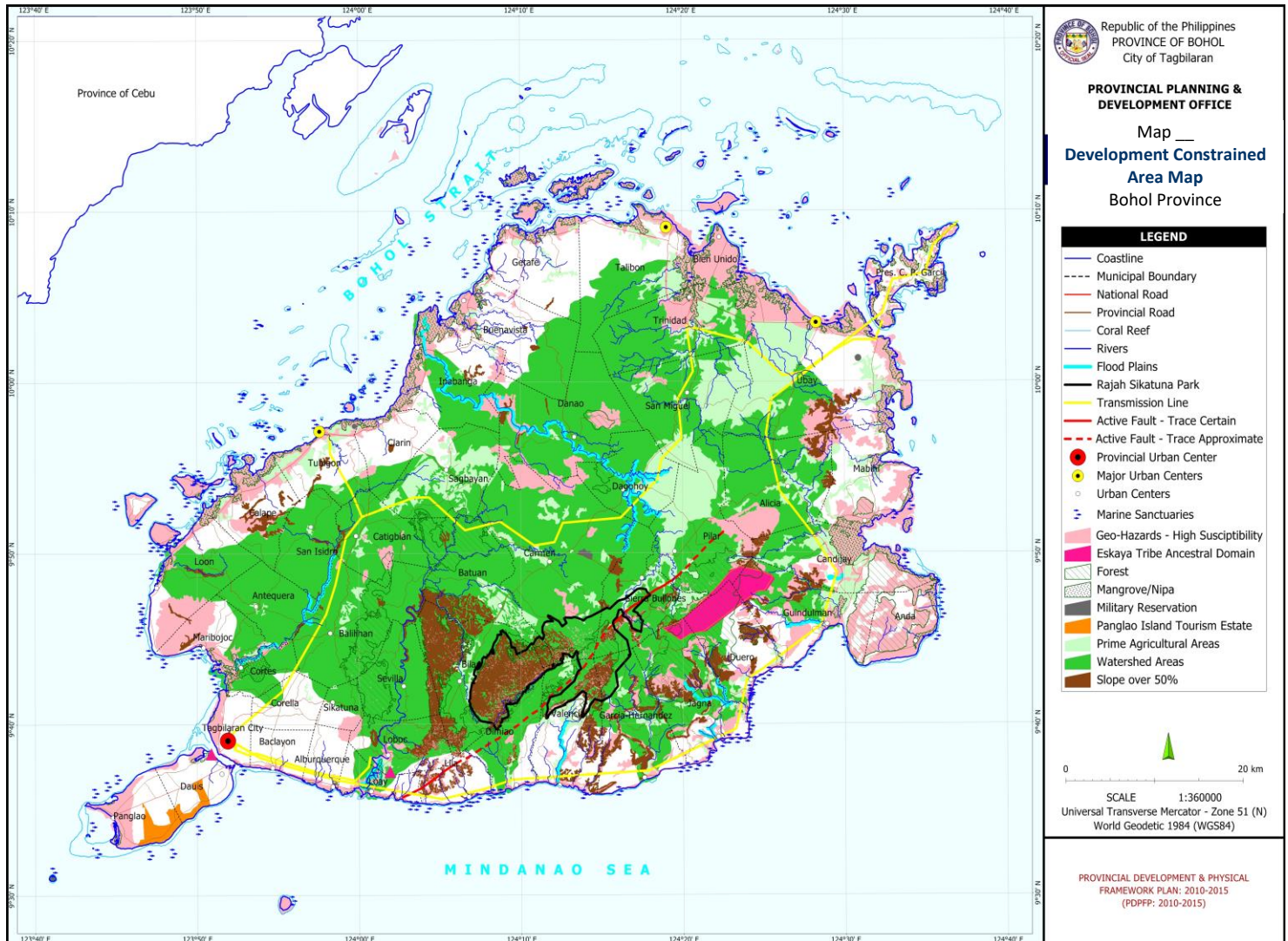
There are 29 municipalities that are susceptible to storm surge, namely: Alburquerque, Anda, Baclayon, Bien Unido, Buenavista, Calape, Candijay, Clarin, Cortes, Daus, Dimiao, Duero, Garcia Hernandez, Getafe, Guindulman, Inabanga, Jagna, Lila, Loay, Loon, Mabini, Maribojoc, Panglao, Pres. Garcia, Tagbilaran City, Talibon, Tubigon, Ubay, and Valencia.

In summary, there are eight (8) municipalities (Cortes, Duero, Guindulman, Inabanga, Jagna, Loay, Maribojoc and Valencia) are highly susceptible to all type of hazards; forty-seven (47) municipalities that are susceptible to three hazards, namely: earthquake, earthquake-induced landslide and rain-induced landslide. This is followed by liquefaction where 33 municipalities are prone to it. Next is the storm surge with 29 susceptible municipalities, followed closely by tsunami with 28 prone municipalities. The last but not the least is the flood with only 18 susceptible municipalities.

Environmental Constraints/Constrained Areas

Population growth and economic activities have created pressures on Bohol's environment and natural resources. High demand for physical infrastructure like roads, water systems and power, settlement areas as well as greater demand for goods and services are expected to add pressure on its environment that are looked upon as major necessities for the province's development but often create environmental stress. Such developments in the province need to pro-actively integrate a mechanism to prevent adverse impact on the critical resources and exposure of people and property to danger. Environmentally constrained areas are prone to natural hazards, severe erosion or more specifically, hydrological and geological produced changes. The NIPAS Law does not cover these areas.

However, they should be subject to restrictions in land uses in order to prevent the occurrences of accidents that endanger lives and properties. Shown in the map below are the development constrained areas in the province of Bohol.



Areas Prone to Natural Hazards

Tectonics¹⁹ and Other Natural Hazards

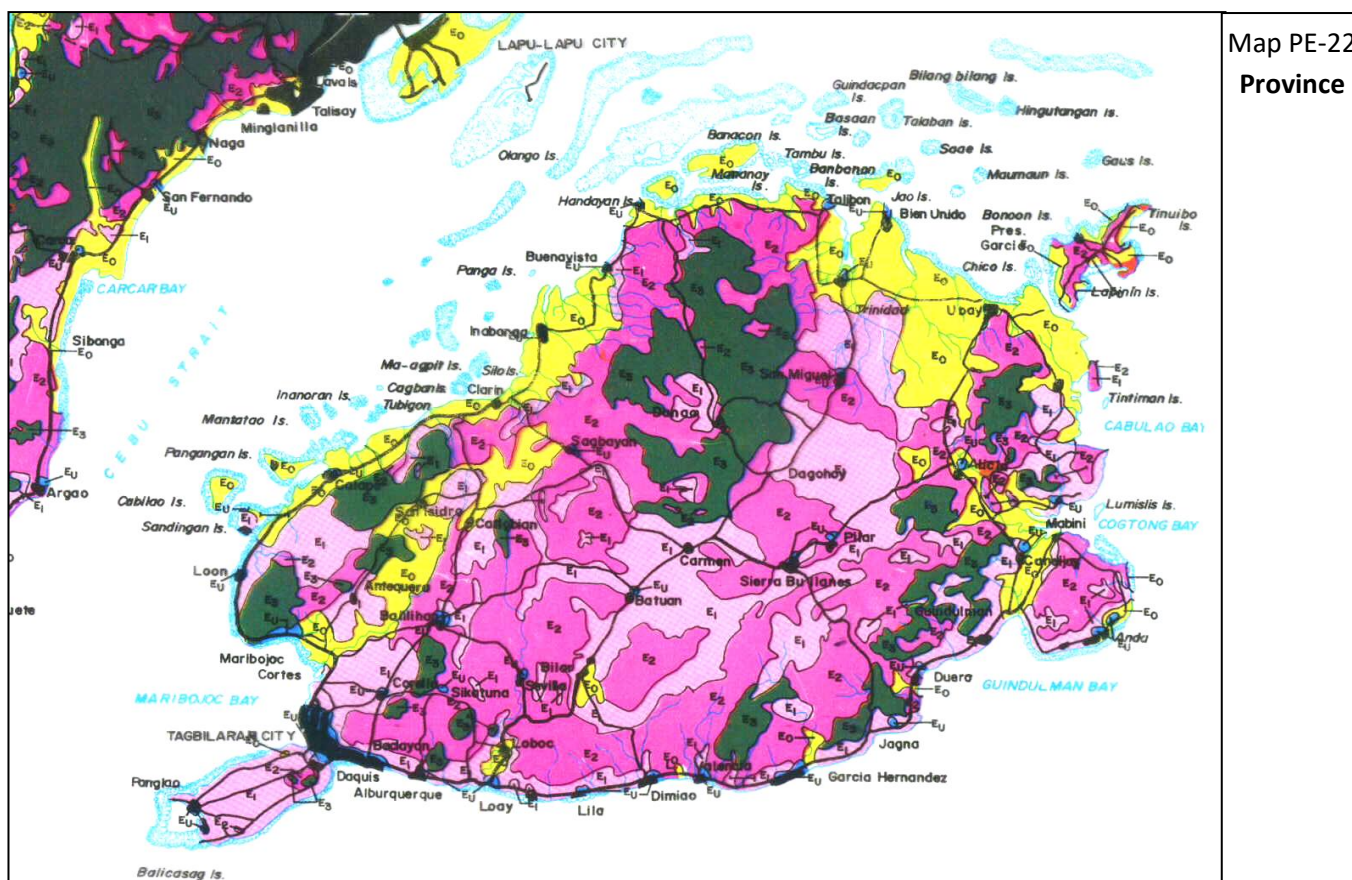
Minor and major fault lines are evident on the island as shown by terraced escarpments occurring in its southern and central parts. The terraced escarpments in the Ilihan Formation as well as the graben at the Anda Peninsula are manifestations of these faults. Steep escarpments notably in Loon, Tagbilaran and in Anda Peninsula further prove vertical upliftment caused by tectonics. Earthquakes have been felt in Bohol but only an average of one perceptible shock is reported

¹⁹ Philippine Institute of Volcanology and Seismology (PHILVOCS)

each year. Major faults usually trend towards the northeast. Three earthquakes with a magnitude above 4 of the Richter Scale (highest was 4.7 ms which occurred in June) were reported in 1998 in the province of Bohol. The maps below show areas prone to other natural hazards (Ground Shaking, Earthquake-induced Landslide, Ground Rapture Hazard, Liquefaction, Rain-induced Landslide, Storm-surge and Tsunami Hazard Maps) in Bohol.

Soil Eroded Areas

Soil erosion in Bohol frequently occurs in areas that have been farmed or at construction sites. Most of the accelerated removal of soil is man-made. According to the BSWM report, more than 66 % of the soils in the province are affected by erosion at different degrees (slightly, moderate and severe) and less than 31 % of the island show no apparent erosion (*Map PE-22 and Table PE-45*)²⁰. Eight out of the eleven (11) watersheds²¹ in Bohol are experiencing 26 to 38 percent soil erosion rates.²² These sites are now at a critical stage with an annual soil erosion rate of ten cubic meters per hectare.



Map PE-22
Province

²⁰ Geographic Atlas of Bohol, 1999, calculated by GEOPLAN Foundation

²¹ Soil and Water Conservation Foundation (SWCF 2002)

²² Bureau of Soil and Water Management (BSWM) Region 7

Table PE-45. **Status Of Soil Erosion And Area Coverage**, Bohol Province

MAPPING SYMBOL	Level of Soil Erosion	Coverage (in %)
E ₀	No apparent erosion	30.75
E ₁	Slightly eroded	39.09
E ₂	Moderate eroded	9.88
E ₃	Severely eroded	17.69
E _U	Unclassified	2.59

Source: Geographic ATLAS of Bohol 1999

Risk Profile and State of the DRRM of the Province of Bohol (After the 7.2M earthquake)

HAZARDS	RISK RATINGS	VULNERABILITY RATINGS
Natural		
Earthquake		
Typhoon/ Storm		
Flooding/ La Nina		
Landslide		
Storm Surge		
Tsunami		
Sink Holes		
Subsidence		
Tornado		
Drought / El Niño		
Lightning		
Manmade		
Food Poisoning		
Wars Armed Conflict		
Red Tide		
Fire (Sea & Land Base)		
Oil Spill		
Collision Vehicular Accidents		

(1) LOW	(2) MEDIUM	(3) HIGH	(4) EXTREMELY HIGH
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Source: Approved Bohol LDRRMP2016-2018

Summary of Disaster Events in Bohol

From October 2004 to December 2015, the Bohol Office of Civil Defense and PDRRMO reported a total of 74 disaster incidence in the province with a total damage cost of P68.973 million. The geologic and hydro-meteorological disasters that hit Bohol were flashfloods, landslide, and earthquake (Table PE-46).

Table PE-46. Summary of Disaster Incidence in the Province of Bohol

Date/Year	Nature of Event (natural/man-made)	No. of Occurrence	Location	Cost of Damage (million pesos)
October 2004	Flashflood	1	Jagna	Php 0.100
January to Dec. 2005	Heavy rains, landslide, fire incidents, typhoon, earthquake	7	Jagna, Getafe, Calape, Tagbilaran City	Php 15.048
January to Dec. 2006	Disease outbreak (diarrhea), lightning incidence, landslide, sea mishap, capsized vessel, tidal waves, land cracks, typhoons	18	Loon, Pilar, Tubigon, Ubay, Valencia, Loay, Panglao, Jagna, Candijay, Bien Unido, Getafe, Cortes, Alicia, Sierra Bullones, Batuan	Php 16.450
January to Dec. 2007	Landslide, fire incidents, whirlwind (alimpus), lightning incidents, poisoning, drowning, earthquake, capsized motor blanca, typhoon	18	Tagbilaran City, Jagna, Pres. Garcia, Talibon, Getafe, Trinidad, Pilar, Tubigon, Valencia, Ubay, Loon, Loboc, Loay, Candijay	Php 6.547
January to Dec. 2008	Flashflood, fire incident, landslide, typhoon, capsized vessel/fishing boat, airplane crash	28	Clarin, Tubigon, Tagbilaran City, Cortes, Buenavista, Panglao, Balilihan, Pilar, Talibon, Loon, Lila, Getafe, Dimiao, Loboc, Pres. CPG, Guindulman, Inabanga	Php 30.828
March 2010-October 2013	Earthquake	6	17 hardest municipalities: North and south-western part of Bohol; Maribojoc, Loon, Tubigon, Calape, Clarin Inabanga, Buenavista, Danao, Sagbayan, Catigbian, San Isidro, Antequerra, Balilihan and Cortes; Southern municipalities of Loboc, Carmen, Lila, Guindulman, Duero, Jagna, G-Hernandez, Valencia, Loay Albuquerque, Baclayon and Tagbilaran City	7.8 Billions
2014-20515	Flashfloods	2	Loboc, Inabanga, Clarin, San isidro, Tubigon, Alicia, Garcia-Hernandez, Valencia, Duero	Php 1.0 billion
T o t a l		78		Php 8.949 billions

Source: Office of the Civil Defense (OCD) 2015

CURRENT DRR INITIATIVES FOR BOHOL

The Provincial Government of Bohol (PBGh) has a functional Provincial Disaster Risk Reduction Management Council (PDRRMC) with multi-sectoral composition. The PDRRMC regularly meets to discuss pre-disaster preparedness and post-disaster response efforts to ensure coordination and synchronization among council stakeholders. The PGBh has established the Local Disaster Risk Management Office with DRRMO focal person and 40 personnel assigned. It is structured into administrative and training section, research and planning, and operations and warning.

The cluster approach has been adapted for the provision of post-disaster-related services. Such arrangement has established 15 clusters to cover among others, shelter, food, health, water and sanitation, camp management, logistics, infrastructure, early recovery, communication and livelihood. These clusters are composed of provincial & national government offices, civil society organizations (CSOs), and international/ local humanitarian groups.

Alliances and partnerships have been strengthened through the coordination and collaboration among LGUs, NGAs, CSOs, private sector and academe in the planning, implementation and assessment of various DRRM strategies. Incentives may be considered in partnership with municipal/ city governments in order to reduce risks in communities. Appropriate legislation will still have to be passed to support such arrangements.

Concerned offices of the Provincial Government are active in the performance of their assigned functions under the PDRRMC structure including the cluster arrangements. Regular meetings of the PDRRMC also provide opportunities to properly coordinate efforts and delineate roles among department and agencies. Regular budget is allocated from local DRRM Fund for pre-disaster, during disaster and post disaster management-related transactions. It has its functional and operation province-wide center for Telephone and Radio System Integrated Emergency Response (TaRSIER 117) that provides DRRM support services, emergency medical response, police/fire assistance, public service thru search and rescue, preparedness drills and weather monitoring. The TaRSIER 117 also provides trainings to local rescue groups in various municipalities, conducts EIC on DRR in schools and local communities. Trainings are also being provided to LGUs to build capacities for emergency response.

Complete early warning devices, mobile ambulances, communication facilities that provide support services, emergency medical response, police/fire assistance, public service thru search and rescue, preparedness drills and weather monitoring. System is established with TaRSIER 117 serving as, among others, dispatching center with links to other emergency response services in the different municipalities. Currently, the Tarsier 117 has established satellite units in the Municipality of Ubay and Jagna. Soon, the Tarsier 117 will be installed in the municipality of Carmen. The Information and Communication Cluster, thru the Effective Development Communication (EdCom) Office, utilizes all modes of communication to facilitate the release of accurate information to relevant agencies and the general public.

Plans, data and maps are available to the public. The Provincial Disaster Risk Reduction and Management Plan and the Provincial Disaster Risk Reduction Management Contingency Plan has been formulated and approved to guide response efforts during and after disasters. However, proper information and education campaign and discussions on this matter will have to be intensified to increase public awareness to influence decisions of governments and the communities. Consultation and public forums will have to be undertaken in partnership with LGUs, especially at the barangay level.

This is already considered in the preparedness action plan to be incorporated in the Provincial DRRM Plan and for mainstreaming to the PDPFP. While assessment of the safety aspects are always conducted for the construction of classrooms and hospitals, a more detailed review will have to be undertaken to consider other geophysical characteristics and natural hazards (ground shaking, flooding, land slide, typhoon).

Policies and regulations are now integrated to the newly updated Bohol Environment Code wherein the article specific to DRR and CCA are incorporated. The Provincial Government continues to advocate for the full enforcement of Building Code by LGUs to ensure compliance to proper building regulations. Land use plans and zoning ordinance of LGUs consider DRRM principles and risks of disasters. Provincial policies on integrating DRR on education programs are yet to be implemented. The policy formulation and enforcement of the zoning ordinance, however, is the direct responsibility of LGUs.

The Provincial Government has procured lots to be utilized for housing development programs. These lots have been assessed by appropriate government agencies to ensure suitability for housing sites. Resettlement programs are also being undertaken for rebel returnees and for families affected by major projects such as the New Bohol Airport Construction Project. In collaboration with LGUs and MGB, safe and suitable resettlement areas are also identified for victims of the Bohol 2013 earthquake.

On going implementation of regular programs to protect ecosystem and natural buffer such, mangrove, river stabilization, coral protection. These are in coordination with municipal LGUs, NGAs, CSOs and the private sector. Forest/mangrove plantation and rehabilitation, gabions, dikes, seawalls, sloping agricultural land technology, pocket forest in every barangay.

The Provincial Government undertakes reconstruction efforts after disasters. These undertakings include reconstruction/ rehabilitation/ repair of damaged roads, school buildings, hospitals, and other government structures and facilities. Shelter assistance and construction of core houses were provided / undertaken for affected families of disasters.

Basic subsistence needs of affected population during or immediately after a disaster, e.g food, relief assistance, medicines, water and sanitation, temporary shelter/evacuation center, psycho-social/trauma support, and livelihood were provided. Assistance were provided for the rebuilding of damaged houses in collaboration with national government agencies, cash for work programs are also implemented.

DRRM AND CCA CAPACITY ASSESSMENT

The Provincial Government of Bohol has an overall rating of 4.26 or equivalent to moderately satisfactory based on the self-assessment tools for Disaster Risk Resiliency using the Hyogo framework (refer to Table__ below). The self-assessment has ten (10) parameters and each parameters shall be briefly described the specific actions taken or currently being undertaken with regards to the questions being asked. The rating scale is described as 5-highly satisfactory; 4-moderately satisfactory; 3-fairly satisfactory; 2-poorly satisfactory; and 1-unsatisfactory.

Table PE-47. Self-assessment of Disaster Risk Resiliency of the Province Using the Hyogo Framework (answer the question and provide the rating)

Parameters/Questions	Briefly describe the specific actions taken or presently being undertaken with regards to the question being asked	Rating* (Mode)
1. a) Does the provincial government have an organization and coordination in place to understand and reduce disaster risk, based on participation of citizen groups and civil society?	<p>Functional Provincial Disaster Risk Reduction Management Council (PDRRMC) with multi-sectoral composition. The PDRRMC regularly meets to discuss pre-disaster preparedness and post-disaster response efforts to ensure coordination and synchronization among council stakeholders.</p> <p>The cluster approach has been adapted for the provision of post-disaster-related services. Such arrangement has established 15 clusters to cover among others, shelter, food, health, water and sanitation, camp management, logistics, infrastructure, early recovery, communication and livelihood. These clusters are composed of provincial & national government offices, civil society organizations (CSOs), and international/ local humanitarian groups.</p>	5
b) Has the provincial government been able to build local alliances in DRRM?	Alliances and partnerships have been strengthened through the coordination and collaboration among LGUs, NGAs, CSOs, private sector and academe in the planning, implementation and assessment of various DRRM strategies.	5
c) Do all the departments in the provincial government understand their role to disaster risk reduction and preparedness?	Concerned offices of the Provincial Government are active in the performance of their assigned functions under the PDRRMC structure including the cluster arrangements. Regular meetings of the PDRRMC also provide opportunities to properly coordinate efforts	5

Parameters/Questions	Briefly describe the specific actions taken or presently being undertaken with regards to the question being asked	Rating* (Mode)
	and delineate roles among department and agencies.	
2. a) Does the provincial government have a budget for disaster risk reduction?	Regular budget is allocated from local DRRM Fund for pre-disaster, during disaster and post disaster management-related transactions	5
b) Does it provide incentives for homeowners, low-income families, communities, businesses and public sector to invest in reducing the risks they face?	Not yet undertaken. Incentives may be considered in partnership with municipal/ city governments in order to reduce risks in communities. Appropriate legislation will still have to be passed to support such arrangements.	1
3. a) Does the provincial government maintain up-to-date data on hazards and vulnerabilities, prepare risk assessments and use these as the basis for urban development plans and decisions?	Need to update the data on hazards vulnerability and risk assessment. Capacities of local planners and decision-makers to use such data also need to be enhanced to effectively prepare and implement development and land use plans. Data on hazards is dependent from what is provided by concerned National Government Agencies. Consolidated localized data on vulnerabilities may be established through the implementation of the CBMS by LGUs.	3
b) Are these information and plans for the province's resilience readily available to the public and fully discussed with them?	Plans, data and maps are available to the public. However, proper information and education campaign and discussions on this matter will have to be intensified to increase public awareness to influence decisions of governments and the communities. Consultation and public forums will have to be undertaken in partnership with LGUs, especially at the barangay level.	3
4. Has the provincial government invested in and maintained critical infrastructure that reduces risk, such as flood drainage, adjusted where needed to cope with climate change?	Programs and projects to reduce risk are regularly being provided with budgets and implemented by concerned Provincial Government offices. When necessary, investment programs and budgets are also being updated and revised through appropriate processes, to ensure that projects are responsive to current realities and to reduce risk from hazards.	3

Parameters/Questions	Briefly describe the specific actions taken or presently being undertaken with regards to the question being asked	Rating* (Mode)
5. Does the provincial government conduct an assessment of the safety of all schools and health facilities and upgrade these as necessary?	<p>This is already considered in the preparedness action plan to be incorporated in the Provincial DRRM Plan and for mainstreaming to the PDPFP.</p> <p>While assessment of the safety aspects are always conducted for the construction of classrooms and hospitals, a more detailed review will have to be undertaken to consider other geophysical characteristics and natural hazards (ground shaking, flooding, land slide, typhoon).</p>	3
6. a) Does the provincial government apply and enforce realistic, risk-compliant building regulations and land use planning principles?	<p>Policies and regulations are now integrated to the newly updated Bohol Environment Code wherein the article specific to DRR and CCA are incorporated.</p> <p>The Provincial Government continues to advocate for the full enforcement of Building Code by LGUs to ensure compliance to proper building regulations. Land use plans and zoning ordinance of LGUs consider DRRM principles and risks of disasters. The policy formulation and enforcement of the zoning ordinance, however, is the direct responsibility of LGUs.</p>	4
b) Has the provincial government identified safe land for low-income citizens and develop upgrading of informal settlements, wherever feasible?	<p>The Provincial Government has procured lots to be utilized for housing development programs. These lots have been assessed by appropriate government agencies to ensure suitability for housing sites. Resettlement programs are also being undertaken for rebel returnees and for families affected by major projects such as the New Bohol Airport Construction Project.</p> <p>In collaboration with LGUs and MGB, safe and suitable resettlement areas are also identified for victims of the Bohol 2013 earthquake.</p>	4
7. Does the provincial government have in place education programs and training on disaster risk reduction in schools and local communities?	<p>Provincial policies on integrating DRR on education programs are yet to be implemented.</p> <p>However, the Provincial Government, spearheaded by the TaRSIER 117, conducts EIC on DRR in schools and local communities. Trainings are also being provided to LGUs to</p>	2

Parameters/Questions	Briefly describe the specific actions taken or presently being undertaken with regards to the question being asked	Rating* (Mode)
	build capacities for emergency response.	
8. a) Does the provincial government protect its ecosystems and natural buffers to mitigate floods, storm surges and other hazards to which it may be vulnerable?	On going implementation of regular programs to protect ecosystem and natural buffer such, mangrove, river stabilization, coral protection. These are in coordination with municipal LGUs, NGAs, CSOs and the private sector.	4
b) Does the provincial government adapt to climate change by building on good risk reduction practices?	Forest/mangrove plantation and rehabilitation, gabions, dikes, seawalls, sloping agricultural land technology, pocket forest in every barangay.	3
9. Does the provincial government have early warning systems and emergency management capacities installed and hold regular public preparedness drills?	Complete early warning devices, mobile ambulances, communication facilities that provide support services, emergency medical response, police/fire assistance, public service thru search and rescue, preparedness drills and weather monitoring. System is established with TaRSIER 117 serving as, among others, dispatching center with links to other emergency response services.	5
10. a) Does the provincial government undertake reconstruction after any disaster?	The Provincial Government undertakes reconstruction efforts after disasters. These undertakings include reconstruction/ rehabilitation/ repair of damaged roads, school buildings, hospitals, and other government structures and facilities. Shelter assistance and construction of core houses are also provided / undertaken for affected families of disasters.	5
b) Does it ensure that the needs of the survivors are placed at the centre of reconstruction with support also coming from their community organizations to design and help implement responses, including rebuilding homes and livelihoods?	Provision of the basic subsistence needs of affected population during or immediately after a disaster, e.g food, relief assistance, medicines, water and sanitation, temporary shelter/evacuation center, psycho-social/trauma support, and livelihood. Assistance is also provided for the rebuilding of damaged houses. In collaboration with national government agencies, cash for work programs are also implemented.	4

Rating: 5 – Highly satisfactory; 4 – Moderately satisfactory; 3 –Fairly satisfactory; 2 – Poorly satisfactory; and 1 – Unsatisfactory

Table PE-48. Assessment of Provincial Institutional Capacity to Implement LGU Mandates under the Disaster Risk Reduction and Management Act (RA 10121)

Mandates for Provincial LGUs	Briefly describe the actions taken or being undertaken with regards to the mandate	Compliance Rating
Established an LDRRMO which shall be responsible for setting the direction, development, implementation and coordination of disaster risk management programs.	The Provincial Government of Bohol has established the Local Disaster Risk Management Office with DRRMO focal person and 40 personnel assigned. It is structured into administrative and training section, research and planning, and operations and warning.	5
Organize, train and directly supervise the local emergency response teams.	Functional and operation province-wide center for Telephone and Radio System Integrated Emergency Response (TaRSIER 117) that provides DRRM support services, emergency medical response, police/fire assistance, public service thru search and rescue, preparedness drills and weather monitoring. The TaRSIER 117 also provides trainings to local rescue groups in various municipalities.	5
Design, program, and coordinate disaster risk reduction and management activities consistent with the National Council's standards and guidelines.	Implementation of provincial disaster risk management plan (preparedness, mitigation, response and rehabilitation). Strengthened local capabilities to respond to emergencies through inter-agency coordination, training, and asset complementation.	4
Facilitate and support risk assessments and contingency planning activities at the local level.	PGBh, in collaboration with LGUs and relevant agencies such as Office of the Civil Defense, Philippine Red Cross, Bureau of Fire Department, DILG, PhiVolcs, and DOST, facilitates the conduct of risk assessments and contingency planning exercises. A Provincial Disaster Risk Reduction Management Contingency Plan has been formulated to guide response efforts during disasters.	4
Consolidate local disaster risk information which includes natural hazards, vulnerabilities, and climate change risks, and maintain a local risk map.	The Provincial Government has consolidated and maintained relevant information related to DRR-CCA. The PDRRMC, through the PDRRMO, utilizes available DRRM information as reference and guide for operational and tactical activities in	4

Mandates for Provincial LGUs	Briefly describe the actions taken or being undertaken with regards to the mandate	Compliance Rating
	<p>support to disaster preparedness and response.</p> <p>On the other hand, the PPDO also handles the management of DRR-CCA related data and maps for planning/ development purposes, and other activities in support to the PDRRMC.</p>	
Organize and conduct training, orientation, & knowledge management activities on disaster risk reduction and management at the local level.	Provincial Government, thru TaRSIER 117 and in collaboration with other relevant national government agencies, provides training to LGUs and local communities.	4
Operate a multi-hazard early warning system, linked to disaster risk reduction to provide accurate and timely advice to national or local emergency response organizations and to the general public, through diverse mass media, particularly radio, landline communications, and technologies for communication within rural communities.	<p>On going implementation with PDRRMC thru TaRSIER 117 and Incident Command Center.</p> <p>The Information and Communication Cluster, thru the Effective Development Communication (EdCom) Office, utilizes all modes of communication to facilitate the release of accurate information to relevant agencies and the general public.</p>	4
Formulate and implement a comprehensive and -integrated LDRRMP in accordance with the national, regional and provincial framework, and policies on disaster risk reduction in close coordination with the local development councils (LDCs).	On going implementation of PDRRM plan. The plan, however, is being updated to consider newly identified natural hazards and vulnerabilities in the province. Specific strategies also have to be integrated in the plan based on the experience and learning from the 2013 Bohol earthquake.	4
Prepare and submit to the local Sanggunian through the LDRRMC and the LDC the annual LDRRMO Plan and budget, the proposed programming of the LDRRMF, other dedicated disaster risk reduction and management resources, and other regular funding source/s and budgetary support of the LDRRMO /BDRRMC.	Appropriate government procedures and guidelines followed in the planning, approval, budget allocation and implementation of PDRRM Plan.	5
Conduct continuous disaster monitoring and mobilize instrumentalities and entities of the LGUs, CSOs, private groups and organized volunteers, to utilize their facilities and resources for the protection and preservation of life and properties during emergencies in accordance with existing policies and procedures.	Strong collaboration between Provincial Government, LGUs, NGAs, CSOs and the private sector for the provision of emergency response services and facilities. Monitoring and assessment of the effects of disasters are conducted immediately with regular updating to determine the needs of communities and to correspondingly provide for these needs.	4

Mandates for Provincial LGUs	Briefly describe the actions taken or being undertaken with regards to the mandate	Compliance Rating
Identify, assess and manage the hazards, vulnerabilities and risks that may occur in their locality	Conduct review and assessment of hazard maps from PhiVolcs and REDAS project and ensure the capability of the planners to use the data and maps.	3
Disseminate information and raise public awareness about those hazards, vulnerabilities and risks, their nature, effects, early warning signs and counter-measures.	On going activities conducted from the Provincial to municipal and barangay level through the LDRRMCs.	3
Identify and implement cost-effective risk reduction measures/strategies.	Already incorporated at the PDRRM plan. Programs and projects are implemented with funding support.	3
Maintain a database of human resource, equipment, directories, and location of critical infrastructures and their capacities such as hospitals and evacuation centers.	Initial data on DRRM assets / resources maintained. Consolidated database to be improved and updated in partnership with Municipal/ City LGUs	3
Develop, strengthen and operationalize mechanisms for partnership or networking with the private sector, CSOs, and volunteer groups.	Built alliances and partnerships with CSOs, private sector and volunteer groups for the conduct of disaster preparedness, response and recovery activities.	5
Take all necessary steps on a continuing basis to maintain, provide, or arrange the provision of, or to otherwise make available, suitably-trained and competent personnel for effective civil defense and disaster risk reduction and management in its area.	The Provincial Government has institutionalized the TaRSIER 117 and provided human resource complement to effectively discharge its mandates, in support to DRRM. Continuing capability-building trainings are provided to personnel with the assistance from NGAs, local and foreign emergency organizations.	4
Organize, train, equip and supervise the local emergency response teams and the ACDVs ensuring that humanitarian aid workers are equipped with basic skills to assist mothers to breastfeed.	TaRSIER 117 has been organized with trained personnel. TaRSIER 117 also provides capability building training to LGUs. Personnel of the OPSWD are capable of providing the needed services for vulnerable sectors such as women, children, elderly and PWDs.	4
Prepare and submit, through the LDRRMC and the LDC, the report on the utilization of the LDRRMF and other dedicated disaster risk reduction and management resources to the local Commission on Audit (COA), copy furnished the regional director of the OCD and the Local Government Operations Officer of the DILG.	The Provincial Government complies the appropriate government accounting and auditing procedures and guidelines for the reporting of the utilization of LDRRMF. Also complies with the full disclosure policy of government.	5
Respond to and manage the adverse effects of emergencies and carry out recovery activities in the affected area, ensuring that there is an efficient	The Provincial Government thru the PDRRM and its supporting clusters provides the needed services to respond and manage effects of emergencies and disasters.	5

Mandates for Provincial LGUs	Briefly describe the actions taken or being undertaken with regards to the mandate	Compliance Rating
mechanism for immediate delivery of food, shelter and medical supplies for women and children, endeavour to create a special place where internally-displaced mothers can find help with breastfeeding, feed and care for their babies and give support to each other.		
Within its area, promote and raise public awareness of and compliance with the DRRM Act and legislative provisions relevant to the purpose of this Act.	IEC conducted to raise public awareness on DRRM in collaboration with LGUs.	4
Serve as the secretariat and executive arm of the LDRRMC	Performed functions and roles of the Provincial Government for the effective operation of the LDRRMC	5
Coordinate other disaster risk reduction and management activities.	All DRRM activities at the Provincial level are coordinated thru the PDRRMC.	5
Establish linkage/network with other LGUs for disaster risk reduction and emergency response purposes.	Maintained strong collaboration and linkages with LGUs for disaster risk reduction and emergency response.	5
Recommend through the LDRRMC the enactment of local ordinances consistent with the requirements of this Act.	PDRMMC recommends to the Sangguniang Panlalawigan the necessary legislative support required.	5
Implement policies, approved plans and programs of the LDRRMC consistent with the policies and guidelines laid down in this Act.	DRRM policies are formulated and implemented, plans are approved and supported for DRRM.	4
Establish a Provincial Disaster Risk Reduction and Management Operations Center.	PDRRMO Center established and provided with personnel	4
Encourage community, specifically the youth, participation in disaster risk reduction and management activities, such as organizing quick response groups, particularly in identified disaster-prone areas, as well as the inclusion of disaster risk reduction and management programs as part of the SK programs and projects.	Youth participation evident in disaster preparedness and response. Supported activities of the youth, in coordination with appropriate NGAs.	4
Monitor and evaluate the use and disbursement of the LDRRMF based on the LDRRMP as incorporated in the local development plans and annual work and financial plan.	Complied appropriate government procedures and guidelines in monitoring the utilization of LDRRMF	4

Rating: 5 – Fully met; 4 – Moderately met; 3 – Fairly met; 2 – Poorly met; and 1 – Not yet met

Potential Exposures to Hazards

Disaster risk assessment is the process of studying risks caused by natural hazards and their elements at risk namely, the people, buildings and structures, infrastructure, economic activities and public services exposed to hazards in a given area (source: NEDA-UNDP-EU 2008). It can be expressed using the formula: **Disaster = Hazard* Exposure* Vulnerability**

Methods Used:

- A) For Population Hazard Exposure. It determines the extent of exposure to various types of natural hazards of which the measures are expressed in terms of percentage to total municipal inhabitants. Once the exposure percentages are determined, a supplemental qualitative vulnerability assessment will be conducted to better understand to potential risk of the municipality. The exposure maps can be generated of the risk or consequence analysis maps are not available. For Bohol Province, the hazard maps generated in 2007 by the composite team from PhiVolcs, DOST, OCD, DENR thru the READY Project wherein Bohol is one of the pilot province. These hazard maps will be used where the level of susceptibility as explicitly described into: 1) Highly Susceptible Area (HSA); 2) Moderate Susceptible Area (MSA); and 3) Low Susceptible Area (LSA) and it will determine by classifying the exposed elements in terms of percentages.
- B) For Agriculture Property Hazard Exposure. This exposure defines the extent of exposed agricultural areas to various types of natural hazards. The measures of exposure are expressed in terms of percentage to total municipal land allocated for agriculture. Once the exposure percentages are determined, a supplemental qualitative vulnerability assessment will be conducted to further understand the potential risk of the agricultural assets of the municipality. For Bohol, the exposure dataset for agriculture was derived from the land cover assessment from NAMRIA of 2010 which indicates the approximate extent of the agricultural lands within the province of Bohol. The resulting exposure percentages values as to the level of susceptibility (HSA, MSA, LSA) will be used to determine which municipalities low to high agricultural assets exposure are within the high susceptible hazard areas.
- C) For Built-up Areas Property Hazard Exposure. This exposure describes the extent of exposed built-up areas to various types of natural hazards. The measures of exposure are expressed in terms of percentage to total municipal land allocation for built-up zones. Once the exposure percentages are determined, a supplemental qualitative vulnerability assessment will be conducted to further understand the potential risk of the hazard to built-up assets of the municipality. For Bohol, the exposure dataset for built-up areas was derived from the land cover assessment from NAMRIA of 2010 which indicates the approximate extent of the built-up areas within the province of Bohol. The resulting exposure percentages values as to the level of susceptibility (HSA, MSA, LSA) will be used to determine which municipalities low, moderate and high built-up areas and assets exposure are within the high susceptible hazard areas.
- D) For Critical Point Facilities Hazard Exposure. This exposure describes the extent of exposed critical point facilities to various types of natural hazards. The measures of

exposure are expressed in terms of percentage to total municipal affected points by type of facilities. Once the exposure percentages are determined, a supplemental qualitative vulnerability assessment will be conducted to further understand the potential risk of the hazard to the critical point facility assets of the municipality. For Bohol, the exposure dataset for critical point facility was derived from the land cover assessment from NAMRIA of 2010 which indicates the approximate extent of the critical point facilities e.g. hospitals, PNP, BFP stations, Evacuation Centers, seaports, piers, terminals, military camps, dams, government offices, financial offices, commercial establishments, housing shelters, schools, historic and cultural heritages, etc. within the province of Bohol. The resulting exposure percentages values as to the level of susceptibility (HSA, MSA, LSA) will be used to determine which municipalities low, moderate and high built-up areas and assets exposure are within the high susceptible hazard areas.

- E) Lifeline Hazard Exposures. This exposure determines the extent of exposed lifeline facilities limited to transportation, communication and water distribution network of the province to various types of natural hazards. The measures of exposure are expressed in terms of percentage of lifeline facilities per hazard. Attribute information will be used to qualitatively assess the possible impacts of the hazard to the disruption in the provision of vital lifeline services in the province. For Bohol, the exposure dataset for lifeline facilities specifically for road network was derived from the Provincial Engineer's Office, DPWH of 2012 as to the type and surface of road, and for other lifeline utility systems such as water supply and distribution, fuel depots and stations, power generation and distribution and communication systems e.g. cellular sites and etc.). The resulting exposure percentages values as to the level of susceptibility (HSA, MSA, LSA) will give an indication of the proportion of the lifeline assets exposed to the hazard relative to the total municipality lifeline assets.

Table PE-49. Summary of Potential Exposure of Areas, Population & Physical Assets to Various Types of Hazards

Type of Hazards	Agricultural Areas Exposed (Municipalities and extent of areas highly exposed (hectares and % of total municipal area)	Population Exposed (Number of population highly exposed and % of population of total provincial population)	Built-up Areas Exposed (Municipalities and extent of areas highly exposed (hectares and % of total municipal area)	Physical Assets Exposed (Type and number of physical assets exposed and % of total assets)
Earthquake- induced landslide	HS -67.72 has (0.03%) MS-2,964.52has (1.22%) LS -12,295.51 has (5.08%)	HS - 939 (0.05%) MS- 15,441 (0.83%) LS - 53,639 (2.72%)	HS-none MS-8.98 has (0.047%) LS-42.88 has (0.51%)	Not yet met
Ground shaking	VHS-152,340.60(63.00%) HS-15,966.62 (7.00%) MS-4,657.25 (2.00%) LS-6,840.90 (3.00%) VLS-1,696.95 (1.00%)	GS8 - 950,718 (75.74%) GS7-258,048 (20.55%)	GS8-7,739.80 (89.64%)	Not yet met
Liquefaction	HS - 50,768.90 or (20.98%)	HS - 333,127 (26.54%) MS- 34,006 (2.71%) LS- 40,947 (2.26%)	HS- 4,951.39 (57.35%)	Not yet met
Tsunami	GS8-6,250.44 (2.58%)	GS8 – 143,727 (11.45%)	GS8- 1,359.66 (15.75%)	Not yet met
Rain-induced landslide	HS -13,582.49 has (5.61%) MS-44,808.53has (18.51%) LS-105, 680.42 has (43.66%)	HS - 66,291(5.28%) MS- 180,801(14.40%) LS - 400,211(31.88%)	HS-7.81 has (0.09%) MS-95.30 has (1.10%) LS-1,558.6 has (18.05%)	Not yet met

Type of Hazards	Agricultural Areas Exposed (Municipalities and extent of areas highly exposed (hectares and % of total municipal area))	Population Exposed (Number of population highly exposed and % of population of total provincial population)	Built-up Areas Exposed (Municipalities and extent of areas highly exposed (hectares and % of total municipal area))	Physical Assets Exposed (Type and number of physical assets exposed and % of total assets)
	Landslide Deposits Accumulation:LDA LDA - 892.35 has or (0.36%)	Landslide Deposits Accumulation:LDA LDA - 5,371 or (0.42%)		
Floods	336 barangays of the 1,109 barangays in Bohol (47 municipalities % 1-city) covering 3,163 hectares (source; MGB-7 2007)	371,269 of the 1,255,128 (29.58%) of the total population of Bohol		Municipal buildings other government buildings, barangay halls, health centers, crops, trees, livestock, roads, bridges, schools, markets,
Storm Surge	HS – 1,450.67 (0.60%)	HS - 46,227 or (3.68%) Areas affected: 5,912 has	HS-359.27 has (4.16%)	Not yet met

Table No. PE-50. Checklist of Physical Assets that may be exposed to hazards.

Category	Types of Physical Assets
Physical Properties	Houses and buildings e.g. commercial and residential; agricultural lands, aquaculture (fishponds and mariculture); forest plantations, mangroves, agroforestry farms
Manufacturing Plants	Buildings, production facilities and equipment
Lifeline facilities and infrastructure	Hospitals, medical facilities, schools, police and fire stations, detention and rehabilitation facilities, evacuation shelters, military camps, marine safety services and facilities, government offices, water supply, power supply, plants and stations, fuel depots, gasoline stations, communication facilities,
Transportation system	Roads, highways, bridges, airports, seaports
Critical infrastructure	Sanitary landfill, dams, water impounding, irrigation facilities, mine tailing ponds
Cultural heritage properties	Old buildings, churches, museums and preserved cultural properties, century trees, old bridges

Table No. PE-51. RISK ANALYSIS

RISK ANALYSIS WORKSHEET			
HAZARD	RISK EVALUATION		IMPLICATIONS
	High Risk Areas	Vulnerabilities	
Ground shaking	About 168,306 hectares (70%) of the province's rural, urban and highly-urbanized areas of	All 47 municipalities (rural and urban) and 1-highly urbanized city are	The high risk municipality in the 47 municipalities and 1-city may discourage prospective investors to

RISK ANALYSIS WORKSHEET			
HAZARD	RISK EVALUATION		IMPLICATIONS
	<p>Bohol's agricultural land are (273,950 hectares) at high risk to ground shaking. This areas represent to 41 percent of the total land area of the province</p> <p>For Built-up areas: GS8- 7,739.80 (89.64%) of the built-up areas</p>	<p>the most populated area in the province, accounting for 950,718 (75.74%) with GS8 and 258,048 (20.55%) with GS7</p> <p>About 27 percent of the families have income below poverty threshold</p>	<p>invest in capital which affect expansion and growth of the economic activities in the province.</p>
Flooding	<p>There are 336 barangays of the 1,109 barangays in Bohol (47 municipalities & 1-city) covering 3,163 hectares are highly exposed to flooding (source; MGB- 7- 2007</p> <p>21 municipalities are highly susceptible to flooding having 48 percent of agricultural areas are exposed.</p>	<p>Prime agricultural areas at low-lying zone making them susceptible to flooding</p>	<p>The risk could mean loss of income to majority of the families due to low production in farming and fishing and livelihood activities. Secondary source of income in the areas are large and small-scale activities.</p>
Liquefaction	<p>About 20.98% or 50,768.90 hectares of agricultural areas in Bohol are at risk to liquefaction</p>	<p>Of the 30 municipalities there are 333,127 (26.54%) of the province population</p>	

ECONOMY

DISASTER RISK ASSESSMENT OF THE AGRICULTURE SECTOR

Disaster risk assessment is the process of studying risks caused by natural hazards and their elements at risk namely, the people, buildings and structures, infrastructure, economic activities and public services exposed to hazards in a given area (source: NEDA-UNDP-EU 2008). It can be expressed using the formula: **Disaster = Hazard* Exposure* Vulnerability**

The Agriculture Property Hazard Exposure defines the extent of exposed agricultural areas to various types of natural hazards. The measures of exposure are expressed in terms of percentage to total municipal land allocated for agriculture. Once the exposure percentages are determined, a supplemental qualitative vulnerability assessment will be conducted to further understand the potential risk of the agricultural assets of the municipality. For

Bohol, the exposure dataset for agriculture was derived from the land cover assessment from NAMRIA of 2010 which indicates the approximate extent of the agricultural lands within the province of Bohol. The resulting exposure percentages values as to the level of susceptibility (HSA, MSA, LSA) will be used to determine which municipalities low to high agricultural assets exposure are within the high susceptible hazard areas.

The table below summarizes the area affected and percentages of agricultural areas of Bohol exposed to various types of hazards, as to High Susceptibility (HS), Medium Susceptibility (MS) and Low Susceptibility (LS). For Earthquake-Induced Landslide, only 0.03% is HS, 1.2% MS and a higher 5.08% for LS; for Ground shaking, a larger portion about 63% or 152,340 hectares of the total agricultural area is very highly susceptible, 7% HS, 2% MS and 3% LS; for Liquefaction, about 50,768 hectares or 21% of the agricultural areas is HS; for Tsunami approximately 2.5% of the total agricultural area of the province is affected; for Rain-Induced Landslide, roughly 13,582 hectares or 5% of the agricultural area is HS, 18% MS and a bigger portion 105,680 hectares or 43% is LS; for Flooding about 336 barangays out of 1,109 barangays of Bohol covering 3,163 hectares is affected; and for Storm Surge, only about 1,450 hectares or 0.60% of the total agricultural area is highly susceptible.

Table ____. Summary of Potential Exposure of Areas, Population and Physical Assets to Various Types of Hazards

Type of Hazards	Agricultural Areas Exposed (Municipalities and extent of areas highly exposed (hectares and % of total municipal area))
Earthquake-induced landslide	HS -67.72 has (0.03%) MS-2,964.52has (1.22%) LS -12,295.51 has (5.08%)
Ground shaking	VHS-152,340.60(63.00%) HS-15,966.62 (7.00%) MS-4,657.25 (2.00%) LS-6,840.90 (3.00%) VLS-1,696.95 (1.00%)
Liquefaction	HS - 50,768.90 or (20.98%)
Tsunami	GS8-6,250.44 (2.58%)
Rain-induced landslide	HS -13,582.49 has (5.61%) MS-44,808.53has (18.51%) LS-105, 680.42 has (43.66%) Landslide Deposits Accumulation:LDA LDA - 892.35 has or (0.36%)
Floods	336 barangays of the 1,109 barangays in Bohol (47 municipalities % 1-city) covering 3,163 hectares (source; MGB-7 2007)
Storm Surge	HS – 1,450.67 (0.60%)

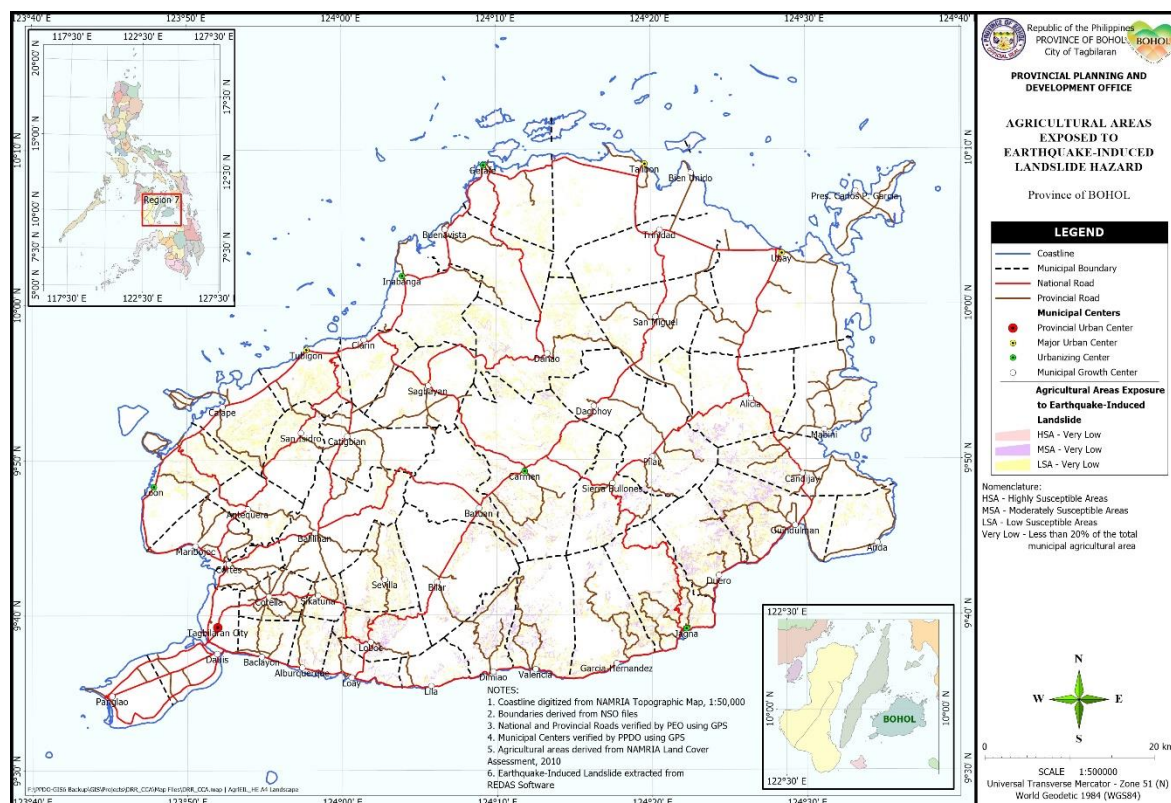
EARTHQUAKE-INDUCED LANDSLIDE

Agricultural Areas Exposed to Earthquake-Induced Landslide

Of the total agricultural land area of the province which is 242,025 hectares, about 15,328 hectares or 6.3% are agricultural areas exposed to earthquake-induced landslide (EIL) in varying susceptibility level. About 67.72 hectares or .03% is exposed agricultural area with high susceptibility to earthquake-induced landslide affecting 21 municipalities out of the 47 municipalities of the province. About 3 municipalities, namely: Dimiao, Carmen and Sierra Bullones are having more than 10 hectares of its agricultural land highly susceptible to EIL. While around 2,964 hectares or 1.2% of the total agricultural area is moderately susceptible, with the towns of Guindulman, Carmen, Duero and Valencia having an agricultural area of more than 200 hectares exposed to moderately susceptible EIL. A bigger portion and almost all of the municipalities and 1 city of the province of Bohol, with the exception of Bien Unido and Panglao are with exposed agricultural area within low susceptibility to EIL. Approximately 12,295 hectares or roughly 5% of the total agricultural area of the province is exposed agricultural land within the low susceptibility area of EIL. The municipalities with a more than 500 hectares exposed agricultural areas within the low susceptibility area are: Carmen, Danao, Duero, Garcia Hernandez, Guindulman, Jagna, Sevilla and Calape.

Of the 47 municipalities and 1 city of the province of Bohol, only the towns of Bien Unido and Panglao are safe to earthquake induced landslide with none of its agricultural area exposed to EIL. (See Map ____)

Map _____. Agricultural Exposure Map to Earthquake Induced Landslide



**Table ____ . AGRICULTURAL AREAS EXPOSED TO EARTHQUAKE-INDUCED LANDSLIDE PER
MUNICIPALITY
Province Bohol**

Municipality	Municipal Agricultural Area (Ha.)	Exposed Agricultural Area within High Susceptibility Area	Exposed Agricultural Area within Moderate Susceptibility Area	Exposed Agricultural Area within Low Susceptibility Area	Exposure Percentage within High Susceptibility Area	Exposure Percentage within Moderate Susceptibility Area	Exposure Percentage within Low Susceptibility Area
Alburquerque	2,218.96	2.21	52.42	184.04	0.100%	2.362%	8.294%
Alicia	7,415.88	2.70	103.66	309.75	0.036%	1.398%	4.177%
Anda	2,497.14		7.17	140.62		0.287%	5.631%
Antequera	2,919.61		13.22	136.75		0.453%	4.684%
Baclayon	1,449.56	0.04	16.29	115.49	0.003%	1.124%	7.967%
Balilihan	1,768.58		11.68	115.05		0.660%	6.505%
Batuan	2,659.70	0.65	83.26	300.32	0.025%	3.130%	11.291%
Bien Unido	2,063.96						
Bilar	3,457.34	2.09	100.67	274.81	0.060%	2.912%	7.948%
Buenavista	4,765.27		3.65	174.14		0.077%	3.654%
Calape	6,220.43		31.70	503.38		0.510%	8.092%
Candijay	5,405.04	1.58	89.80	310.11	0.029%	1.661%	5.737%
Carmen	18,710.45	11.26	245.30	1,097.39	0.060%	1.311%	5.865%
Catigbian	5,207.24		6.76	94.94		0.130%	1.823%
Clarin	5,072.96		7.87	176.18		0.155%	3.473%
Corella	803.25		7.37	80.09		0.918%	9.971%
Cortes	860.26		2.35	21.43		0.273%	2.491%
Dagohoy	5,085.04		10.93	108.42		0.215%	2.132%
Danao	11,019.38	0.49	97.55	855.86	0.004%	0.885%	7.767%
Dauis	303.12			0.01			0.003%
Dimiao	3,853.28	12.85	157.01	223.16	0.333%	4.075%	5.791%
Duero	5,001.05	2.16	269.66	631.45	0.043%	5.392%	12.626%
G-Hernandez	5,107.74	3.38	168.49	590.94	0.066%	3.299%	11.570%
Getafe	4,966.05		3.38	145.04		0.068%	2.921%
Guindulman	7,930.32	2.34	348.12	847.94	0.029%	4.390%	10.692%
Inabanga	7,531.85		7.38	262.54		0.098%	3.486%
Jagna	6,721.28	1.47	186.55	696.70	0.022%	2.776%	10.366%
Lila	1,374.51	0.22	33.95	78.20	0.016%	2.470%	5.689%
Loay	2,081.34	0.22	54.14	129.19	0.011%	2.601%	6.207%
Loboc	3,171.64	2.37	186.73	363.84	0.075%	5.887%	11.472%
Loon	6,758.57		12.43	338.60		0.184%	5.010%
Mabini	3,279.11		7.32	84.92		0.223%	2.590%
Maribojoc	2,921.12		2.08	39.20		0.071%	1.342%
Panglao	642.61						
Pilar	10,469.13	4.97	104.92	282.37	0.048%	1.002%	2.697%
Pres. C.P. Garcia	3,032.89		0.08	10.40		0.003%	0.343%
Sagbayan	8,531.98		19.17	222.87		0.225%	2.612%
San Isidro	3,387.92	0.04	22.39	321.65	0.001%	0.661%	9.494%
San Miguel	10,164.10		7.31	123.92		0.072%	1.219%
Sevilla	4,327.39	0.57	104.55	585.36	0.013%	2.416%	13.527%
Sierra Bullones	6,355.76	10.01	106.21	280.00	0.158%	1.671%	4.405%

Municipality	Municipal Agricultural Area (Ha.)	Exposed Agricultural Area within High Susceptibility Area	Exposed Agricultural Area within Moderate Susceptibility Area	Exposed Agricultural Area within Low Susceptibility Area	Exposure Percentage within High Susceptibility Area	Exposure Percentage within Moderate Susceptibility Area	Exposure Percentage within Low Susceptibility Area
Sikatuna	1,545.28		28.43	146.34		1.840%	9.470%
Tagbilaran City	344.19		0.71	2.35		0.206%	0.683%
Talibon	7,173.89		0.49	41.07		0.007%	0.572%
Trinidad	8,329.56		3.46	79.25		0.042%	0.951%
Tubigon	5,781.72		15.00	302.64		0.259%	5.234%
Ubay	15,759.73		1.78	42.10		0.011%	0.267%
Valencia	5,578.07	6.09	221.23	424.73	0.109%	3.966%	7.614%
Total	242,025.25	67.72	2,964.58	12,295.51	0.03%	1.22%	5.08%

GROUND SHAKING HAZARD

Agricultural Areas Exposed to Ground Shaking Hazard

Majority of the province' agricultural lands are highly exposed to ground shaking with a total exposed agricultural area of about 168,307 hectares or 70% of the total agricultural land area is within the very high to high exposure area. At very high risk are the 36 municipalities and 1 city of the province of Bohol with its agricultural areas exposed to ground shaking. Out of those towns, the 27 municipalities and 1 city have its whole total agricultural area highly exposed to ground shaking. At risk are the municipalities of Carmen, Ubay, Pilar, San Miguel, Alicia, Guindulman, Trinidad, Sierra Bullones, Candijay, Dagohoy, Garcia Hernandez, Jagna and Valencia having more than 10,000 hectares of its agricultural area highly exposed to ground shaking.

Danao is the only municipality with its agricultural area within moderate exposure of about 4,657 hectares, which is 42% of the LGU's total agricultural area.

The table below shows that 7 municipalities, namely: Bien-Unido, Buenavista, Clarin, Pres, Garcia, Sagbayan, Talibon and Tubigan are with its agricultural areas within low exposure to ground shaking, while the municipalities of Loon, Calape and San Isidro are the 3 municipalities whose agricultural areas are not exposed to ground shaking above intensity 8.

In summary, there are 168,307 hectares of agricultural area in Bohol that is within high exposure, 4,657 hectares within medium exposure and 8,538 hectares of agricultural land within low exposure area to ground shaking. On a percentage basis, 69.5% of Bohol's agricultural area is highly susceptible to ground shaking, 1.9% moderately susceptible and 3.5% is lowly susceptible to ground shaking (refer to Map ____).

Map _____. Agricultural Exposure Map to Ground Shaking

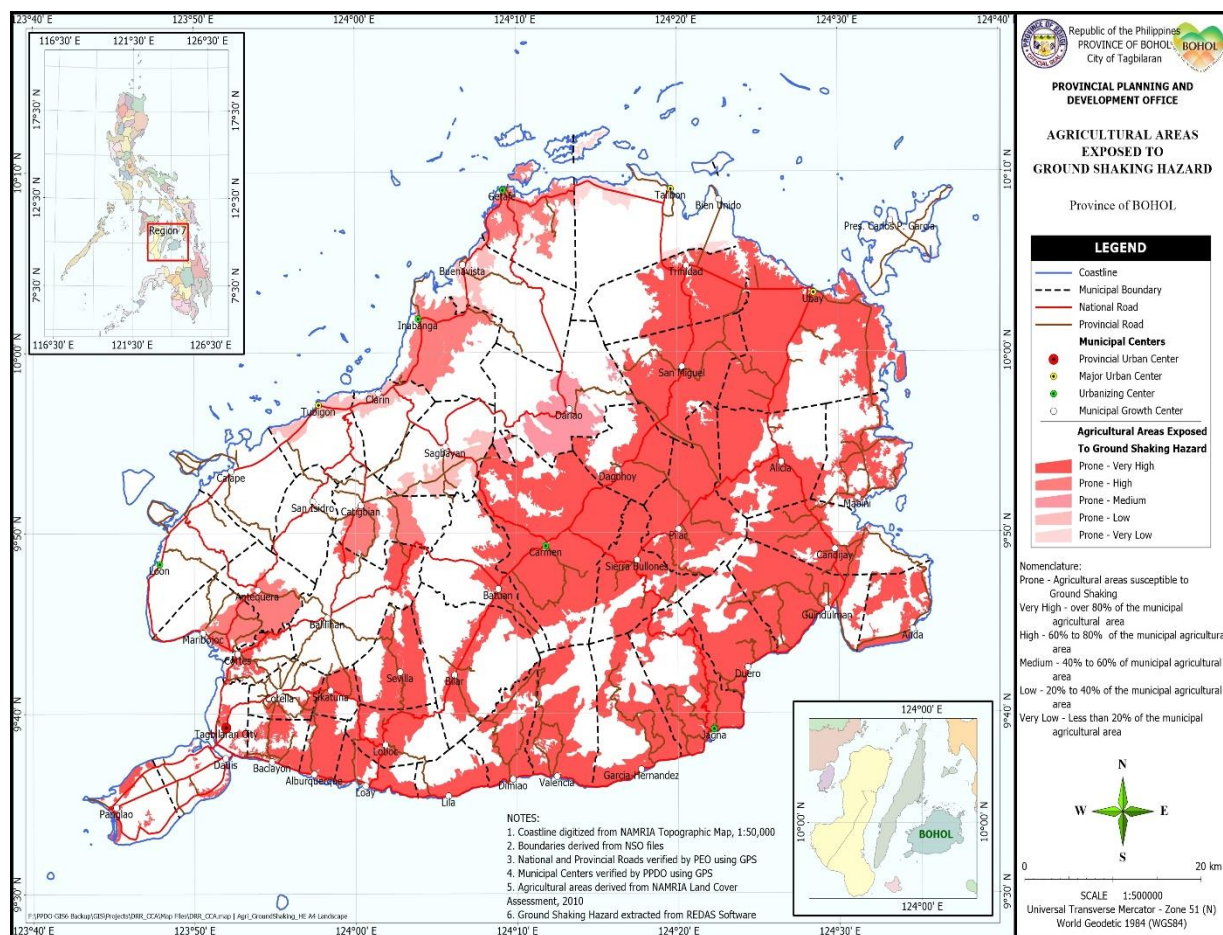


Table _____. AGRICULTURAL AREAS EXPOSED TO GROUND SHAKING PER MUNICIPALITY
Province of Bohol

Municipality	Municipal Agricultural Area (Ha.)	Exposed Agri. Area within Very High Exposure Area (Ha.)	Exposed Agri. Area within High Exposure Area (Ha.)	Exposed Agri. Area within Medium Exposure Area (Ha.)	Exposed Agri. Area within Low Exposure Area (Ha.)	Exposed Agri. Area within Very Low Exposure Area (Ha.)	% within Very High Exposure	% within High Exposure	% within Medium Exposure	% within Low Exposure	% within Very Low Exposure
Alburquerque	2,218.96	2,218.95					1.00				
Alicia	7,415.88	7,415.88					1.00				
Anda	2,497.14	2,486.47					1.00				
Antequera	2,919.61		2,286.06					0.78			
Baclayon	1,449.56	1,449.04					1.00				
Balilihan	1,768.58	1,737.26					0.98				
Batuan	2,659.70	2,659.70					1.00				
Bien Unido	2,063.96					257.59					0.12
Bilar	3,457.34	3,457.34					1.00				
Buenavista	4,765.27				1,708.82					0.36	
Calape	6,220.43										
Candijay	5,405.04	5,400.70					1.00				
Carmen	18,710.45	18,146.83					0.97				

Bohol Provincial Development and Physical Framework Plan (PDPFP) 2016-2028

Municipality	Municipal Agricultural Area (Ha.)	Exposed Agri. Area within Very High Exposure Area (Ha.)	Exposed Agri. Area within High Exposure Area (Ha.)	Exposed Agri. Area within Medium Exposure Area (Ha.)	Exposed Agri. Area within Low Exposure Area (Ha.)	Exposed Agri. Area within Very Low Exposure Area (Ha.)	% within Very High Exposure	% within High Exposure	% within Medium Exposure	% within Low Exposure	% within Very Low Exposure
Catigbian	5,207.24		3,256.86					0.63			
Clarin	5,072.96				1,316.58					0.26	
Corella	803.25	803.25					1.00				
Cortes	860.26	860.26					1.00				
Dagohoy	5,085.04	5,085.04					1.00				
Danao	11,019.38			4,657.25					0.42		
Daus	303.12	253.85					0.84				
Dimiao	3,853.28	3,851.78					1.00				
Duero	5,001.05	4,997.99					1.00				
Garcia-Hernandez	5,107.74	5,107.22					1.00				
Getafe	4,966.05		3,417.44					0.69			
Guindulman	7,930.32	7,918.65					1.00				
Inabanga	7,531.85		4,899.89					0.65			
Jagna	6,721.28	6,717.40					1.00				
Lila	1,374.51	1,371.96					1.00				
Loay	2,081.34	2,079.37					1.00				
Loboc	3,171.64	3,171.64					1.00				
Loon	6,758.57										
Mabini	3,279.11	3,276.88					1.00				
Maribojoc	2,921.12		2,106.37					0.72			
Panglao	642.61	639.69					1.00				
Pilar	10,469.13	10,469.13					1.00				
Pres. Carlos P. Garcia	3,032.89					53.82					0.02
Sagbayan	8,531.98				2,656.09					0.31	
San Isidro	3,387.92										
San Miguel	10,164.10	9,998.67					0.98				
Sevilla	4,327.39	4,327.39					1.00				
Sierra Bullones	6,355.76	6,355.76					1.00				
Sikatuna	1,545.28	1,545.28					1.00				
Tagbilaran City	344.19	344.19					1.00				
Talibon	7,173.89					1,385.54					0.19
Trinidad	8,329.56	6,922.34					0.83				
Tubigon	5,781.72				1,159.41					0.20	
Ubay	15,759.73	15,693.26					1.00				
Valencia	5,578.07	5,577.43					1.00				
TOTAL	242,025.25	152,340.60	15,966.62	4,657.25	6,840.90	1,696.95	63.00	7.00	2.00	3.00	1.00

Note: Ground Shaking above Intensity 8

TSUNAMI

Agricultural areas exposed to Tsunami

There are 30 municipalities of the province whose agricultural areas are tsunami-prone leaving only the 17 towns as tsunami-free being inland municipalities. The 30 municipalities

are: Alburquerque, Anda, Baclayon, Bien Unido, Buenavista, Calape, Candijay, Clarin, Cortes, Dauis, Dimiao, Duero, Garcia Hernandez, Getafe, Guindulman, Inabanga, Jagna, Lila, Loay, Loboc, Loon, Mabini, Maribojoc, Panglao, Pres. Garcia, Talibon, Trinidad, Tubigon, Ubay and Valencia. The municipality of Ubay has the biggest agricultural area of 1,082 hectares exposed to tsunami, followed by Talibon – 708 hectares, Pres. Garcia 640 hectares, Calape – 546 hectares, Bien Unido – 430 hectares, Getafe – 404 hectares and Anda – 369 hectares. The rest of the municipalities have agricultural areas less than 300 hectares that are susceptible to tsunami. The total agricultural areas susceptible to tsunami have a total combined area of 6,250 hectares or 2.58 percentage of agricultural area of Bohol is exposed to tsunami.

Map _____. Agricultural Exposure Map to Tsunami

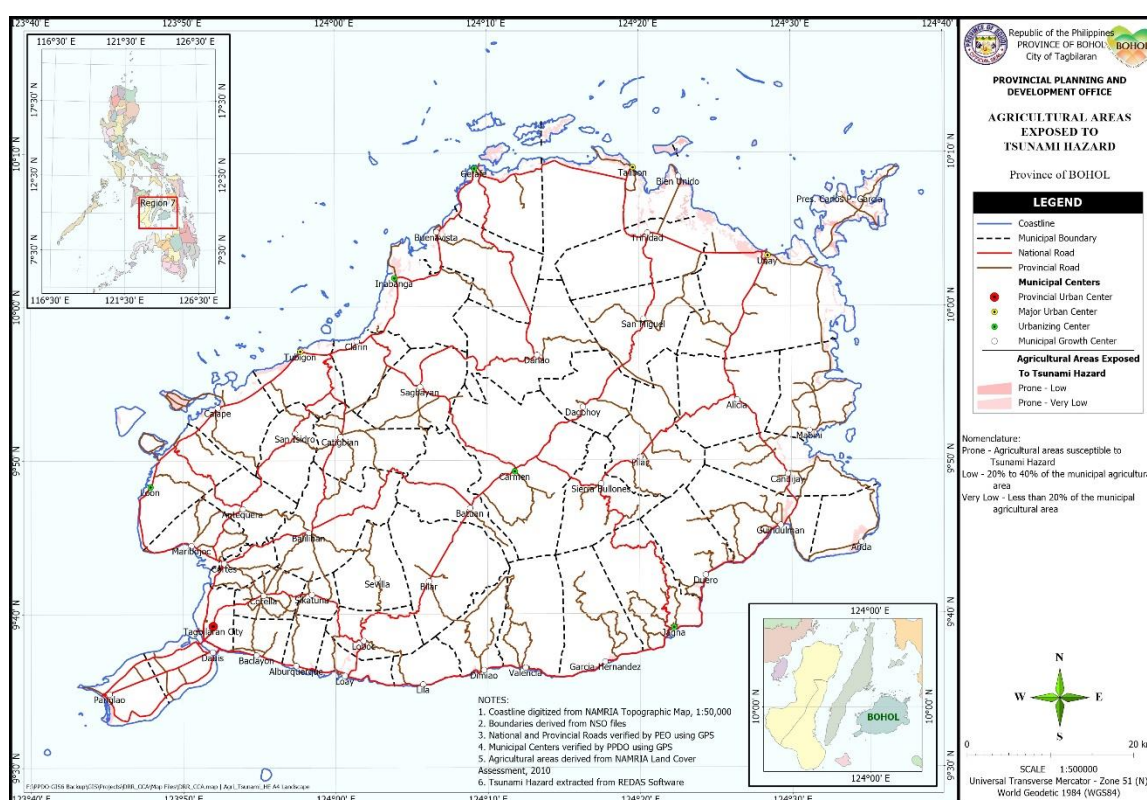


Table ____: AGRICULTURAL AREAS EXPOSED TO TSUNAMI HAZARD BY MUNICIPALITY
Province of Bohol

Municipality	Municipal Agricultural Area (Ha.)	Municipal Agricultural Area Exposed to Tsunami Hazard (Ha.)	Percentage of Municipal Agricultural Area Exposed to Tsunami Hazard
Alburquerque	2,218.96	39.65	1.787%
Alicia	7,415.88		
Anda	2,497.14	369.40	14.793%
Antequera	2,919.61		
Baclayon	1,449.56	1.60	0.110%
Balilihan	1,768.58		

Municipality	Municipal Agricultural Area (Ha.)	Municipal Agricultural Area Exposed to Tsunami Hazard (Ha.)	Percentage of Municipal Agricultural Area Exposed to Tsunami Hazard
Batuan	2,659.70		
Bien Unido	2,063.96	430.73	20.869%
Bilar	3,457.34		
Buenavista	4,765.27	61.99	1.301%
Calape	6,220.43	546.45	8.785%
Candijay	5,405.04	99.42	1.839%
Carmen	18,710.45		
Catigbian	5,207.24		
Clarin	5,072.96	12.07	0.238%
Corella	803.25		
Cortes	860.26	6.43	0.748%
Dagohoy	5,085.04		
Danao	11,019.38		
Dauis	303.12	17.08	5.634%
Dimiao	3,853.28	48.10	1.248%
Duero	5,001.05	89.85	1.797%
Garcia-Hernandez	5,107.74	86.54	1.694%
Getafe	4,966.05	404.63	8.148%
Guindulman	7,930.32	247.68	3.123%
Inabanga	7,531.85	293.79	3.901%
Jagna	6,721.28	125.22	1.863%
Lila	1,374.51	29.23	2.127%
Loay	2,081.34	95.88	4.607%
Loboc	3,171.64	40.84	1.288%
Loon	6,758.57	105.39	1.559%
Mabini	3,279.11	190.15	5.799%
Maribojoc	2,921.12	35.05	1.200%
Panglao	642.61	117.57	18.296%
Pilar	10,469.13		
Pres. Carlos P. Garcia	3,032.89	640.57	21.121%
Sagbayan	8,531.98		
San Isidro	3,387.92		
San Miguel	10,164.10		
Sevilla	4,327.39		
Sierra Bullones	6,355.76		
Sikatuna	1,545.28		
Tagbilaran City	344.19		
Talibon	7,173.89	708.34	9.874%
Trinidad	8,329.56	59.05	0.709%
Tubigon	5,781.72	236.10	4.084%
Ubay	15,759.73	1,082.01	6.866%
Valencia	5,578.07	29.59	0.531%
T o t a l	242,025.25	6,250.44	2.583%

LIQUEFACTION

Agricultural areas exposed to Liquefaction

The table below shows that there are 39 municipalities out of 47 with agricultural areas exposed to liquefaction hazard. There are 4 municipalities of which more than half of its agricultural areas are susceptible to liquefaction, namely: Bien-Unido – 1,951 hectares, Panglao – 571 hectares, Pres. Garcia – 2,575 hectares and Ubay with 11,131 hectares of its agricultural area exposed to liquefaction. However, the agricultural areas of the municipalities of Balilihan, Catigbian, Corella, Sagbayan, San Isidro, Sevilla, Sierra Bullones, and Sikatuna are free from liquefaction. Of the total agricultural area of the province, approximately 50,768 hectares are vulnerable areas to liquefaction or about 20% of the agricultural areas are prone to liquefaction hazard.

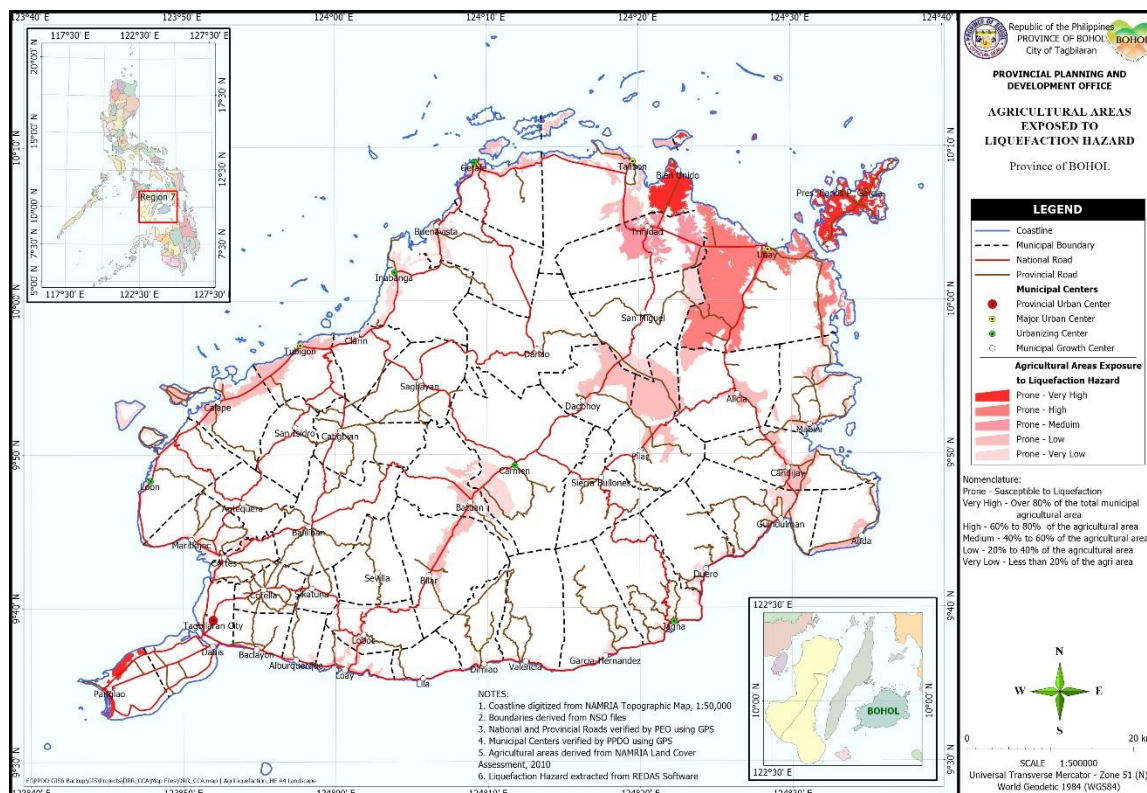
Table ____ . AGRICULTURAL AREAS EXPOSED TO LIQUEFACTION HAZARD PER MUNICIPALITY

Province of Bohol

Municipality	Municipal Agricultural Area (Ha.)	Exposed Agricultural Area to Liquefaction Hazard	Percentage of Exposed Agricultural Areas to Liquefaction Hazard
Albuquerque	2,218.96	160.98	7.25%
Alicia	7,415.88	1,537.08	20.73%
Anda	2,497.14	750.72	30.06%
Antequera	2,919.61	71.80	2.46%
Baclayon	1,449.56	71.53	4.93%
Balilihan	1,768.58		
Batuan	2,659.70	1,040.07	39.10%
Bien Unido	2,063.96	1,951.85	94.57%
Bilar	3,457.34	1,191.77	34.47%
Buenavista	4,765.27	745.81	15.65%
Calape	6,220.43	2,081.50	33.46%
Candijay	5,405.04	1,606.79	29.73%
Carmen	18,710.45	1,686.35	9.01%
Catigbian	5,207.24		
Clarín	5,072.96	393.17	7.75%
Corella	803.25		
Cortes	860.26	200.00	23.25%
Dagohoy	5,085.04	2,001.34	39.36%
Danao	11,019.38	44.80	0.41%
Dauis	303.12	55.48	18.30%
Dimiao	3,853.28	168.68	4.38%
Duero	5,001.05	455.73	9.11%
Garcia-Hernandez	5,107.74	271.35	5.31%
Getafe	4,966.05	1,007.91	20.30%
Guindulman	7,930.32	1,174.78	14.81%
Inabanga	7,531.85	984.86	13.08%
Jagna	6,721.28	420.58	6.26%
Lila	1,374.51	145.67	10.60%

Municipality	Municipal Agricultural Area (Ha.)	Exposed Agricultural Area to Liquefaction Hazard	Percentage of Exposed Agricultural Areas to Liquefaction Hazard
Loay	2,081.34	455.66	21.89%
Loboc	3,171.64	315.55	9.95%
Loon	6,758.57	951.13	14.07%
Mabini	3,279.11	1,052.52	32.10%
Maribojoc	2,921.12	515.49	17.65%
Panglao	642.61	571.00	88.86%
Pilar	10,469.13	3,805.07	36.35%
Pres. Carlos P. Garcia	3,032.89	2,575.90	84.93%
Sagbayan	8,531.98		
San Isidro	3,387.92		
San Miguel	10,164.10	1,873.65	18.43%
Sevilla	4,327.39		
Sierra Bullones	6,355.76		
Sikatuna	1,545.28		
Tagbilaran City	344.19	1.15	0.33%
Talibon	7,173.89	2,259.54	31.50%
Trinidad	8,329.56	3,351.71	40.24%
Tubigon	5,781.72	1,479.27	25.59%
Ubay	15,759.73	11,131.17	70.63%
Valencia	5,578.07	209.49	3.76%
TOTAL	242,025.25	50,768.90	20.98%

Map _____. Agricultural Exposure Map to Liquefaction



STORM SURGE

Agricultural areas exposed to Storm Surge

Based on the table provided below, there are 25 municipalities in Bohol whose agricultural areas are susceptible to storm surge, all coastal municipalities of the province, namely: Alburquerque, Anda, Baclayon, Bien Unido, Buenavista, Calape, Candijay, Clarin, Dimiao, Duero, Garcia-Hernandez, Getafe, Guindulman, Jagna, Lila, Loay, Loon, Mabini, Maribojoc, Panglao, Pres. Garcia, Talibon, Tubigon, Ubay and Valencia. Talibon has the highest agricultural area (380 hectares) susceptible to storm surge, followed by Getafe (281 hectares), Bien Unido (163 hectares), Pres. Garcia (141 hectares) and Ubay with 104 hectares. The 25 municipalities covering a total combined agricultural area of 1,450 hectares are vulnerable to storm surge. This covers about 0.60% of the total agriculture area of the province.

Map _____. Agricultural Exposure Map to Storm Surge

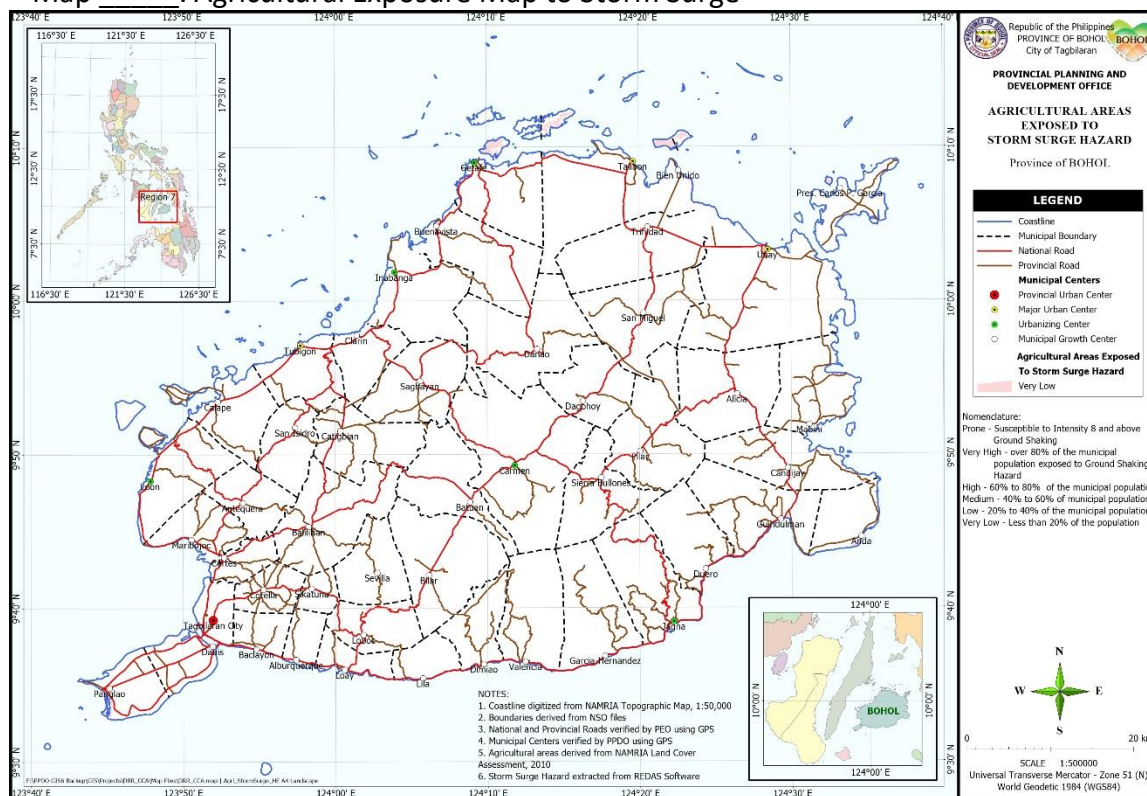


Table _____. AGRICULTURAL AREAS EXPOSED TO STORM SURGE HAZARD BY MUNICIPALITY
Province of Bohol

Municipality	Municipal Agricultural Area (Ha.)	Agricultural Area Exposed to Storm Surge (Ha.)	Percentage of Agricultural Area Exposed to Storm Surge
Alburquerque	2,218.96	6.96	0.31%
Alicia	7,415.88		
Anda	2,497.14	47.97	1.92%
Antequera	2,919.61		
Baclayon	1,449.56	4.45	0.31%

Municipality	Municipal Agricultural Area (Ha.)	Agricultural Area Exposed to Storm Surge (Ha.)	Percentage of Agricultural Area Exposed to Storm Surge
Balilihan	1,768.58		
Batuan	2,659.70		
Bien Unido	2,063.96	163.38	7.92%
Bilar	3,457.34		
Buenavista	4,765.27	2.51	0.05%
Calape	6,220.43	6.95	0.11%
Candijay	5,405.04	3.19	0.06%
Carmen	18,710.45		
Catigbian	5,207.24		
Clarin	5,072.96	6.11	0.12%
Corella	803.25		
Cortes	860.26		
Dagohoy	5,085.04		
Danao	11,019.38		
Dauis	303.12		
Dimiao	3,853.28	7.49	0.19%
Duero	5,001.05	10.13	0.20%
Garcia-Hernandez	5,107.74	26.06	0.51%
Getafe	4,966.05	281.55	5.67%
Guindulman	7,930.32	40.31	0.51%
Inabanga	7,531.85		
Jagna	6,721.28	14.63	0.22%
Lila	1,374.51	25.22	1.83%
Loay	2,081.34	18.34	0.88%
Loboc	3,171.64		
Loon	6,758.57	30.42	0.45%
Mabini	3,279.11	20.60	0.63%
Maribojoc	2,921.12	10.97	0.38%
Panglao	642.61	79.38	12.35%
Pilar	10,469.13		
Pres. Carlos P. Garcia	3,032.89	141.71	4.67%
Sagbayan	8,531.98		
San Isidro	3,387.92		
San Miguel	10,164.10		
Sevilla	4,327.39		
Sierra Bullones	6,355.76		
Sikatuna	1,545.28		
Tagbilaran City	344.19		
Talibon	7,173.89	380.28	5.30%
Trinidad	8,329.56		
Tubigon	5,781.72	4.84	0.08%
Ubay	15,759.73	104.36	0.66%
Valencia	5,578.07	12.87	0.23%
TOTAL	242,025.25	1,450.67	0.60%

RAIN-INDUCED LANDSLIDE

Agricultural areas exposed to Rain Induced Landslide

Among the 47 municipalities and 1 city of the province of Bohol, only the municipality of Panglao is not vulnerable to rain-induced landslide (RIL) due to its flat terrain. There are 32 municipalities with its agricultural areas within the high susceptible area to rain-induced landslide (RIL) with a total combined area of 13,582 hectares. Guindulman has the biggest agricultural area (2,228 has.) exposed to high susceptibility, followed by Danao (1,682 has.), Duero (1,538), Carmen (1,349 has.) and Jagna (1,177 has.). Areas susceptible to high rainfall-induced landslide are those with slope range greater than 45 percent (very steep lands) of which most of these agricultural lands are located. The rest of the highly susceptible municipalities have areas less than a thousand hectares of its agricultural land at risk to RIL.

There are 43 municipalities and 1 city whose agricultural areas are within moderately susceptible areas with a total area of 44,808 hectares, except for the municipalities of Bien Unido, Cortes, Panglao and Pres. Garcia. The top municipalities with agricultural areas within RIL moderately susceptible areas are Carmen (4,128 has.), Danao (3,908 has.), Jagna (3,747 has.), Garcia Hernandez (2,776 has.), Guindulman (2,559 has.), Duero (2,491 has.), Inabanga (2,343 has.), Alicia (1,773 has.), Valencia (1,514 has.), Pilar (1,480 has.), Dimiao (1,437 has.), Loon (1,287 has.), Sierra Bullones (1,270 has.), and Candijay 1,143 has.). The rest of the moderately vulnerable municipalities have areas less than a thousand hectares of its agricultural land at risk to rain-induced landslide.

About 44 municipalities and 1 city, except for Anda, Dauis and Panglao are having agricultural lands within the low susceptibility area to RIL with a total combined area of 105,680 hectares. While, 14 municipalities have a total exposed agricultural area of approximately 892 hectares within possible landslide deposit accumulation zone, they are: Alicia, Anda, Candijay, Catigbian, Duero, Garcia Hernandez, Guindulman, Jagna, Mabini, Maribojoc, Pilar, Sagbayan, Ubay and Valencia.

In summary, about 5.6% of Bohol's total agricultural land area is highly susceptible, 18.5% is moderately susceptible, 43.6% has low susceptibility to RIL, and 0.37% is within possible landslide deposit accumulation zone. About 32% of the province's agricultural area is not susceptible to RIL. (Refer Map below)

Map _____. Agricultural Exposure Map to Rain-Induced Landslide

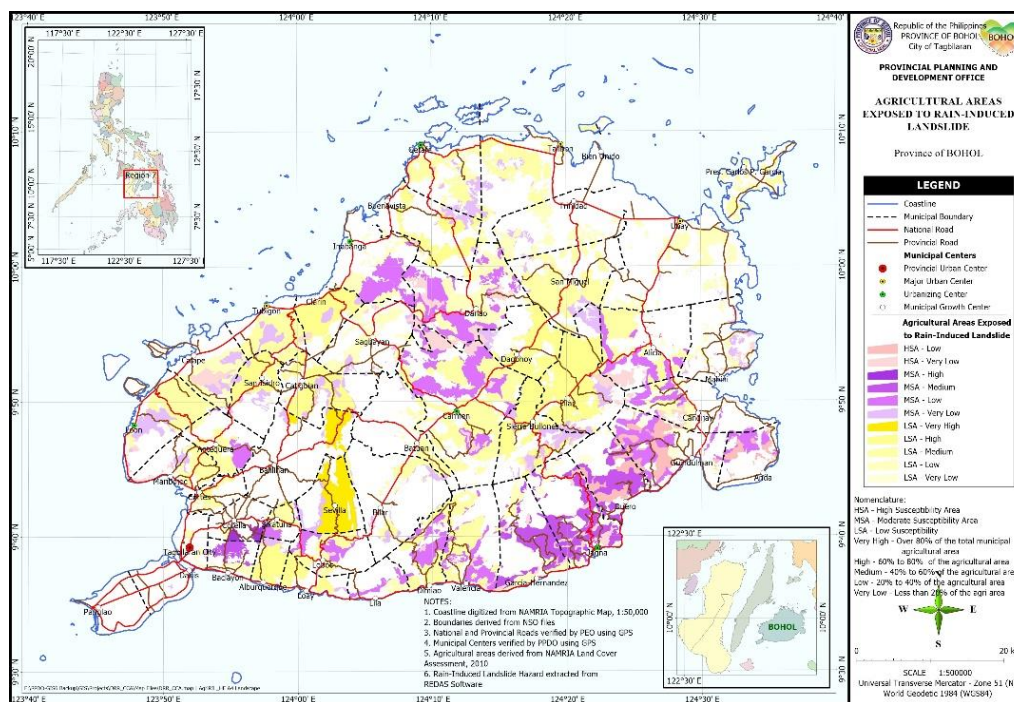


Table No. ____: AGRICULTURAL AREAS EXPOSED TO RAIN-INDUCED LANDSLIDE PER MUNICIPALITY
Province of Bohol

Municipality	Municipal Agri. Area (Ha.)	Exposed Agricultural Area within High Susceptibility Area	Exposed Agricultural Area within Moderate Susceptibility Area	Exposed Agricultural Area within Low Susceptibility Area	Exposed Agri. Area within Possible Landslide Deposit Accumulation Zone	Exposure % within High Susceptibility Area	Exposure % within Moderate Susceptibility Area	Exposure Percentage within Low Susceptibility Area	Exposure % within Possible Landslide Deposit Accumulation Zone
Albuquerque	2,218.96	17.65	264.06	1,761.29		0.796%	11.900%	79.375%	
Alicia	7,415.88	640.50	1,773.02	3,111.56	25.08	8.637%	23.908%	41.958%	0.338%
Anda	2,497.14	735.43	854.13		129.16	29.451%	34.204%		5.172%
Antequera	2,919.61		748.11	1,711.09			25.624%	58.607%	
Baclayon	1,449.56		798.74	423.27			55.102%	29.200%	
Balilihan	1,768.58	8.37	204.26	1,496.33		0.473%	11.550%	84.606%	
Batuan	2,659.70		108.79	1,351.81			4.090%	50.826%	
Bien Unido	2,063.96			98.21				4.758%	
Bilar	3,457.34		496.09	1,522.87			14.349%	44.048%	
Buenavista	4,765.27	57.51	483.94	3,122.18		1.207%	10.155%	65.519%	
Calape	6,220.43	878.78	733.16	2,328.42		14.127%	11.786%	37.432%	
Candijay	5,405.04	485.02	1,143.21	1,497.16	40.71	8.973%	21.151%	27.699%	0.753%
Carmen	18,710.45	1,349.80	4,128.80	8,627.75		7.214%	22.067%	46.112%	
Catigbian	5,207.24	122.26	644.98	3,439.24	1.59	2.348%	12.386%	66.047%	0.030%
Clarín	5,072.96	92.89	305.19	3,217.82		1.831%	6.016%	63.431%	
Corella	803.25		524.22	164.66			65.262%	20.499%	
Cortes	860.26			648.96				75.438%	
Dagohoy	5,085.04	122.59	347.37	3,746.16		2.411%	6.831%	73.670%	
Danao	11,019.38	1,682.41	3,908.95	4,390.09		15.268%	35.473%	39.840%	
Dauis	303.12		14.48				4.776%		
Dimiao	3,853.28	59.96	1,437.81	2,153.43		1.556%	37.314%	55.886%	

Municipality	Municipal Agri. Area (Ha.)	Exposed Agricultural Area within High Susceptibility Area	Exposed Agricultural Area within Moderate Susceptibility Area	Exposed Agricultural Area within Low Susceptibility Area	Exposed Agri. Area within Possible Landslide Deposit Accumulation Zone	Exposure % within High Susceptibility Area	Exposure % within Moderate Susceptibility Area	Exposure Percentage within Low Susceptibility Area	Exposure % within Possible Landslide Deposit Accumulation Zone
Duero	5,001.05	1,538.91	2,491.31	291.23	64.67	30.772%	49.816%	5.823%	1.293%
Garcia-Hernandez	5,107.74	510.92	2,776.60	1,409.06	34.53	10.003%	54.361%	27.587%	0.676%
Getafe	4,966.05		821.02	2,751.56			16.533%	55.407%	
Guindulman	7,930.32	2,228.37	2,559.55	952.06	146.80	28.099%	32.275%	12.005%	1.851%
Inabanga	7,531.85	110.21	2,343.00	1,520.33		1.463%	31.108%	20.185%	
Jagna	6,721.28	1,177.85	3,747.79	1,109.29	43.74	17.524%	55.760%	16.504%	0.651%
Lila	1,374.51	17.08	439.37	396.41		1.243%	31.966%	28.840%	
Loay	2,081.34		66.00	1,271.73			3.171%	61.101%	
Loboc	3,171.64	66.93	999.66	1,732.00		2.110%	31.519%	54.609%	
Loon	6,758.57	104.78	1,287.74	3,601.26		1.550%	19.053%	53.284%	
Mabini	3,279.11	197.61	550.63	676.26	127.73	6.026%	16.792%	20.623%	3.895%
Maribojoc	2,921.12	113.80	287.21	1,715.53	86.71	3.896%	9.832%	58.728%	2.968%
Panglao	642.61								
Pilar	10,469.13	471.36	1,480.58	7,175.44	117.83	4.502%	14.142%	68.539%	1.126%
Pres. Carlos Garcia	3,032.89			1,327.16				43.759%	
Sagbayan	8,531.98	181.87	403.19	2,432.68	16.65	2.132%	4.726%	28.513%	0.195%
San Isidro	3,387.92	6.04	468.94	2,488.64		0.178%	13.841%	73.456%	
San Miguel	10,164.10	55.50	325.40	5,550.86		0.546%	3.201%	54.612%	
Sevilla	4,327.39		472.89	3,655.81			10.928%	84.481%	
Sierra Bullones	6,355.76	225.86	1,270.59	3,926.16		3.554%	19.991%	61.773%	
Sikatuna	1,545.28	3.13	425.41	842.55		0.203%	27.529%	54.524%	
Tagbilaran City	344.19		30.45	201.30			8.847%	58.486%	
Talibon	7,173.89		305.72	3,730.65			4.262%	52.003%	
Trinidad	8,329.56		191.99	2,202.97			2.305%	26.448%	
Tubigon	5,781.72	69.11	602.28	3,227.53		1.195%	10.417%	55.823%	
Ubay	15,759.73	5.73	27.58	3,459.43	8.47	0.036%	0.175%	21.951%	0.054%
Valencia	5,578.07	244.27	1,514.35	3,220.23	48.68	4.379%	27.148%	57.730%	0.873%
TOTAL	242,025.2	13,582.49	44,808.53	105,680.42	892.35	5.612%	18.514%	43.665%	0.369%

FLOODING HAZARD

Agricultural Areas Exposed to Flooding

Flooding is one the most frequent, typical, and costly natural disasters which causes abrupt damage on these systems. It occurs when a body of water rises or overflows beyond its normal confines, which then causes inundation in adjoining areas that are usually dry lands. Modifications in rainfall pattern have a very significant effect on the water level, especially of basins. The staggering effects of climate change, particularly the effect of flooding on agricultural areas grown with various crops, has become a very serious concern worldwide.

As for the province of Bohol, it is predominantly an agricultural domain with 242,025 hectares of agricultural lands comprising 47 municipalities and one (1) city. As can be seen from the Table below (Agricultural Areas Exposed to Flooding), among Bohol's top 10

municipalities with vast agricultural areas (in their proper order from highest to lowest) include the municipalities of Carmen, Ubay, Danao, Pilar, San Miguel, Sagbayan, Trinidad, Inabanga, Alicia and Talibon notwithstanding the rest of the municipalities which are geographically located within Bohol's 11 major watershed areas.

As mentioned earlier, Bohol being part of the Philippine Archipelago will not be exempt from the staggering effects of climate change, let alone, the effect of flooding on agricultural areas grown with various crops. Based on the table on the agricultural areas exposed to flooding by municipality, the following municipalities in Bohol which have high percentages of their respective agricultural areas exposed to very high susceptibility of flooding hazard are: Cortes (23%), Inabanga (9%), Sierra-Bullones (6%), Alicia (5%), Candijay (4.7%), Calape (3.5%), Dimiao (3.3%), Sevilla (3.2%), Loboc (3.1%), and Batuan (2.8%). Six (6) of these municipalities are coastal and the rest (four) are upland. Flooding may occur in these coastal and upland areas in such a way that river basin systems straddled in these areas increase its water levels during sustained heavy rainfall that causes run-off water to flow on low lying areas.

Bohol's crop production sufficiency or deficiency in areas devoted to agriculture will largely if not absolutely depend upon the frequency and magnitude of flooding if ever there will be occurrences. Apparently, if frequent flooding occurs in the agricultural areas of Bohol, damage will ultimately be inflicted on its agriculture sector.

In summary, out of the total agricultural land area of the province, about 1.7% of Bohol's total agricultural land is exposed to a very high susceptibility to flooding, 5.06% is highly susceptible, a mere 0.03% is moderately susceptible, and approximately 13.8% has low susceptibility of flooding hazard.

Table No. ____ : AGRICULTURAL AREAS EXPOSED TO FLOODING PER MUNICIPALITY
Province of Bohol

Municipality	Agricultural Area (Hectares)	Area Exposed to Very High Susceptibility of Flooding Hazard (Hectares)	Area Exposed to High Susceptibility of Flooding Hazard (Hectares)	Area Exposed to Moderate Susceptibility of Flooding Hazard (Hectares)	Area Exposed to Low Susceptibility of Flooding Hazard (Hectares)	% of Area Exposed to Very High Susceptibility of Flooding Hazard	% of Area Exposed to High Susceptibility of Flooding Hazard	% of Area Exposed to Moderate Susceptibility of Flooding Hazard	% of Area Exposed to Low Susceptibility of Flooding Hazard
Alburquerque	2,218.96	39.72	0.18		370.48	1.507%	0.007%		14.057%
Alicia	7,415.88	565.80	574.07		756.09	5.258%	5.334%		7.026%
Anda	2,497.14		60.44		76.73		1.592%		2.021%
Antequera	2,919.61	150.61	330.79		380.61	1.559%	3.425%		3.940%
Baclayon	1,449.56	6.82			613.19	0.225%			20.200%
Balilihan	1,768.58	54.79	31.33		405.25	0.438%	0.250%		3.239%
Batuan	2,659.70	156.43	148.11		271.69	2.777%	2.629%		4.823%
Bien Unido	2,063.96		158.65		80.94		9.051%		4.618%
Bilar	3,457.34	4.68	364.21		974.10	0.127%	9.886%		26.442%
Buenavista	4,765.27	42.43	60.16		776.06	0.898%	1.273%		16.418%
Calape	6,220.43	259.75	53.55		695.34	3.500%	0.722%		9.370%
Candijay	5,405.04	236.76	302.89		755.12	4.763%	6.093%		15.190%

Bohol Provincial Development and Physical Framework Plan (PDPFP) 2016-2028

Municipality	Agricultural Area (Hectares)	Area Exposed to Very High Susceptibility of Flooding Hazard (Hectares)	Area Exposed to High Susceptibility of Flooding Hazard (Hectares)	Area Exposed to Moderate Susceptibility of Flooding Hazard (Hectares)	Area Exposed to Low Susceptibility of Flooding Hazard (Hectares)	% of Area Exposed to Very High Susceptibility of Flooding Hazard	% of Area Exposed to High Susceptibility of Flooding Hazard	% of Area Exposed to Moderate Susceptibility of Flooding Hazard	% of Area Exposed to Low Susceptibility of Flooding Hazard
Carmen	18,710.45		453.92		491.42		5.062%		5.480%
Catigbian	5,207.24	6.08	12.31		53.81	0.070%	0.142%		0.620%
Clarin	5,072.96				9.78				0.219%
Corella	803.25		40.07		75.90		1.201%		2.275%
Cortes	860.26	681.88	236.67		162.73	23.107%	8.020%		5.514%
Dagohoy	5,085.04	92.67	1,049.69		313.00	1.587%	17.971%		5.359%
Danao	11,019.38	155.04	746.30		215.70	1.955%	9.410%		2.720%
Dauis	303.12				0.99				0.024%
Dimiao	3,853.28	326.82	138.20	35.72	56.26	3.352%	1.417%	0.366%	0.577%
Duero	5,001.05		63.96		350.93		2.061%		11.307%
Garcia-Hernandez	5,107.74		211.71		4.58		4.820%		0.104%
Getafe	4,966.05				584.72				12.911%
Guindulman	7,930.32		341.96		1,060.53		4.165%		12.918%
Inabanga	7,531.85	1,013.42	1,589.84		1,523.33	8.870%	13.915%		13.333%
Jagna	6,721.28	1.70	165.35		549.56	0.020%	1.980%		6.580%
Lila	1,374.51		312.62	0.10	98.01		9.640%	0.003%	3.022%
Loay	2,081.34	67.94	687.35		190.10	1.537%	15.547%		4.300%
Loboc	3,171.64	151.18	551.69		489.69	3.123%	11.396%		10.115%
Loon	6,758.57	88.14	332.89		463.18	1.004%	3.792%		5.276%
Mabini	3,279.11	103.27	864.81		910.64	1.382%	11.571%		12.185%
Maribojoc	2,921.12	57.57	205.02		83.06	1.064%	3.789%		1.535%
Panglao	642.61				1.78				0.039%
Pilar	10,469.13	53.76	291.62		329.74	0.852%	4.621%		5.225%
Pres. Carlos Garcia	3,032.89		994.79		860.66		18.408%		15.926%
Sagbayan	8,531.98	14.51	24.28		2.07	0.260%	0.435%		0.037%
San Isidro	3,387.92	0.65	3.40		46.99	0.013%	0.071%		0.974%
San Miguel	10,164.10		905.18		3,821.35		9.596%		40.510%
Sevilla	4,327.39	128.26	130.98		251.92	3.232%	3.300%		6.347%
Sierra Bullones	6,355.76	893.35	99.65		568.98	5.716%	0.638%		3.641%
Sikatuna	1,545.28	1.26			12.35	0.046%			0.448%
Tagbilaran City	344.19				53.57				2.776%
Talibon	7,173.89		29.57	0.69	5,118.44		0.237%	0.006%	41.096%
Trinidad	8,329.56		1,169.04	27.29	5,401.15		11.433%	0.267%	52.823%
Tubigon	5,781.72	77.53			327.79	1.383%			5.846%
Ubay	15,759.73		2,032.01		13,139.23		8.965%		57.968%
Valencia	5,578.07	60.28	302.87	21.92	70.46	1.156%	5.807%	0.420%	1.351%
TOTAL	242,025.25	5,493.11	16,072.15	85.72	43,849.99	1.730%	5.063%	0.027%	13.813%

VULNERABILITY ASSESSMENT FOR AGRICULTURE

Climate change involves process that are complex and diversified. However, it is mainly characterized by the intensification of the water cycle, which results in the occurrence of extreme weather phenomena like excessive rainfall, flooding, storms, drought, etc. Due to the Philippines' geographical location and physical environment, it has become highly vulnerable to the impacts of natural disasters, including the global incidents of the effects of climate change.

The Philippines is one of the most hazard-prone countries in the world. In recent World Risk Index published by the United Nations University – Institute of Environment and Human Security in 2016, the Philippines ranked third as the most disaster risk country worldwide with a Risk Index of 26.70 percent. In the context of climate change, the impact of flooding on socio-ecological systems is of global significance.

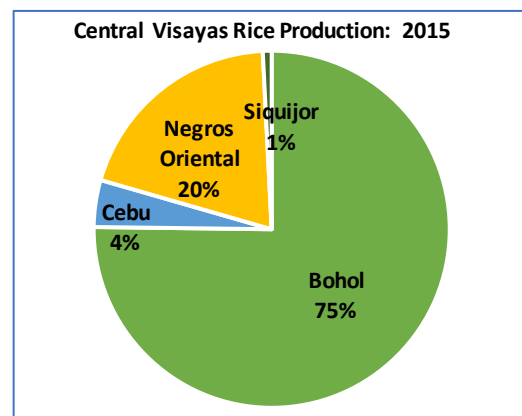
The Flood Vulnerability Map was derived using the following parameters: rainfall, slope, proximate farm river, percentage forest cover watershed, extent of flooded production area, number of flooding every 3 years, income loss from production, and estimated value of damages. The colors green to yellow were used to indicate very low to moderate vulnerability to flooding as recommended by the guidelines.

The economy of Bohol is largely agri-based with the services sector (especially tourism) fast catching up. While its economy is predominantly agricultural, home-based industries, mostly of the micro and cottage types, play a vital role in the local economy. Tourism is another industry that is increasingly gaining influence in the province's economy with Bohol growing to be a favorite destination of both domestic and foreign tourists. The agriculture sector continues to account for a greater portion of the provincial employment.

At the regional context, Bohol has provided a substantial share for palay production. Referring to *Figure __*, PSA figures show that

Bohol produced 75% of Region VII's total palay production. Negros Oriental followed with 20%, Cebu with 4% and Siquijor with 1.0%. Looking into this production scenario, the region's food requirement for rice is largely dependent on the province, with Bohol producing more than half of the region's total rice production. The region's food requirement for rice is largely dependent on Bohol province. In the year 2015, the rainfed rice field areas is greater compared to irrigated rice fields but the production is higher in irrigated rice fields than rainfed fields. Despite the water levels in the different dams reached far below critical levels due to the El Niño phenomenon.

Figure __. Central Visayas Rice Production: 2015



Bohol's agricultural development is anchored on sound environmental principles which serve as the foundation and guiding mechanism for sustainable growth and development. This takes primary consideration on the need to produce more food for the growing population and market demands while simultaneously addressing the protection and management of the environment. To maximize and fully utilize the province's agricultural potentials, key production areas of major commodities are identified as basis for agriculture development for the propagation, raising and development of high value crops, livestock and fisheries based on soil and geographical suitability, land classes/uses, proximity to support facilities, and other environmental consideration.

• **TRANSPORT, ACCESS AND CIRCULATION**

ROADS EXPOSURE TO EARTHQUAKE-INDUCED LANDSLIDE HAZARD

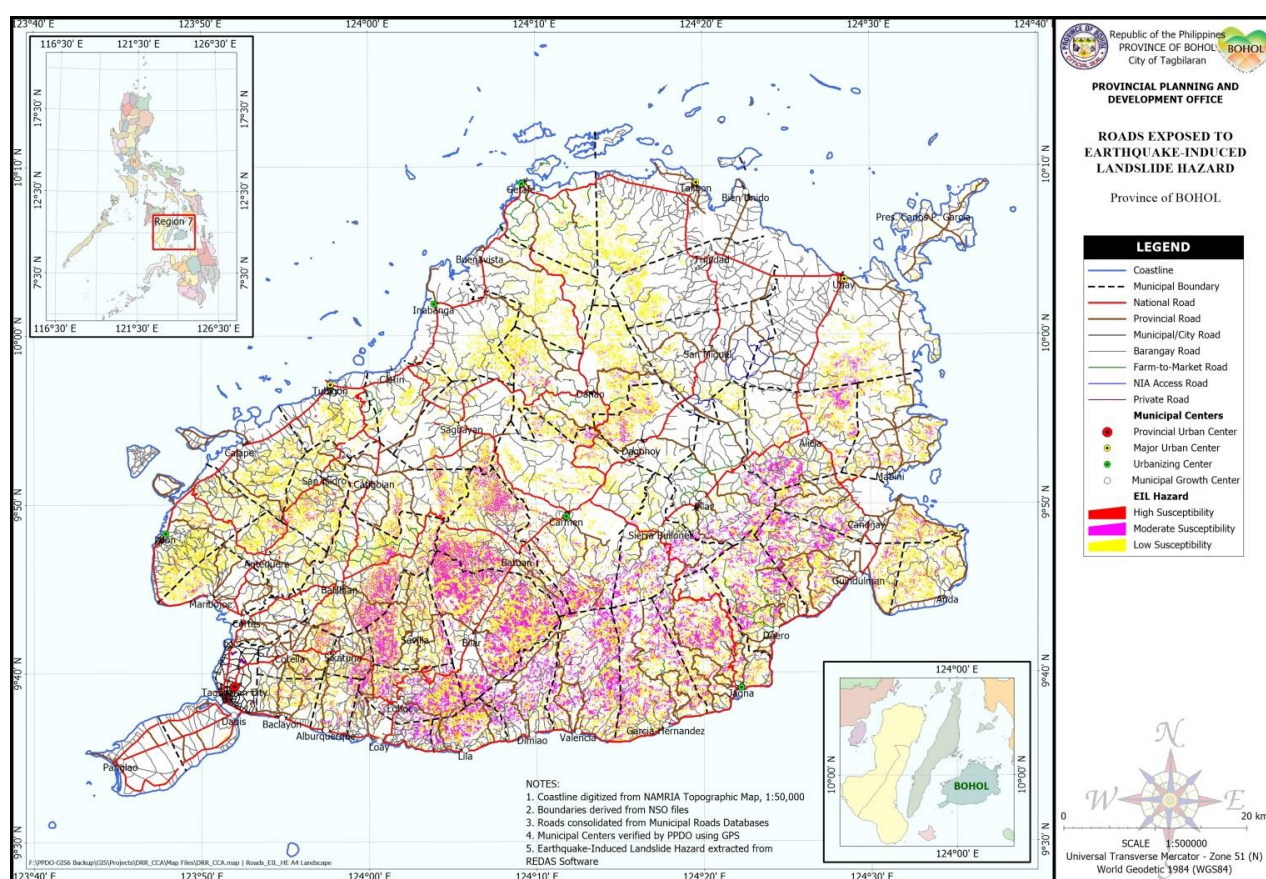


Table No. 57. Roads Exposure to Earthquake-Induced Landslide by Classification

Road Classification	Total Road Length (kms.)	High Susceptibility (kms.)	High Susceptibility (Percentage)	Moderate Susceptibility (kms.)	Moderate Susceptibility (Percentage)	Low Susceptibility (kms.)	Low Susceptibility (Percentage)
National Road	725.839	0.015	0.002%	2.239	0.309%	12.650	1.743%
Provincial Road	864.285	0.201	0.023%	8.307	0.961%	34.997	4.049%
Municipal Road	203.972			0.145	0.071%	1.741	0.853%

City Street	108.462					0.300	0.277%
Barangay Road	3,807.681	0.710	0.019%	27.542	0.723%	127.323	3.344%
Farm-to-Market Road	125.338			1.579	1.260%	6.002	4.789%
NIA Access Road	38.499						
Private Road	16.406					0.049	0.298%
Total	5,890.482	0.927	0.016%	39.810	0.676%	183.062	3.108%

Roads in the province of Bohol are classified as national, provincial, municipal, city, barangay, farm-to-market road (FMR), National Irrigation Administration (NIA) access road, and private. On exposure to earthquake-induced landslide, a total of 0.927 km. is highly susceptible, 39.810 kms. are moderately susceptible and 183.062 kms. have low susceptibility. Only the national, provincial and barangay roads have high, moderate and low susceptibility to earthquake-induced landslide while both the municipal and farm-to-market roads have no highly susceptible roads.

Table No. PE-58. Roads Exposure to Earthquake-Induced Landslide by Municipality

Municipality	Total Road Length (kms.)	High Susceptibility (kms.)	High Susceptibility (Percentage)	Moderate Susceptibility (kms.)	Moderate Susceptibility (Percentage)	Low Susceptibility (kms.)	Low Susceptibility (Percentage)
Albur	55.013			0.171	0.311%	1.527	2.775%
Alicia	130.732			1.793	1.372%	3.838	2.936%
Anda	75.890			0.018	0.024%	1.846	2.433%
Antequera	106.350			0.102	0.096%	3.459	3.252%
Baclayon	87.045			0.251	0.288%	3.824	4.393%
Balilihan	170.700			0.635	0.372%	7.699	4.510%
Batuan	94.136	0.040	0.043%	1.478	1.570%	8.152	8.660%
Bien Unido	39.752						
Bilar	104.200	0.033	0.031%	2.913	2.796%	8.874	8.516%
Buenavista	106.129			0.011	0.010%	1.010	0.952%
Calape	136.547			0.061	0.045%	3.723	2.726%
Candijay	132.059			0.927	0.702%	5.154	3.903%
Carmen	204.382	0.042	0.020%	1.414	0.692%	7.157	3.502%
Catigbian	132.948			0.281	0.211%	2.221	1.670%
Clarin	73.820					0.763	1.033%
Corella	72.433			0.536	0.741%	3.496	4.826%
Cortes	79.629			0.080	0.101%	0.636	0.799%
Dagohoy	102.109			0.129	0.127%	1.412	1.382%
Danao	101.087			0.272	0.269%	2.524	2.497%
Dauis	91.799					0.021	0.023%

Bohol Provincial Development and Physical Framework Plan (PDPFP) 2016-2028

Municipality	Total Road Length (kms.)	High Susceptibility (kms.)	High Susceptibility (Percentage)	Moderate Susceptibility (kms.)	Moderate Susceptibility (Percentage)	Low Susceptibility (kms.)	Low Susceptibility (Percentage)
Dimiao	99.407	0.008	0.008%	2.509	2.524%	2.651	2.667%
Duero	85.092	0.035	0.041%	2.249	2.643%	7.600	8.931%
Garcia-Hernandez	99.766	0.042	0.042%	1.543	1.547%	7.941	7.959%
Getafe	94.092			0.157	0.167%	1.221	1.298%
Guindulman	126.381			2.059	1.629%	7.093	5.612%
Inabanga	144.391			0.088	0.061%	1.434	0.993%
Jagna	133.878			1.212	0.906%	8.012	5.984%
Lila	68.167	0.656	0.962%	3.084	4.524%	4.274	6.270%
Loay	95.738	0.024	0.025%	2.517	2.629%	6.207	6.483%
Loboc	111.137	0.048	0.043%	4.760	4.283%	9.754	8.777%
Loon	262.023			0.155	0.059%	9.373	3.577%
Mabini	122.223					0.637	0.521%
Maribojoc	104.997			0.084	0.080%	1.995	1.900%
Panglao	80.654						
Pilar	179.609			1.005	0.560%	4.295	2.391%
Pres. Carlos P. Garcia	76.691					0.056	0.073%
Sagbayan	111.377			0.216	0.194%	1.456	1.307%
San Isidro	114.646			0.196	0.171%	4.785	4.174%
San Miguel	216.818			0.077	0.036%	1.963	0.905%
Sevilla	94.339			1.176	1.247%	9.230	9.784%
Sierra Bullones	140.805			1.588	1.128%	5.528	3.926%
Sikatuna	72.202			1.190	1.648%	6.500	9.003%
Tagbilaran	142.327					0.300	0.211%
Talibon	220.657					1.406	0.637%
Trinidad	226.059			0.010	0.004%	0.863	0.382%
Tubigon	118.553			0.046	0.039%	1.878	1.584%
Ubay	332.772			0.103	0.031%	1.816	0.546%
Valencia	118.921			2.716	2.284%	7.461	6.274%
Total	5,890.482	0.927	0.016%	39.812	0.676%	183.062	3.108%

Of the 47 municipalities, only Bien Unido and Panglao have no roads that are exposed to earthquake-induced landslide. Only nine municipalities - Batuan, Bilar, Carmen, Dimiao, Duero, Garcia-Hernandez, Lila, Loay, Loboc – have roads that are highly susceptible to earthquake-induced landslide. On the other hand, five municipalities and the City of Tagbilaran - Clarin, Dauis, Mabini, Pres. Garcia and Talibon – have low susceptibility to earthquake-induced landslide.

ROADS EXPOSURE TO GROUND SHAKING HAZARD

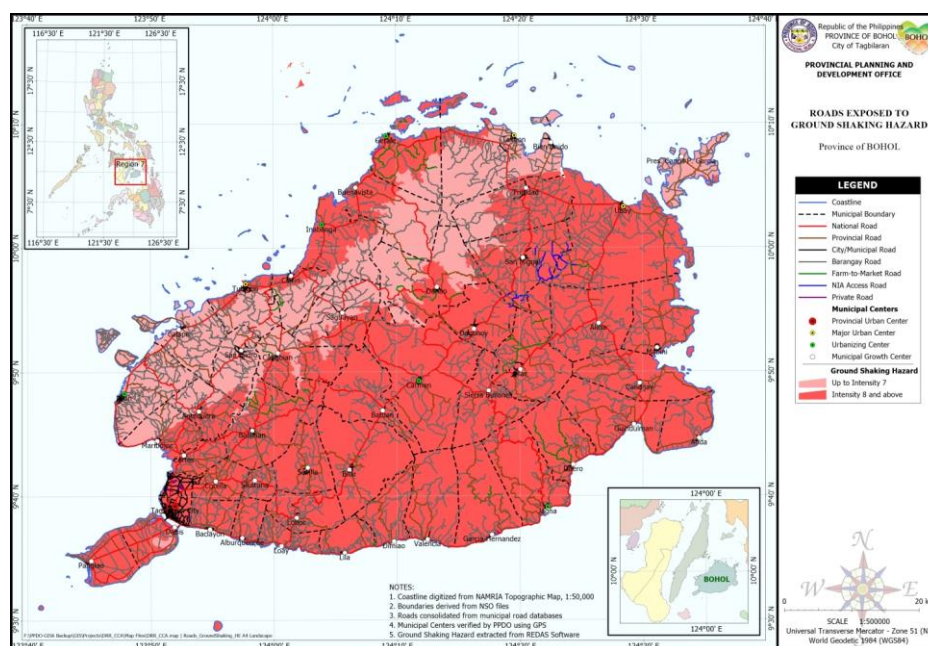


Table No. PE-59. Road Exposure to Ground Shaking by Classification

Road Classification	Total Road Length (kms.)	Roads Susceptible to Intensity 8 and above (kms.)	Percentage of Roads Susceptible to Intensity 8 and above	Roads Susceptible to Up to Intensity 7 (kms.)	Percentage of Roads Susceptible to Up to Intensity 7
National Road	725.839	580.482	79.974%	136.287	18.777%
Provincial Road	864.285	705.298	81.605%	156.621	18.121%
Municipal Road	203.972	151.769	74.407%	50.005	24.516%
City Street	108.462	107.265	98.897%		
Barangay Road	3,807.681	2,825.895	74.216%	973.644	25.571%
Farm-to-Market Road	125.338	107.062	85.419%	18.212	14.530%
NIA Access Road	38.499	38.499	100.000%		
Private Road	16.406	15.627	95.252%	0.677	4.130%
Total	5,890.482	4,531.898	76.936%	1,335.447	22.671%

On ground shaking, 76.936% of Bohol's roads are susceptible to intensity 8 and above while the rest (22.671%) are susceptible to intensity 7 and below. Both the city and NIA roads have no roads that are susceptible to intensity 7 and below.

Table No. PE-60. Roads Exposure to Ground Shaking by Municipality

Road Classification	Total Road Length (kms.)	Roads Susceptible to Intensity 8 and above (kms.)	Percentage of Roads Susceptible to Intensity 8 and above	Roads Susceptible to Up to Intensity 7 (kms.)	Percentage of Roads Susceptible to Up to Intensity 7
Albuquerque	55.013	55.013	100.000%		
Alicia	130.732	130.732	100.000%		
Anda	75.890	75.890	100.000%		
Antequera	106.350	61.234	57.578%	45.116	42.422%
Baclayon	87.045	87.045	100.000%		
Balilihan	170.700	165.000	96.661%	5.700	3.339%
Batuan	94.136	94.136	100.000%		
Bien Unido	39.752			39.752	100.000%
Bilar	104.200	104.200	100.000%		
Buenavista	106.129	67.686	63.778%	38.168	35.964%
Calape	136.547			136.547	100.000%
Candijay	132.059	132.059	100.000%		
Carmen	204.382	203.475	99.556%	0.907	0.444%
Catigbian	132.948	84.468	63.534%	48.481	36.466%
Clarín	73.820	34.551	46.804%	38.878	52.666%
Corella	72.433	72.433	100.000%		
Cortes	79.629	79.629	100.000%		
Dagohoy	102.109	100.899	98.815%	1.210	1.185%
Danao	101.087	40.884	40.445%	60.203	59.555%
Dauis	91.799	85.383	93.010%	5.835	6.357%
Dimiao	99.407	99.407	100.000%		
Duero	85.092	85.092	100.000%		
Garcia-Hernandez	99.766	99.766	100.000%		
Getafe	94.092	79.528	84.522%	13.911	14.784%
Guindulman	126.381	126.381	100.000%		
Inabanga	144.391	91.656	63.477%	51.405	35.601%
Jagna	133.878	133.878	100.000%		
Lila	68.167	68.167	100.000%		
Loay	95.738	95.738	100.000%		
Loboc	111.137	111.137	100.000%		
Loon	262.023			262.023	100.000%
Mabini	122.223	122.223	100.000%		
Maribojoc	104.997	59.997	57.142%	41.479	39.505%

Road Classification	Total Road Length (kms.)	Roads Susceptible to Intensity 8 and above (kms.)	Percentage of Roads Susceptible to Intensity 8 and above	Roads Susceptible to Up to Intensity 7 (kms.)	Percentage of Roads Susceptible to Up to Intensity 7
Panglao	80.654	79.274	98.288%	1.352	1.676%
Pilar	179.609	179.609	100.000%		
Pres. Carlos P. Garcia	76.691	2.146	2.798%	73.585	95.950%
Sagbayan	111.377	40.566	36.422%	70.811	63.578%
San Isidro	114.646	6.022	5.253%	108.624	94.747%
San Miguel	216.818	207.424	95.667%	9.394	4.333%
Sevilla	94.339	94.339	100.000%		
Sierra Bullones	140.805	140.805	100.000%		
Sikatuna	72.202	72.202	100.000%		
Tagbilaran	142.327	142.327	100.000%		
Talibon	220.657	48.529	21.993%	170.603	77.316%
Trinidad	226.059	186.936	82.693%	39.123	17.307%
Tubigon	118.553	42.200	35.596%	74.320	62.690%
Ubay	332.772	332.772	100.000%		
Valencia	118.921	118.921	100.000%		
Total	5,890.482	4,541.759	77.103%	1,337.427	22.705%

A total of 4,541.759 kms. of municipal roads are susceptible to intensity 8 and above while 1,337.427 kms. of municipal roads are susceptible to intensity 7 and below. Only three municipalities - Bien Unido, Calape, Loon – are not susceptible to intensity 8 and above.

Table No. PE-61. Road Exposure to Liquefaction Hazard by Classification

Road Classification	Total Road Length (kms.)	Roads Exposed to High Susceptibility (kms.)	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility (kms.)	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility (kms.)	Percentage of Roads Exposed to Low Susceptibility
National Road	725.839	181.892	25.060%	35.437	4.882%	58.576	8.070%
Provincial Road	864.285	157.790	18.257%	14.064	1.627%	43.733	5.060%
Municipal Road	203.972	88.551	43.414%	5.329	2.613%	11.254	5.517%
City Street	108.462	31.118	28.690%	0.377	0.348%		
Barangay Road	3,807.681	513.938	13.497%	120.621	3.168%	179.569	4.716%
Farm-to-Market Road	125.338	5.498	4.387%	0.528	0.422%	10.263	8.189%
NIA Access Road	38.499			4.447	11.552%	16.800	43.636%

Road Classification	Total Road Length (kms.)	Roads Exposed to High Susceptibility (kms.)	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility (kms.)	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility (kms.)	Percentage of Roads Exposed to Low Susceptibility
Private Road	16.406	1.988	12.119%			0.582	3.548%
Total	5,890.482	980.777	16.650%	180.804	3.069%	320.777	5.446%

*Hazard vulnerability based on data extracted from the REDAS software

There are 980.777 kms. of roads that are highly susceptible to liquefaction while 180.804 kms. are moderately susceptible and 320.777 kms. are lowly susceptible.

Table No. PE-62. Roads Exposure to Liquefaction Hazard by Municipality

Municipality	Total Road Length (kms.)	Roads Exposed to High Susceptibility (kms.)	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility (kms.)	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility (kms.)	Percentage of Roads Exposed to Low Susceptibility
Albur	55.013	12.409	22.556%				
Alicia	130.732					30.183	23.087%
Anda	75.890	32.378	42.665%			0.342	0.451%
Antequera	106.350	0.773	0.727%				
Baclayon	87.045	16.449	18.897%				
Balilihan	170.700						
Batuan	94.136					31.365	33.319%
Bien Unido	39.752	39.453	99.247%				
Bilar	104.200					28.380	27.236%
Buenavista	106.129	14.344	13.515%	8.729	8.225%		
Calape	136.547	61.983	45.393%	6.423	4.704%		
Candijay	132.059	50.470	38.218%	1.991	1.508%	0.126	0.096%
Carmen	204.382					18.353	8.980%
Catigbian	132.948						
Clarín	73.820	14.576	19.746%				
Corella	72.433						
Cortes	79.629	7.651	9.608%	3.473	4.361%		
Dagohoy	102.109					35.101	34.375%
Danao	101.087						
Daus	91.799	6.297	6.860%	13.023	14.186%		
Dimiao	99.407	14.127	14.211%				
Duero	85.092	17.287	20.315%	3.714	4.365%	0.777	0.913%
Garcia-	99.766	9.452	9.474%	4.973	4.985%	8.075	8.094%

Municipality	Total Road Length (kms.)	Roads Exposed to High Susceptibility (kms.)	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility (kms.)	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility (kms.)	Percentage of Roads Exposed to Low Susceptibility
Hernandez							
Getafe	94.092	24.192	25.711%				
Guindulman	126.381	19.810	15.675%			11.278	8.923%
Inabanga	144.391	23.176	16.051%				
Jagna	133.878	23.274	17.385%	1.867	1.395%	2.731	2.040%
Lila	68.167	6.771	9.932%	6.843	10.038%		
Loay	95.738	30.791	32.161%	1.822	1.903%		
Loboc	111.137	19.248	17.319%				
Loon	262.023	47.729	18.216%	3.621	1.382%	0.043	0.016%
Mabini	122.223	44.701	36.573%				
Maribojoc	104.997	21.549	20.523%			1.030	0.981%
Panglao	80.654	38.929	48.266%	12.996	16.113%		
Pilar	179.609					39.244	21.850%
Pres. Carlos P. Garcia	76.691	67.386	87.866%				
Sagbayan	111.377						
San Isidro	114.646						
San Miguel	216.818			9.395	4.333%	40.207	18.544%
Sevilla	94.339						
Sierra Bullones	140.805						
Sikatuna	72.202						
Tagbilaran	142.327	40.156	28.214%	1.224	0.860%		
Talibon	220.657	62.164	28.172%	6.489	2.941%		
Trinidad	226.059	66.483	29.410%	22.925	10.141%		
Tubigon	118.553	45.622	38.482%	5.154	4.347%		
Ubay	332.772	85.757	25.770%	64.331	19.332%	72.747	21.861%
Valencia	118.921	15.396	12.946%	1.810	1.522%	0.796	0.670%
Total	5,890.482	980.777	16.650%	180.804	3.069%	320.777	5.446%

*Hazard vulnerability based on data extracted from the REDAS software

There are eight municipalities, namely: Balilihan, Catigbian, Danao, Sagbayan, San Isidro, Sevilla, Sierra Bullones, Sikatuna, which are not exposed to liquefaction. Municipalities that are neither highly nor moderately but only with low susceptibility are the following: Alicia, Batuan, Bilar, Carmen, Dagohoy, and Pilar.

Map No. PE-26. ROADS EXPOSURE TO RAIN-INDUCED LANDSLIDE HAZARD

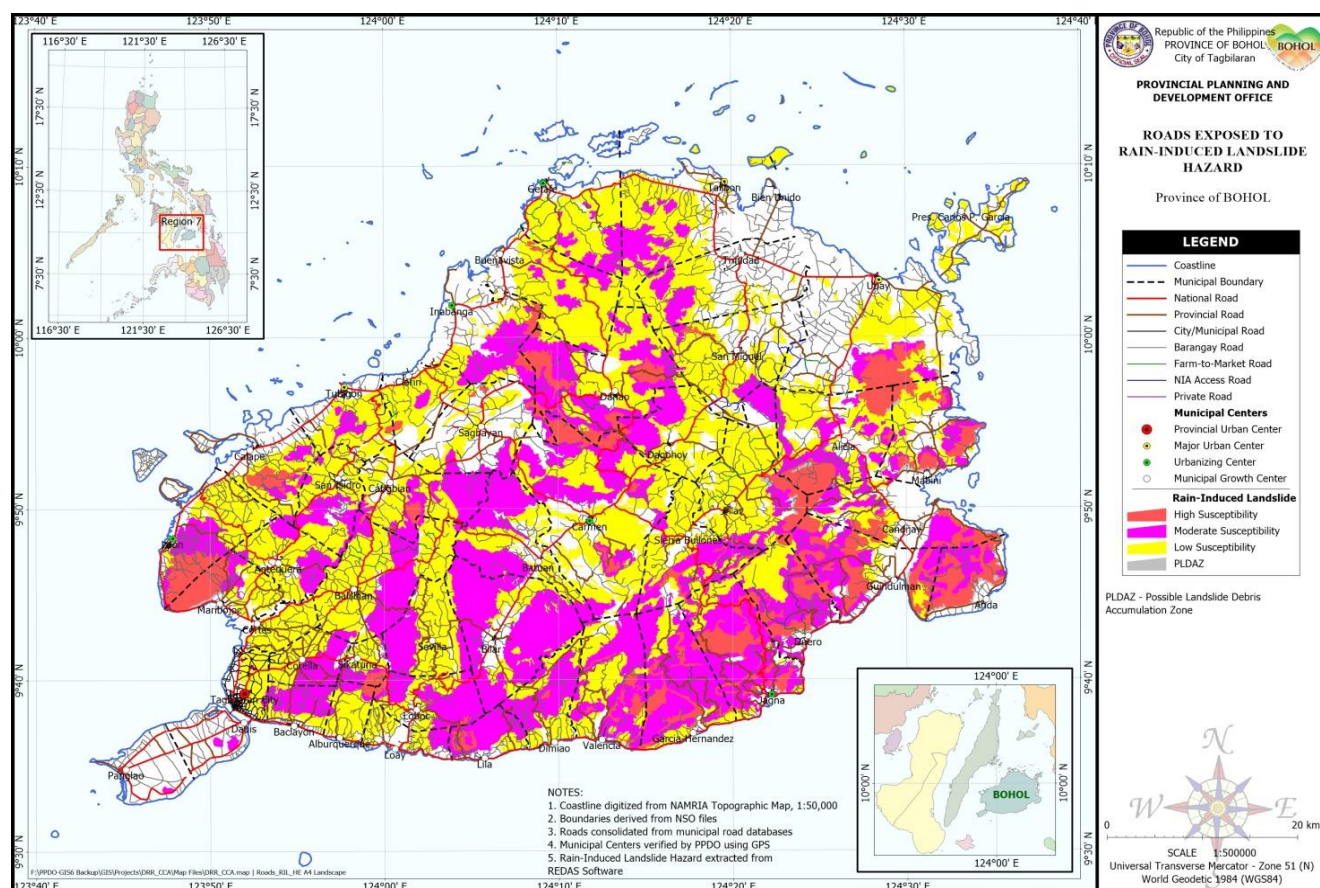


Table No. PE-63. Road Exposure to Rain-Induced Landslide Hazard by Classification

Road Classification	Total Road Length (kms.)	Roads Exposed to High Susceptibility (kms.)	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility (kms.)	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility (kms.)	Percentage of Roads Exposed to Low Susceptibility
National Road	725.839	11.770	1.622%	70.871	9.764%	240.453	33.128%
Provincial Road	864.285	45.116	5.220%	179.466	20.765%	331.714	38.380%
Municipal Road	203.972			1.905	0.934%	55.746	27.330%
City Street	108.462			1.133	1.045%	42.256	38.960%
Barangay Road	3,807.681	139.375	3.660%	657.711	17.273%	1,712.275	44.969%
Farm-to-Market Road	125.338	5.622	4.486%	29.236	23.325%	65.724	52.438%
NIA Access Road	38.499			0.297	0.771%	14.226	36.951%
Private Road	16.406			0.291	1.776%	12.817	78.123%
Total	5,890.482	201.883	3.427%	940.909	15.973%	2,475.211	42.021%

There are 3.427% or 201.883 kms. of roads that are highly susceptible to rain-induced landslide, 940.909 kms. (15.973%) of moderately susceptible roads and 2,475.211 kms. (42.021%) of lowly susceptible roads. Only the municipal roads, NIA access roads and private roads are not highly susceptible to rain-induced landslide.

*Hazard vulnerability based on data extracted from the REDAS software

Table No. PE-64. Roads Exposure to Rain-Induced Landslide Hazard by Municipality

Municipality	Total Road Length	Roads Exposed to High Susceptibility	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility	Percentage of Roads Exposed to Low Susceptibility
Albur	55.013	0.386	0.702%	5.870	10.670%	34.689	63.057%
Alicia	130.732	14.370	10.992%	31.437	24.047%	49.084	37.545%
Anda	75.890	21.133	27.847%	19.027	25.072%	1.245	1.640%
Antequera	106.350			21.475	20.193%	71.221	66.968%
Baclayon	87.045			37.470	43.046%	21.578	24.790%
Balilihan	170.700			23.259	13.626%	137.571	80.592%
Batuan	94.136			11.028	11.715%	47.685	50.655%
Bien Unido	39.752						
Bilar	104.200			30.492	29.263%	32.929	31.602%
Buenavista	106.129	2.394	2.255%	6.425	6.054%	63.331	59.674%
Calape	136.547	10.473	7.670%	8.102	5.934%	42.690	31.264%
Candijay	132.059	9.304	7.045%	17.035	12.899%	36.788	27.857%
Carmen	204.382	7.121	3.484%	43.368	21.219%	78.985	38.646%
Catigbian	132.948	3.467	2.608%	22.151	16.661%	67.537	50.799%
Clarin	73.820			0.279	0.378%	44.552	60.353%
Corella	72.433			21.479	29.654%	50.499	69.718%
Cortes	79.629					68.210	85.659%
Dagohoy	102.109	5.095	4.989%	8.701	8.522%	77.835	76.227%
Danao	101.087	6.692	6.620%	27.486	27.190%	54.482	53.897%
Dauis	91.799			0.586	0.638%		
Dimiao	99.407	0.102	0.102%	33.024	33.221%	52.229	52.540%
Duero	85.092	9.280	10.905%	46.901	55.118%	2.871	3.374%
Garcia-Hernandez	99.766	7.189	7.206%	48.211	48.324%	20.418	20.466%
Getafe	94.092	0.668	0.710%	8.119	8.628%	48.113	51.134%
Guindulman	126.381	14.388	11.385%	45.578	36.064%	17.235	13.637%
Inabanga	144.391	1.190	0.824%	29.990	20.770%	33.216	23.004%
Jagna	133.878	14.449	10.793%	62.599	46.758%	23.986	17.916%

Municipality	Total Road Length	Roads Exposed to High Susceptibility	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility	Percentage of Roads Exposed to Low Susceptibility
Lila	68.167	3.165	4.644%	26.447	38.797%	9.119	13.378%
Loay	95.738	1.476	1.542%	7.293	7.618%	42.689	44.589%
Loboc	111.137	3.808	3.427%	25.834	23.245%	59.849	53.852%
Loon	262.023	24.576	9.380%	52.371	19.987%	89.785	34.266%
Mabini	122.223	2.951	2.414%	23.754	19.435%	33.231	27.189%
Maribojoc	104.997	13.100	12.476%	17.456	16.625%	45.919	43.733%
Panglao	80.654			0.579	0.718%		
Pilar	179.609	4.714	2.624%	23.224	12.930%	133.127	74.121%
Pres. Carlos P. Garcia	76.691					30.449	39.703%
Sagbayan	111.377	1.437	1.291%	7.439	6.679%	23.336	20.952%
San Isidro	114.646			13.530	11.802%	77.299	67.424%
San Miguel	216.818	4.300	1.983%	18.981	8.755%	107.584	49.620%
Sevilla	94.339			5.938	6.294%	83.452	88.459%
Sierra Bullones	140.805	4.774	3.390%	20.273	14.398%	96.681	68.663%
Sikatuna	72.202	1.773	2.456%	20.901	28.948%	36.098	49.996%
Tagbilaran	142.327			1.133	0.796%	60.020	42.171%
Talibon	220.657			11.187	5.070%	114.319	51.809%
Trinidad	226.059	0.183	0.081%	5.532	2.447%	71.303	31.542%
Tubigon	118.553	0.448	0.377%	8.142	6.868%	47.512	40.077%
Ubay	332.772	1.463	0.440%	8.597	2.584%	79.943	24.023%
Valencia	118.921	6.014	5.057%	32.206	27.081%	54.520	45.846%
Total	5,890.482	201.883	3.427%	940.909	15.973%	2,475.211	42.021%

*Roads lengths in kilometers; Hazard vulnerability based on data extracted from the REDAS software

Of the 47 municipalities, only Bien Unido is not susceptible to rain-induced landslide. Tagbilaran City and fifteen municipalities are not highly susceptible to rain-induced landslide, namely: Antequera, Baclayon, Balilihan, Batuan, Bien Unido, Bilar, Clarin, Corella, Cortes, Dauis, Panglao, Pres. Garcia, San Isidro, Sevilla and Talibon. Only Cortes and Pres. Garcia have low susceptibility to rain-induced landslide.

Map No. PE-27. ROADS EXPOSURE TO STORM SURGE HAZARD

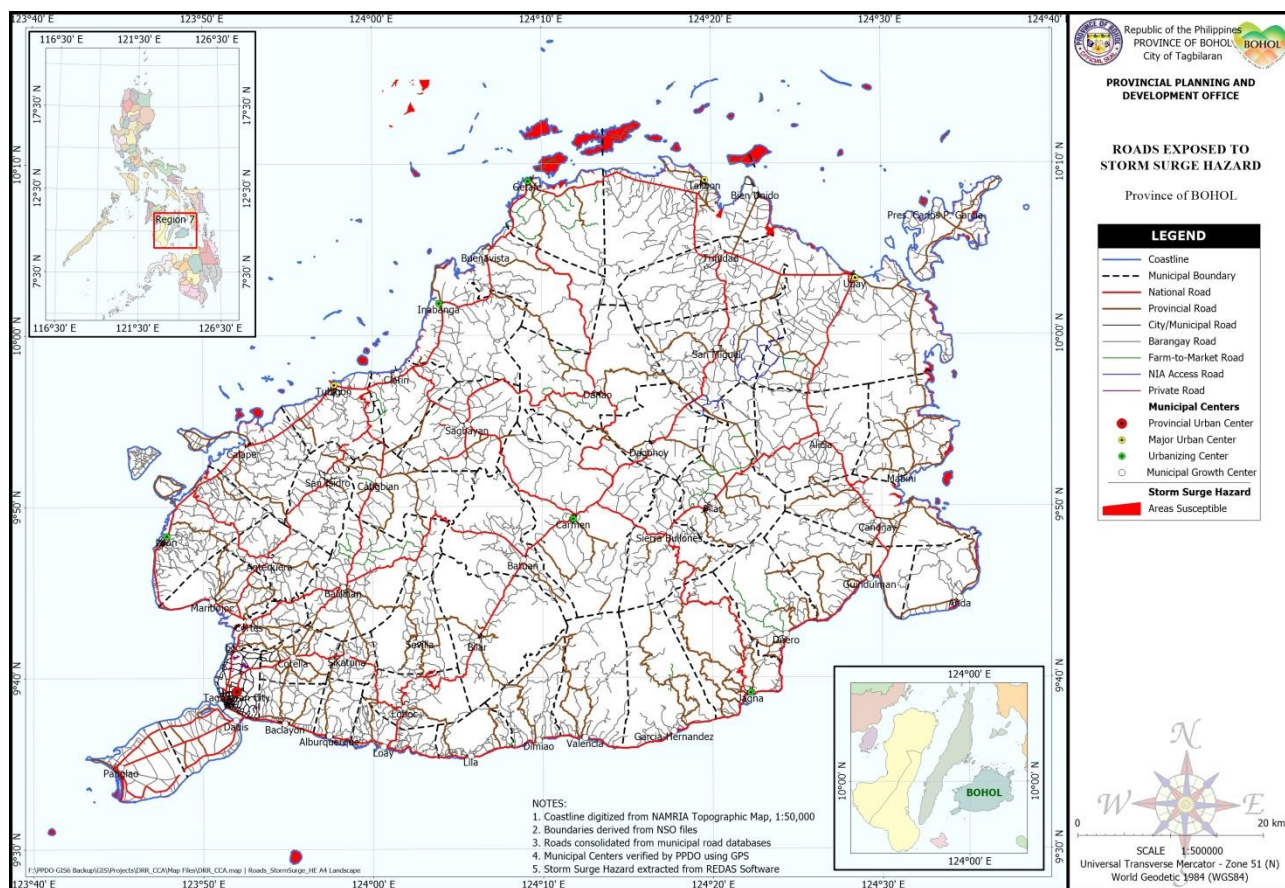


Table No. PE-65. Roads Exposure to Storm Surge Hazard by Classification

Road Classification	Total Road Length (kms.)	Roads Susceptible to up to 4m. surges (kms.)	Percentage of Roads Susceptible to up to 4m. surges	Roads Susceptible to 4m. to 12m. surges (kms.)	Percentage of Roads Susceptible to 4m. to 12m. surges
National Road	725.839	28.870	3.977%		
Provincial Road	864.285	4.984	0.577%	0.665	0.077%
Municipal Road	203.972	6.147	3.014%	0.219	0.108%
City Street	108.462	0.072	0.067%		
Barangay Road	3,807.681	34.526	0.907%	4.865	0.128%
Farm-to-Market Road	125.338	2.438	1.946%		
NIA Access Road	38.499				
Private Road	16.406	0.242	1.478%		
Total	5,890.482	77.280	1.312%	5.749	0.098%

*Hazard vulnerability based on data extracted from the REDAS software

Only 1.312% of the total road length or 77.280 kms. of roads are susceptible to surges that are up to 4 meters while there are 5.749 kms. (0.098%) of roads that are susceptible to surges reaching 4 meters up to 12 meters. Only NIA access roads are not exposed to storm surges.

Table No. PE-66. Roads Exposure to Storm Surge Hazard by Municipality

Municipality	Total Road Length (kms.)	Roads Susceptible to up to 4m. surges (kms.)	Percentage of Roads Susceptible to up to 4m. surges	Roads Susceptible to 4m. to 12m. surges (kms.)	Percentage of Roads Susceptible to 4m. to 12m. surges
Albuquerque	55.013	0.956	1.738%		
Alicia	130.732				
Anda	75.890	1.185	1.562%		
Antequera	106.350				
Baclayon	87.045	3.143	3.611%		
Balilihan	170.700				
Batuan	94.136				
Bien Unido	39.752	0.752	1.892%	2.468	6.210%
Bilar	104.200				
Buenavista	106.129	0.522	0.492%		
Calape	136.547	0.927	0.679%		
Candijay	132.059	0.422	0.320%		
Carmen	204.382				
Catigbian	132.948				
Clarín	73.820	0.176	0.238%		
Corella	72.433				
Cortes	79.629				
Dagohoy	102.109				
Danao	101.087				
Dauis	91.799	0.091	0.099%		
Dimiao	99.407	4.677	4.705%		
Duero	85.092	3.116	3.662%		
Garcia-Hernandez	99.766	5.114	5.126%		
Getafe	94.092	5.745	6.106%		
Guindulman	126.381	1.661	1.315%		
Inabanga	144.391	3.673	2.544%		
Jagna	133.878	4.746	3.545%		
Lila	68.167	3.832	5.622%		
Loay	95.738	2.269	2.370%		

Municipality	Total Road Length (kms.)	Roads Susceptible to up to 4m. surges (kms.)	Percentage of Roads Susceptible to up to 4m. surges	Roads Susceptible to 4m. to 12m. surges (kms.)	Percentage of Roads Susceptible to 4m. to 12m. surges
Loboc	111.137				
Loon	262.023	0.501	0.191%		
Mabini	122.223	0.246	0.202%	1.026	0.839%
Maribojoc	104.997	1.371	1.305%		
Panglao	80.654	0.716	0.888%		
Pilar	179.609				
Pres. Carlos P. Garcia	76.691	5.035	6.565%		
Sagbayan	111.377				
San Isidro	114.646				
San Miguel	216.818				
Sevilla	94.339				
Sierra Bullones	140.805				
Sikatuna	72.202				
Tagbilaran	142.327	0.095	0.067%		
Talibon	220.657	17.955	8.137%		
Trinidad	226.059				
Tubigon	118.553	0.273	0.231%		
Ubay	332.772	4.397	1.321%	2.255	0.678%
Valencia	118.921	3.681	3.096%		
Total Result	5,890.482	77.280	1.312%	5.749	0.098%

*Hazard vulnerability based on data extracted from the REDAS software

Twenty out of the 47 municipalities are not exposed to storm surges, namely: Alicia, Antequera, Balilihan, Batuan, Bilar, Carmen, Catigbian, Corella, Cortes, Dagohoy, Danao, Loboc, Pilar, Sagbayan, San Isidro, San Miguel, Sevilla, Sierra Bullones, Sikatuna, and Trinidad. Only Bien Unido, Mabini and Ubay are exposed to storm surges that reach both 4 meters and from 4 meters to 12 meters.

Map No. PE-27. ROADS EXPOSURE TO TSUNAMI HAZARD

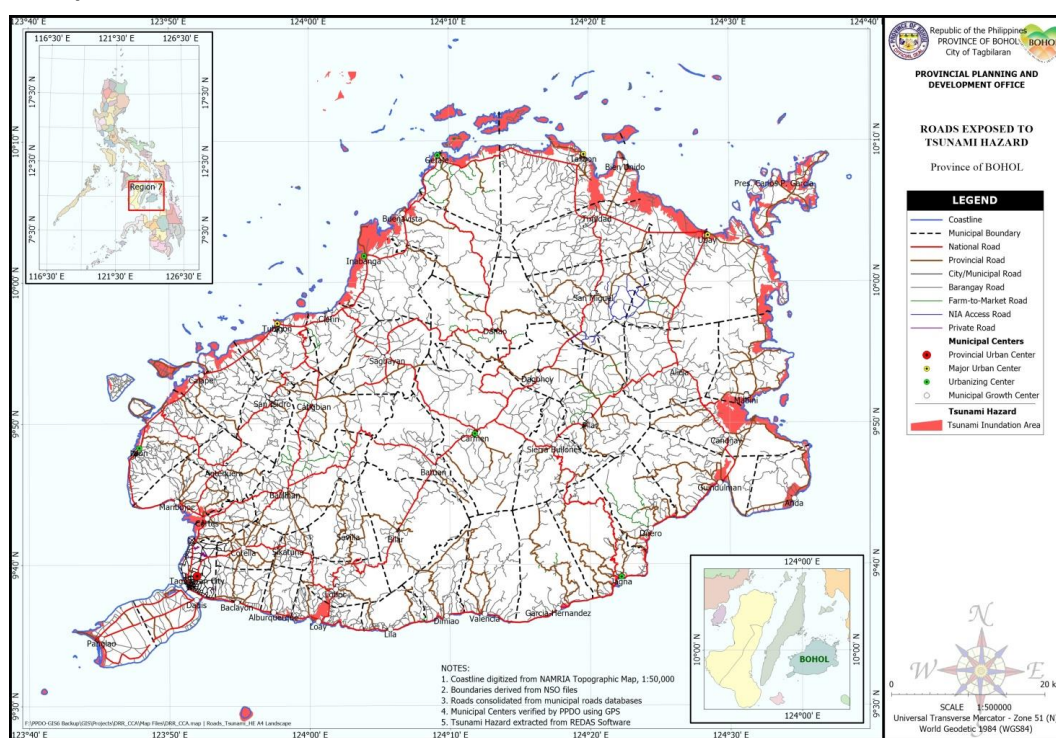


Table No. PE-67. Roads Exposure to Tsunami Hazard by Classification

Road Classification	Total Road Length (kms.)	Roads Exposed to Tsunami Hazard (kms.)	Percentage of Roads Exposed to Tsunami Hazard
National Road	725.839	60.909	8.392%
Provincial Road	864.285	53.971	6.245%
Municipal Road	203.972	32.537	15.951%
City Street	108.462	1.083	0.999%
Barangay Road	3,807.681	127.222	3.341%
Farm-to-Market Road	125.338	2.679	2.137%
NIA Access Road	38.499		
Private Road	16.406	1.125	6.856%
Total	5,890.482	279.526	4.745%

*Hazard vulnerability based on data extracted from the REDAS software

Except for the NIA access roads, all other road classification totaling 279.526 kms. (4.745%) are exposed to the tsunami hazard. The municipal roads have the highest percentage of exposure (15.951%), followed by national roads (8.392%), private roads (6.856%) and provincial roads (6.245%).

Table No. PE-68. Roads Exposure to Tsunami Hazard by Municipality

Municipality	Total Road Length (kms.)	Roads Exposed to Tsunami Hazard (kms.)	Percentage of Roads Exposed to Tsunami Hazard
Albuquerque	55.013	2.420	4.398%
Alicia	130.732		
Anda	75.890	18.792	24.763%
Antequera	106.350		
Baclayon	87.045	3.429	3.940%
Balilihan	170.700		
Batuan	94.136		
Bien Unido	39.752	13.058	32.848%
Bilar	104.200		
Buenavista	106.129	4.735	4.462%
Calape	136.547	25.846	18.928%
Candijay	132.059	6.356	4.813%
Carmen	204.382		
Catigbian	132.948		
Clarin	73.820	0.805	1.090%
Corella	72.433		
Cortes	79.629	0.833	1.046%
Dagohoy	102.109		
Danao	101.087		
Dauis	91.799	4.087	4.452%
Dimiao	99.407	7.662	7.708%
Duero	85.092	9.697	11.396%
Garcia-Hernandez	99.766	10.152	10.176%
Getafe	94.092	6.375	6.775%
Guindulman	126.381	12.454	9.855%
Inabanga	144.391	14.401	9.974%
Jagna	133.878	15.407	11.508%
Lila	68.167	2.909	4.268%
Loay	95.738	7.555	7.892%
Loboc	111.137	1.289	1.160%
Loon	262.023	4.882	1.863%
Mabini	122.223	8.539	6.986%
Maribojoc	104.997	3.733	3.556%
Panglao	80.654	9.682	12.004%
Pilar	179.609		

Municipality	Total Road Length (kms.)	Roads Exposed to Tsunami Hazard (kms.)	Percentage of Roads Exposed to Tsunami Hazard
Pres. Carlos P. Garcia	76.691	14.404	18.781%
Sagbayan	111.377		
San Isidro	114.646		
San Miguel	216.818		
Sevilla	94.339		
Sierra Bullones	140.805		
Sikatuna	72.202		
Tagbilaran	142.327	1.955	1.373%
Talibon	220.657	27.124	12.293%
Trinidad	226.059	1.108	0.490%
Tubigon	118.553	7.623	6.430%
Ubay	332.772	25.947	7.797%
Valencia	118.921	6.266	5.269%
Total	5,890.482	279.526	4.745%

*Hazard vulnerability based on data extracted from the REDAS software

There are 17 municipalities that are not exposed to the tsunami hazard, namely: Alicia, Antequera, Balilihan, Batuan, Bilar, Carmen, Catigbian, Corella, Dagohoy, Danao, Pilar, Sagbayan, San Isidro, San Miguel, Sevilla, Sierra Bullones, Sikatuna, Anda, Bien Unido and Pres. Garcia are the top three municipalities with the highest percentage of exposure to the tsunami hazard.

INCOME, EMPLOYMENT, SERVICE ACCESS AND POVERTY

Impact of Climate Change On Health And Water Supply

Climate change creates a negative impact on the health of Boholanos, particularly of vulnerable groups. Vulnerable groups in Bohol include women in especially difficult circumstances; children in need of social protection; disadvantaged/out of school youth; persons with disabilities; older persons; rebel returnees; indigenous peoples and upland settlers; dysfunctional families; victims of disasters and calamities; persons adversely affected by socio-economic risks and shocks, as well as natural and climate change-associated hazards and calamities.

Water supply is likewise affected by climate change. Water sources that are located in flood-prone areas are susceptible to contamination due to flooding. Contaminated water will result to disease outbreak.

INITIATIVES TO ADDRESS CLIMATE CHANGE CONCERNS

Several strategies were formulated by the Provincial Government of Bohol to reduce water-borne diseases and to provide adequate and safe drinking water with the goal of providing safe and clean water on a regular basis. Such strategies are proper siting of reservoir, encouraging a Public-Private Partnership to develop water supply system. Retrofitting of water supply system for resiliency, and flood-proofing of water source through the construction of reservoir. Some projects and activities were identified such as the implementation of the Bohol Water and Sanitation Master Plan, rehabilitation of the water system facilities managed by local water districts in the municipalities, development of new water sources, and expanding the coverage of Level 3 water system.

Other initiatives done to address climate change concerns on income, employment, service access and poverty are presented in the tables herein below.

Table No. PE-68. For Climate Change Adaptation and Mitigation Strategies

A) Water and Sanitation Sector		
Key Impacts of CC on Agriculture	Adaptation, Mitigation and Disaster Risk Reduction Strategies	Prioritized Strategies
<ul style="list-style-type: none"> Degradation of Water Quality Salt water intrusion Decreasing water supply High incidence of WATSAN related diseases Increase in OPEX and CAPEX for WATSAN Unregulated water extraction Poor service delivery 	<ul style="list-style-type: none"> Strict enforcement of environmental laws and ordinances <ul style="list-style-type: none"> (PD 856) Code on Sanitation (RA 9003) Ecological Solid Waste Management Act of 2000 (RA 9275) Philippine Clean Water Act of 2004 Surface water development to increase water supply Institutionalization of NWRB Division on Monitoring and Managing water permits Watershed rehabilitation and improvement Rainwater harvesting Improve groundwater recharging system Local monitoring of groundwater extraction 	<ul style="list-style-type: none"> Establishment of water treatment facilities Creation of water quality surveillance team Regular water sampling on water sources ECC provision requiring establishment for a watershed trust fund and distribution of seedlings Rehabilitation of mangrove areas

Table No. PE- 69. PROGRAM AND POLICY ACTION AGENDA PER SECTOR STRATEGY

A) Water and Sanitation			
Prioritized Strategies	Project/Programs / Activities (PPAs)	Policy Support Needed	Funding Requirement/ Sources
Strategy 1 Rain Water Harvesting	Information Drive on rainwater Collector Identification of Beneficiaries/ location Technical/ Specification Construction and Operation	Resolution adopting establishment of Rain water collector Formulation of Procedure & Usage or Rain Collector Creation of Monitoring & Evaluation	1,500.00 per IEC (Local funds, CDF per brgy) P60,000.00 per IEC materials and others P50,000/ unit
Strategy 2 Local Monitoring of Groundwater Extraction	Creation of a Local ground Water Regulatory Committee Conduct of Ocular Inspection of	Enactment of Local ordinance regulating groundwater utilization	LOCAL FUNDS: ■ P50,000.00 per year/ LGU-Transportation

	existing ground water sources Data Base Establishment Periodic Monitoring on Water Quality and Quantity		Expenses ▪ P60,000.00- IT Support ▪ P20,000.00 Public Consultation & IEC Expenses
Strategy 3 Advocacy on efficient and economical use of water	Designing of IEC Module Production of Water Consumer's Manual IEC through Brgy. Assemblies in coordination with local WSPs Monitor and ensure implementation of all water tariff collection that is intended for watershed management	Executive Order from the Governor to Mayors and Barangay Captains Creation of Monitoring Team per LGU	P20,000.00/ barangay (LGU Funds) P30,000.00 per Brgy/WSP fund

Table No. PE-70. Summary of Potential Exposure of Areas, Population & Physical Assets to Various Types of Hazards

Type of Hazards	Agricultural Areas Exposed (Municipalities and extent of areas highly exposed (hectares and % of total municipal area)	Population Exposed (Number of population highly exposed and % of population of total provincial population)	Built-up Areas Exposed (Municipalities and extent of areas highly exposed (hectares and % of total municipal area)	Physical Assets Exposed (Type and number of physical assets exposed and % of total assets)
Earthquake-induced landslide	HS -67.72 has (0.03%) MS-2,964.52has (1.22%) LS -12,295.51 has (5.08%)	HS - 939 (0.05%) MS- 15,441 (0.83%) LS - 53,639 (2.72%)	HS-none MS-8.98 has (0.047%) LS-42.88 has (0.51%)	Not yet met
Ground shaking	VHS-152,340.60(63.00%) HS-15,966.62 (7.00%) MS-4,657.25 (2.00%) LS-6,840.90 (3.00%) VLS-1,696.95 (1.00%)	GS8 - 950,718 (75.74%) GS7-258,048 (20.55%)	GS8-7,739.80 (89.64%)	Not yet met
Liquefaction	HS - 50,768.90 or (20.98%)	HS - 333,127 (26.54%) MS- 34,006 (2.71%) LS- 40,947 (2.26%)	HS- 4,951.39 (57.35%)	Not yet met
Tsunami	GS8-6,250.44 (2.58%)	GS8 – 143,727 (11.45%)	GS8- 1,359.66 (15.75%)	Not yet met
Rain-induced landslide	HS -13,582.49 has (5.61%) MS-44,808.53has (18.51%) LS-105, 680.42 has (43.66%) Landslide Deposits Accumulation:LDA LDA - 892.35 has or (0.36%)	HS - 66,291(5.28%) MS- 180,801(14.40%) LS - 400,211(31.88%) Landslide Deposits Accumulation:LDA LDA - 5,371 or (0.42%)	HS-7.81 has (0.09%) MS-95.30 has (1.10%) LS-1,558.6 has (18.05%)	Not yet met
Floods	336 barangays of the 1,109 barangays in Bohol (47 municipalities % 1-city) covering 3,163 hectares (source; MGB-7 2007)	371,269 of the 1,255,128 (29.58%) of the total population of Bohol		Municipal buildings other government buildings, barangay halls, health centers, crops, trees, livestock, roads, bridges, schools, markets,
Storm Surge	HS – 1,450.67 (0.60%)	HS - 46,227 or (3.68%) Areas affected: 5,912 has	HS-359.27 has (4.16%)	Not yet met

**Table No. PE-71: POPULATION EXPOSURE TO EARTHQUAKE-INDUCED LANDSLIDE BY MUNICIPALITY
Province of Bohol**

Municipality	No. of Families 2010	Families under Poverty Level Exposed	Percentage to Total No. of Families	Number of Informal Settlers (Families)	Percentage to Total No. of Families
Alburquerque	1872	26	0.014		
Alicia	4205	99	0.024		
Anda	3190	95	0.030		
Antequera	2732	42	0.015		
Baclayon	3515	25	0.007		
Balilihan	3235	152	0.047		
Batuan	2345	182	0.077		
Bien Unido	4867	-	0.000		
Bilar	3226	180	0.056		
Buenavista	5100	53	0.010		
Calape	5688	46	0.008		
Candijay	5480	167	0.030		
Carmen	8222	198	0.024		
Catigbian	4280	95	0.022		
Clarín	3829	19	0.005		
Corella	1453	23	0.016		
Cortes	2886	10	0.004		
Dagohoy	3560	69	0.019		
Danao	3387	102	0.030		
Dauis	7443	5	0.001		
Dimiao	2862	80	0.028		
Duero	3317	127	0.038		
Garcia-Hernandez	4347	188	0.043		
Getafe	5243	17	0.003		
Guindulman	5998	221	0.037		
Inabanga	8168	64	0.008		
Jagna	6145	144	0.023		
Lila	2261	61	0.027		
Loay	3068	41	0.013		
Loboc	3078	140	0.045		
Loon	8075	56	0.007		
Mabini	5316	163	0.031		
Maribojoc	3866	21	0.006		
Panglao	5397	0	0.000		
Pilar	5073	89	0.018		
Pres. C. P. Garcia	4394	13	0.003		
Sagbayan	3791	43	0.011		
San Isidro	1722	88	0.051		
San Miguel	4448	22	0.005		
Sevilla	1970	125	0.064		
Sierra Bullones	4660	137	0.029		
Sikatuna	1204	57	0.047		
Tagbilaran City	18263	6	0.000		
Talibon	11580	19	0.002		
Trinidad	5439	22	0.004		

Municipality	No. of Families 2010	Families under Poverty Level Exposed	Percentage to Total No. of Families	Number of Informal Settlers (Families)	Percentage to Total No. of Families
Tubigon	8472	57	0.007		
Ubay	12939	72	0.006		
Valencia	5205	219	0.042		
T o t a l	236,817	3,879	0.016		

**Table No. PE-72: POPULATION EXPOSURE TO GROUND SHAKING HAZARD PER MUNICIPALITY
Province of BOHOL**

Municipality	Families under Poverty Level Exposed	Percentage to Total No. of Families	Number of Informal Settlers (Families)	Percentage to Total No. of Families
Alburquerque	298	0.159		
Alicia	1425	0.339		
Anda	979	0.307		
Antequera	505	0.185		
Baclayon	492	0.140		
Balilihan	1013	0.313		
Batuan	757	0.323		
Bien Unido	1694	0.348		
Bilar	729	0.226		
Buenavista	1988	0.390		
Calape	1445	0.254		
Candijay	1878	0.343		
Carmen	3157	0.384		
Catigbian	1584	0.370		
Clarin	1009	0.264		
Corella	260	0.179		
Cortes	457	0.158		
Dagohoy	1449	0.407		
Danao	1446	0.427		
Dauis	1242	0.167		
Dimiao	875	0.306		
Duero	966	0.291		
Garcia-Hernandez	1214	0.279		
Getafe	1907	0.364		
Guindulman	1807	0.301		
Inabanga	2614	0.320		
Jagna	1189	0.194		
Lila	434	0.192		
Loay	583	0.190		
Loboc	662	0.215		
Loon	1777	0.220		
Mabini	2398	0.451		
Maribojoc	643	0.166		
Panglao	854	0.158		
Pilar	1968	0.388		
Pres. C.P. Garcia	2080	0.473		
Sagbayan	911	0.240		

Municipality	Families under Poverty Level Exposed	Percentage to Total No. of Families	Number of Informal Settlers (Families)	Percentage to Total No. of Families
San Isidro	773	0.449		
San Miguel	1899	0.427		
Sevilla	624	0.317		
Sierra Bullones	1636	0.351		
Sikatuna	349	0.290		
Tagbilaran City	1437	0.079		
Talibon	3454	0.298		
Trinidad	2158	0.397		
Tubigon	2089	0.247		
Ubay	5026	0.388		
Valencia	1483	0.285		
Total	43,112	13.959		

Table No. PE-73. POPULATION EXPOSURE TO TSUNAMI HAZARD PER MUNICIPALITY
Province of BOHOL

Municipality	Families under Poverty Level Exposed	Percentage to Total No. of Families	Number of Informal Settlers (Families)	Percentage to Total No. of Families
Albuquerque	18	0.010		
Alicia	0	0.000		
Anda	235	0.074		
Antequera	0	0.000		
Baclayon	56	0.016		
Balilihan	0	0.000		
Batuan	0	0.000		
Bien Unido	1,210	0.249		
Bilar	0	0.000		
Buenavista	123	0.024		
Calape	454	0.080		
Candijay	295	0.054		
Carmen	0	0.000		
Catigbian	0	0.000		
Clarin	40	0.010		
Corella	0	0.000		
Cortes	50	0.017		
Dagohoy	0	0.000		
Danao	0	0.000		
Dauis	57	0.008		
Dimiao	26	0.009		
Duero	82	0.025		
Garcia-Hernandez	79	0.018		
Getafe	844	0.161		
Guindulman	260	0.043		
Inabanga	794	0.097		
Jagna	123	0.020		
Lila	17	0.008		

Municipality	Families under Poverty Level Exposed	Percentage to Total No. of Families	Number of Informal Settlers (Families)	Percentage to Total No. of Families
Loay	149	0.049		
Loboc	10	0.003		
Loon	182	0.023		
Mabini	351	0.066		
Maribojoc	108	0.028		
Panglao	165	0.031		
Pilar	0	0.000		
Pres. C. P. Garcia	936	0.213		
Sagbayan	0	0.000		
San Isidro	0	0.000		
San Miguel	0	0.000		
Sevilla	0	0.000		
Sierra Bullones	0	0.000		
Sikatuna	0	0.000		
Tagbilaran City	23	0.001		
Talibon	921	0.080		
Trinidad	89	0.016		
Tubigon	383	0.045		
Ubay	1,084	0.084		
Valencia	54	0.010		
Total	9,217	0.039		

Table No. PE-74. POPULATION EXPOSURE TO LIQUEFACTION HAZARD PER MUNICIPALITY
Province of BOHOL

Municipality	Families under Poverty Level Exposed	Percentage to Total No. of Families	Number of Informal Settlers (Families)	Percentage to Total No. of Families
Alburquerque	65	0.035		
Alicia	305	0.073		
Anda	374	0.117		
Antequera	8	0.003		
Baclayon	139	0.040		
Balilihan	0	0.000		
Batuan	188	0.080		
Bien Unido	1,695	0.348		
Bilar	133	0.041		
Buenavista	653	0.128		
Calape	976	0.172		
Candijay	687	0.125		
Carmen	213	0.026		
Catigbian	0	0.000		
Clarin	307	0.080		
Corella	0	0.000		
Cortes	116	0.040		
Dagohoy	554	0.156		
Danao	2	0.001		
Dauis	275	0.037		
Dimiao	89	0.031		

Municipality	Families under Poverty Level Exposed	Percentage to Total No. of Families	Number of Informal Settlers (Families)	Percentage to Total No. of Families
Duero	270	0.081		
Garcia-Hernandez	196	0.045		
Getafe	1,157	0.221		
Guindulman	482	0.080		
Inabanga	987	0.121		
Jagna	291	0.047		
Lila	60	0.027		
Loay	285	0.093		
Loboc	91	0.030		
Loon	704	0.087		
Mabini	761	0.143		
Maribojoc	260	0.067		
Panglao	624	0.116		
Pilar	509	0.100		
Pres. C. P. Garcia	1,740	0.396		
Sagbayan	0	0.000		
San Isidro	0	0.000		
San Miguel	394	0.89		
Sevilla	0	0.000		
Sierra Bullones	0	0.000		
Sikatuna	0	0.000		
Tagbilaran City	473	0.026		
Talibon	1,763	0.152		
Trinidad	1,123	0.206		
Tubigon	1,189	0.140		
Ubay	3,532	0.273		
Valencia	208	0.040		
TOTAL	23,878	4.113		

Table No. PE-75. POPULATION EXPOSURE TO STORM SURGE HAZARD PER MUNICIPALITY
Province of BOHOL

Municipality	Families under Poverty Level Exposed	Percentage to Total No. of Families	Number of Informal Settlers (Families)	Percentage to Total No. of Families
Alburquerque	8	0.004		
Alicia	0	0.000		
Anda	43	0.014		
Antequera	0	0.000		
Baclayon	38	0.011		
Balilihan	0	0.000		
Batuan	0	0.000		
Bien Unido	741	0.152		
Bilar	0	0.000		
Buenavista	13	0.003		
Calape	55	0.010		
Candijay	27	0.005		
Carmen	0	0.000		
Catigbian	0	0.000		

Municipality	Families under Poverty Level Exposed	Percentage to Total No. of Families	Number of Informal Settlers (Families)	Percentage to Total No. of Families
Clarín	17	0.004		
Corella	0	0.000		
Cortes	7	0.002		
Dagohoy	0	0.000		
Danao	0	0.000		
Dauis	0	0.000		
Dimiao	3	0.001		
Duero	18	0.006		
Garcia-Hernandez	21	0.005		
Getafe	672	0.128		
Guindulman	28	0.005		
Inabanga	96	0.012		
Jagna	24	0.004		
Lila	12	0.006		
Loay	32	0.010		
Loboc	0	0.000		
Loon	47	0.006		
Mabini	138	0.026		
Maribojoc	26	0.007		
Panglao	62	0.012		
Pilar	0	0.000		
Pres. C. P. Garcia	302	0.069		
Sagbayan	0	0.000		
San Isidro	0	0.000		
San Miguel	0	0.000		
Sevilla	0	0.000		
Sierra Bullones	0	0.000		
Sikatuna	0	0.000		
Tagbilaran City	10	0.001		
Talibon	491	0.042		
Trinidad	1	0.000		
Tubigon	73	0.009		
Ubay	183	0.014		
Valencia	22	0.004		
Total	3,212	0.014		

Table No. PE-76. POPULATION EXPOSURE TO RAIN-INDUCED LANDSLIDE BY MUNICIPALITY
Province of BOHOL

Municipality	Municipal Population	Exposed Population in High Susceptible Areas	Exposed Population in Moderate Susceptible Areas	Exposed Population in Low Susceptible Areas	Exposed Population of Possible Landslide Deposit Accumulation Zone	Population Exposure Percentage in High Susceptible Areas	Population Exposure Percentage in Moderate Susceptible Areas	Population Exposure Percentage in Low Susceptible Areas	Population Exposure Percentage in Possible Landslide Deposit Accumulation Zone
Alburquerque	9,921	136	723	6,662		1.374%	7.287%	67.153%	
Alicia	22,285	2,358	4,895	8,468	131	10.581%	21.964%	38.001%	0.588%
Anda	16,909	7,148	2,335		1,203	42.272%	13.810%		7.117%
Antequera	14,481		3,678	8,887			25.397%	61.372%	

Bohol Provincial Development and Physical Framework Plan (PDPFP) 2016-2028

Municipality	Municipal Population	Exposed Population in High Susceptible Areas	Exposed Population in Moderate Susceptible Areas	Exposed Population in Low Susceptible Areas	Exposed Population of Possible Landslide Deposit Accumulation Zone	Population Exposure Percentage in High Susceptible Areas	Population Exposure Percentage in Moderate Susceptible Areas	Population Exposure Percentage in Low Susceptible Areas	Population Exposure Percentage in Possible Landslide Deposit Accumulation Zone
Baclayon	18,630		5,341	4,497			28.668%	24.140%	
Balilihan	17,147	128	4,164	12,358	8	0.746%	24.283%	72.071%	0.047%
Batuan	12,431		4,341	4,842			34.918%	38.948%	
Bien Unido	25,796			7,253				28.118%	
Bilar	17,098		9,735	2,711			56.935%	15.855%	
Buenavista	27,031	623	1,628	11,686		2.305%	6.021%	43.232%	
Calape	30,146	1,384	1,122	5,478		4.589%	3.722%	18.171%	
Candijay	29,043	3,299	5,984	6,164	297	11.358%	20.605%	21.224%	1.024%
Carmen	43,579	1,533	10,481	17,967		3.517%	24.050%	41.229%	
Catigbian	22,686	611	5,597	11,507	10	2.692%	24.674%	50.724%	0.046%
Clarín	20,296	603	494	11,970		2.970%	2.436%	58.978%	
Corella	7,699		2,529	4,973			32.851%	64.591%	
Cortes	15,294			11,305				73.919%	
Dagohoy	18,868	356	2,930	12,215		1.886%	15.527%	64.741%	
Danao	17,952	1,669	4,539	9,539		9.296%	25.283%	53.137%	
Dauis	39,448		2,126				5.389%		
Dimiao	15,166	219	4,940	8,400		1.446%	32.572%	55.390%	
Duero	17,580	3,613	6,566	1,272	663	20.554%	37.348%	7.236%	3.773%
G-Hernandez	23,038	2,708	10,203	5,940	345	11.753%	44.288%	25.782%	1.495%
Getafe	27,788	74	897	6,823		0.266%	3.228%	24.555%	
Guindulman	31,789	8,096	6,935	3,695	472	25.468%	21.817%	11.623%	1.485%
Inabanga	43,291	1,384	6,269	6,413		3.197%	14.480%	14.813%	
Jagna	32,566	6,018	14,226	3,133	325	18.478%	43.684%	9.622%	0.999%
Lila	11,985	1,257	4,494	2,806		10.488%	37.494%	23.410%	
Loay	16,261	113	1,518	4,879		0.695%	9.336%	30.006%	
Loboc	16,312	760	6,394	6,589		4.656%	39.196%	40.394%	
Loon	42,800	2,607	5,468	8,764		6.091%	12.775%	20.477%	
Mabini	28,174	5,887	4,828	5,098	747	20.894%	17.138%	18.093%	2.650%
Maribojoc	20,491	2,841	1,668	6,226	536	13.862%	8.140%	30.382%	2.617%
Panglao	28,603		212				0.740%		
Pilar	26,887	1,652	2,566	19,910	236	6.145%	9.542%	74.051%	0.878%
Pres. C. Garcia	23,287			7,317				31.422%	
Sagbayan	20,091	329	1,489	5,553	36	1.638%	7.410%	27.640%	0.182%
San Isidro	9,125	6	1,511	6,355		0.063%	16.557%	69.642%	
San Miguel	23,574	179	756	11,373		0.761%	3.205%	48.242%	
Sevilla	10,443		2,280	7,752			21.831%	74.229%	
Sierra Bullones	24,698	1,743	6,026	13,094		7.056%	24.400%	53.017%	
Sikatuna	6,380	694	1,366	3,403		10.884%	21.405%	53.345%	
Tagbilaran City	96,792		1,325	34,727			1.369%	35.878%	
Talibon	61,373		2,383	19,949			3.882%	32.505%	
Trinidad	28,828		1,312	6,205			4.552%	21.523%	
Tubigon	44,902	585	1,994	12,721		1.303%	4.441%	28.331%	
Ubay	68,578	2,955	1,269	13,516	14	4.308%	1.851%	19.709%	0.020%
Valencia	27,586	2,726	9,267	9,814	347	9.882%	33.594%	35.576%	1.256%
Total	1,255,128	66,291	180,801	400,211	5,371	5.282%	14.405%	31.886%	0.428%

Chapter III

SITUATIONAL ANALYSIS (ISSUES AND PROBLEMS)



SECTOR: ENVIRONMENT & NATURAL RESOURCES MANAGEMENT

LIST OF ACRONYMS

A & D	Alienable and Disposable
ACCCRN	Asian Cities for Climate Change Resiliency Network
ADB	Asian Development Bank
BEMO	Bohol Environment Management Office
BISU	Bohol Island State University
BSWM	Bureau of Soil and Water Management
CARP	Comprehensive Agrarian Reform Program
CCA	Climate Change Adaptation
CCC	Climate Change Commission
CENRO	Community Environment and Natural Resources Office
CLUP	Comprehensive Land Use Plan
CRM	Coastal Resource Management
CRMP	Coastal Resource Management Plan
CBFMA	Community-based Forest Management Agreement
DA	Department of Agriculture
DAR	Department of Agrarian Reform
DENR	Department of Environment and Natural Resources
DEPED	Department of Education
DOT	Department of Tourism
DOH	Department of Health
DPWH	Department of Public Works and Highways
DRR	Disaster Risk Reduction
DRM	Disaster Risk Management
DSWD	Department of Social Welfare and Development
EMB	Environmental Management Bureau
EIA	Environmental Impact Assessment

ECC	Environmental Compliance Certificate
ESWM	Ecological Solid Waste Management
GAD	Gender and Development
HH	Households
HLURB	Housing Land Use Regulatory Board
ICLEI	International Council for Local Environmental Initiatives
IPCC	Inter-governmental Panel for Climate Change
LGU	Local Government Unit
LC	Land Classification
LMB	Land Management Bureau
LPRAP	Local Poverty Reduction Action Plan
MDC	Municipal Development Council
MDG	Millennium Development Goals
MGB	Mines and Geosciences Bureau
MFARMC	Municipal Fisheries and Aquatic Resource Management Council
MPA	Marine Protected Areas
MPDO	Municipal Planning and Development Office
MHU	Municipal Health Unit
NEDA	National Economic Development Authority
NGA	National Government Agency
NGO	Non Government Organization
NSO	National Statistics Office
NIA	National Irrigation Administration
NIPAS	National Integrated Protected Areas System
NPAAD	Network of Protected Area for Agricultural Development
PACBRMA	Protected Area Community-based Resource Management Agreement
PDC	Provincial Development Council
PDMS	Poverty Database and Monitoring System
PLPEM	Provincial/Local Planning and Expenditure Management
PLUC	Provincial Land Use Committee
PPDO	Provincial Planning and Development Office
PDPFP	Provincial Development and Physical Framework Plan
PDIP	Provincial Development Investment Program
SAFDZ	Strategic Agriculture and Fisheries Development Zone
SB	Sangguniang Bayan
SP	Sangguniang Panlalawigan
SWM	Solid Waste Management
TESDA	Technical Education and Skills Development Authority

DEFINITION OF TERMS

Agricultural Lands	are lands used exclusively or predominantly for cultivation, livestock production, and fishponds.
Agricultural Land Use	is the use of land involving primarily agricultural activities such as farming, fishing, livestock raising, and other related activities.
Commercial Land Use	is the use of land for business and trading activities such as wholesale, retail, finance, hotels and restaurant and personal services.
Cottage Industry	is an economic industry or activity carried on mainly in homes or in other places of profit and mainly done with the help of the members of the family with a capitalization not exceeding P 100,000.00.
Croplands	are lands devoted to the cultivation of food crops and commercial crops. Specifically, food crops, fruits and vegetable (except onion and potatoes), beans and peas, coffee, citrus and all other food crops.
Development Concept	is a strategy for the future spatial development of a town proposed to be adopted as a guide for its physical growth.
Demography	is the study of the population variables including the size, composition and distribution of the people.
Dwelling Unit	is a separate and independent place of abode intended for habitation but occupied as living quarters by a household at the time of the census.
Existing Land Use Map	is the map, which reflects the extent, and intensity of existing land uses and serves as one of the bases for subsequent land use proposals.
Erosion Potential	is the degree of susceptibility to erosion is soil types, slope, vegetation and intensity of rainfall.
Environmental Mgt	includes the physical factors of the total surroundings of human beings, including the land, water, atmosphere, climate, sound, tastes, the biological factors of animals and plants and the social factors of aesthetics.
Fishponds	are bodies of water within the coastline devoted to the breeding and production of aquatic life like fishes, shrimps, etc. which include brackish or fresh water.
Flooding Hazard	is a part of province/city/municipality, which indicates or shows potential or actual flooding problems.
Forest Lands	are lands predominantly covered with dipterocarp, pine, mangrove, or industrial trees used either for timber production, water and soil conservation and wildlife refuge are not limited to public forests or forest lands which are public lands.
Future Housing Need	is the number of dwelling units required to serve the demands of the projected increase in the number of households due to population growth and backlog. Moreover, it also refers to the replacement, which represents the possible loss of dwelling units due to natural calamities, obsolescence and decay.
General Land Use Map	is the map, which reflects the broad categories of land uses.
Goal	is the general direction, which the municipality seeks to achieve that set the guideposts for objectives, strategies, policies, programs and projects.
Households	consist of a group of people who sleep in the same dwelling unit and have common arrangement for the preparation and consumption of food. Household members may include those who have no relationship to the

	central group but eat and sleep in the same dwelling unit. In most cases, a household consists of related groups.
Housing Backlog	is the number of dwelling units required for households, which are involuntarily doubled-up with other households. Also, the number of dwelling units found in the housing inventory, especially barang-barongs and dwelling units constructed wholly or mainly of light and makeshift materials.
Industrial Land Use	is the use of land for manufacturing purposes or the transportation of raw materials into finished or semi-finished products, including cottages and small-scale industries.
Institutional Land Use	is the use of land for public or private institution such as government buildings, hospitals, school's, churches, etc.
Land Use Planning	is a mean of systematically anticipating, achieving adjustment of the physical and biological environment consistent with the social and economic trends and sound principles of ecology and aesthetics. It is the proper management of land resources. It is a way in which an area of land is actually being put to use.
Land Use Map	is the factual visual description of the present uses of lands. It reflects nature, extent and intensity of the use of land.
Land Capability	is the classification of land into categories based on the maximum intensity of land use that would be consistent with low erosion rates and sustained productivity.
Land Suitability	is the classification of land into categories based on the degree to which the characteristics of the land can satisfy the environmental requirements of specific crops, without deterioration.
Map	is a selective symbolized and generalized picture of the partial distribution of the Earth's surface as viewed from the above at a much-reduced scale.
Municipal Park	this is developed to serve the population of a town. Its location is commended to be at the outskirts of the town for both active and passive recreation. Its facilities include picnic areas, gardens, areas for active games and possibly other facilities for activities such as boating, swimming, hiking.
Natural Resources	is a wealth supplied by nature resulting or consisting of mineral deposits, soil fertility, timber, water sources, power, fish, wildlife and among others.
Open Spaces	are non-agricultural lands that are used functionally as park, playground and cemetery.
Playground	is usually can be found in neighborhood parks, contains facilities for passive recreation for all ages, a play lot for pre school children and a center for special events like festivals, holiday celebrations and community affairs.
Poultry Farms	are lands devoted for raising chicken, ducks, geese, turkeys and other poultry.
Pollution	is any alteration of the physical, chemical and biological properties of any water, air and/or land resources, or any discharge thereto of any liquid, gaseous or solid wastes or any production of unnecessary noise, or any emission of objectionable odor, as will or is likely to create or to render such water, air and/or land resources harmful, detrimental or injurious to public health, safety of welfare, or which will adversely affect their utilization for domestic, industrial, agricultural, recreational or other legitimate purposes.
Proposed Land Use Map	is the map, which serves as a basic reference in the adaptation of a zoning ordinance for the purpose of directing, regulating the use of all lands, in accordance with the approved comprehensive land use plan.

Public Forest	are all lands not classified as alienable and disposable (A & D) including timber lands forest reserves, national parks, military and naval reserves and civil reserves.
Recreation Center	serves year-round diversified activities for all ages and interest groups of the community. Preferred location site is either near a high school campus or within a playfield or playground area.
Sectoral Plan	is a plan of each sector that includes presentation of the existing situation, identifying issues, needs, objectives and strategies.
Slope	is the degree of inclination of a given area relative to the horizontal plane.
Soil Map	shows the different soil classification units found in a given area. These are grouped on the basis of their external and integrated characteristics that include the soil surface, soil type, slope, vegetation and intensity of rainfall.
Strategies	are approaches, which generally pursue the development goals and objectives of the sector or specifically promote and effect the development of the industries to be introduced or further developed within the municipality. They are usually the “how to’s of the plans.
Targets	is a translation of the objectives into plans with concrete and quantifiable outputs.
Topography	is the configuration of the Earth’s surface and the location of both natural and artificial features on it.
Transport and Utilities	is the use of the land for physical infrastructure facilities such as drainage, roads, parks, airport, etc.
Vacant Lands	are idle lands not utilized for productive or other functional uses; including junkyards, dumpsite, etc.
Zoning	it refers to the division of a community into zones where only specific land uses are allowed.
Zoning Map	is a visual description of the zoning ordinance.
Zoning Ordinance	is an ordinance providing for the administration and enforcement of the town’s land use plans (CLUP). It gives legal entity to the land uses plan.

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 - Initial Protected Area Plan Cabilao Island Protected Landscape/Seascape
 - Initial Protected Area Plan Calape Group of Island Strict Nature Reserve
 - Initial Protected Area Plan Pangangan island Protected Landscape/Seascape
 - Initial Protected Area Plan Clarin Group of island Strict Nature Reserve
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PHYSICAL RESOURCES

Geography¹

The island Province of Bohol is located in the central part of the Philippine Archipelago with bearings of north latitude 9 degrees 30 minutes and 10 degrees 15 minutes and east longitude 123 degrees and 40 minutes. It is surrounded by the island of Cebu at the northwest, Leyte at the northeast and Mindanao at the south border. Bohol is about 1 hour and 45 minutes directly south of Manila, the capital of the Philippines, and 30 minutes southeast of Mactan Island, Cebu. It accounts to 654 kilometers of coastline and 6,245 square kilometers of municipal waters covering the major islands and islets (Natural Resource Database 2001). The province is accessible both by air and sea transportation.

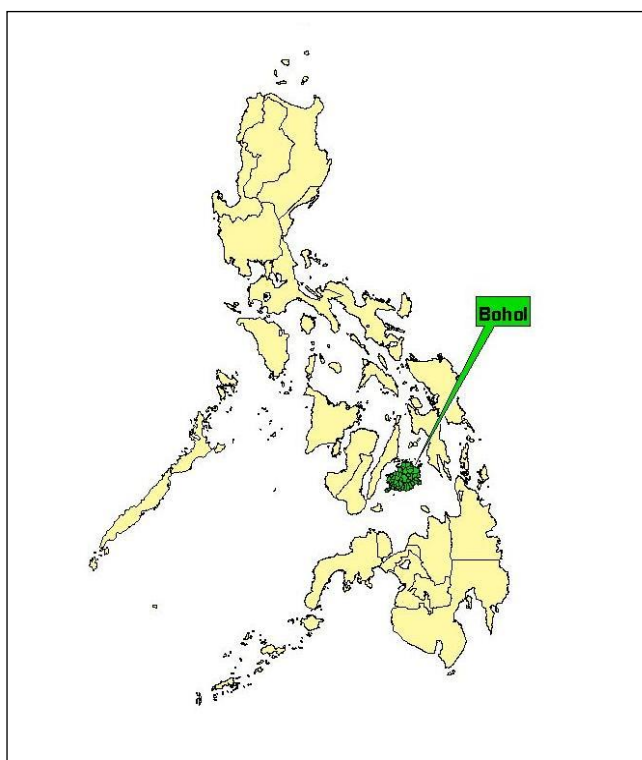


Figure 1: Vicinity Map Philippines

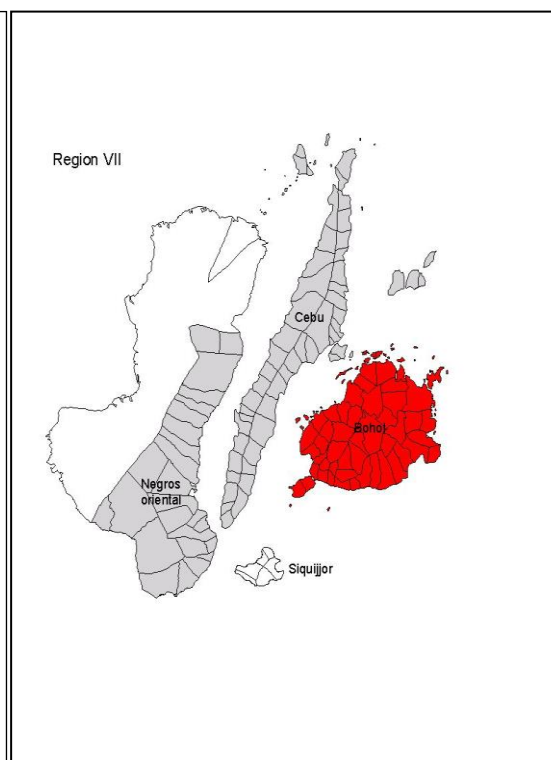


Figure 2: Vicinity Map Central Visayas

¹ Source: Bohol Ecological Profile of DENR 1992

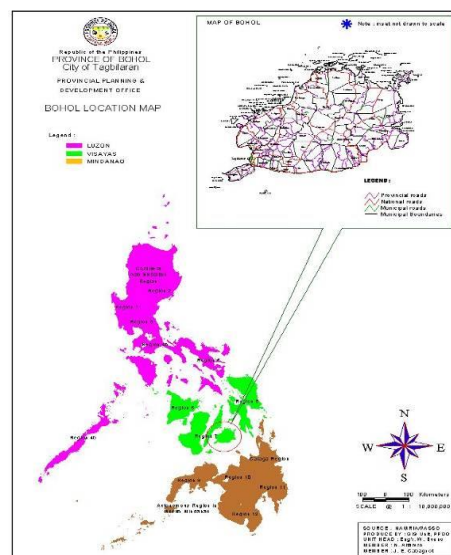
Geographical Coverage

Location, Land Area and Political subdivisions

Bohol is the tenth largest island in the country and classified as a First Class-A Province by the Department of Finance. It is one of the 4 provinces of Central Visayas (Region 7), which has the islands of Cebu at its northwest, and Leyte in the northeast.

It is an Island province with a premier eco-cultural tourist destination of the country with an average of half a million tourists a year. Its signature attraction is the 1,268 so-called Chocolate Hills along with its pristine, white-sand beaches and centuries-old stone churches. The island abounds in natural wonders. It has one of the most diverse mangrove eco-system of more than 14 thousand hectares.

Bohol is within four major resource boundaries, i.e., upland/forestry, lowland/agriculture, minerals coastal/marine, and water boundaries. It has many useful rocks and minerals as well as abundant non-metallic minerals such as limestone, guano, high grade silica and clay, among others.



Administrative Map of Bohol

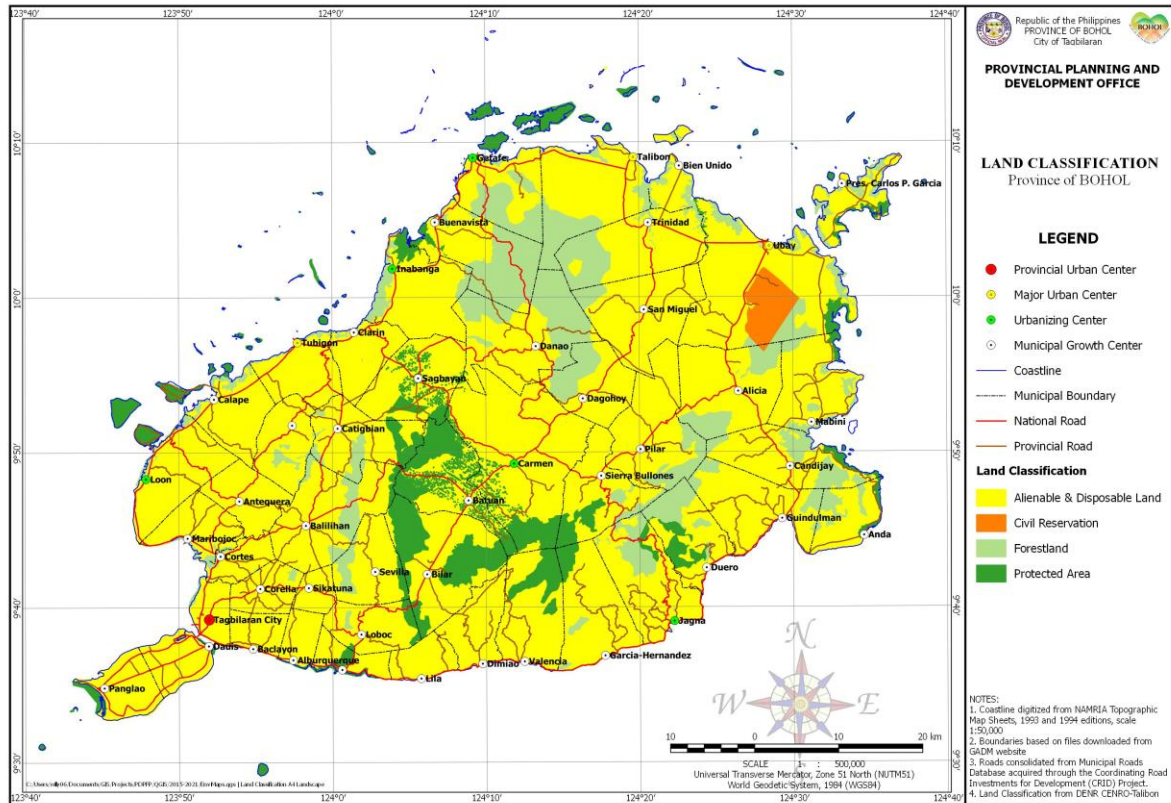
Land Classification²

Bohol Province has a total land area of 411,726 hectares representing 1.4% of the total land area of the Philippines. Out of this area, about 76.595% are classified as Alienable and Disposable (A & D), 14.46 % is forestland, 8.05% is protected area and 0.939% is civil reservation (see *Land Classification Table 1 and Map below*). The main island is surrounded by about 73 smaller islands, with Panglao Island at the southwest and Lapinig Island in the northeast among its larger islands.

Table 1: Land Classification in Bohol		
Land Classification	Area (Hectares)	Area Percentage
Alienable & Disposable Land	315,342.341	76.590%
Civil Reservation	3,867.476	0.939%
Forestland	59,558.586	14.466%
Protected Area	32,957.597	8.005%
TOTAL	411,726.000	100.000%

Source: NAMRIA 2015

² Department of Environment and Natural Resources Bohol and Banilad,Cebu, Region 7, 2015



Geology³

The Island Province of Bohol is predominantly a sedimentary island. It developed from the magmatic, tectonic mechanism that resulted from the underthrusting of the southwest Philippine Plate east of Samar and Surigao⁴. Ongoing erosion, transport and sedimentation continue to accumulate marine and terrestrial deposits in the Bohol basin.

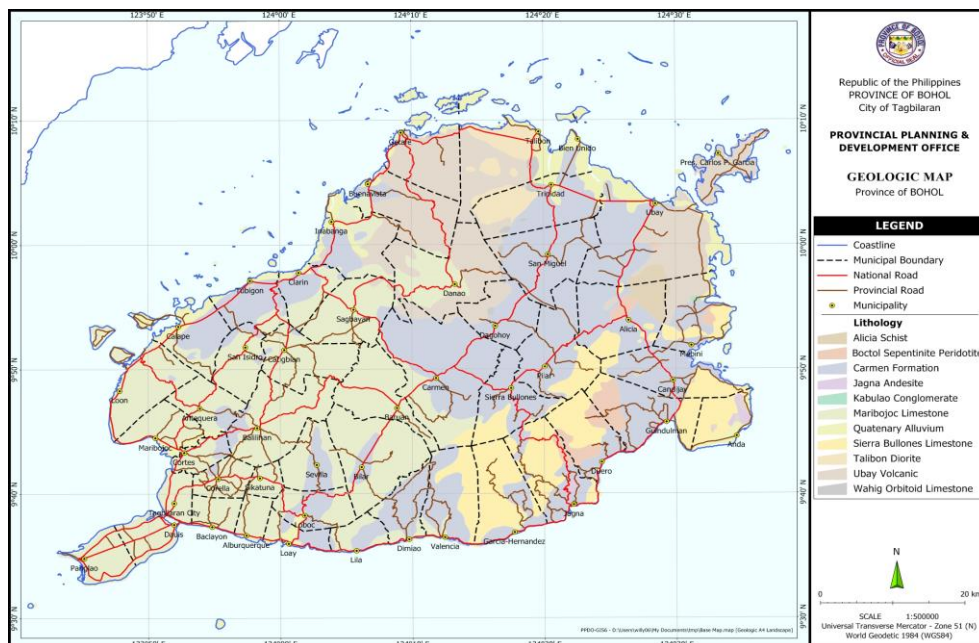
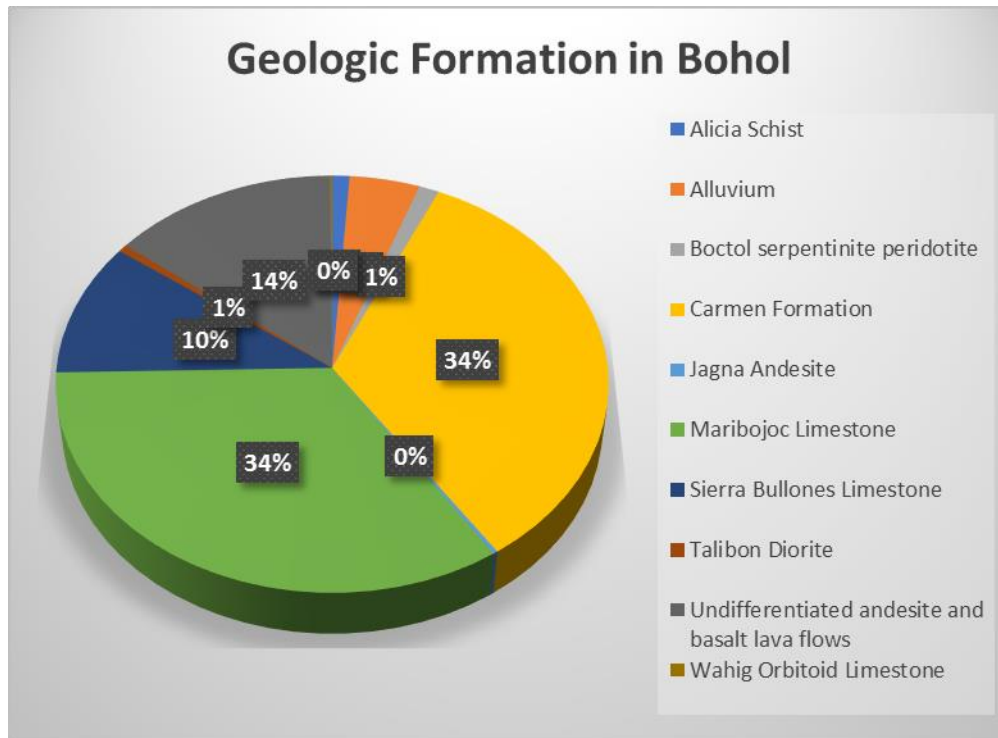
Bohol is composed of 11 rock formations that exhibit different landforms⁵ see figure_ below. Carmen and Maribojoc formation constitute the biggest with 34 percent of the total area in Bohol. It is followed by Boctol serpentinite periodotite constituting 14 percent and sierra bullones limestones of 10 percent. The rest are Alicia schist, alluvium, Jagna andesites, Talibon diorite, undifferentiated andesite basalt lava flows and wahig orbotoid limestone ranging one percent and below. The oldest rock formation belongs to the Basement Complex particularly found at the eastern flank of the island. Because of the sub-crustal movements like faulting, seven (7) different geomorphologic landforms were produced, namely the Anda Peninsula, Loon Peninsula, Northwestern Area, Central-Northern Sedimentary Area, Eastern Volcanic, Limestone-Haycock Hills and Central Volcanic.

³ Technical Report 2, Geology, Soil and Land Resources Appraisal and Training Project (Philippines), Bureau of Soils-UNDP 1980.

⁴ Calomarde, R.I. and Ariate, E.Z. 1982, Geology and Mineral Resources of Bohol, Geological Investigation Series 82-1, Bureau of Mines and Geo-Sciences, Region 7, Cebu City

⁵ ARCO, R.C. 1957, Geological Reconnaissance and Mineral Resources of Bohol Province, Philippine Bureau of Mines, Manila, unpublished.

The major part of the island of Bohol occupies the southeastern portion of the Visayas sea basin. The basement rocks underlying Bohol are composed of metamorphic and ultramafic rocks. These types of rocks are found in the eastern part of the province, which roughly defines a north-northeast alignment. In the southwest is an ophiolite-metamorphic belt with a similar trend that extends from Zamboanga to Sulu Islands. The pre-tertiary diorite plutons in Bohol are believed to be representatives of a southeast facing arc system related to inactive northeast trending trench, a segment of which is defined by the associated ultramafic-metamorphic rock assemblages in the province (see *Geologic Map and Figure below*).

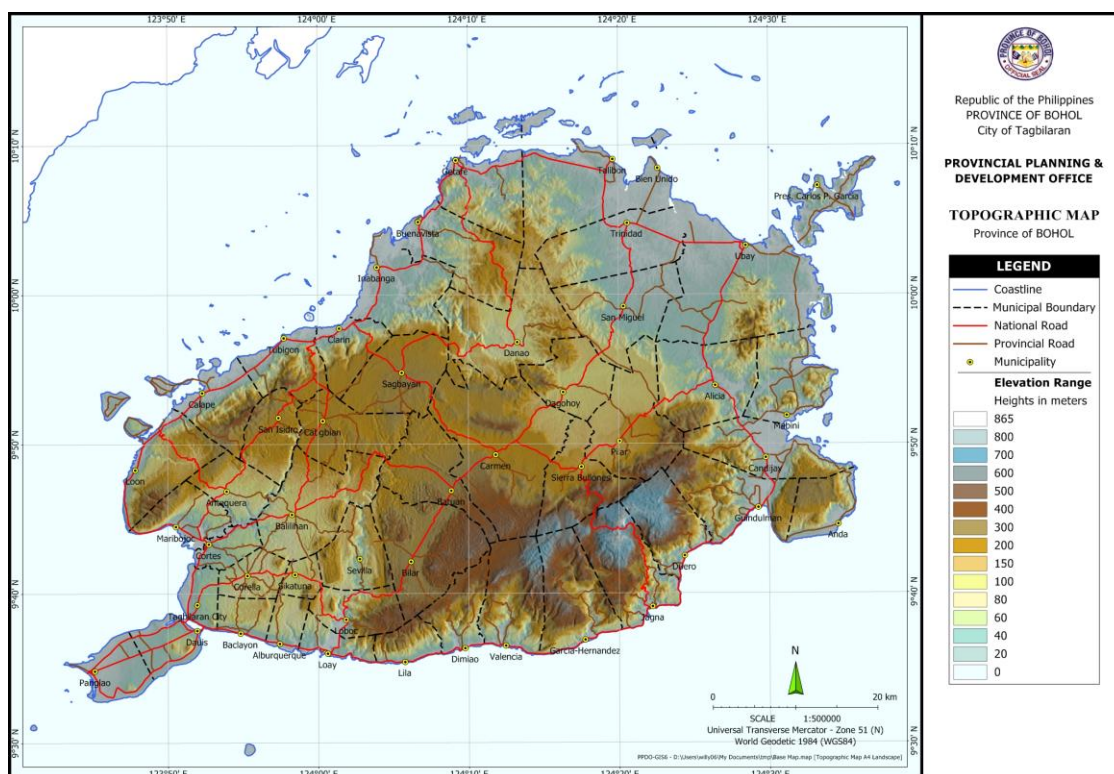


Topography, Slope and Elevation⁶

Topography

Bohol's terrain is variable from nearly flat at the plains to low rolling, moderate to very steep sloping with 5 to 50 meters high cliffs in the Sierra-Bullones limestone formation. The more rugged terrain is found in the southern part of the province although the Ubay volcanic rocks and Bocol serpentinite in the north and northeast are of moderate and rugged slopes in most of their outcrop areas. The central valley is almost rolling to moderately steep.

There are several mountain ranges found in Bohol. Two sets of them are found in the northeastern side of the mainland and located between the municipalities of Alicia and Ubay that generally trend to the north and south directions with a maximum elevation of about 404 meters above sea level. The northern end of the these mountain ranges is drained by the Lomangog River while the southern part by the east flowing San Pascual River which empties into the Cogtong Bay. Farther east are two other mountain ranges, the Mt. Tanawan and Mt. Candungao with 460 and 500 meters elevation, respectively. Both are prominent landmarks rising as they do several meters above the surrounding landscape. From Mt. Tanawan going southwestward, it declines gradually in height until it finally joins southwestwardly the foothills of Calape. The main range of hills extending from Calape joins to the southwestwardly trending mountain range from the interior, runs south and out to Loon Peninsula terminating in Punta Cruz, Maribojoc. The Sierra Bullones Range follows roughly the trend of the south coast. The highest point of this range in the entire province is Mt. Mayana in Jagna with a height of 827 meters above sea level (see maps below).



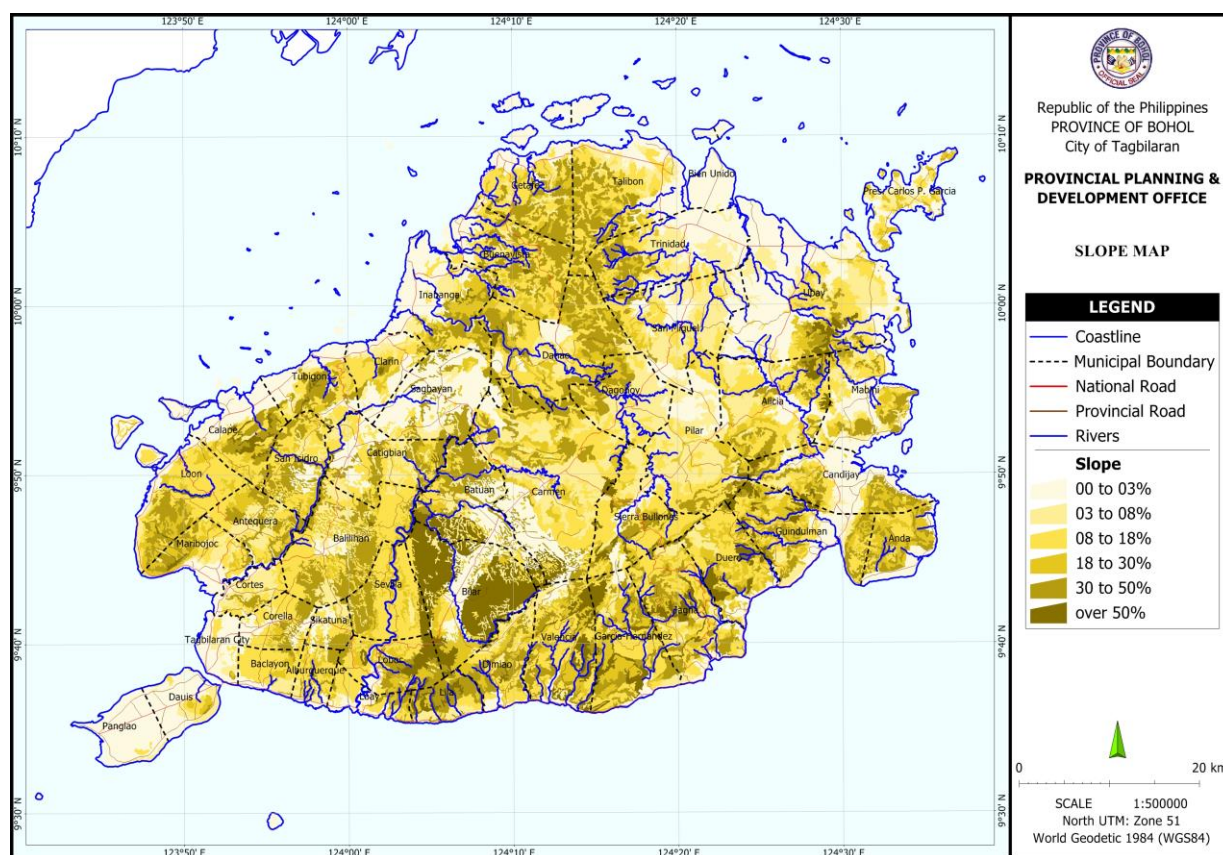
⁶ Bureau of Soils and Water Management, DA, Region 7, Cebu City

Slope⁷

The province has six slope ranges from level to very steep. Level to nearly level areas is mainly located along the coast and the islands. The steep slopes are prevalent in the mountainous area, covered mainly by carbonate rocks (Wahig Limestone), Volcanic extrusive and Magmatic Rocks (Ubay Volcanics and Jagna Andesite; see slope and elevation Map). Table No. 2, shows the slope categories and the area covered in hectares.

Table 2: Slope Classification			
Slope Category	Classification	Area Covered (Has)	% Distribution
0 - 3 %	Level to nearly level	71,289.00	17.31%
3 - 8 %	Gently sloping to undulating	37,519.00	9.11%
8 - 18 %	Undulating to rolling	84,902.00	20.63%
18 - 30 %	Rolling to moderately steep	62,473.00	15.17%
30 - 50 %	Steep hills& mountains	89,507.00	21.75%
50 % >	Very Steep hills	6,040.00	16.04%
Total		411,726	100%

Source: BSWM, DA Region 7, 2010



⁷ Philippine Land and Soil Management Atlas for Central Visayas

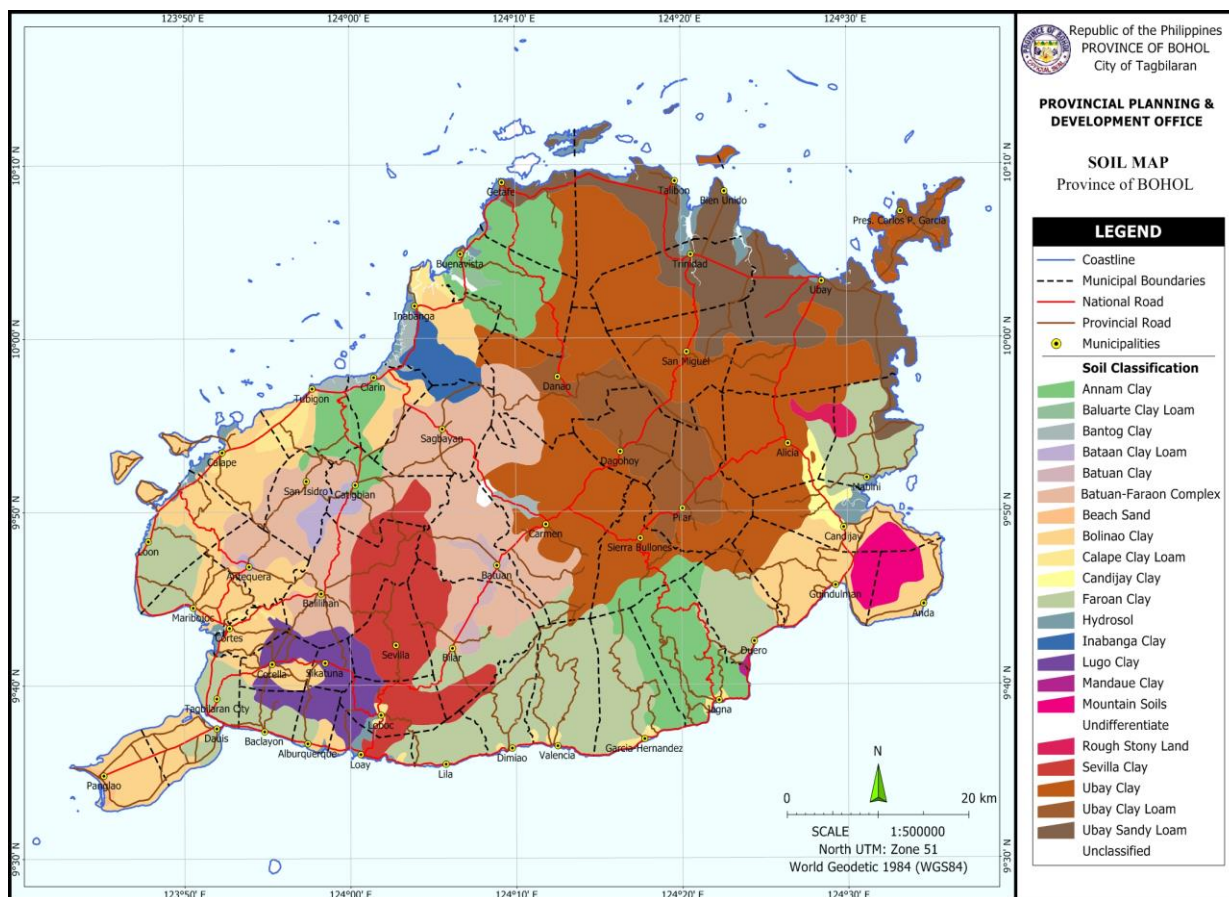


Table 3: Type of Soils in the Province of Bohol

Soil Types	Area Covered (Hectares)	Percentage	Soil Types	Area Covered (Hectares)	Percentage
Ubay Clay	79,644	19.34%			
Faraon Clay	59,536	13.73%	Batuan Clay Loam	2,395	0.58%
Bolinao Clay	55,871	13.56%	Bantog Clay	1,834	0.44%
Batuan-Faraon Clay	47,763	11.60%	Rough Stony Clay	1,490	0.36%
Annan Clay	37,140	9.02%	Candijay Clay	1,307	0.32%
Ubay Sandy Loam	62,414	15.16%	Inabanga Clay	407	0.09%
Sevilla Clay	23,906	5.81%	Baluarte Clay Loam	401	0.10%
Lugo Clay	11,713	2.84%	Beach Sand	531	0.13%
Hydrosol	6,372	1.55%	Mandaue Clay Loam	138	0.03%
Calape Clay	5,237	1.27%	Undifferentiated	5,833	1.42%
Batuan Clay	2,705	0.65%	Unsurveyed areas (islets)	8,089	1.96%
Total				411,726	100%

Source: BSWM Region 7 (Area was obtained using the planimeter)

Soil Erosion

Soil erosion in Bohol frequently occurs in areas that have been farmed or at construction sides. Most of the accelerated removal of soil is man-made. According to the Bureau of Soils and Water Management report, more than 66 % of the soils in province are affected by erosion of different degrees (slightly, moderate and severe) and less than 31 % of the island show no apparent erosion⁹.

Table 4: Status of Soil Erosion and Area Coverage

Level of Soil Erosion	Coverage (%)
No apparent erosion	30.75
Slightly eroded	39.09
Moderate eroded	9.88
Severely eroded	17.69
Unclassified	2.59

Source: BSWM

Pedo – ecological Zones and Land Management Units¹⁰

The Pedo ecological zones of Bohol is a broad land units with similar sets of environmental conditions regarding parent materials, soils, slopes, elevations and temperature that are classified into warm uplands, warm-cool uplands, warm-cool hillylands, cool hillylands and miscellaneous. Miscellaneous areas include built-up areas, beach sands, open pits and mining. Based from the detailed *Land Management Unit Map* of the Bureau of Soils and Water Management.

Table 5: Pedo-ecological Zones Bohol

Pedo-ecological Zone	Characteristics	Area (has)
Warm lowland	Elevation < 100 m Slope < 8 % Average temp. > 25°	94,130
Warm cool upland	Elevation 100m-500 m Slope < 18 % Average annual temp. 22, 5 - 25°	141,295
Warm cool hillyland	Elevation 100m-500m Slope > 18 %	154,015
Cool highland	Elevation > 500m Slope < 18%	13,289
Miscellaneous	Built-up areas, beach sands, major rivers, mining	8,997
Total		411,726

Source: BSWM-Land Management Unit Map 1:250,000

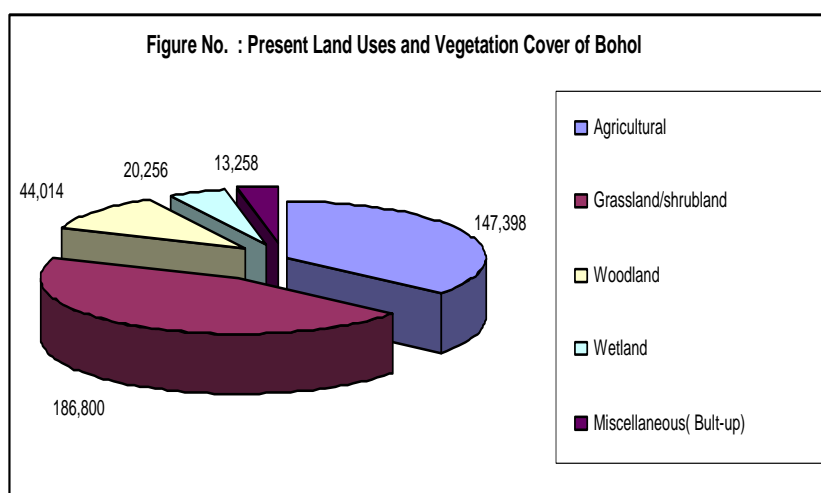
⁹ Geographic Atlas of Bohol, 1999, calculated by GEOPLAN Foundation

¹⁰ Pedo-ecological Zones of Bohol, Bureau of Soils and Water Management, Land Management Unit Map

Land Use and Vegetative Cover¹¹

The province of Bohol has five major land uses, the agricultural land, grassland/shrubland, woodland, wetland and miscellaneous land, which include built-up areas, reservoirs and mine sites. Almost one-half of the province total land area is covered by grassland/shrubland, while one-third of its total area is utilized for agricultural activities. The province has a larger coverage of woodland (10.69%) compared to Cebu and some other provinces in the region. Wetland constitutes 4.92%, which includes mangrove, nipa, beach sands and fishponds while built-up areas comprise 10.22%¹² (see *Land Use and Vegetation Map below*).

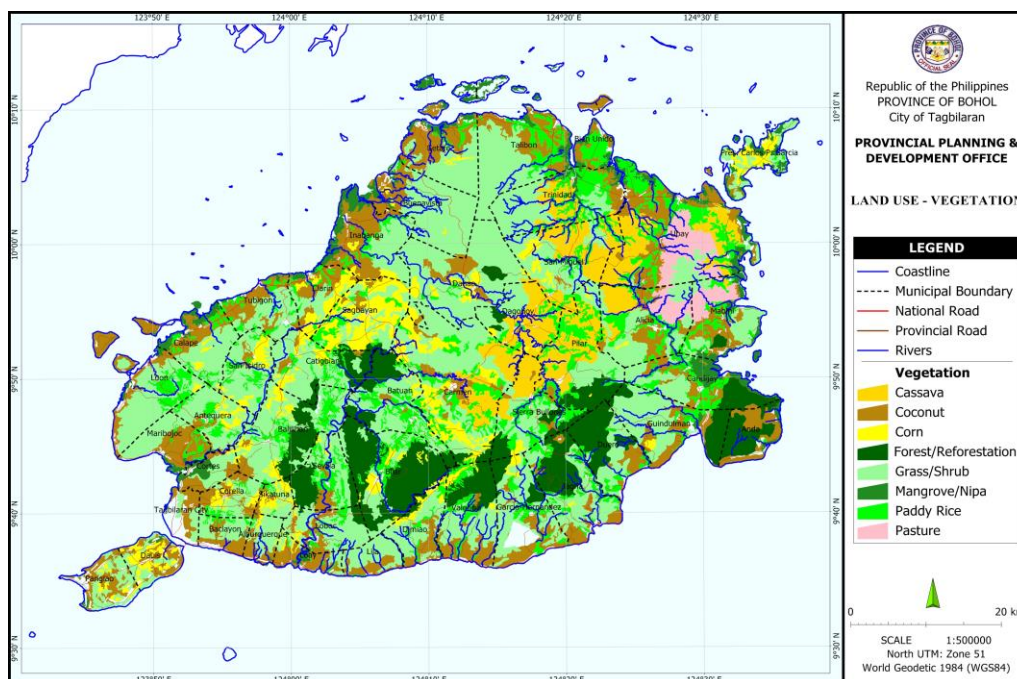
Present Land Use and Vegetation of Bohol



Conversion of prime agricultural lands to other uses, encroachment in critical ecosystems (protected areas) continues to be the primary concern in land resource management. Degradation of critical habitats in protected areas is another factor to be addressed. Effective land resource management strategy to protect, manage and develop the natural landscapes and seascapes in such a way that would safeguard the functional capacities of the ecosystem and the sustainability of natural resources requires immediate attention with the end goal of a maintained and improved the soil-water balance capacity as a life support system of economic development.

¹¹ Bohol Ecological Profile of DENR, 1992

¹² Bohol Ecological Profile, DENR 1992



Tectonics¹³

Minor and major fault lines are evident on the island as shown by terraced encarpments occurring in its southern and central parts. The terraced escarpments in the Ilihan Formation as well as the graben at the Anda Peninsula are manifestations of these faults. Steep escarpments notably in Loon, Tagbilaran and in Anda Peninsula further prove vertical upliftment caused by tectonics. Earthquakes have been felt in Bohol but only an average of one perceptible shock is reported each year. Major faults usually trend towards the northeast. Three earthquakes with a magnitude above 4 and above of the Richter Scale (highest was 7.2M which occurred in October 15, 2013 in the province of Bohol.

Atmosphere/Climate¹⁴

Based on the distribution of rainfall during the year, Bohol's climate as classified by PAG-ASA belongs to Corona's 4th Type, characterized by rainfall more or less evenly distributed throughout the year. Intensification of the southwest monsoon usually occurs during the months of July to October. The rainfall varies from about 1,200 mm/yr around the coast to slightly more than 2,200 mm/yr in the mountainous areas in the province. Based on the climatological records of Tagbilaran City weather station, the province has an annual average of 161 rainy days. Average rainfall and trend has illustrated a declining trend of 250 mm over a period of 35 years of about 7mm a year due likely to climatic change in the Southeast Asian Region. The coastal area of the province is warm in contrast with the interior part, which is colder especially during the night. Mean temperature is at 27.40 degrees centigrade. Prevailing wind direction is towards northeast with an average speed of 2 miles per record. Bohol is not included in the so-called typhoon belt of the country. Those passing below or above the island contribute to the greater volume of precipitation. The frequency of typhoon passage is 0-10% from the average of 20 typhoons passing over the Philippines per year.¹⁵

¹³ Philippine Institute of Volcanology and Seismology (PHILVOCS)

¹⁴ PAG-ASA Report and Bureau of Soil and Water Management

¹⁵ DENR-BSWM 1991 Preliminary Climatic Classification of 15 selected Provinces in the Philippines

SECTORAL DEVELOPMENT

SECTOR : ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

● Sub-sectoral Development

- **Environment & Natural Resources Management**
 - Natural Resources Management
 - Nature Protection and Landscape Management
(Environmentally Constrained/ Environmentally Critical Areas)
- **Land Resource Management**
 - Situation
 - Development Issues
 - Development Framework
- **Forestry**
 - Situation
 - Development Issues
 - Development Framework

Sub-Sector: ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

SITUATION

Sustainable management of the environment and natural resources is the right response to the present state of the different life support systems. Generally, our forest ecosystem, either in the upland or lowland, has succumbed to so much human pressure that other related ecosystems are also on the verge of collapsing. Others do not care about the importance of the existence of a tree, and our environment. We care and feel bad about having typhoons and flooding. We even hate the fact of water shortage in our homes. Yet, we do not know and understand the real causes and what we have contributed to these effects.

In the realm of achieving a bright future for the human race, the convergence of various social entities is a way to have it. Despite limitations, heightened consciousness and concerted involvement of the people especially in the hinterlands would bring about the realization of a sustainable forest management. It will not only be a dream but a future tasked to have it become a reality.

The updated development framework **of Provincial Government of Bohol**, Environment occupies a very special place. In fact, it is at the very top – our sustainable development call is for a “Green Bohol”. In addition to this, the Provincial Government of Bohol (PGBh) is redefining the environment management to integrate Disaster Risk Reduction and Management, as well as Climate Change Adaptation (DRRM-CCA). The province is already implementing DRRM trainings throughout a cross-section of Boholano communities down to the *PUROK* level. Institutionalization of the Provincial Disaster Risk Reduction Management Office (PDRRMO), with a duly appointed department head. Strengthening of Local DRRMOs

and BDRRMCs with numerous capacity-building activities that we have undertaken to improve community resiliency throughout Bohol.

On the other sustainability in development can no longer be considered a choice for local governments units, but has become a necessity. In recent times, cities and municipalities had become the hub of growth with immigration from rural areas leading to undue stress on the limited carrying capacity of the areas. It is essential to ascertain that the growth of urban and rural areas is sustainable so that they do not get into the vicious cycle of poverty and environmental degradation. With rapid urbanization, increasing population, growing pressure to environmental resources and access to basic services has become an emerging concern in the province. Inadequate access of safe drinking water, poor sanitation and continued exposure to environmental pollution greatly affect the health and economic productivity of the inhabitants. Unsustainable economic growth negatively impacts of the environment, putting greater stress on it and deteriorating living conditions of the poor, which in turn lays further stress on the environmental resources. These problems need to be addressed by improving the environment condition vis-a-viz people's use of natural resources.

Moreover, the environment issue implies a wide range of inter-related interventions which requires a deep understanding and concern of human activities. As a way of broadening the concept and perception of these critical issues, it is therefore imperative to articulate the behavior and socio-cultural aspect of the people which is largely viewed by many as the key issues in the protection of the environment.

The fragile balance between the environment and development took some twist and turn that tilted unprecedentedly towards the latter. Due to industrialization, the natural resources have been wantonly consumed by humans in their quest for development and improvement of their quality of life through material luxury and technological advancement. Our environment was constantly under pressure and we are now experiencing a never-before-imagined destruction which resulted to natural and man-made disaster, climate change and most disturbing loss of biodiversity.

The challenge therefore to mankind and local government, is to accelerate and translate environmental strategies and policies into appropriate action. This would implies a renewed sense of commitment to all people in the province so that future generations can benefit, share and enjoy the earth's natural resources, which means harmony between development and ecological protection. The Provincial Government of Bohol in collaboration with municipalities/cities government units, NGOs, NGAs and private/business sector has a greater role to play in maintaining sustainable development.

Natural Resources Management

Bohol is richly endowed with vast biodiversity and natural resources that plays an essential role in guiding future development for agriculture, industry, tourism, settlements, culture and infrastructure in both the medium and long-term time frame. The state of the economy and the quality of life in any given area are extremely dependent on climate, air, land, water, forest, marine ecosystems and biological resources. The management of Bohol's

ecosystem is supported with a Provincial Ordinance known as the Bohol Environment Code which provides for the policy direction and funding requirements in local environmental management and protection for the province. It is important that policy-makers are well-informed on the relevant concerns confronting environment issues.

Population growth and economic activities have created pressures on Bohol's environment and natural resources. High demand for physical infrastructure like roads, water systems and power, more settlement areas, greater demand for goods and services provided by the government are expected to increase. These are looked upon as major necessities for the province's development but often create environmental stress. The developments in the province must pro-actively integrate a mechanism to prevent adverse impacts on the critical resources and exposure of people and property to danger due to natural hazards such as flooding, landslides, earthquakes, liquefactions, tsunamis, typhoons, storm surges and including man-made hazards. It is therefore imperative however, to balance economic growth with environmental and natural resources conservation and wise use for the progress and sustainable development of the island.

Nature Protection and Landscape Management

The latest data shows that Bohol has a total area of 75,766 hectares under protection as initial component of the National Integrated Protected Area System's (NIPAS Act or RA 7586) Environmentally Constrained and Environmentally Critical Areas (refer to Table 6 below). Protection purposes are for the conservation of biological diversity (flora and fauna) and natural heritage areas, conservation of forest cover, as well as provision for livelihood opportunities, water conservation and sustainable development for those living in and around these areas. All development within these areas shall follow the provision embodied in the NIPAS Law.

Environmentally Constrained Areas are prone to natural hazards, severe erosion and more specifically hydrological and geological produced changes. The NIPAS Law does not cover these areas. However, they should be subject to restrictions in land uses in order to prevent the occurrences of accidents that endanger lives and properties.

Environmentally Critically Areas (ECAs) are areas covered by Presidential Proclamation 2146 but not belonging to environmentally constrained areas. They also impose limitations in terms of land use development. Non-suitable land uses should be disallowed in these areas. In addition there are areas degraded through intensive agricultural use, erosion and mining and quarrying that need to be rehabilitated.

Table 6: Protected Areas in Bohol (NIPAS Areas)

Name Of Protected Areas	Date of Proclamation	LOCATION	Area (Hectares)
1. Wahig Inabanga River Watershed Forest Reserve	PP 223	Municipalities of Pilar, Sierra Bullones, Carmen, Jagna, Duero, Sagbayan, Dagohoy, Danao, Buenavista, Inabanga, Getafe, Talibon, Trinidad and San Miguel	14,000 subject to actual ground verification
2. Talibon Group of Islands Protected Seascape	PP 2151 (Mangrove Wilderness Area) June 1999	Islands of Sag, Banbanon, Bansaon and Tambu, all of the municipality of Talibon	6,455
3. Candijay Group of Islands Strict Nature Preserve	PP 2151 (Mangrove Wilderness Area)	Islets of Calanggaman, Catiil, Tabangdio and Lumisli Islet of Candijay and Mabini	For verification
4. Candijay Protected Seascape/Landscape	PP 2152 (Mangrove Swamp Forest Reserve)	Cogtong, Panas, Candijay, Bohol and Badiang, Anda, Bohol	For verification
5. C.P.G. Protected Seascape/ Landscape	PP 2151 & 2152 (Wilderness Area & Mangrove Swamp Forest Reserve) December 29, 1981	Aguining, Baud, Basiao, Canmangao, Lapinig Island, Villa Milagrosa	446.04
6. Inabanga Group of Island Strict Nature Reserve	PP 2151 (Wilderness Area)	Islets of Pangahoykahoyan, and Bugatusan, all of Inabanga	534
7. Inabanga Protected Seascape/Landscape	PP 2152 (Mangrove Swamp Forest Reserve)	Hambungan, Fatima, Lawis, Sto. Niño and Bugang, all of Inabanga	2,045
8. Ubay Protected Seascape and Landscape	PP 2152 (Mangrove Swamp Forest Reserve) December 29, 1981	Biabas, Cagting, Cuya, Fatima, Juagdan, Pangpang and Tintinan Island, all of Ubay	1,564
9. Getafe Group of Islands Protected Seascape/Landscape	PP 2151 & 2152 (Wilderness Area and Mangrove Swamp Reserve)	Jandayan Norte and Sur, Handumon, Tuy-oran, Alumar, Banacon Is, Jagoliao Is, Nasingin Is, Mahanay Is, all of Getafe	4,785
10. Chocolate Hills Natural Monument	PP 1031 February 26, 2003	Municipalities of Batuan, Carmen, Sagbayan, Sierra-Bullones, Valencia and Bilar	19,410
11. Loboc Watershed	PP 450	Municipalities of Bilar, Batuan,	10,387

Bohol Provincial Development and Physical Framework Plan (PDPFP) 2016-2028

Forest Reserve		Carmen, Balilihan, Sierra-Bullones, Lila, Loboc, Sevilla	
12. Alejawan- Cansuhay Anibongan River Watershed Forest Reserve	PP 881	Boctol, Lonoy, Mayana, Odiong, Jagna, Bohol and Angilan, Anibongan, Bangwalog, Cansuhay, Taytay, Payao, San Antonio, San Pedro, Duero, Bohol	3,620
13. Albur-Loay-Loboc Protected Landscape and Seascape	PP 293 April 23, 2000	Bahi, San Agustin, Western Poblacion, Eastern Poblacion, Sta. Felomina, Tagbuane, Alburquerque Alegria Sur, Sagnap, Palo, Villalimpia, Loay Agape, Ugpong, Canlasid, Poblacion (Western part), Loboc	156
14. Sandingan-Cabilao Mangrove Swamp Forest Reserve	PP 2152	Basdio, Calayugan Sur, Calayugan Norte, Canigaan, Sondol, Ubujan, Mocpoc Sur, Sandingan, Loon, then Talisay, Cabacungan, Cambaguig, Pantudland, Looc, Cabilao, Loon	1,335
15. Tubigon Group of Islands Wilderness Area	PP 2151	Inanuran Island, Budlaan Island, Hayaan Island, Batasan Island, Tubigon	40
16. Rajah Sikatuna Protected Landscape	PP 127	Municipalities of Bilar, Carmen, S-Bullones, Garcia Hernandez, Valencia, Batuan and Dimiao	10,450
17. Calape Group of Island Strict Nature Reserve	PP 2151	Banihan, Poom, Calape	153
18. Pangangan Island Mangrove Swamp Forest Reserve	PP 2152	Lawis, Talisay, Kinabag-an, Looc, Magtongtong, Madangog, Lomboy, Kahayag, all of Pangangan Island, Calape Poblacion, Songcolan, Totolan, Dauis and Poblacion, Doljo, Panglao	385.66
19. Panglao Island Protected \seascape	PP 426 July 22, 2003	Cabgan, Cancostino, Maagpit, Tabaon, Silo-siloan, Clarin	
20. Clarin Group of Island Protected Landscape/Seascape	PP 2151		
TOTAL			75,766

Source: PENRO, DENR Tagbilaran 2016 (Profile NIPAS)

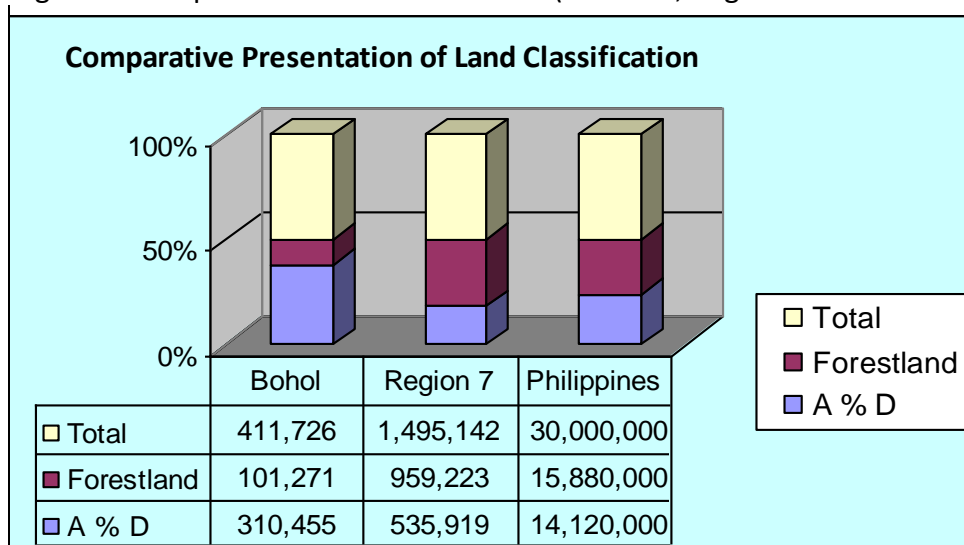
Sub-Sector : LAND RESOURCE MANAGEMENT

SITUATION

In Bohol, land is a very essential factor in the production of agricultural goods, mining, biodiversity, urban settlements and frequently serves as a financial asset of many people. The province has a total land area of 411,726 hectares, which is generally classified into public forestland or timberland, occupying an area of 101,271 hectares or roughly 25 % of the island and private or alienable and disposable land with an area of 310,455 hectares or 75% of the island which is 42.92% of the region's land area and 1.37% of the country's total land area (see Figure 2). Figure 1 presents the graphical land classification of the province' in 2008 by percentages. Almost 15% or 75,766 hectares of the province's land area is under protection through NIPAS System and Environmentally Constrained and Critical Areas. The total area devoted to agricultural use is 273,950 hectares (Bohol Agricultural Master Plan 2005).

Figure 1 shows the comparative presentation of the Bohol's total land area to the regional and national level.

Figure 1: Comparative Land Classification (Province, Regional and National)

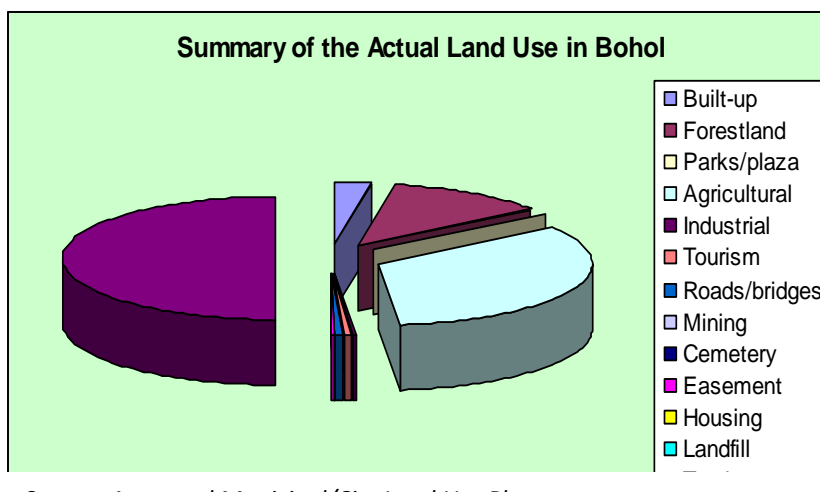


Source: DENR 7 2015 Statistical

Bohol's Land Classification based on the Actual Utilization¹⁶

Figure 2 illustrates the actual land use in the province. It can be noted that additional classifications of the land were included based on the approved comprehensive land use plan of the city and municipalities. On Table 6, it describes the summary of the actual utilization of the land with corresponding percentage per land use category. Of the province's total land resources, agricultural land has the largest share at about 66.56% or 273,950 hectares.

Figure 2: Actual Land Use Classification in Bohol



Source: Approved Municipal/City Land Use Plan

This is followed by forestland at 24.61% or 101,271 hectares. Built-up areas (residential, commercial, institutional, socialized housing), roads/bridges, tourism, industrial, mining and easement, account for 5.32%, 1.12%, 0.89%, 0.65%, 0.47%, 0.28%, respectively. Parks/plaza, cemetery and landfill have the smallest share with 0.05%, 0.03%, and 0.02 percent. Please refer to Table 7 below, the status of the current and future land utilization in the province by municipality.

Table 7: Actual Land Utilization in Bohol		
Land Use Category	Area	Percent
Built-up	21,882	5.32%
Forestland	101,271	24.61%
Parks/plaza	196	0.05%
Agricultural	273,950	66.56%
Industrial	2,672	0.65%
Tourism	3,663	0.89%
Roads/bridges	4,612	1.12%
Mining	1,138	0.28%
Cemetery	115	0.03%
Easement	1,916	0.47%
Housing	69	0.02%
Landfill	102	0.02%
Total	411,586	100.00%

Source: Approved Municipal/City Land Use Plan

¹⁶ Based on the Approved CLUP of the city/municipality

DEVELOPMENT ISSUES

- Inconsistent data on land area in the Province of Bohol
- Non digitized tenured area (GIS Generated)
- Encroachment in critical ecosystems (protected areas)
- Degradation of critical habitats both inside and outside designated protected areas
- Land pollution due to indiscriminate use of inorganic fertilizers, pesticides and dumping of solid wastes including toxic and hazardous materials and chemicals
- Unregulated conversion of agricultural lands to other uses
- Soil erosion

Sub-Sector : FORESTRY

SITUATIONER

The economy of the province is predominantly based on its natural resources. Based on the assessment and evaluation of the existing natural capital stock, Bohol has reached a critical level of forest depletion. This alarming state of Bohol's natural forest resources is eventually reflected in its social and economic performances, particularly in its based negative trade balance. Population pressure and growth further intensify the demand on forest resources. Unfortunately, the forest replenishment costs to satisfy the current demands will require large financial investments.

The total area classified as timberland or forestland in Bohol is 101,271 hectares or 24.6 percent of the total land area of the province. Out of this area more than one-half are protected areas, and only 17% are covered with forests. The rest are grass and shrub lands. Based on the standard forty percent of the total land area of the province shall be covered with forest in order to maintain an ecological sound environment, wherein the island is critically below that standard.

Eight out of the eleven (11) watersheds¹⁷ in Bohol are experiencing 26 to 38 percent soil erosion¹⁸ rates. These sites are now at a critical stage with an annual soil erosion rate of ten cubic meters per hectare. Biomass fuel provides a large part of the province's energy sources. Ninety-two percent of total households are now using biomass fuel for cooking and baking. There is also a big demand for non-wood products in the province as a substitute for lumber. Among the leading non-wood products are nipa and bamboo. Of the 7,247 hectares established plantations for tree farming, 80 percent planted with gemelina and mahogany. These are used for local and inter-regional consumption. However, there is low productivity in tree farming due to inappropriate technologies and a limited supply of professional extension and development trained workers to provide technical assistance to those communities that practice tree farming. There are 23 registered lumber dealers in the province with certificates of registration issued by the Forest Management Sector of DENR that serve as market outlets for tree farmers.

Community –Based Forest Management Agreement

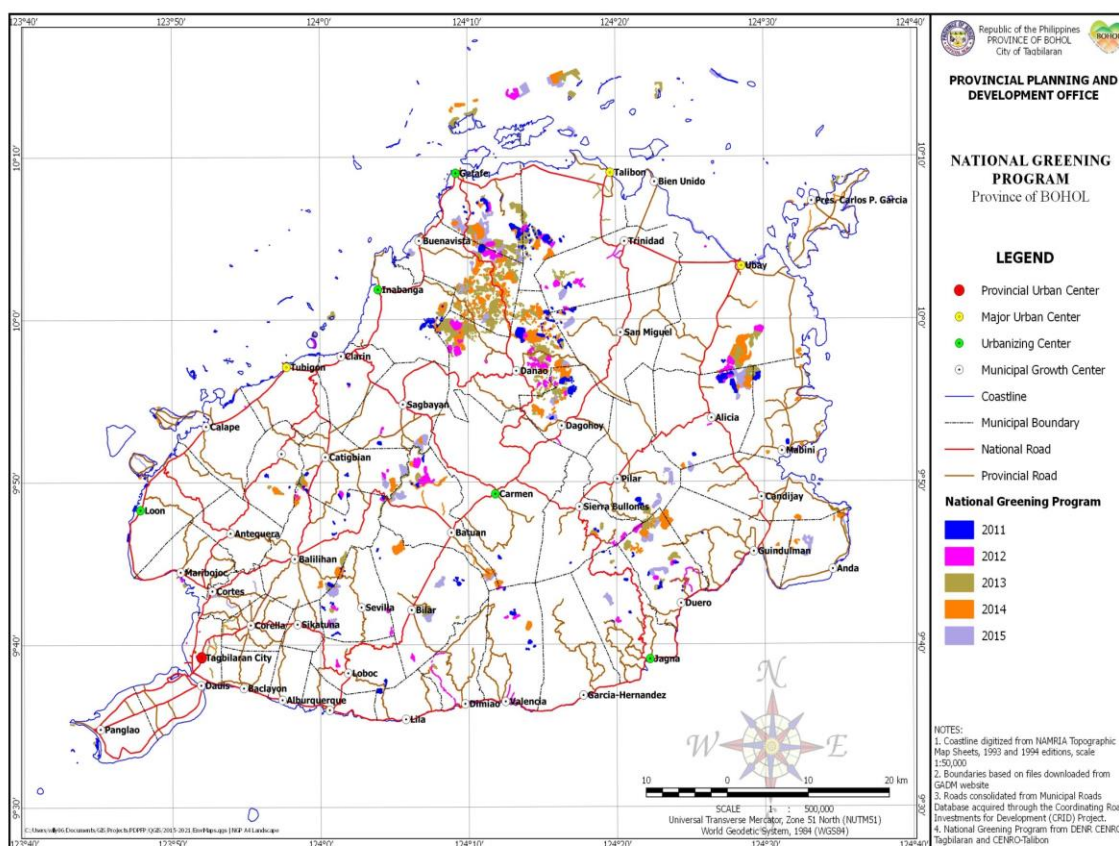
Data from the Provincial Environment and Natural Resources Office in 2015, the forest reserves are declining due to slash and burn, forest fires, illegal timber poaching and cutting and conversion of forest area to agricultural use and other uses. Ten percent of the total population in Bohol is dependent on forestry areas through farming in forestlands. With the implementation of the Integrated Social Forestry, Community-based Forest Management and National Greening Programs by DENR and now devolved to the LGUs and awarded to Peoples Organizations. The farming areas in the forestry zones are now being enhanced through community-based forest management. There are 67 Community-based Forest Management Agreement (CBFMA) issued by DENR comprising a consolidated area of 8,810

¹⁷ *Soil and Water Conservation Foundation (SWCF 2002)*

¹⁸ *Bureau of Soil and Water Management (BSWM) Region 7*

hectares or 2.16% of Bohol's land area, which are now managed by the People's Organizations (see Table 7, and Map below). Thus more sustainable development is taking place.

Table 8: Distribution of National Greening Program In Bohol			
CENRO	YEAR	Number of NGP	Area_Ha
Tagbilaran	2011	97	488.57
	2012	698	594.06
	2013	63	704.13
	2014	38	878.48
	2015	16	1,033.63
	Sub-total	912	3,698.88
Talibon	2011	115	1,101.71
	2012	87	1,287.32
	2013	395	4,577.01
	2014	227	3,250.38
	2015	73	2,290.83
	Sub-total	897	12,507.25
TOTAL		1,809	16,206.12



The policy of the provincial government is to ensure the perpetual existence of adequate forest resources for the use and enjoyment of Boholanos through local government driven, inter-agency and multi-sectoral forest resources management. There are areas in protection forest that need to be indicated in respective management plans. Examples of these are Rajah Sikatuna Protected Landscape, Loboc Watershed Forest Reserve and Alijawan-Cansuhay-Duero Watershed. There are also non-forested timberland areas and woodlands in Alienable and Disposable lands that can be used for reforestation and additional tree farming. Some of these areas are found in Wahig-Inabanga Watershed, Abatan Watershed, Carood Watershed and Ipil Watershed.

Natural Forests¹⁹

Natural forests in the province are still evident. However, flora of the family Dipterocarpaceae, Leguminosae and Verbanaceae are becoming very rare. This is exemplified by the short supply of Bohol's Molave or "tugas". What is more alarming is that there are young people who have never seen this tree. Biodiversity in Bohol forest is little understood since there are few scientific surveys to determine what is present. The richness of the forest is indicated by a few of the on-going studies. These include establishment of 31 biodiversity transects in the 29 barangays of Rajah Sikatuna Protected Landscape. Each 2 kilometers transect covers an area of 6 hectares. So far in the 96 total area, there are 384 tree species have been identified. The total area of RSPL is 10,450 hectares leaving much to be surveyed. For non-tree species, only a cursory survey has been done. Results include identification of 3 shrubs, 1 fern species, 4 herbs, 11 palms and 8 vine species. This is just a small fraction of what is present. In another study completed by undergraduate students in RSPL, 400 hectares of forest inside Sierra Bullones, over 500 shrubs were collected. Of these, 313 were positively identified and 187 were unknown.

The Bohol Environment Management Office is presently establishing a database for all flora and fauna found in Bohol including those from coastal and marine locations. Major contributions to this database are coming from the respective government agencies, especially the DENR and the NGO community.

Nineteen years (19) years ago when the Bohol Environment Code of 1998 was enacted into a law pursuant to the provisions of Republic Act No. 7160, also known as the Local Government Code of 1991 which mandated the Provincial Government to institute measures to protect, conserve and enhance our existing forest resources and to adopt strategies that would hasten the restoration of lost ecological forest and diminishing biodiversity in order to address the escalating problem on water degradation and climate change in the local scenario, in coordination with the national government agencies, the civil society and the private sector. And also, the Province of Bohol has its vision to perpetuate its "ecological soundness" to maintain its status as the eco-cultural tourism destination in the region.

With collaboration from Soil and Water Conservation Foundation (SWCF), Bohol Island State University (BISU Bilar Campus) formerly Central Visayas State College of Agriculture,

¹⁹ Data from Soil and Water Conservation Foundation (SWCF 2003)

Forestry and Technology (CVSCAFT Main Campus), Department of Environment and Natural Resources (DENR), Office of the Provincial Veterinarian (OPV), Local Government Unit of Bilar and Barangay Roxas. These agencies collaborated through a Consortium thru an Executive Order No. 30 series of 2010 to legalize its existence.

The Complex is presently the province's main advocacy and education center for the terrestrial environment and biodiversity conservation. The Complex offers tours, theory and practicum training in Rain-forestation technology, native seedling and vermi-compost production, exposure to biodiversity and watershed concepts, karst and karst management. It also tailors educational environmental activity packages for special groups as well as provide a site for workshops and seminars, ceremonial tree planting site for all visitors as their lifetime souvenir and experience.

Aside from the management of the Bohol Biodiversity Complex (BBC), the project will expand to other areas within private/public lands through the promotion and establishment of pocket forest using Rain-forestation technology in order to promote tree farming using native tree species that are raised at the Complex. The above said technology is also applied to enhance school parks and plaza.

The Provincial Government is promoting an enterprise development project where BBC is one of the priority sites to be developed as ecotourism destination specifically for educational learning field trips while promoting biodiversity conservation and at the same time generate revenue out of the entrance fees, eco-tour activities and sales of various products at BBC. The development of the access road leading from the national highway to the Complex is on-going establishment of the camp ground site is ready for implementation.

At present the province is involved in the implementation of the Biodiversity Conservation Project (BCP) of the New Bohol Airport Project in Panglao Island as required by the Environmental Compliance Certificate (ECC) to plant more than half million assorted seedlings to compensate the environmental damage due to its development thru production of assorted seedlings to be used in the project and at the same time generate income out of the seedling sales for the sustainable operation of the Complex.

Man-made Forest Plantations

The urgent need to provide immediate vegetative cover in the vast forestlands, which are now devoid of forest cover has prompted reforestation in these areas. The biggest plantations are located in the municipality of Bilar and Loboc. The man-made forests can be distinguished from natural forests by the fact they are very much less diverse. Frequently, the species used in these plantings are exotics and planted at regular spacing. The total area for man-made forest plantations is estimated at 9,601 hectares²⁰. The common reforestation species used in the province are gemelina, large and small leaf mahogany, teak, narra, ipil-ipil, Japanese acacia and eucalyptus.

²⁰ PENRO-DENR Bohol 2002

Mangrove Forests

Mangrove forests play a vital role in shaping the ecology and economy of the Boholanos. Ecologically, mangroves are among the most productive coastal resources of Bohol. They serve, as feeding, breeding and nursery grounds for many aquatic and terrestrial animals. They serve as a protective structure against destructive waves and currents along the shoreline. In the entire Central Visayas region, Bohol ranks first in having the biggest mangrove areas of 14,502 hectares. The biggest mangrove stands are located in Getafe, Talibon, Ubay, President Garcia, Mabini and Candijay. The province also has the most diverse mangrove ecosystem in the Philippines with some 32 identified species. The largest and most diverse mangrove area is found in Cogtong Bay, which is bounded by Mabini and Candijay and covers an area of 2,200 hectares²¹. The most popular man-made mangrove forest is around Banacon Island, Getafe comprising an area of 1,750 hectares.

Implementation of Integrated Natural Resource and Environmental Management Project of the Provincial Government of Bohol, Department of Environment and Natural Resource Office and the 17 Municipal Local Government Units

INREMP is a seven-year (2013-2020) project funded by the Asian Development Bank (ADB) and by the International Fund for Agricultural Development (IFAD). To support the implementation of the project, E.O 10 and E.O 10-A was issued Creating the Provincial Wahig-Inabanga Watershed Management Council chaired by Gov. Edgar M. Chatto with the members from LCEs of the 17 municipalities comprising the Wahig-Inabanga Upper Basin River (Alicia, Buenavista, Carmen, Dagohoy, Danao, Duero, G-Hernandez, Getafe, Inabanga, Jagna, Pilar, Sagbayan, San Miguel, Sierra Bullones, Talibon, Trinidad and Ubay). The council also included membership from representative from NGA's, NGO's and BEMO as secretariat.

Table 9: PROPOSED PRIORITY DEVELOPMENT PROGRAMS/PROJECTS/ACTIVITIES

Program/Project/Activity Description	Schedule of Implementation		Location & Expected Output (Include outcomes, if possible)	Estimated Amount Required
	Start Date	End Date		
INREMP project components are the ff: Component 1. River basin & Watershed Management and Land Use Planning	Jan. 2017	Dec 2017	1-Indicative Development Plan 4-sub-watershed management plans	P 43.954 M estimated ADB, IFAD, GOP-DENR
Component 2. Smallholder and Institutional Investment and	Jan. 2017	Dec 2020	Enhanced basic social services of upland communities by rehabilitation of access roads,	P 183.814 M ADB, IFAD,

²¹ Bohol Coastal Environment Profile of 2002

Bohol Provincial Development and Physical Framework Plan (PDPFP) 2016-2028

Improvement of Rural Infrastructure <ul style="list-style-type: none"> Rural Infrastructures (Rehabilitation of Access Roads, Potable Water Supply up to level II and Rehabilitation of Irrigation Systems) 			potable water supply and irrigation system within timberland: Danao, Dagohoy Pilar, S-Bullones Alicia, S-Miguel Talibon, Trinidad Inabanga, Duero: (26-FMRs; 5-units level 2; 1-CIS, 6-SWIP 15-SFR	GOP-DENR
Component 3. Natural Resources Management <ul style="list-style-type: none"> Conservation, Rehab. & Protection Sub-Proj. (Reforestation/Afforestation, Assisted Natural Regeneration) Agro-forestry and Commercial Tree Plantation 	Jan. 2017	Dec 2020	No. of hectares awarded and planted by People's Organization Enhanced biodiversity and increased forest cover. Eventually create livelihood and increase income of the members of the Peoples Organization through products from fruit trees and lumber. 15-agroforestry 5-reforestation 1-commercial 2-ANR S-Bullones, Duero Danao, Inabanga Buenavista	P 109.95 M ADB, IFAD, GOP-DENR
Component 4. Capacity Building and Project Management <ul style="list-style-type: none"> Institutional and Organizational Strengthening Operation of Watershed Management Council Meeting (Full Council Meetings) Support to the operation of watershed management council (Meetings, Assessment and Workshops of the different committees under the PW-IWMC such as: (Execom, CapDev and HRD, IEC, Finance, Policy Formulation and Review and Monitoring and Evaluation) 	January 2017	Dec 2020	Strengthened People's Organization beneficiaries through enhancing knowledge on various capability building (Financial and technical aspects) Strengthened watershed management council and ensure sustainability of the projects even after its project life	P 74.807 Million ADB, IFAD, GOP (DENR)

<ul style="list-style-type: none"> Monitoring in the progress/status of implementation of rural infra and NRM sub projects through hiring of Community Organizer 				
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DEVELOPMENT ISSUES

- Quality of the forest cover in forestland continue to deteriorate
- Absence of clearly defined boundaries of permanent forest lands
- Reduction of biodiversity due to forest destruction, hunting and wildlife trading
- No study on the effect of climate change to biodiversity and water
- Cutting of trees and slash and burn practices are still prevalent in the forest zone
- Minimal Information's for distribution/Education of Local Residences in Bohol.

POLICY DECISIONS:

- Implementation of the Provincial Ordinance legalizing the selling of agricultural products from the Provincial Government Offices (e.g. native seedlings, vermi-compost & worms, etc) and regular budgetary allocation for the sustainable operation of the Complex.
- SP resolution authorizing the Governor to sign the MOAs to represent the Provincial Government for the management and operation of the BBC, CWMFMC and etc.
- SP Ordinance adopting Watershed Management Councils in all major watersheds in the province and provide counterpart funds for the operation and management of the watershed.
- Finalization and approval of the Carood Watershed Model Forest Management Council (CWMFMC) Memorandum of Agreement (MOA) for the counterpart contribution of the PGBh amounting to P450,000 for the operation and management of the Carood Watershed.
- Formulation of Implementing Rules and Regulation (IRR) for the revised Bohol Environment Code.
- An Executive Order (EO) to declare the CPG Plaza to be developed as an Ecological Park (Eco-Park) and allocate funds and designate a management staff.
- Re-activation of Bantay Kalasangan team.

Sub-sector : BIODIVERSITY

SITUATIONER

Bohol has a high biodiversity level of plant species categorized as: upland, mangrove, coastal areas, cave entrances, cultivated cropland and intensively used lands. Several plant species noted to be abundant before are already extinct, others are becoming rare. Data about Bohol's terrestrial and freshwater flora and fauna, is scarce except for a studies conducted in Rajah Sikatuna Protected Landscape conducted by SWCF & UBFI.

The greater part of the tourism industry is based on Bohol's biodiversity. Unless we get very serious about conserving and protecting it, we will lose the tourism to other sites in the Philippines and other Southeast Asian Countries.

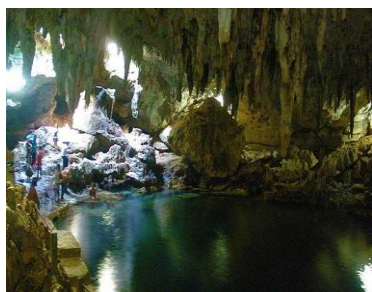
There are presence of 33 mammals, 29 reptiles, 8 amphibians, bat species, the Philippine tarsier and flying lemurs, 192 butterflies, 29 ants, 20 dragon flies, 116 birds species belonging to 28 families, 411 fish species and 60% of country's marine mammal species found in Pamilacan, Baclayon and almost 16% of deptirocarp species including the rarest in the country (30% of the total national deptirocarp) are found in Bohol (*Source: SWCF Research Study & BMT 2006*).



However, the biodiversity is under threat due to persistent and excessive utilization and sale of different species coupled with conversion of forests to agricultural and urban areas, monoculture farming with exotic species, farming on steep hillsides and mountains, coral reef destruction and over-fishing. In fact, several plant species noted to be abundant before are already extinct on the island while others are becoming rare and endangered.

Caves in Bohol

Caves, we are losing them to exploitation for tourism, guano collection, swift-nest collection, vandalism. Maybe one in ten caves could be used for tourism purposes but only after careful study as to how to use it. In the meantime, with present activities, the bats move out, swiftlet young are killed and surface areas deforested causing siltation in the caves.



Flora in Cultivated Croplands and Intensively Used Lands

Generally the extremely diverse and dispersed vegetation in open fields could well evolve into forests without human intervention. However, most of these potential lands are within alienable and disposable areas and if it is within timberland areas they are covered under the Integrated Social Forestry Program with a Certificate of Stewardship Contract (CSC). Constant cultivation and burning inhibits forest evolution and encourages the proliferation of grasses such as cogon (*Imperata cylindrical*) in association with other shrubs like kanding-kanding (*Lantana camara*). To develop systems closer to natural forests, agroforestry shall be established in these areas.

Fauna²²

Data about terrestrial fauna in Bohol are scarce. In the few studies conducted in Rajah Sikatuna Protected Landscape. Eight mammal species have been identified. These do not include the recent identification of 14 bat species (1 endangered) inside the protected area. Forest regeneration by bats as keystone species and they are pollinators and seed dispersers of greater ecological value.



Most fauna classes such as reptiles, amphibians and insects have not been studied. Recent bird studies have positively identified 56 bird species with 18 more species still unidentified. Actually recorded bird observations in Bohol, mainly near Bilar, go back to the mid 1800. However, there are now birds previously seen on the island that are not positively identified. This includes the Philippine Cockatoo last seen in RSPL in 1995. The most well known animal in Bohol is the Philippine tarsier, one of the smallest primates in the world. Although not on international endangered lists, it is fast losing its habitat areas

²² Data from Soil and Water Conservation Foundation (SWCF) and Bohol Ecological Profile of DENR 1992

on the island. This is true of Bohol's flying lemurs, civet cats, wild pigs, grey squerrels and Philippine monkeys.

DEVELOPMENT ISSUES

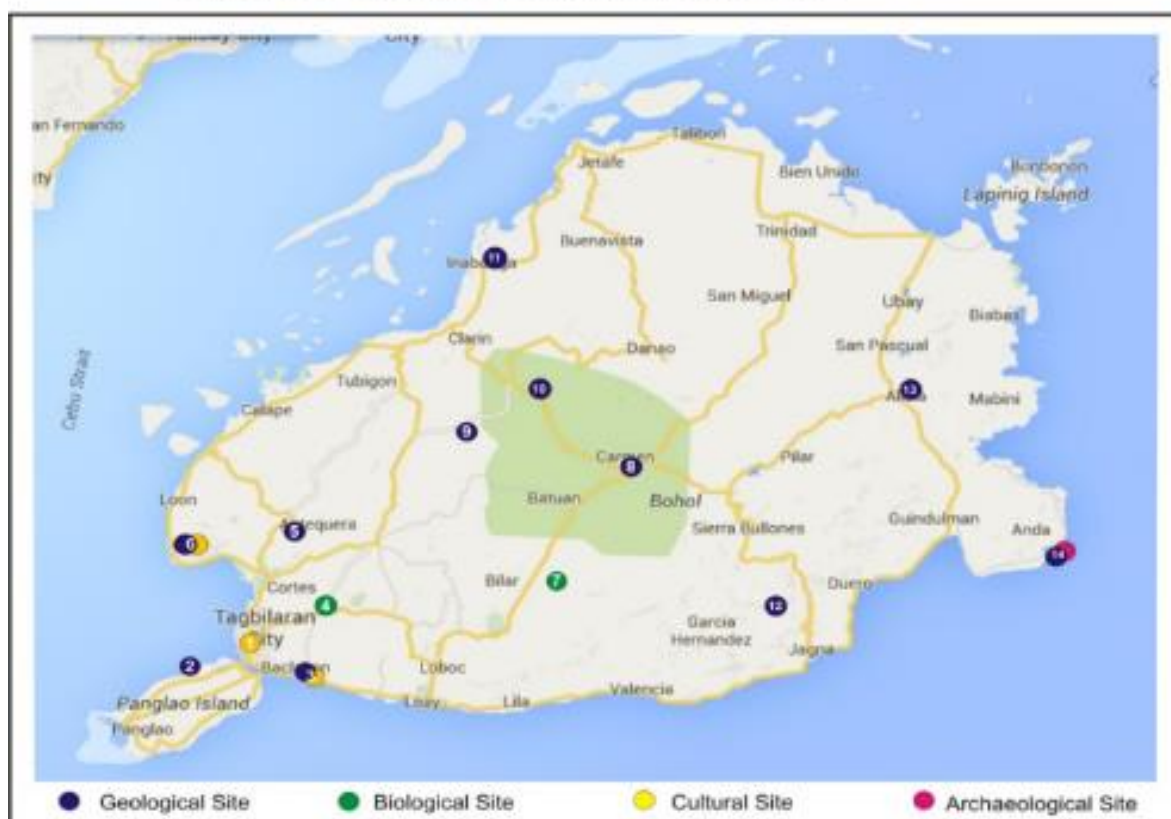
- Reduction of biodiversity due to forest destruction, hunting and wildlife trading
- No study on the effect of climate change to biodiversity and water
- Passage of revised Bohol Environment Code & Bohol Ecotourism Framework
- Collection of OP-TC Data Inventories of Floral/Fauna (From: Marine, freshwater, Terrestrial, cave, urban, agricultural Ecosystem)
- Illegal collection and use(tourist by resorts facilities) of floral/fauna
- Research on Bohol's Biodiversity and how to use these resources
- Minimal Education Activities about Biodiversity, its conservation and sustainable use, especially in schools.
- Issuances of permits for activities such as resort construction, mining, road construction, etc. without adequate safeguards for biodiversity resources.
- Inadequate support for Bohol Biodiversity complex to make it a prime Educational Destination and Training Facility,
- Minimal Information's for distribution/Education of Local Residences in Bohol.
- Minimal cross- references with other sectors in spite of fact Biodiversity plays a key role in the sector. (e.g Tourism, agriculture, marine fisheries, coastal mgt., forester).

Technical support services to GEOPARKS implementation

Bohol is one of selected sites for Geopark. The Geopark is an official initiative of UNESCO within the Division of Ecological & Earth Sciences, programme and budget. It is a continuing effort of the Provincial Government and the University of the Philippines School Urban and Regional Planning (UP-SURP) to pursue the recognition of the proposed Bohol Global Geopark "the Country's First National Geopark". The are initiative is proposed at the 14 municipalities as seen in the map below. The goals of the project are the following:

- Conservation of significant geological- paleontological features in Bohol
- Education by activities to provide geo-scientific knowledge and environmental concepts to the public.
- Research by regional and global coordination and cooperation.
- Socio-economic improvement of the region.
- Geotourism will stimulate economic activities. Creation of local enterprises and cottage industries. Science tourism with conferences & workshops.

BOHOL GEOPARK: POTENTIAL GEOSITES



1. TAGBILARAN CITY
- cultural site
- National Museum-Bohol Field Office
- St Joseph Cathedral

2. HINAG-DANAN CAVE (Dauis)
- geological site
- cave museum*
- stalactites, stalagmites,
- underground pool

3. BACLAYON TERRACE,
BACLAYON CHURCH
- geological site and cultural site
- exposed terrace feature of the
Maribojoc Formation
20m, 40m, 60m levels
- fossilized shells
- National historical landmark,
2nd oldest church
- Bacayon Museum

4. PHIL TARSIER SANCTUARY (Corella)
- Biodiversity site
- Tarsiers
- Information center

5. INAMBANGAN CAVE (Antequera)
- geological site
- cave system
- river
- diverse forest

6. UPLIFTED TERRACE
PUNTA CRUZ WATCH TOWER
(Maribojoc, Loon)
- geological site, cultural site
- modern-day uplifted terrace due to
recent earthquake, part of Maribojoc
Formation
- shoreline retreat
- tidal notches

7. RAJAH SIKATUNA PROTECTED
LANDSCAPE
- biological site
- flora and fauna
- information center
- successful reforestation of Dipterocarpaceae-
endemic and endangered trees of Bohol

8. CHOCOLATE HILLS (Carmen)
- geological site
- geological monument
- 360 degree view deck
- information center

9. LIMESTONE HILL CROSS SECTION
(Sagbayan)
- geological site
- close up of limestone formation
- landslide site, due to recent earthquake
- part of Carmen Formation

10. 2013 EPICENTER
- geological site
- epicenter of the 7.2 Bohol earthquake,
Aug 2013

11. GROUND RUPTURE (Inabanga)
- ground rupture site of Bohol Fault
- at least 5 meter uplifted and downthrown
blocks
- trench sites for fault studies
- information center

12. SE BOHOL OPHIOLITE COMPLEX
(Jagna, Duero)
- geological site
- complete sequence of exposed oceanic crust
and mantle sequence
- approx. dated 100 Mya

13. ALICIA SCHIST
- geological site
- Basement rocks of Bohol Island
- metamorphic rocks
- approx. dated 120 Mya

14. LAMANOC POINT (Anda)
- geological site and archaeological site
- Graveyard Cave, Shaman Cave, Tungob
Cave, Hematite Cave
- Fossilized shells
- burial caves
- skeleton remains
- burial jars
- coffins
- annual convergence place of local
medicine men

Prepared by: G. Hülmer, Univ. of Hamburg, SES; M. Delos Reyes, UP-SURP; N. Aguda, UP-SURP/NIGS; J. Madronero, Jr., PSS
Bohol Geopark Project, August 2015

Sub-sector: WATER RESOURCES²³

SITUATION

Bohol's water supply system for domestic, agricultural and industrial uses is mainly based on 2,224 springs, 59 rivers and 200 creeks. There are 22 rivers basins/watersheds that are valuable sources of water for drinking and irrigation. Surface water from rivers and streams in these basins are impounded and distributed for irrigation, electric generation, industrial use and potable water. The province has an average rainfall varying from 1,331 mm/yr along the coastal areas to 2,006 mm/yr in the mountainous part of the island that supplies the island.

At present the quality of water in the province's catchments and streams is poor and will continue to deteriorate as human development activities increase. The water resources should be managed in order to meet the growing demand for domestic, agricultural, tourism, industrial, recreational and commercial uses. Proper management should prevent public health hazards associated with increasing incidence of water contamination and pollution from negligent human activities.

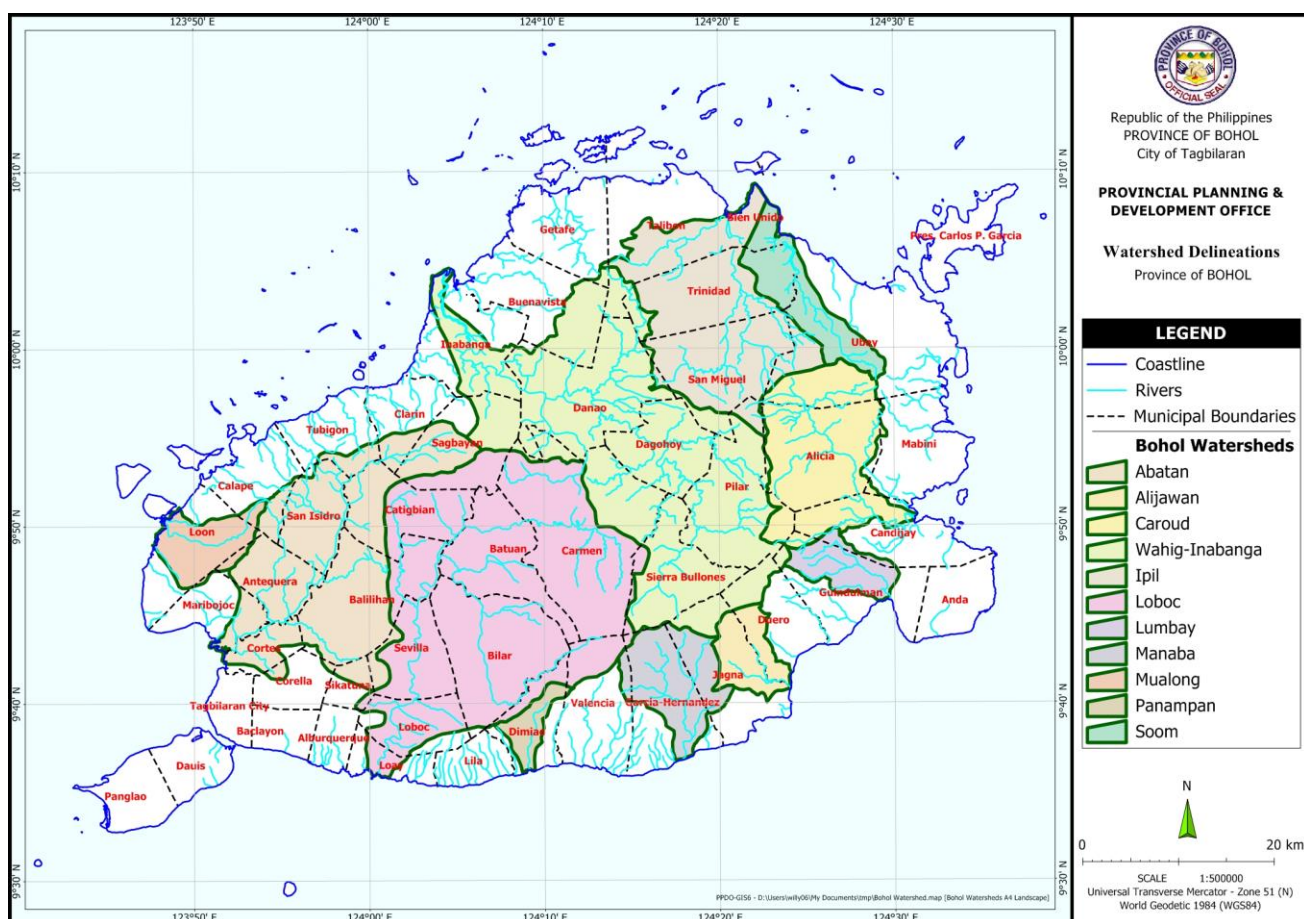
Surface Freshwater and Groundwater Resources²⁴

Bohol has eleven watersheds (see Watershed Map below). The biggest one is Inabanga Watershed followed by Loboc, Abatan, Ipil, Carood, Manaba, Soom, Mualong, Alijawan, Lumbay and Panampan watersheds. Three of the major watersheds are declared as protected areas under the NIPAS. The largest reserve is the Wahig-Inabanga Watershed (PP No 468, amended to PP No. 223), covering 17 municipalities with an aggregated area of 14,000 hectares. The second, and first to be proclaimed as a watershed forest reserve in Bohol, is the Loboc Watershed (PP No. 450) with an area of 10,450 hectares, part of which is inside the Rajah Sikatuna Protected Landscape (PP No. 127 as amended April 2000). The third is the Duero Watershed (PP No. 881) that covers an area of 3,620 hectares.

The rivers and river estuaries are used in many ways. They commonly serve as harbors and navigation routes, areas for aquaculture development (Inabanga River), fishing and sand quarrying areas (Abatan River) and recreation and tourism (Cambuhat River in Buenavista and the Loboc River in Loboc and Loay, Bohol). They also provide water for irrigation (Malinao Dam on the Wahig River that feeds the Bohol Irrigation Project Stage I) as well as domestic and industrial uses such as power supply (Loboc River hydro-power plant and mini hydro-power plant in Balilihan).

²³ BW4SMP Master Plan of Bohol 1999

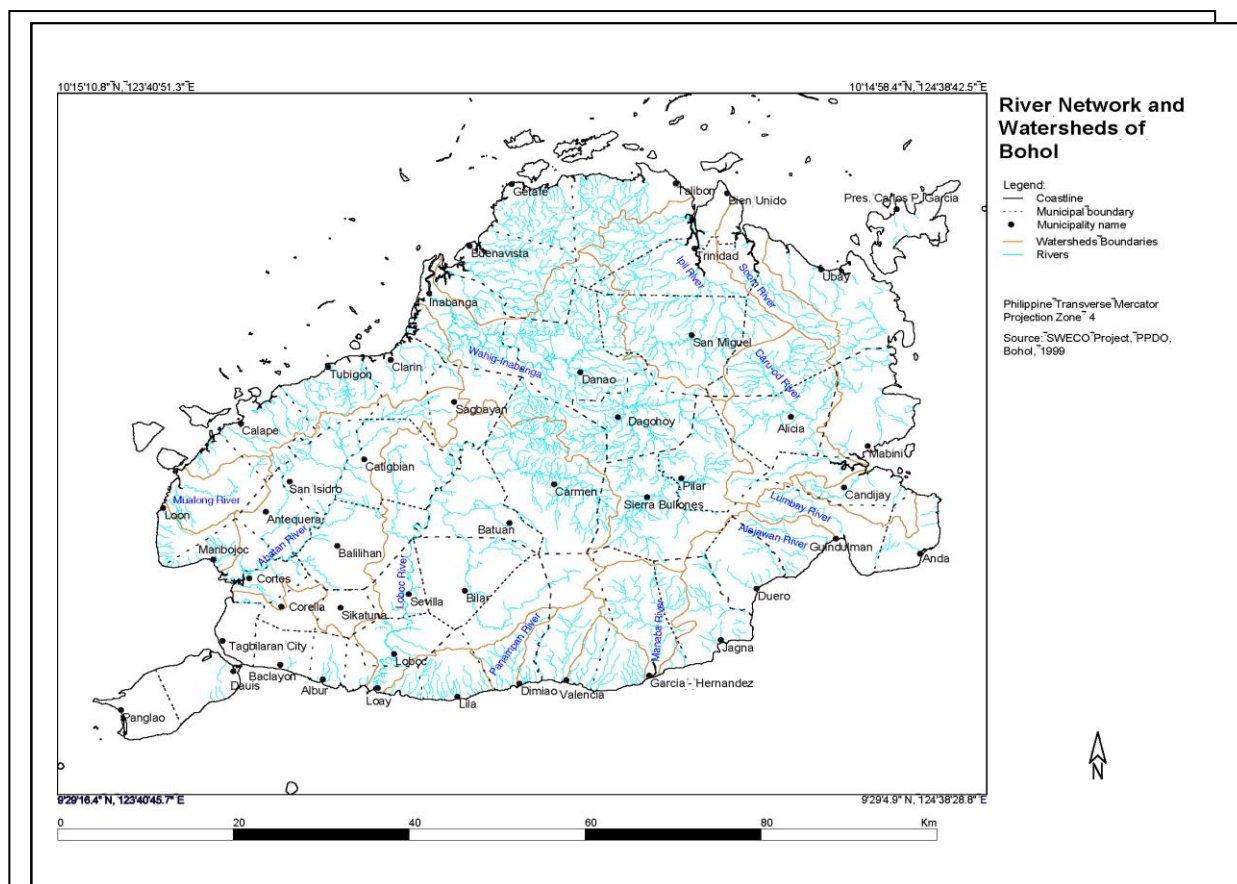
²⁴ DENR Bohol and Region 7



Protection of Bodies of Water

Water is a vital resource for Bohol's future prosperity. Its sustainability and management for economic, social and environmental gains underpin activities in government, industry, business and communities. The Bohol Environment Code contains a number of policies intended to preserve, protect and conserve the island province's water resources, including minimization of pollution in ground and surface waters.

Data on surface and groundwater quality are scarce in the province. The survey of wells conducted by SWECO in 1999 revealed that the water from drinking do not satisfy the water quality standards for safe and potable. An estimated of 5000 wells have water quality problems caused by higher salinity content, excessive amounts of iron and manganese and bacteriological pollution (*see River Network Map below*). Water for home consumption is often prone to contamination due to inadequate sanitation practices and characteristics in limestone inherent substrate (karst). It is important to designate strict water production areas for drinking water purposes and establish buffer zones to protect the same from activities that will harm them.



Source: BWMSSP & SWECO 1999

DEVELOPMENT ISSUES

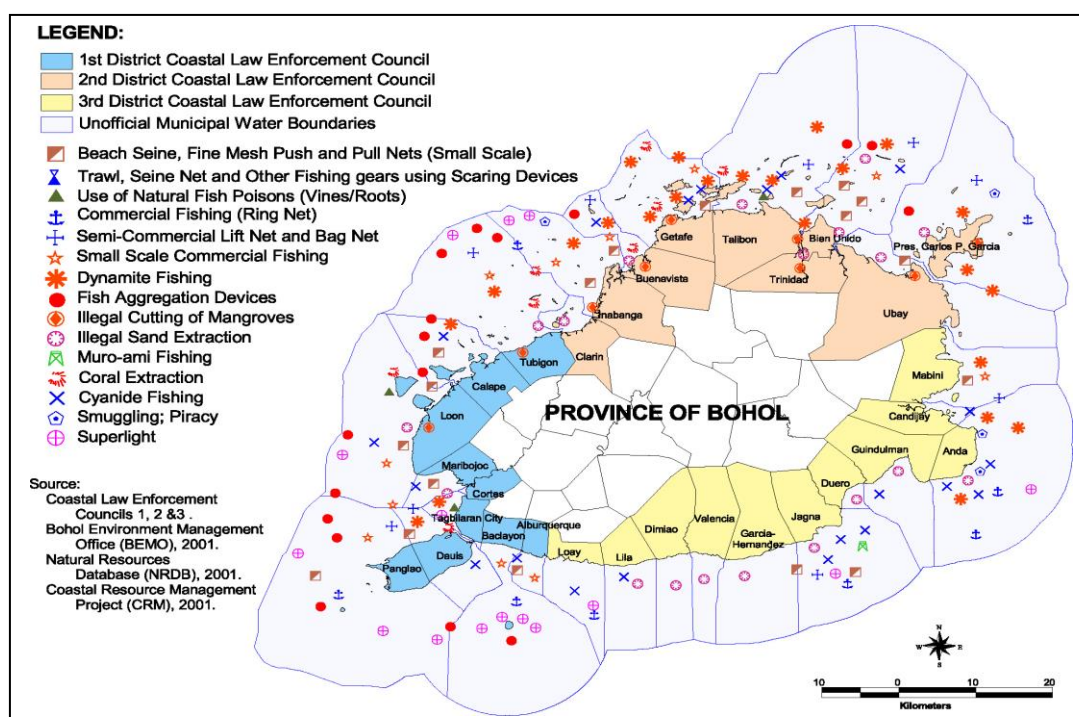
- Over-extraction of groundwater sources which causes salt-water intrusion
- Non-systematic approach to water resource management
- Water crisis due to inefficiency of essential water infrastructure facilities
- Continued pollution and exhaustion of water tables and permanent destruction of the valuable aquifers
- No karst landscape management program to protect underground water sources
- Limited water conservation practices for domestic, agricultural areas and industrial uses
- Weak enforcement of existing laws and regulations e. g. RA 9275 "Clean Water Act", Water Code of the Philippines e.g no build zone along salvage area
- Water Permit Issuances - long process

Sub-sector : **COASTAL/MARINE RESOURCE MANAGEMENT**

SITUATION

Bohol has a total area of 624,506 hectares of municipal waters (6,245.06 square kilometers) and has a total shoreline length excluding offshore islands of 654 kilometers.²⁵ It has 30 coastal municipalities with 304 coastal barangays and 72 islets. Approximately 33 percent of Bohol's population is directly dependent on fishing and fisheries-related activities as major sources of income (see Map 5 & 6). Table __ of Annex A presents the coastal profile in the province of Bohol with corresponding barangyas, land area and population. Based on the records of the Regional Office of BFAR, the total area granted for fishpond development is 2,909.97 hectares. This data is, however, still subject for verification as BFAR is conducting an on-going inventory of fishpond areas in Bohol.

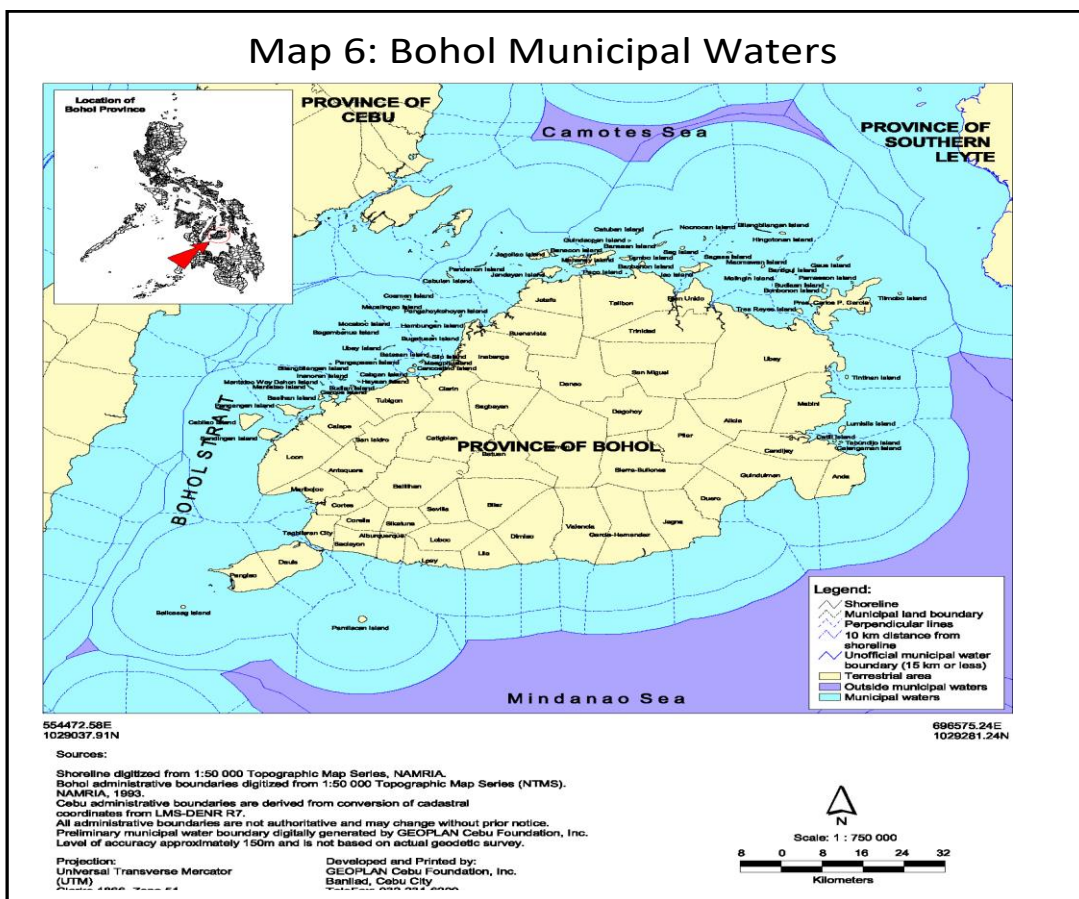
Coastal Resources Map of Bohol



The joint DA/BFAR and DENR General Memorandum Order No. 3, Series of 1991, tried to respond to the problem of idle, unproductive, abandoned and/or illegal fishpond areas by reverting them into their original classification of timberland. Fishpond areas with FLAs that are found to be violating this policy will be reverted to the administration of DENR. All applications within timberlands, which have not been released for fishpond development by DENR, shall automatically be returned without being acted upon. However, not even one idle unproductive, abandoned or illegal fishpond has been reverted to the category of timberland.

²⁵ Bohol Coastal Environment Profile 2002

Map 6: Bohol Municipal Waters



Coastal Habitats

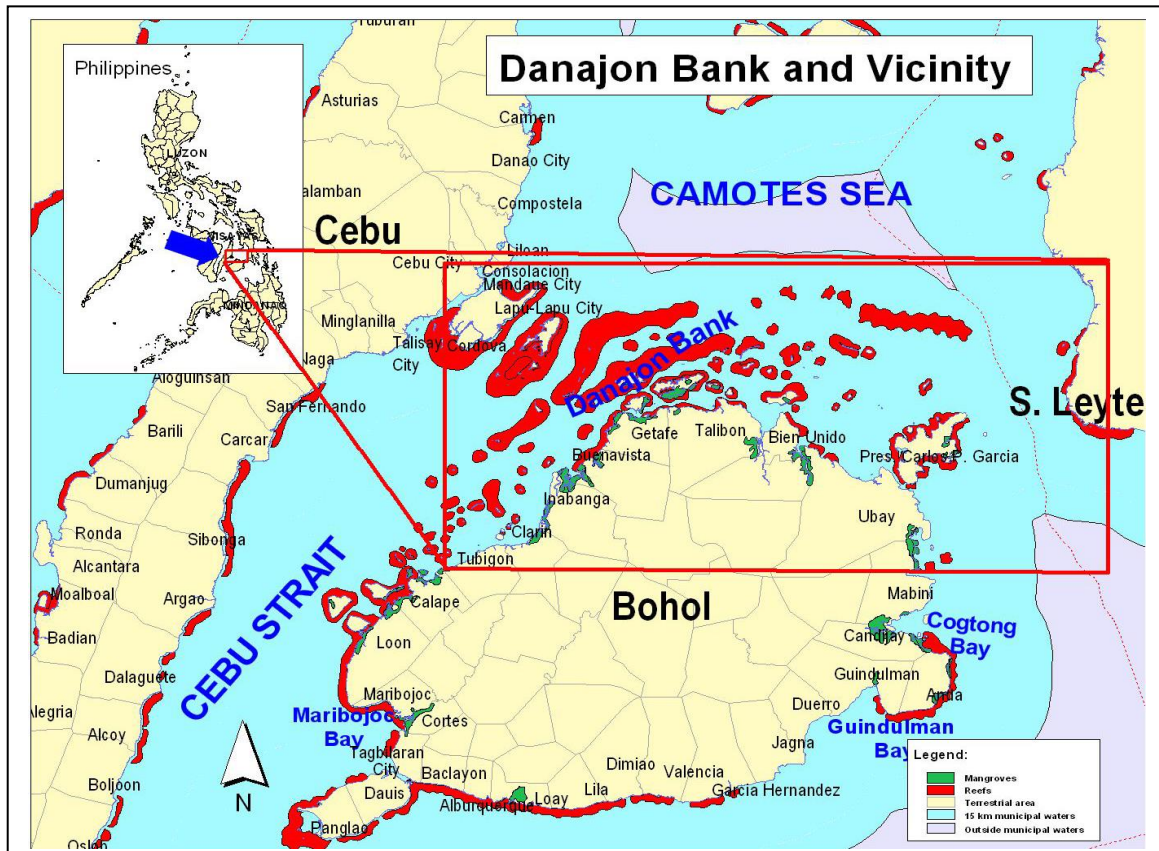
Bohol is boasts of its white, sandy beaches that are commonly used as sites for tourism development (hotels, restaurants, beach resorts among others), fish and boat landings, and as a source of construction materials. These areas are evidence of healthy coral reef ecosystems. Many environmental issues focus on the beach ecosystem as it is prime land for commercial and household development due to its aesthetic value. It attracts the interests of many people to the shoreline, mangroves, coral reefs and fisheries that inhabit the near shore waters.

The area covering municipal waters is measured 15 kilometers seaward from the furthest inhabited shoreline to one kilometer inland if the shoreline contains estuaries, mangrove forests or marshlands.²⁶ This means the total municipal waters of the 29 towns and one city is two and one-half times Bohol's land area. It also indicates that there is a remarkably huge area to consider in planning, yet only a few coastal LGUs have started to manage coastal areas. With the enactment of the Philippine Fisheries Code of 1998 and the Bohol Environment Code, the national government recognized that a paradigm shift is needed to adequately provide for the development, management and conservation of coastal resources.

²⁶ Republic Act 8550 (The Philippine Fisheries Code of 1998, Chapter 1, Section 4(58))

Danajon Bank Double Barrier Reef

The Danajon Bank, is a double barrier reef that runs parallel to the northern coast of Bohol and is proposed as a designated provincial rehabilitation, conservation and protection area (see Danajon Map). The Danajon Double Barrier Reef is one of the six double barrier in the world and the only one in the Philippines which could likely be nominated as national heritage site. Because of its unique coral reef ecology, Danajon Bank is a major breeding ground and habitat of many different species of fishes, marine mammals, mollusks, seagrasses and seabeds.



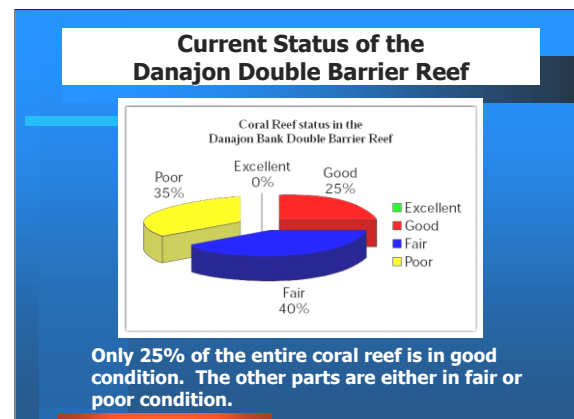
It is composed of the outer Caubyan and inner Calituban barrier reefs. It runs along the coastline of four municipalities, Getafe, Bien Unido, Talibon and Ubay in the south and into the Camotes Sea in the north. To the west it runs all the way to Cebu and to the east and northeast to Leyte and Southern Leyte. The establishment of the protected reef area should serve as an excellent example of how northern coastal towns of Bohol, from Tubigon to President C. Garcia can work together to implement an inter-provincial Coast Resource Management program to protect and preserve this unique treasure. However, such as marine resources like coral reef ecosystems, seagrass beds, mangrove forests, estuaries and inter-tidal seascapes are fragile and have limited potentials if they are utilized improperly. Because these ecosystems are stressed by an increasing population, environmentally-degrading consumption patterns, pollution wastes and human encroachment in coastal zones, there is an urgent need to protect and conserve the integrity of the ecosystems in order to continue to provide benefits to the present and future generations.



Status of Coral Reefs and Sea Grass Beds

Coral reefs commonly known as rainforest of the sea while serving as a buffer against underwater current constitute one of the provinces most productive and diverse ecosystems. They cover an estimated area of 1,920 hectares that include the Danajon Bank Reef in Inabanga, Buenavista, Getafe, Talibon, Trinidad, Bien Unido, Ubay, President Garcia and Mabini. However, the state of the province's reefs are classified as 35% poor condition, 40% fair condition, only 25% in good condition and 0% excellent (BFAR, UP-MSI, CRMP and DENR surveys, FISH Project-USAID Survey 2005. This means that Bohol has already lost more than three quarters of its known corals. This has had a significant effect on the breeding grounds of many marine biodiversity. Significant human threats to coral reefs include collecting and exporting, blasting, use of cyanide, siltation, boat anchorage (especially diving boats), illegal fishing methods, storms, coral bleaching due to increase temperature, pier wharf and breakwater and other construction activities (see Figure 5 & Map).

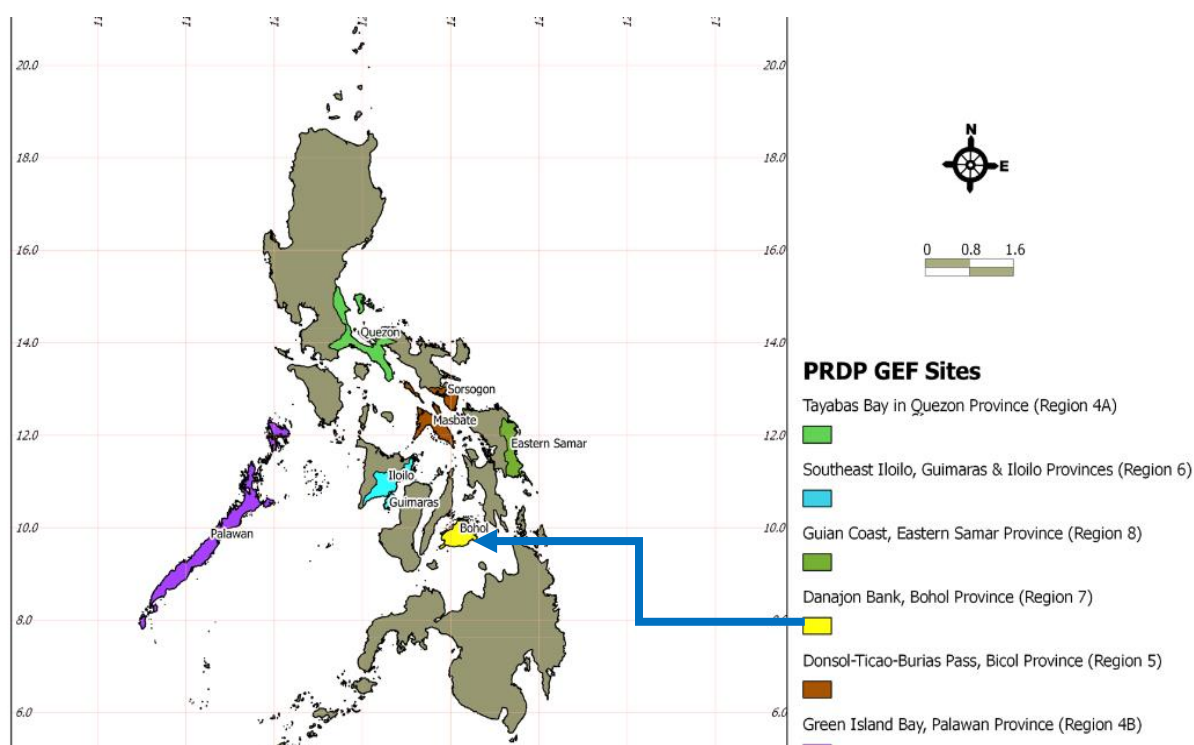
Figure 5: Status of Danajon Double Barrier Reef



Initiatives to Danajon Bank under the Philippine Rural Development Project – GEF

Bohol is one of the six (6) pilot projects in the Philippines funded by the Global Environmental Facility (GEF). It is a 5-year World Bank grant package included under the Philippine Rural Development Project. The project aims to strengthen the conservation of the coastal and marine base in targeted program areas through biodiversity conservation and fisheries resources management. Among the pilot municipalities for the GEF sites are Ubay, Talibon Pres. Garcia, Bien Unido and Buenavista. Among the specific objectives of the projects are:

- At least 5% increase in annual farm incomes of PRDP household beneficiaries
- 7% increase in value of annual marketed output
- 20% increase in number of farmers & fishers with improved access to DA services by providing livelihood to the community
- Increase in Marine Protected Area (MPA) management effectiveness in selected sites in the GEF target areas
- Employ the Integrated Ecosystem Approach (Ridge-to-Reef/Watershed)
- Community and natural resource-based
- Community driven development oriented (communities and LGUs as main drivers in the coastal resources management and biodiversity conservation)
- Strengthen integration of CRM/NRM in local planning and development



Infrastructure Support to Marine Protected Areas with consideration to Livelihood of the Peoples Organizations

The Bureau of Fisheries and Aquatic Resources (BFAR) has established 81 fish landing centers in the 80 barangays in the coastal areas in Bohol (see table 10 below). The Philippine Rural Development Project proposes 75 units of solar dryer and five (5) docking facilities in the 13-coastal municipalities in Bohol.

Table 10: SUMMARY OF FISH LANDING CENTERS IN BOHOL		
MUNICIPALITY	NO. OF BARANGAYS/Facilities	
1. Alburquerque	1	1
2. Anda	1	1
3. Baclayon	8	8
4. Bien Unido	2	2
4. Buenavista	6	6
5. Calape	2	2
6. Candijay	1	1
7. Clarin	5	5
8. Dimiao	1	1
9. Duero	3	3
10. Getafe	5	5
11. G-Hernandez	1	1
12. Guindulman	7	7
13. Inabanga	11	11
14. Jagna	4	4
15. Lila	4	4
16. Loay	2	2
17. Loon	4	4
18. Mabini	1	1
19. Maribojoc	1	1
20. Panglao	1	2
21. Tagbilaran City	2	2
22. Trinidad	1	1
23. Ubay	5	5
24. Valencia	1	1
T o t a l	80	81

Source: BFAR Tagbilaran City 2015

Socio-Economic Significance and Value of Coastal Zone

The coastal zone in Bohol is an important part of the province wealth that interface between land and sea which is highly characterized by rich and diverse coastal ecosystem

due to its 72 island including islets with a coastline extending to more than 654 kilometers. This current condition favors the growth and development of the various interrelated but distinct components of Bohol coastal ecosystem, namely, the mangrove swamps, coral reefs, seagrasses, coastal wetlands, estuaries and sandy white beaches. These areas contain natural resources of great socio-economic value. The vast marine resources contributed much in the development of livelihood for almost two-thirds of the population in Bohol living within the coastal areas. It continues to be a rich source of fish and aquatic products, a primary mode of navigational transportation, maritime trading, coastal tourism, a major area for human settlement, a breeding ground and habitat for the province's wildlife and a predominant feature of the Bohol's natural beauty as an island province.

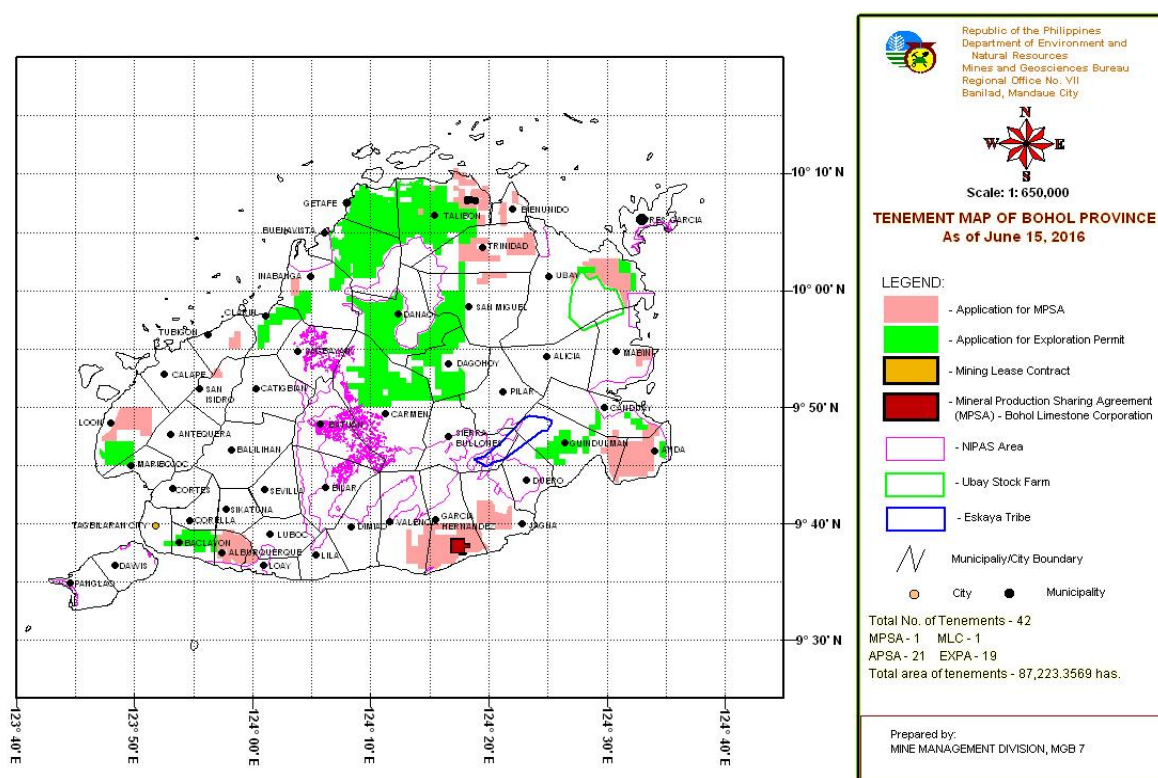
DEVELOPMENT ISSUES

- The coastal environment are under increasing threat from unmanaged human activities such as pollution, habitat destruction and overexploitation of coastal resources;
- Growth in Coastal Population will exacerbate severe coastal-use conflicts in terms of land/water space and resource utilization;
- Natural disaster and climate change such as storm surges caused by typhoons, cyclones that periodically inundate in the coastal zones, tsunami;
- Human induced global warming of the atmosphere;
- Continuous fishery violation in some coastal areas;
- Dynamite and other illegal fishing practices are still evident in the coastal island barangays in Danajon Double Barrier Reef eventually reduce fish stocks in the areas;
- Less support to CRM activities by some LGU's
- Fisher folk/ seaweeds growers as entry point. In relation to peace and order situation (drugs, fireworks, CNN)
- Waste problems at seaweeds areas in (Danajon Bank areas)
- Data gathering is not a priority gathering by some LGU's
- Some CLEC cluster LGU are not yet functional.
- CRM/MPAs Plans adopted but not reviewed/updated
- Need for NGO/ academe partners to share data on CRM
- Entry of Badjao's inside the MPAs
- Inadequate equipment for the seaborne patrol operation
- Degradation of marine environment due to land-based activities like pollutive operation industries, reclamations, agriculture, animal husbandry and settlements (shanties)
- Exploitation of coastal and marine habitat resources
- Non-consideration for sustainable coastal land use planning and principles
- Coastal erosion and sedimentation
- Degradation of shoreline and foreshore areas
- Non-observance of 20-meters salvage zone in the shoreline for environmental protection
- Seawater level rise and ocean acidification

Sub-sector : MINERAL RESOURCE MANAGEMENT

SITUATION

According to the Mines and Geo-Sciences Bureau, Bohol has large deposits of metals and minerals e.g. limestones, manganese, silica, dolomite, gold, deorite, chromite, rock phosphate, guano (organic fertilizers) and pebbles. There are 124 mineral quarry operators (small-scale) with Environmental Compliance Certificates (ECCs) issued by the Department of Environment and Natural Resources. These certify that based on the presentations of the proponents as reviewed and validated, the projects will not cause a significant impact and that the operators or proponents have complied with all the requirements of the Environmental Impact Statement (EIS). The monitoring system for the EIS is still very weak. Consequently very little has been done with rehabilitation of abandoned mining areas. The Map below shows the location with Mining Rights in the Province of Bohol (source: MGB 7 2016).

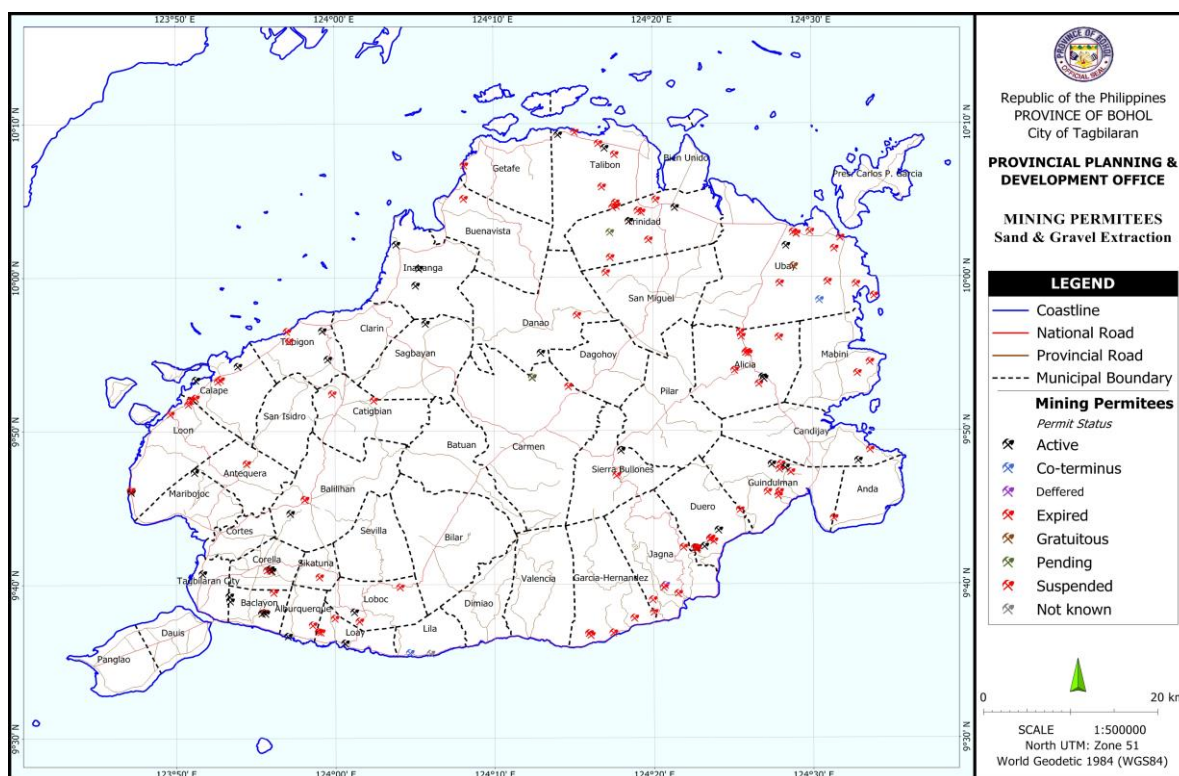


MGB-DENR records in Region 7 shows that the total area of Mining Rights and application (on- shore) is 87,223.3569 hectares or 21.37 percent of the province's total land area. There are two approved Mining Rights in Bohol, one (1) Mineral Production Sharing Agreement (MPSA) of Bohol Limestone Corporation located in Garcia-Hernandez and operated by Philippine Mining Service Corporation containing an area of 640 hectares and the other is Mining Lease Contract (MLC) located in Talibon previously owned by Ms. Milagros

Yulionsiu and is now under the Philippine Mining Development Corporation which has a Joint Operating Agreement with Mt. Sinai Mining Exploration and Development Corporation with an area of 243 hectares.

Major mining activities in Bohol occur in the form of sea sand extraction, pebbles and stone gathering and limestone quarrying. Among the commodities that have also been mined and extracted are white clay, silica sand, manganese, gold, copper, rock phosphate and aggregates (Refer to Mining Map). Increasing domestic and external demands for the utilization of minerals for infrastructure development and industrial raw materials combined with irregular mining and quarrying practices have caused adverse impacts on the environment. These effects are increased soil erosion, water pollution, destruction of heritage areas and unique landscapes, reduction of biological diversity and deterioration of coastal fisheries.

Bohol Mining Ordinance of 2008



In December 2008, the Bohol Mining Ordinance was approved and adopted by the Honorable Members of the Sangguniang Panlalawigan that regulates the issuance of small-scale mining permits, quarry permits, sand and gravel extraction permits, government and private gratuitous permits, commercial and gratuitous guano permits, gemstone gathering permit, pebble extraction permit and other special permits. It establishes the mechanics of issuances; imposes taxes on extracted materials; and provides penalties for violations of certain provisions. It further defines that the Provincial Governor has the power to issue permits to extract these types of resources within the territorial jurisdiction of the province as amended under R.A. 9742, The Philippine Mining Act of 1995. To fully implement the

Provincial Ordinance, the Governor has created and deputized a Task Force Kalikupan to monitor the province-wide mineral operation and watch for illegal haulers in consonance with the existing laws and regulations. The record shows that there 139 permittees who are engaged in sand and gravel extraction see Map ___ and Table ___ of Annex ___: source MGB 7 & BEMO 2015, the status of the sand and gravel operations in Bohol).

DEVELOPMENT ISSUES

- None inventory of abandoned quarry.
- Non verification of works of all abandoned quarry for rehabilitation.
- Un-rehabilitated abandoned quarry sites
- Lack of updated list of large scale mining applications
- Unclaimed share of excise tax from quarry operation by LGUs due to so many requirements
- Provincial Mining Ordinance 2008-025 needs to be amended to make it responsive to the recent national issuances e.g (EO 79, DAO 2015-03, etc.)
- Weak implementation of Batas Pambansa Blg. 265 prohibiting extraction of sand along beaches and shorelines by the LGUs.
- Non- monitoring of SSQP /SAG activities
- Continuous operation of some of abandoned SAGs and mined-out
- Weak implementation of SSQP/SAG Policies
- Absence of multi-partite monitoring team on SAGs & quarry operations in Bohol.
- Mining in geologically sensitive formations such as cave areas
- Mining exploration permit is issued without the knowledge of local officials and landowners

Sub-sector : URBAN DEVELOPMENT/ MANAGEMENT

Solid & Liquid Waste & Sewage

- Situation
- Development Issues
- Development Framework

Air/Noise/Odor Pollution

- Situation
- Development Issues
- Development Framework

SITUATION

Solid/Liquid Waste and Sewage

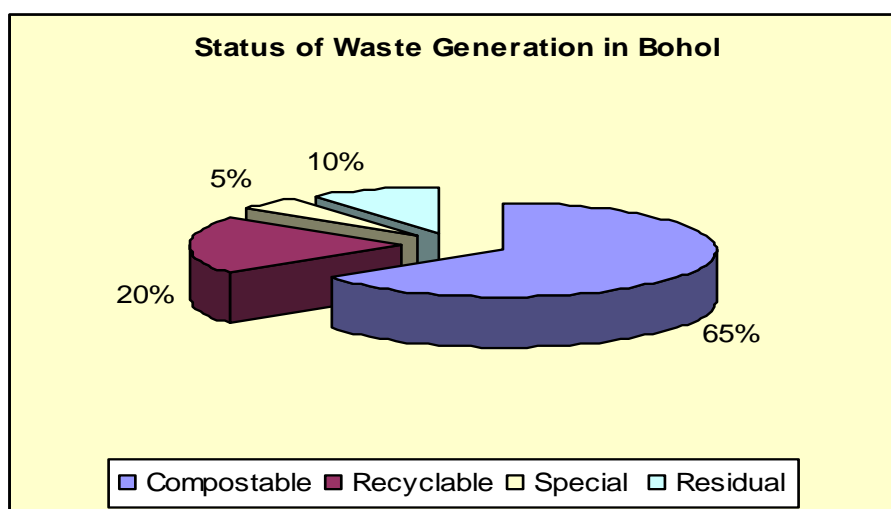
One of the most serious problems that confront all over the country and even in our province is pollution due to improper handling and disposal of both solid and liquid wastes. As the population grows and continued influx of migrants, transients, and economic activities become more intensive it directly correlates with an increase in the volume of solid wastes in Bohol's city and municipalities. This problem occurs not only in the urban areas where population is high and human activities are continuous and intense but it is widely felt in the rural areas due to fast developments. Despite this alarming situation, current initiatives to address aggravating waste problems have been instituted by the Provincial Government through the Bohol Environment Management Office. The present waste profile warrants a more comprehensive and integrated approach to solve the problem for both liquid and solid wastes and to address global phenomena on climate change.

Solid and Liquid Waste ²⁷

In 2015, there are more or less 650,000 kilograms per day (or and estimated of 0.5 kilograms per capita per day) of solid waste generated daily within the province. Roughly 60% of these solid wastes are collected and transported to the existing dumpsites. Based on the data generated by the Bohol Environment Management Office (BEMO) the major solid wastes in the province are food wastes, garden wastes, plastics, paper, cardboard and wood materials. Of these waste materials, 65 percent are compostable, 20 percent are recyclable, 5% are special waste like toxic and hazardous wastes generated from hospitals, funeral parlors, households (aerosols) and effluents from industries and 10% are considered the residual wastes that could not be used for other purpose and have to be carefully disposed of by local government units (see Figure 3).

²⁷ Bohol Environment Management Office 2015 CDM FS Report by Ex Corporation 2010

Figure 3: Waste Profile in Bohol

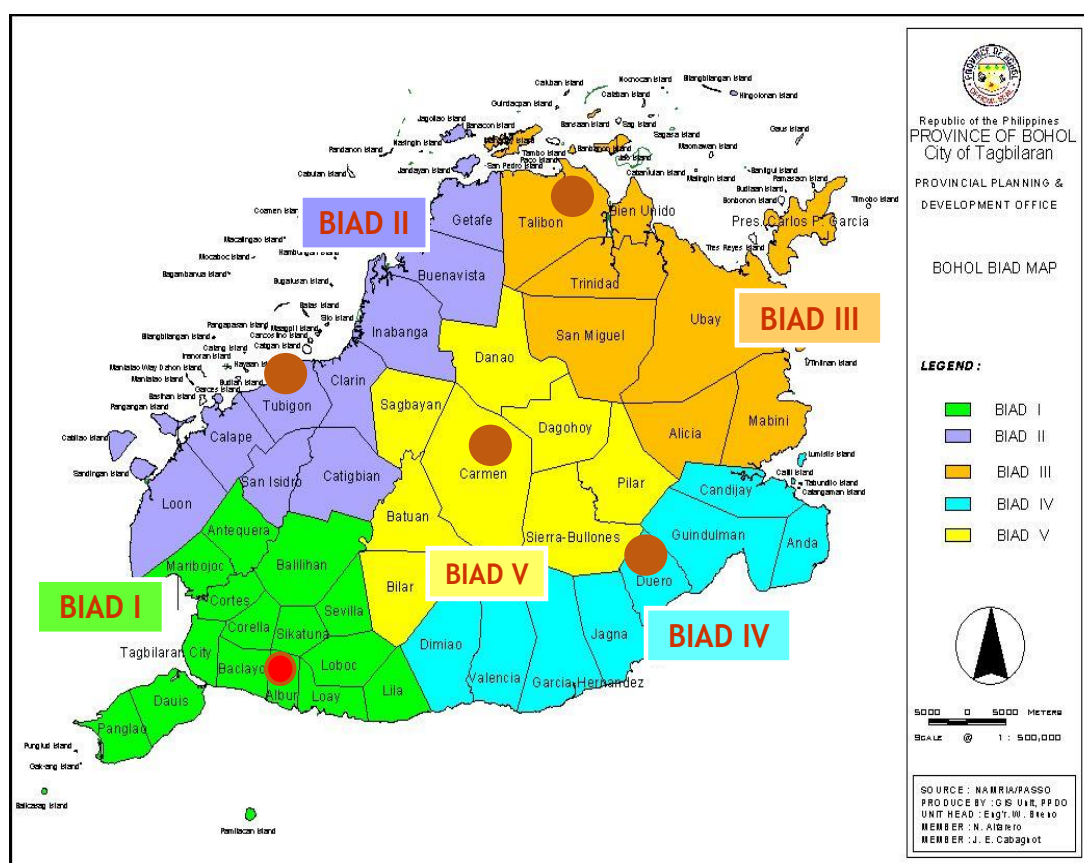


Tagbilaran City and a few municipalities in Bohol have already their own dumping sites. However, only few sites had practiced in waste segregation, composting and recycling. In some LGUs, waste management, specifically in the final disposal system, are not yet conceived due to unavailability of suitable land areas and the high cost of establishing and maintaining a sanitary landfill. Open dumping, burning and throwing anywhere in rivers and seas are most widely practiced system of disposing garbage. The denser squatter settlements are found in the urban area centers along the easements of rivers, waterways and coastal shorelines. These residents cause the clogging of waterways further aggravating the problem of solid waste disposal, public safety, health, and drainage while creating a potential for flooding from blocked waterways. The lack of sewage systems is one of the major problems in the City of Tagbilaran and other urban areas in the province.

To properly manage the increasing volume of wastes, the province had proposed five (5) clusters of municipalities for the establishment of engineered landfills in one of the BIAD clustered municipalities. The bases for the cluster were practical considerations such as geographic proximity of each other, shared natural and agricultural resource base and the economy and industry. Further, the BIAD clustering will generate some advantages like; economies of scale from pooling of resources; more effective environmental management; stronger lobbying to ODA, NGA, NGOs and Private support; sound policy reform as a result of inter-LGU exchange and cooperation and enhance planning, revenue and investment generation.

The concept of clustering is applicable to local government units in the establishment of common disposal facilities in order to share the required financial resources and manpower for their development. The BIAD clusters for sanitary landfill are proposed (see Map __) in Alburquerque (BIAD 1), Tubigon (BIAD II), Talibon (BIAD III), Jagna or Duero (BIAD IV) and Dagohoy (BIAD V).

BIAD Cluster for Sanitary Landfill Location Map



The BIAD I cluster is now on its operation that composes 18 municipalities of which Alburquerque is the host to manage the landfill but in consonance with the proper operational guidelines set by the board (refer to table 11). The member LGUs are now disposing only their residual waste at the landfill.

Table 11: BIAD SANITARY LANDFILL CLUSTER IN BOHOL

Cluster	Location	Status
BIAD I	Albur	Operational
BIAD II	Tubigon	FS & DED
BIAD III	Talibon	FS & DED
BIAD IV	Duero	FS & DED
BIAD V	Carmen	FS & DED

BIAD I Cluster Sanitary Landfill Located at Albuquerque, Bohol



The Republic Act 9003 (Ecological Solid Waste Management Act of 2000) has been approved as a national law and fifteen (15) years had passed and most of the Local Government Units (LGUs) have not complied with the mandatory requirements stated in the provisions of the Law. One of the requirements of the Law is the submission of the 10-year Solid Waste Management Plan to the Department of Environment & Natural Resources – Environmental management Bureau (DENR-EMB) regional office who will endorse the said plan to the national Solid Waste Management Commission (NSWMC) after reviewing the Plan. Another mandatory requirement is the closure of the existing open or controlled dumpsite and to establish a Material Recovery Facility (MRF) for the recyclable and Transfer Station (TS) for the residual and the mandatory composting for the biodegradable is also a requirement and for special wastes a septic vault will be put in place.

Status in the preparation of the Municipalities 10-Year Solid Waste Management Plan:

Table 12: STATUS IN THE PREPARATION OF MUNICIPAL/CITY 10-YEAR ESWM PLAN		
Status of the Plan Preparation	Numbers	Name of Municipalities
No. of LGUs with approved 10-Year ESWM Plan	22	Anda, Antequera, Bilar, Calape, Trinidad, Dimiao, Corella, Dagohoy, Loay, Bien Unido, Albur, Jagna, Duero, Dauis, Catigbian, Maribojoc, San Miguel, Balilihan, Sikatuna, Guindulman, Pres. C. P. Garcia
No. of LGUs conditionally approved and given 60 days to comply comments	15	Buenavista, Clarin, Panglao, Alicia, Cortes, Guindulman, Pilar, Tagbilaran City, Tubigon, Sierra Bullones, San isidro, Talibon, Carmen, Batuan
No. of LGUs still on going drafting the plans	8	Baclayon, Mabini, Candijay, Loon, Loboc, Sevilla, Valencia, Ubay
LGU that submitted the plan direct to Manila with no feedback if approved	1	Danao
LGUs with no feedback as to the plan preparation	3	Sagbayan, Getafe, Garcia-Hernandez
Total	48	

The Provincial Government of Bohol thru BEMO in coordination with the Department of Environment and Natural Resources (DENR) and other line agencies conducts a regular monitoring and evaluation on the compliance of the mandatory requirement stated in RA 9003. The evaluation for the 2016-2028 program implementation started in April 2016. LGUs with best practices will be awarded in cash reward and additional prize in project form. It is a point system evaluation where the perfect score is 100 points. As of June 30, 2016, fourteen (14) LGUs has been evaluated already while the remaining LGUs will be evaluated until November 2016. Based on the evaluation, even if there is already Municipal Ordinance stating the segregation at source, segregated collection, there are still LGUs who are not following the mandatory requirements and operating open or controlled dumpsite. Implementation of Solid Waste Management is based on five (5) components or Five E's:

Some municipalities have already identified other sites for landfill in their Comprehensive Land Use Plans. These sites can be used temporarily until the implementation of the clustered engineered landfill system. Potential sites that have been identified by DENR and subject to geological assessment are located in the municipalities of Cortes, Albuquerque, Tubigon, Balilihan, Dimiao, Dagohoy, Carmen or Sierra Bullones, Guindulman, Pilar, Talibon and San Miguel. The combined sites have a total area of 59 hectares. This is 21 hectares more than the estimated minimum of 38 hectares needed for the province to satisfy landfill requirements.

Liquid Wastes

Water pollution is alarming everywhere in urbanizing cities and rural municipalities. Steadily increasing levels of economic activities and population growth in urban and rural areas lead to an increase in the volume of liquid wastes and adverse impacts on the health of the population and Bohol's fragile ecosystems. Sources of water contamination basically come from domestic, agricultural and industrial wastes. These would include the contaminated water and sewage from residential and institutional areas, leachate from solid waste dumps, industrial effluent and storm water.

The province has 894 manufacturing establishments categorized as micro, small, medium and large-scale industries (Source: DTI Tagbilaran 2015). However, the management of these establishments with regard to liquid waste management is not properly followed and implemented. Even in the construction of subdivisions in the province, sewage systems are not implemented as required by law. Household sewers and liquid waste from hospitals and funeral homes are directly drained to the ground and shorelines. This causes pollution and contamination of underground and coastal waters.

There is neither a centralized drainage system nor sewage system in the province of Bohol, even in the City of Tagbilaran. There is no strict supervision and monitoring in the construction of septic tanks, hence, many septic vaults have been improperly designed which has resulted in fecal contamination of water resources and degradation of aquifer water. Big industrial establishments in the province have their own sewage treatment but in terms of the operation of their treatment plants are problematic. They prefer to dispose of their liquid wastes in drains that contaminate water quality. Once contaminated, water treatment is difficult and very expensive.

However, all of these activities are reactive rather than proactive and most often than not, fragmented. There is a need for a more coordinated institutional effort to manage liquid waste and maintain the standards and quality of water in the province. The DENR, through the Environment Management Bureau, in strong collaboration with the Bohol Environment Management Office is the primary agency responsible for pollution control management in the province. It is imperative to adopt a comprehensive and integrated approach both to solid and liquid waste management.

Non-point Source of Pollution

Pollution from non-point sources occurs when rainfall or irrigation runs through land or underground, gathers pollutants along its way and deposits them into rivers, coastal waters and groundwater. The extent of this type of pollution is widespread and difficult to pinpoint because it can occur in any land and water system disturbance. The potential sources of non-point source pollution are households, agriculture, forestry, grazing, septic systems, recreational boating, urban run-off, construction and physical changes to stream channels and habitats. The non-point source pollution is difficult to manage due to its vast area and number of possible sources. Several strategies are needed to control them through planting of trees, shrubs and ground cover to absorb rainwater and lessen erosion and allow thick vegetation or buffer strips to grow along the rivers and creeks to slow down run-off and soak up pollutants.

DEVELOPMENT ISSUES

- Improper waste management systems in all local government units
- Weak enforcement of existing laws, rules and regulations e.g. RA 9003, (RA 9275 Clean Water Act) RA 6969
- Poor enforcement of air and sound quality regulations especially industries and vehicles e.g. Clean Air Act (RA 8749)
- Open burning of garbage e.g. **crop residues (rice hulls, straw), household wastes and dumpsites** are still practiced in some areas
- Some MLGUs do not prioritize RA 9003 implementation and enforcement and budget allocation is minimal
- Most MLGUs are not collecting garbage fee from waste generators except commercial establishments
- There are LGUs have no MENRO nor permanent Focal person in some LGUs
- Some created MESWM Boards and TWGs as well as the BESWMC are not functional
- There is only one personnel in Solid Waste Management Sector in the provincial level that cannot cope up the demand(s) of MLGUs
- There are still LGUs who are operating open/controlled dumpsite which is already prohibited by RA 9003 and waste segregation is not implemented
- Residual Containment Areas (RCA) are already full due to absence of a Sanitary Landfill (SLF)

- Site has already been identified to serve a final disposal facility (SLF) and Detailed Engineering Design (DED) is now available but no funding for the conduct of a feasibility study and the construction of the SLF
- Municipal Ordinances on SWM are not enforced, and trained SWM enforcers are not deputized
- Need technical support from NSWMC and concerned agencies in the formulation of ten year plan (ESWM) for all LGU's on Bohol

Air Pollution

Economic activities are usually associated with both air and noise pollution. It normally happens if wastes are released into the atmosphere at a faster rate than natural forces can clean the air. These wastes are generally hazardous human health, plant and animal life. Moreover they can corrode and damage materials, reduce visibility and could have a long-term cumulative effect on the climate leading to a global change in atmospheric conditions.

The current state of air quality in the province is generally not alarming due to the fact that there are only few industries of medium scale. However, internal combustions engines are the main sources of air pollution in most urban municipalities and the City of Tagbilaran. Among the major sources of air pollution are generated from tricycles, jeepneys, buses, welding shops, barbecue businesses, wood smoke, burning of rice hulls and rice straw, charcoal production, open dump sites, indiscriminate urination, piggery and poultry odors. Three other contributing short term factors are dust coming from unpaved roads, arbitrary burning of household and agricultural wastes, and smoke emission from the dump sites.

The concentration of air pollution is made worse by the nature or kind of fuel used. Power stations are mostly hydroelectric and are located away from settlement areas. The provincial government recognized the problem that there are industries, transportation equipment, motor vehicles and quarry operations emitting both air pollutants and noise and that these should be controlled.

Noise and Odor Pollution

Noise pollution is mainly traceable to the operations of mechanical equipment and machineries of industrial and manufacturing firms and construction activities. Aside from these sources, noise also emanates from the airport activities and transport operations e.g. highways, buildings and major thoroughfares.

However, the main sources of noise pollution in the province are coming from big buses, trucks and tricycles that pass along the highways and major arterial roads, the Bohol Power Plant of NGCP located in Dampas, Tagbilaran City and the jets and planes that take off from the Tagbilaran City airport. The noise level in the City of Tagbilaran and major urban municipalities are generally higher in day time than in the nighttime. Exposure to noise of high decibels for prolonged periods of time has behavior, physiological and sociological

effects that cause loss of hearing. Educational institutions situated near street or other noise sources may also have trouble in classrooms with students hearing the teachers.

Likewise, gases released by decomposing organic elements as a result of leaching of toxic chemical and accumulation of heavy metals could emit foul odor. Proper maintenance and cleanliness will greatly alleviate the odor problems in the area.

DEVELOPMENT ISSUES

- Foul odor is now becoming a major complaint by residents living near livestock farms, animal feeds and cassava palm oil processing plants.
- Indiscriminate burning of crop residues (rice hulls, straw), household wastes and dumpsites
- Inadequate financial resources to purchase air quality monitoring equipment
- Poor enforcement of air quality regulations especially industries and vehicles

DISASTER RISK REDUCTION MANAGEMENT AND CLIMATE CHANGE ADAPTATION

Climate Change Mitigation and Adaptation

SITUATION

Climate change is one of the strongest development agenda of the 21st century; global scientific studies conducted by the Intergovernmental Panel on Climate Change (IPCC) have already confirmed that the change in global temperature is already unequivocal. In the Philippines, the manifestation of extreme weather events which cause losses in terms of livelihoods, infrastructure, and even lives has become more frequent in recent years.

With the passage into law of Republic Act 9729 or the Climate Change Act of 2009, local government units (LGUs) were tasked to serve as frontline agencies in the formulation, planning and implementation of climate change action plans in their respective areas. Cognizant of the fact that climate change is a multi-sectoral concern, the involvement of all levels of government in the urban resilience planning process is crucial in order to attain higher probability of desired outcomes.

In **Section 14 of RA 9729** which is the ***Local Climate Change Action Plan***, further states that the Local Government Units (LGUs) shall be the frontline agencies in the formulation, planning and implementation of climate change action plans in their respective areas, consistent with the provisions of the Local Government Code, the Framework, and the National Climate Change Action Plan. Barangays shall be directly involved with municipal and city governments in prioritizing climate change issues and in identifying and implementing best practices and other solutions. Municipal and city governments shall consider climate change adaptation, as one of their regular functions. Provincial governments shall provide technical assistance, enforcement and information management in support of municipal and city climate change action plans. Inter-local government unit collaboration shall be maximized in the conduct of climate- related activities.

Resilience to extreme weather and climate change will greatly impact the communities as adaptation and mitigation measures provide opportunities for local governments to enhance the well-being of communities by lessening its impacts/vulnerability to them. The benefits of climate resilience to the local government are enumerated as follows:

Economic Benefits

- More economic opportunities and business investments with the LGU mainstreaming CCA in its development plan;
- With a CCA Plan, limited resources of LGUs will be appropriately channeled and utilized for public goods and services in response to climate stresses;
- More donors encouraged to pour capital especially in livelihood investments in response to climate variability and change stresses.

Environmental Benefits

- Increased tourism activities capitalizing on its sound environment with Climate Change portfolio;
- Sustainable development anchored on its strong environment protection and preservation.

Social Benefits

- Increased level of awareness in addressing CC issues with heightened capacity to adapt;
- Trainings and awareness- raising activities enhanced preparedness of communities to CC impacts;
- With CCA database established and functional, reduce vulnerabilities of affected sectors and increased their coping mechanism.

Climate and Hazard Profile

a) Climate Profile

The effects of climate change are now being felt in the Province of Bohol. Impact of this change has affected Bohol's forest, its biodiversity, water, agricultural, fishery resources and cultural assets with wide-range adverse impact on human health and loss of life. The ten (10) warmest years on record in the world all occurred in the years 1880 to 2000 (Figure __). Temperature changes are known to affect the transmission of infectious diseases like malaria, dengue and respiratory tract infections. Rising incidence of morbidity cases from these infectious diseases, particularly respiratory tract infections has been recorded in Bohol with pneumonia as a leading cause of illness in the province affecting 10% of Bohol's population in 2008, mostly children.

Bohol is among the areas in the Philippines threatened by drastic effects of global warming. It is ranked 9th among top 20 provinces in the Philippines vulnerable to a one (1) meter sea level rise.²⁸ Its seascape, as an eco-tourism asset, is vulnerable to threats of global warming that may result in sea-level rise, causing loss of tourism and business investments. Cutting of trees in the upland communities is commonly practiced. There is degradation of marine environment due to pollution from industries, agriculture, including animal husbandry and settlements. Coastal erosion and sedimentation is not properly addressed and occurrence of sea level rise. Dumping and burning of solid wastes that include toxic materials and chemicals still pose a problem as well as the overflowing of sewers. There is an increase in frequency and intensity of the El Niño and La Niña phenomenon resulting to agricultural and ecological problems (e.g., disruption of wildlife) and damage to property.

Changes in rainfall patterns, typhoon frequency and the irregular period of occurrence, sea level rise are now becoming noticeable. The connection between local environmental

²⁸ Source: Climate Hotspot, Climate Change Impacts in the Philippines conducted by Greenpeace Southeast Asia, Climate and Energy Campaign, 2007

threats and climate change is an emerging concern among local government units. It is in the context that local government must play a major role in implementing measures on climate change mitigation and adaptation due to their authority to control the necessary changes.

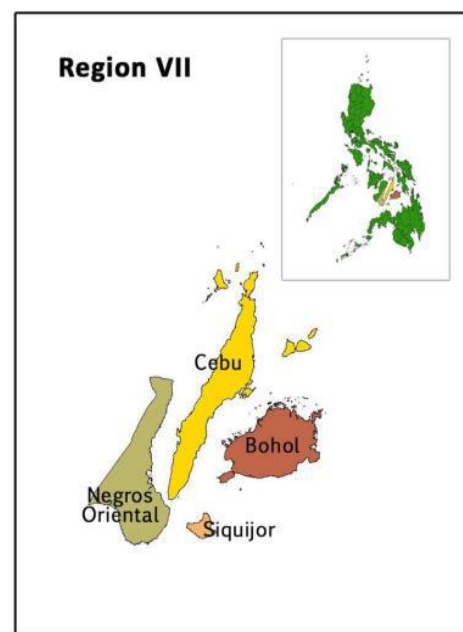
Based on the distribution of rainfall during the year, Bohol's climate as classified by PAG-ASA belongs to Corona's 4th Type, characterized by rainfall more or less evenly distributed throughout the year. Intensification of the southwest monsoon usually occurs during the months of July to October. The rainfall varies from about 1,200 mm/yr around the coast to slightly more than 2,200 mm/yr in the mountainous areas in the province. Based on the climatological records of Tagbilaran City weather station, the province has an annual average of 161 rainy days. Average rainfall and trend has illustrated a declining trend of 250 mm over a period of 35 years of about 7mm a year due likely to climatic change in the Southeast Asian Region. The coastal area of the province is warm in contrast with the interior part, which is colder especially during the night. Mean temperature is at 27.40 degrees centigrade. Prevailing wind direction is towards northeast with an average speed of 2 miles per record. Bohol is not included in the so-called typhoon belt of the country, as typhoons rarely pass in the province. Those passing below or above the island contribute to the greater volume of precipitation. The frequency of typhoon passage is 0-10% from the average of 20 typhoons passing over the Philippines per year.²⁹

Based on the data on climate change scenario, the projected seasonal temperature increase, seasonal rainfall change and frequency of extreme events in 2020 and 2050 under the medium-range emission scenario in the provinces in Region 7 are presented in Tables 13, Table 14 and Table 15, respectively. Example for Bohol province the projected values are (for Dec. Jan and Feb.)

Climate Projections in 2020 and 2050 of Bohol and other Provinces in Region 7

Bohol is facing the real impacts of climate change threatening its development prospects and exacerbates the vulnerability of its poor communities. With projected changes in precipitation, temperature, intensity of tropical cyclones and frequency of extreme weather events, considerable efforts would be required to prepare in dealings with the impacts of climate change on the different climate-sensitive sectors e.g. agriculture, forestry, biodiversity, water, coastal/marine resources and health. Adaptation will be an essential part to response the threats of climate change.

Scientific basis for adaptation and vulnerability assessment studies and report are already conducted by PAGASA which provides the opportunity to understand the future changes in climate and how these changes will affect the province in the future and what



²⁹ DENR-BSWM 1991 Preliminary Climatic Classification of 15 selected Provinces in the Philippines

adaptation efforts will be done. Based on the data on climate change scenario, the projected seasonal temperature increase, seasonal rainfall change and frequency of extreme events in 2020 and 2050 under the medium-range emission scenario in the provinces in Region 7 are presented in Tables 13, 14 and 15, respectively. To use the tables and arrive at values of seasonal mean temperature and seasonal rainfall in 2020 and 2050 in any of the provinces, the projections are added to the observed values (presented in each of the tables). For Bohol province, the projected values are:

- DJF mean temperature = (26.6 °C +0.9 °C) = 27.5 °C;
- DJF rainfall = {376.1mm+376.1(9.8%)mm} = (376.1+36.9m) or 413mm;
- Number of days with Tmax> 35 °C in Tagbilaran City during the 2006-2035 period (centered at 2020) = 1,710;
- Number of dry days in Tagbilaran City during the 2006-2035 period (centered at 2020)= 6,836; and
- Number of days with rainfall > 300mm in Tagbilaran City during the 2006-2035 period (centered at 2020) = 1.

Table 13: Seasonal temperature increases (in °C) in 2020 and 2050 under medium-range emission scenario in provinces in Region 7

Provinces	OBSERVED BASELINE (1971-2000)				CHANGE in 2020 (2006-2035)				CHANGE in 2050 (2036-2065)			
Bohol	26.6	28.0	28.2	27.8	0.9	1.2	1.2	1.0	1.8	2.3	2.3	1.9
Cebu	26.8	28.4	28.2	27.9	0.9	1.2	1.1	1.0	1.9	2.4	2.1	1.9
Negros Oriental	27.0	28.4	28.0	27.8	0.9	1.2	1.0	1.0	1.9	2.3	2.0	1.9

Table 14: Seasonal rainfall change (in %) in 2020 & 2050 under medium-range emission scenario in Provinces in Region 7

Provinces	OBSERVED BASELINE (1971-2000)				CHANGE in 2020 (2006-2035)				CHANGE in 2050 (2036-2065)			
Bohol	376.1	209.6	412.9	514.5	9.8	-7.1	4.5	6.8	21.2	-11.9	18.9	22.6
Cebu	324.0	228.3	595.1	607.4	17.7	0.8	7.7	7.7	19.6	0.5	18.9	17.8
Negros Oriental	225.8	226.0	639.5	636.9	15.0	-4.9	9.3	4.7	17.4	-6.8	20.7	10.5

Table 15: Frequency of extreme events in 2020 & 2050 under medium-range emission scenario in Provinces in Region 7

Provinces	Stations	No. of Days w/ Tmax>35 °C			No. of Dry Days			No. of Days w/ Rainfall >100mm		
		OBS (1971-2000)	2020	2050	OBS	2020	2050	OBS	2020	2050
Bohol	Tagbilaran	260	1710	3413	8176	6836	6473	15	21	23
Cebu	Mactan	25	1488	2463	7112	5720	5693	12	4	17
Negros Oriental	Dumaguete	66	826	1499	8451	6032	5642	5	7	6

Climate Change Threats and Potential Impacts

Table 16: Trends in Climate Change Impacts

Climate Change Impacts	Areas or location affected (Municipalities/Barangays)	Trend	Intensity	Frequency of Occurrence
Sea level rise	30 coastal towns including Tagbilaran City	same areas	every year	increasing every year
Prolonged drought	47 towns and 1-city	expanding to coastal areas	every year	every year
El Nino events	47 towns and 1-city	expanding to coastal areas	every year	every year
Floods	336 out of 1,109 brgys (47 towns and 1-city)	expanding to other areas	Increasing	Increasing every year (flash flooding, seasonal, river overflow, coastal flooding due to heavy rains, dam overflow)
Storm surge	30 coastal towns and 1-city	same areas	Increasing	Increasing every year
Monsoon rains a) Southwest Monsoon or Habagat; b) Northeastern Monsoon/Amihan	47 towns and 1-city	expanding to interior part of the province	Increasing even dry season	Increasing every year

Land Use Issues and Challenges

Population growth and economic activities have created pressures on Bohol's environment and natural resources. High demand for physical infrastructure like roads, water systems and power, more settlement areas, greater demand for goods and services are expected to increase. These often create environmental stress and adverse impact on critical resources. It can also bring about exposure of people and property to danger due to natural hazards such as flooding, landslides, earthquakes and typhoons including man-made hazards.

Some land use issues have to do with:

- **Encroachment in critical ecosystems and degradation of critical habitats both inside and outside designated protected areas.** Bohol has retained an overall high-quality natural environment, yet the impact of human activities on the environment could upset its natural ecological balance and its aesthetic quality. The increasing demands of urban development such as increased road works and settlements may

significantly alter this ecological balance that is detrimental to human health while compromising the beauty and tranquility of the natural environment.

- **Disaster Risks and Hazards.** Bohol as an island province is vulnerable to various hazards resulting from natural and man-made disasters such as flooding, rain-induced landslides, earthquake, storm surges, liquefaction, fire, air and water pollution and contaminated land. Inappropriate location and design of developments can aggravate exposure and impact of hazards including climate change like sea-level rise and storm surges, among others.
- **Land pollution.** This is due to indiscriminate use of inorganic fertilizers and pesticides especially in farmlands and the indiscriminate dumping of solid wastes including toxic and hazardous materials and chemicals. Arbitrary disposal of solid waste and domestic wastewater have affected the quality of water sources both underground and surface water. With population increase, Bohol will need a sustainable waste disposal facility which can accommodate the increasing volume of its wastes. Bohol has allocated 38 hectares for a sanitary landfill. The total existing area identified in every cluster is 59 hectares which is sufficient enough to answer the need for a disposal site within the planning period.
- **Unregulated conversion of forest lands to other uses.** In 2015, DENR reported that the forest reserves of Bohol are declining due to conversion of forest area to agricultural use and other uses, among other causes. Ten percent of Bohol's population is dependent on the forest through farming in forest lands.
- **Soil erosion.** Eight out of the eleven (11) watersheds in Bohol are experiencing 26 to 38 percent soil erosion rates³⁰. These sites are now at a critical stage with an annual soil erosion rate of ten cubic meters per hectare.

Planning Context

The Bohol has drafted the Provincial Climate Change Action Plan with the assistance from the International Council for Environmental Initiatives (ICLEI-Southeast Asia) for Local Governments for Sustainability and Asian Cities Climate Change Resilience Network (ACCCRN) funded by Rockefeller Foundation. The plan is mainly anchored on the local government's two major planning documents, namely: 1) Comprehensive Land Use Plan, and 2) Comprehensive Development Plan and the Provincial Development and Physical Framework Plan (PDPFP). It focuses on the intersection of climate change, urban systems and vulnerability to consider both direct and indirect impacts of climate change in urban areas particularly in the poor and vulnerable communities that lack adequate infrastructures and services.

Furthermore, the development of plan is strongly linked with the Philippines' National Climate Change Action Plan (NCCAP) 2011–2028 which outlines seven strategic priorities namely 1) food security, 2) water sufficiency, 3) human security, 4) environmental and ecological stability, 5) sustainable energy, 6) climate-smart industries and services, and 7) knowledge and capacity development. The NCCAP recognizes that certain activities cut

³⁰ *Bureau of Soil and Water Management (BSWM) Region 7*

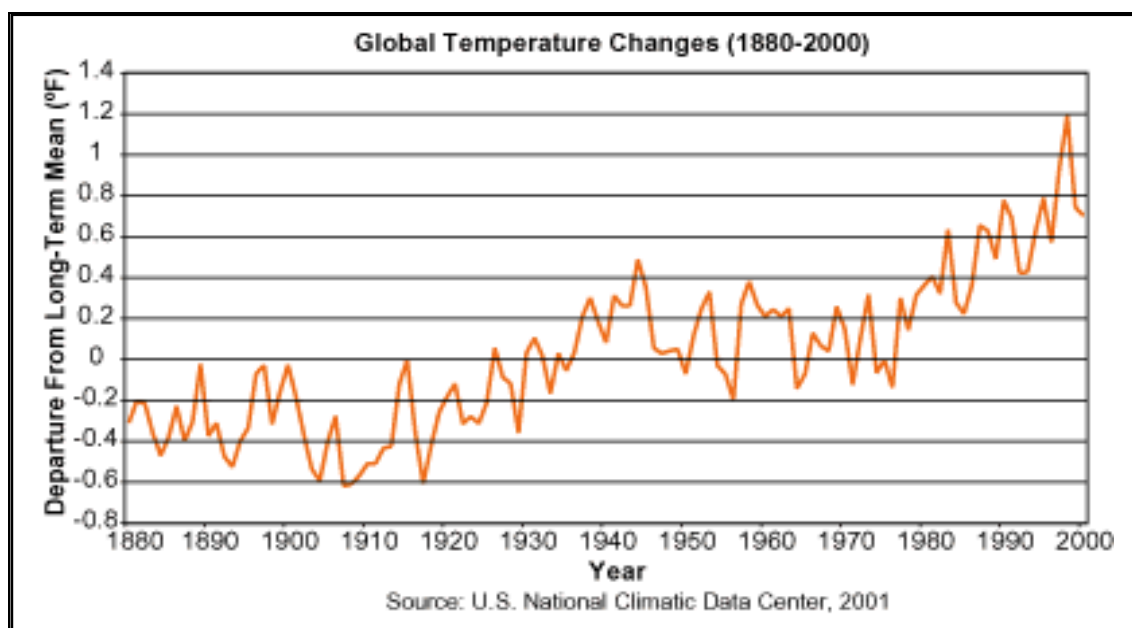
across strategic priorities and sectors. These include gender and development, technology transfer, research and development, information, education and communication (IEC), and capacity building. Toward this end, it is recognized that the LCCAP builds on existing policies, programs, and good practices both national and local including but not limited to:

- Local Disaster Risk Reduction and Management Plan as mandated by RA 10121
- Solid Waste Management Plan as mandated by RA 9003
- Local Shelter Plan
- Provincial Development and Physical Framework Plan (PDPFP)
- Bohol Post-Great Earthquake Rehabilitation Plan
- Disaster Risk and Vulnerability Assessment Report of Bohol Province

The increase of greenhouse gases in the atmosphere has caused the earth to warm over the past 100 years. The ten (10) warmest years on record all occurred in the years since 1985 and 1998 is the warmest year on record (see Figure 4). Rising temperature, erratic weather conditions are just few of the concrete evidence that climate change is unfolding and happening. Impacts of this change have affected our forestry, biodiversity, water, agricultural and fishery resources and even cultural assets. It has a wide-range adverse impact on human health with significant loss of life. Temperature changes affect the transmission of infectious diseases like malaria, dengue, yellow fever and among others. Thus, for sustainability, these resources should be managed to cushion the negative effects brought about by the said climate change. In the Global Picture: Rises in temperature are already being felt:

- The ice caps are melting, leading to sea level rises which could flood cities near the coast;
- Glaciers are disappearing, and the rate at which they disappear is speeding up. Hundreds of millions of people in Asia depend on these for their drinking water;
- Weather patterns are changing. In places like Africa where people are very dependent on rainfall to grow crops and fill wells are causing famine and drought and displacing millions of people.

Figure 4: Global Temperature Changes (1880-2000)



In the National Situation (Philippines)

- Seventy percent (70%) of the country's total land area used to be forested, but this is now down to 24% at only 7.2 million hectares with less than a million (800,000 hectares) virgin forest;
- Our country has the richest marine biodiversity in the world, only less than 5% of our coral reefs are in excellent condition (meaning up to 75% coral cover. We've lost 3050% of our sea-grasses and more than 50% of our mangroves. All these have adversely affected the productivity of our coastal areas with fish catch down from 10 kilos effort to only about 2 kilos;
- Philippines is the 2nd to lowest in terms of freshwater availability in Southeast Asia (2nd only to Thailand as of 2000) and our country is already experiencing saline water intrusion in some coastal areas;
- Total suspended particulates (TSP) in the air in most urban centers exceed the standards adversely affecting public health. The economic cost of this air pollution for Metro Manila, Baguio, Cebu and Davao alone was estimated by the World bank at about 400 million US dollars;
- Many of the country's waters (coastal, rivers, lakes, creeks) are polluted from sewage, industrial effluents, agricultural and urban run-off, with an estimated adverse impacts to water pollution on public health, fisheries and tourism to be Php 67 billion per year;

- Solid waste is mounting and is improperly dumped in our creeks, rivers, lakes, seas or any vacant lot aggravating the flooding problem and continue to pollute our surface and groundwater;

There is really a need to act locally to solve the global problem on climate change by finding solutions at all levels (individual, community, local and national government, private sector, non-government organizations and among others). Every action counts, working together, we will send a powerful message to leaders and citizens all over the world that millions of us care and are doing something right now to create a safer and more sustainable world for our children and our future. To start of something serious, the cost of addressing the problem now is a lot less painful than trying to fix it later on.

The Role of the Provincial Government of Bohol the UN Framework on Climate Change

The Provincial Government of Bohol is one of six pilot provinces in the country that has actively implemented the Local Development Action Plan for Climate Change in partnership with the Institute of Climate, Energy and Environment (ICLEE) and a full-pledged and active member province in the International Council for Local Environmental Initiatives (ICLEI) since 2002. The aim of this program is to stabilize the concentration of greenhouse gases at a level that would prevent dangerous human interference with the climate system and to take measures to limit anthropogenic emissions of GHG in order to protect and enhance greenhouse sinks and reservoirs like forests. Changes in rainfall patterns, typhoon frequency and the irregular period of occurrence, sea level rise are now becoming noticeable. The connection between local environmental threats and climate change is raising increasing concerns among local government units. It is in the context that local government must and can play a major role in implementing measures on climate change mitigation and adaptation due to their authority to control the necessary changes.

Since Bohol Province thru PPDO, BEMO, OPA, OPV is collaborating with national agencies like DENR, DOST, Non-government organizations, Private sector, Academe (Bohol Island State University), Philippine Alumni Association (PA3i) and international undertakings relative to climatic phenomenon, its programs on issues relating to this field have seriously been hampered by the lack of funds. However, some LGUs in the Province of Bohol has pursued to a limited extent, e.g. information and education campaigns in the form of exhibits, seminars, forum/symposium on global warming and climate change. Furthermore, it is a part of the local government's commitment to improve the people's understanding of climate change why it is happening, what it means and what needs to be done.

To put things in its proper perspective, an integrated provincial development plan is necessary wherein the Climate Change Adaptation and Disaster Risk Reduction shall be mainstreamed to local development and spatial plan of the province and the municipalities, so that all issues could be discussed thoroughly which will eventually lead to formulating mitigating and adaptation measures and doable programs and projects.

Existing Activities Related to Climate Change

- Climate change awareness program
- Environmental management system for the province
- Solid waste management program
- Coastal resource management program
- Watershed management
- Reforestation program
- Biodiversity Conservation program

DEVELOPMENT ISSUES

- Inadequate adaptation or resilience plan on climate change such as the occurrence of (La Niña) and drought (El Niño) and other natural phenomenon;
- Insufficient data on climate scenarios and projections
- Limited rain gauges installed and equipment for weather monitoring & forecasting in the province;

Disaster Risk Management

SITUATION

Resiliency to Disasters and Climate Change

Bohol, as an island province, is vulnerable to various hazards resulting from natural and man-made disasters such as flooding, rain-induced landslides, earthquake, storm surges, liquefaction, fire, air and water pollution and contaminated land. Inappropriate location and design of developments can aggravate exposure to and impact of hazards and climate change impacts like sea-level rise, storm surges, among others.

VULNERABILITY ASSESSMENT

Climate-related Hazards and Impacts

Past Hazards and Climate Events. Phenomena such as increased precipitation, heat stress, floods and other extreme weather events, referred to as climate exposures, are increasingly having an impact on infrastructure and systems within local governments. As part of developing the LCCAP, the local government of Bohol collected available local climate data including previous disasters and future climate projections. Using the data provided by the Office of the Civil Defense and PhiVolcs, a list of past hazards and climate-related disasters experienced in Bohol from 2004 to 2013 is consolidated in the Table 18 below. The Office of Civil Defense reported a total of 78 disaster incidences during the period in the province with a total approximate damage cost of Php 7.949 Billion. The geologic and hydro-meteorological disasters that hit Bohol were flashfloods, landslide, and earthquake.

Table 18: List of Past Hazards and Climate-related Disasters Experienced in Bohol Province: CY 2004-2013

Date of Event	Type of Hazard	Frequency of Occurrence	Location	Impacts of the Event (Cost of Damage in million Pesos)
October 2004	Flashflood	1	Jagna	Php 0.100
January to Dec. 2005	Heavy rains, landslide, fire incidents, typhoon, earthquake	7	Jagna, Getafe, Calape, Tagbilaran City	15.048
January to Dec. 2006	Disease outbreak (diarrhea), lightning incidence, landslide, sea mishap, capsized vessel, tidal waves, land cracks, typhoons	18	Loon, Pilar, Tubigon, Ubay, Valencia, Loay, Panglao, Jagna, Candijay, Bien Unido, Getafe, Cortes, Alicia, Sierra Bullones, Batuan	16.450
January to Dec. 2007	Landslide, fire incidents, whirlwind (alimpus), lightning incidents, poisoning,	18	Tagbilaran City, Jagna, Pres. Garcia, Talibon, Getafe, Trinidad, Pilar, Tubigon, Valencia, Ubay,	6.547

Date of Event	Type of Hazard	Frequency of Occurrence	Location	Impacts of the Event (Cost of Damage in million Pesos)
	drowning, earthquake, capsized motor blanca, typhoon		Loon, Loboc, Loay, Candijay	
January to Dec. 2008	Flashflood, fire incident, landslide, typhoon, capsized vessel/fishing boat, airplane crash	28	Clarin, Tubigon, Tagbilaran City, Cortes, Buenavista, Panglao, Balilihan, Pilar, Talibon, Loon, Lila, Getafe, Dimiao, Loboc, Pres. CPG, Guindulman, Inabanga	30.828
March 2010-October 2013	Earthquake	6	17 hardest municipalities: North and south-western part of Bohol; Maribojoc, Loon, Tubigon, Calape, Clarin Inabanga, Buenavista, Danao, Sagbayan, Catigbian, San Isidro, Antequerra, Balilihan and Cortes; Southern municipalities of Loboc, Carmen, Lila, Guindulman, Duero, Jagna, G-Hernandez, Valencia, Loay Albuquerque, Baclayon and Tagbilaran City	7.8 Billion
Total		78		Php 7.949 Billion

It is in this context that the Provincial Government commits to:

- Adopt a responsive policy framework to serve as an enabling environment to reduce losses from natural disasters including climate change-related risks
- Identify, develop and implement measures and strategic interventions that will significantly reduce adverse risks and damages and improve community resiliency against the backdrop of disaster and climate change risks and potential impacts.
- Use of the best available and practicable tools and technologies from the social and natural sciences as decision aids and support systems to stakeholders in preventing, reducing, and managing disaster risks

- Enhance institutional and technical capacity to facilitate the paradigm shift from disaster response to disaster preparedness and mitigation
- Project climate change-vulnerable areas; determine the extent of consequences of natural hazards and calamities; and take up climate change adaptation and disaster risk reduction and management strategies.
- Formulate effective and efficient tools for vulnerability, impact and adaptation assessment that are relevant to target sectors and implementers
- Enhance provincial monitoring, forecasting and hazard warning systems; and improve effectiveness of early warning systems available to communities
- Improve mechanisms to address gaps and limitations of existing assessment and vulnerability approaches, in relation to the needs and objectives of climate change plans
- Mainstream climate and disaster risk-based planning in local development and land use planning
- Support capacity development programs, including the preparation/gathering and dissemination of appropriate data
- Increase access to climate change adaptation knowledge products and support services to guarantee that the needs of the marginalized and vulnerable sectors are addressed
- Promote the integration of hazard maps with infrastructure development to address potential hazards and prescribe the use of and reference to hazard maps in all local government development planning.
- Support initiatives in climate change, resiliency and environmental management under Local Agenda 21, and encourage “green” infrastructure.
- Empirically identify areas at risks to disaster, ensure proper siting of development undertakings, and identify appropriate management and mitigation measures in place.
- Make lifeline and public critical infrastructure resilient to disasters and climate change impacts.
- Design and plan for structures both vertical and horizontal in accordance with the hazard risk management policies to wit:
 - Avoid permanent development within and adjacent to areas vulnerable to hazards
 - Design of buildings and other infrastructure development shall consider the long-term effect
 - Establish protection zone to buffer the works during construction stage
 - Continuously develop institutional capacity on DRM and CCA implementation.
 - Conduct regular monitoring and evaluation of DRM and CCA programs, projects and activities.

Table 19: Disaster Preparedness Services and Facilities

Type of Services/Facilities	Name of Organization	Location
Disaster Management & risk Reduction System	<ul style="list-style-type: none"> Telephone & Radio System Integrated Emergency Response (TARSIER 117) 	Provincial Government of Bohol (Province-wide coverage)
Emergency Medical Response		
Police, Army, Coast Guard, Navy and Fire Assistance		
Public Service Program (Search and Rescue & Weather Monitoring)		
Search and Rescue Unit (SAR)	<ul style="list-style-type: none"> Bohol Outdoors Explorer Club, Inc. (BOEX) Tagbilaran City Emergency Response Operating team (TECEMROT) Divine Outdoors Club (DWOC) Philippine National Red Cross (PNRC) 	Tagbilaran City
Evacuation Centers	All provincial, city and municipal evacuation center under its Disaster Coordinating Councils (DCCs) of Bohol	Province-wide
Relief Unit	<ul style="list-style-type: none"> All provincial, city and municipal evacuation center under its Disaster Coordinating Councils (DCCs) of Bohol Office of the Provincial Social Worker and Development 	Province-wide
Fire Suppression	All provincial, city and municipal Fire Suppression unit under its Disaster Coordinating Councils of Bohol, Bureau of Fire Protection (BFP)	Province-wide
Emergency Medical Services	<ul style="list-style-type: none"> Tagbilaran City Emergency Response Operating Team (TECEMROT) All government and private-owned hospitals 	Tagbilaran City Province-wide
Transportation Services	All Provincial, city and municipal disaster coordinating councils in Bohol	Province-wide

Source: PPRMO 2015

Hazard-Prone Areas in Bohol

Minor and major fault lines are evident on the island as shown by terraced encarpments occurring in its southern and central parts. The terraced escarpments in the Ilihan Steep escarpments notably in Loon, Tagbilaran and in Anda Peninsula further prove vertical upliftment caused by tectonics. Earthquakes have been felt in Bohol but only an average of one perceptible shock is reported each year (refer to Map below).

The Provincial Development and Physical Framework Plan (PDPFP) must consider the flood-prone areas, given the numerous river systems in the province (see map below). A comprehensive Geo-hazard Assessment per municipality in Bohol was conducted by the Mines and Geo-Sciences Bureau of DENR Region 7 in September 2007 (see table below). Each barangay was rated with low, moderate or highly susceptible to landslide and/or flooding. There are other risks & potential disasters to be addressed: landslides, tsunamis, tropical cyclones, earthquake, and among other. Majority of the coastal zones in Bohol is highly susceptible to liquefaction, storm surges and tsunami (refer to maps below). The Provincial Government of Bohol thru the Provincial Disaster Risk Management Council (PDRPMC), the newly installed Provincial Disaster Risk Reduction Management Office (PDRRMO) in collaboration with the PHIVOLCS-DOST, MGB and OCD is continuously undertaking several initiatives to ensure its readiness to cope up with the challenging needs during natural and man-made disasters. The Multi-Geo-Hazard Maps of Bohol was developed thru the Hazard Mapping and Assessment for Effective Community-Based Disaster Risk Management, the 1st-component of the READY Project implemented in the province since February 2007.

Table 20 shows the summary matrix for hazard susceptibility of the 47 municipalities and one city in the province of Bohol. All municipalities and Tagbilaran City are susceptible both to earthquake and earthquake-induced landslide (EIL) refer to EIL map below. In summary, there are eight (8) municipalities (Cortes, Duero, Guindulman, Inabanga, Jagna, Loay, Maribojoc and Valencia) are highly susceptible to all type of hazards; forty-seven (47) municipalities that are susceptible to three hazards, namely: earthquake, earthquake-induced landslide and rain-induced landslide. This is followed by liquefaction where 33 municipalities are prone to it. Next is the storm surge with 29 susceptible municipalities, followed closely by tsunami with 28 prone municipalities. The last but not the least is the flood with only 18 susceptible municipalities.

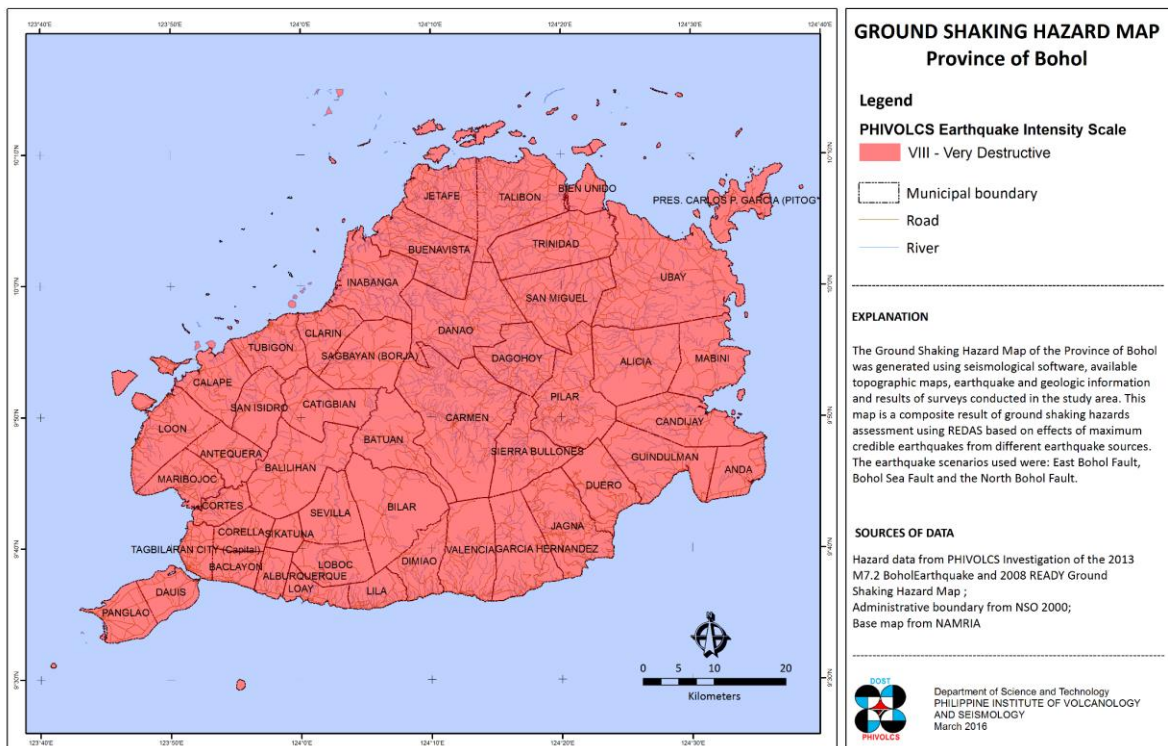
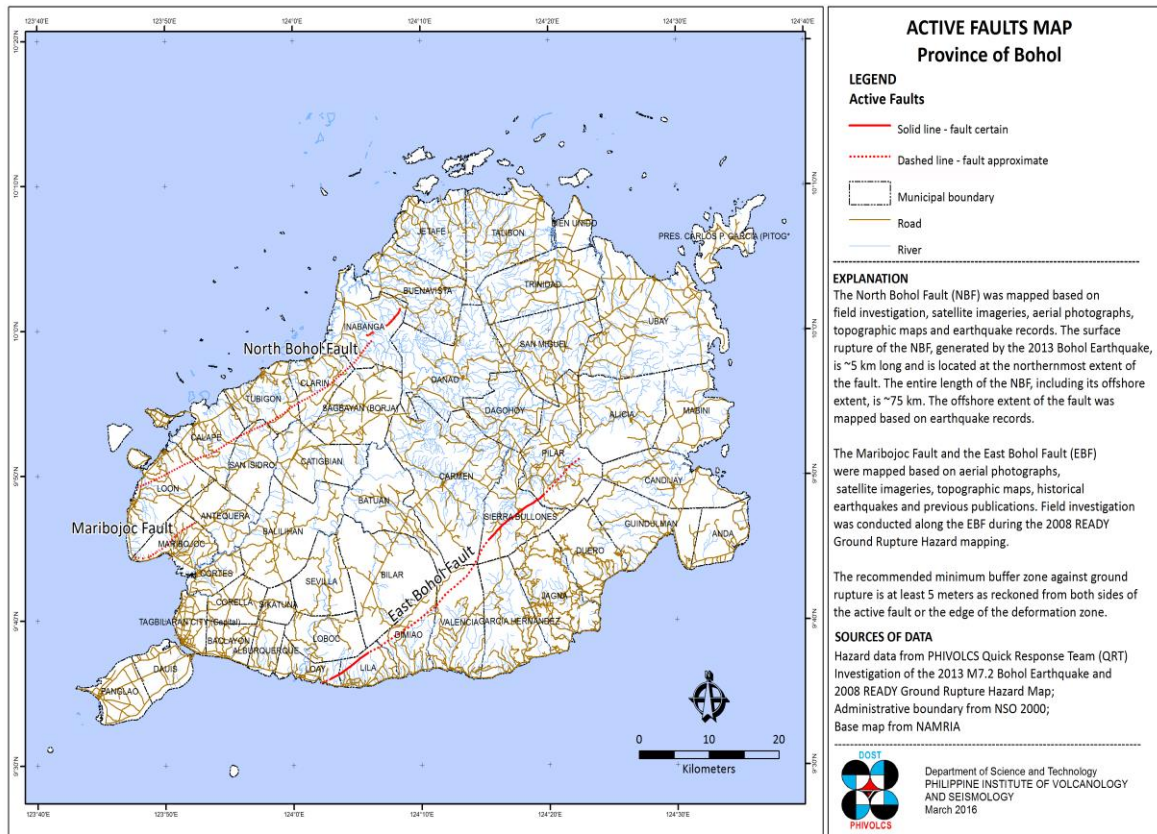
Table 20. Summary Matrix for Hazard Susceptibility

Municipality	Geologic Hazards				Hydro-meteorologic Hazards			
	EQ	Liquefaction	EIL	Tsunami	Floods	RIL	SS	Others
Albuquerque								
Alicia								
Anda								
Antequera								
Baclayon								
Balilihan								
Batuan								
Bien Unido								
Bilar								
Buenavista								
Calape								
Candijay								
Carmen								
Catigbian								
Clarin								
Corella								

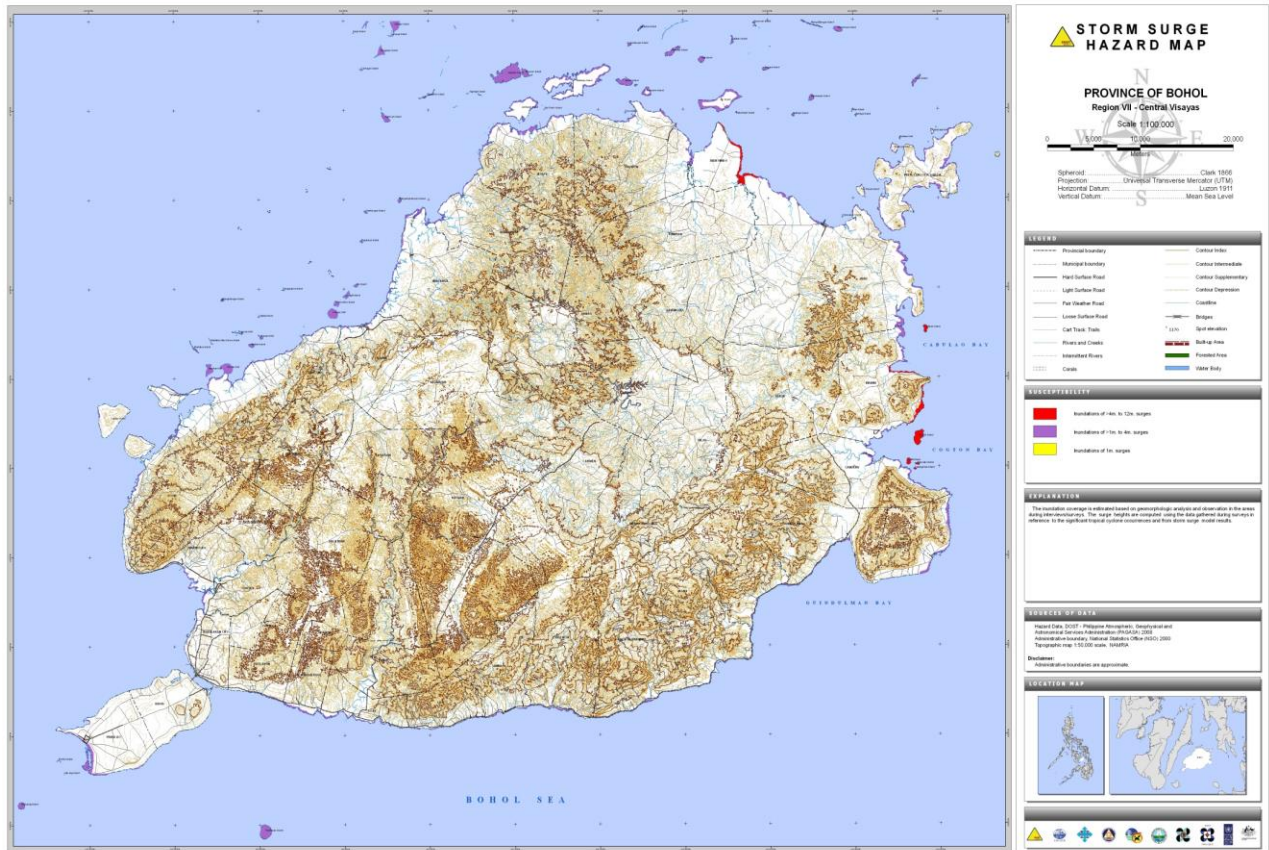
Municipality	Geologic Hazards				Hydro-meteorologic Hazards			
	EQ	Liquefaction	EIL	Tsunami	Floods	RIL	SS	Others
Cortes								
Dagohoy								
Danao								
Dauis								
Dimiao								
Duero								
G-Hernandez								
Getafe								
Guindulman								
Inabanga								
Jagna								
Lila								
Loay								
Loboc								
Loon								
Mabini								
Maribojoc								
Panglao								
Pilar								
Pres. Garcia								
Sagbayan								
San Isidro								
San Miguel								
Sevilla								
Sierra Bullones								
Sikatuna								
Tagbilaran City								
Talibon								
Trinidad								
Tubigon								
Ubay								
Valencia								

Legend: EQ – Earthquake
 EIL – Earthquake-Induced Landslide
 RIL – Rainfall-Induced Landslide
 SS – Storm Surge

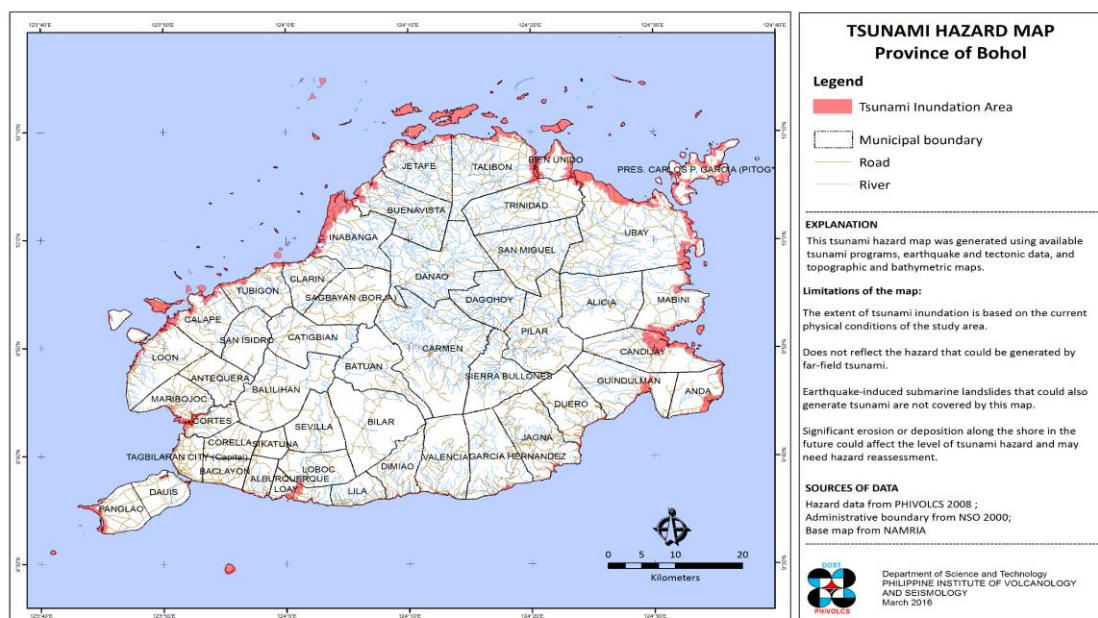
For floods, there are only 18 municipalities that are susceptible to this hydro-meteorological hazard, namely: Antequera, Balilihan, Candijay, Carmen, Cortes, Dagohoy, Danao, Duero, Guindulman, Inabanga, Jagna, Loay, Loboc, Maribojoc, Pilar, San Isidro, Sierra Bullones, and Valencia. Only the municipality of Panglao is not susceptible to rain-induced landslide (RIL) among the 47 towns and one city.



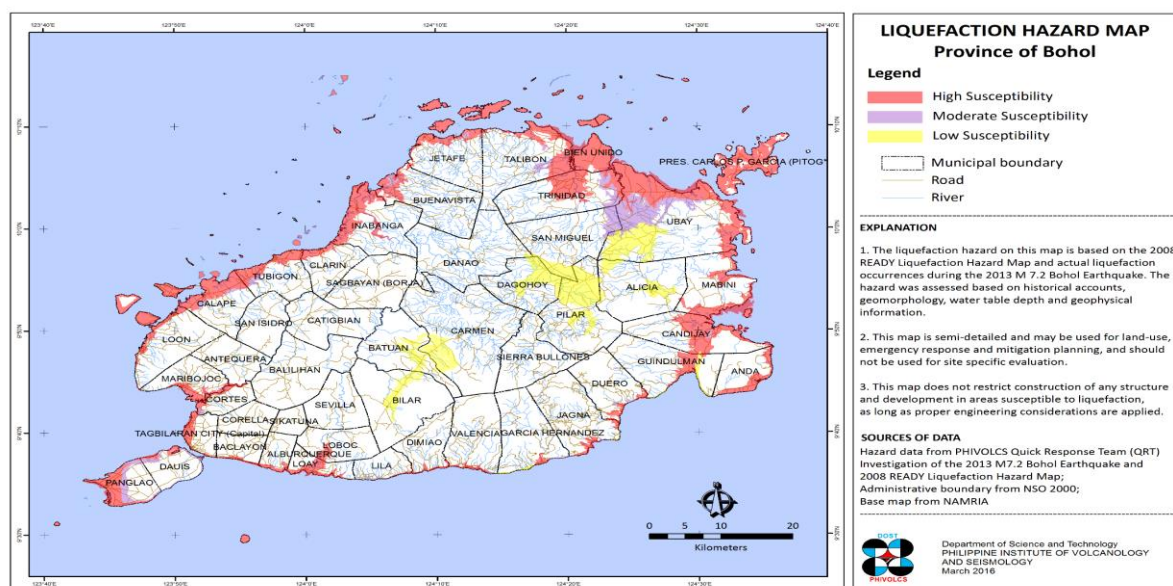
There are 29 municipalities that are susceptible to storm surge, namely: Alburquerque, Anda, Baclayon, Bien Unido, Buenavista, Calape, Candijay, Clarin, Cortes, Dauis, Dimiao, Duero, Garcia Hernandez, Getafe, Guindulman, Inabanga, Jagna, Lila, Loay, Loon, Mabini, Maribojoc, Panglao, Pres. Garcia, Tagbilaran City, Talibon, Tubigon, Ubay, and Valencia.



For tsunami, there are 28 municipalities that are susceptible while the rest of the 20 inland municipalities are not tsunami-prone, namely: Alicia, Antequera, Balilihan, Batuan, Bilar, Candijay, Carmen, Catigbian, Corella, Dagohoy, Danao, Loboc, Pilar, Sagbayan, San Isidro, San Miguel, Sevilla, Sierra Bullones, Sikatuna, and Trinidad. Most of the liquefaction-prone municipalities are the same municipalities that are also tsunami-prone.



For liquefaction, only the following 15 municipalities are not susceptible to such hazard, namely: Antequera, Balilihan, Candijay, Carmen, Catigbian, Corella, Danao, Loboc, Sagbayan, San Isidro, San Miguel, Sevilla, Sierra Bullones, Sikatuna, and Trinidad. It could be concluded from this data that most inland municipalities are not prone to liquefaction and that all coastal municipalities are susceptible to this geologic hazard.



Current initiatives for Disaster Risk Management:

- Regional Launching on Integrating Disaster Risk Reduction and Climate Change Adaptation in Local Development Planning and decision-making processes wherein Bohol is one of the pilot provinces for DRR/CCA
- DPWH: mainstreaming DRM in their project development cycle for roads and bridges
- Department of Education: has adapted the design of safe school
- Department of Health: design of safe hospitals
- DENR: Climate Change and EIA
- Bohol is a pilot province for READY and REDAS Project (Hazard Mapping and IEC) sponsored by DOST, OCD, MGB, PAGASA, PHIVOLCS, DA(BSWM), NAMRIA-DENR

DEVELOPMENT ISSUES

- A large area of the island is vulnerable to ecological risks e.g. typhoon, tsunami, flooding, earthquake, rain-induced landslides, drought, and forest fires
- Lack of capacity to assess natural hazards in terms of frequency, intensity and impact and analyze vulnerability and risk
- Absence of signages in all identified hazard-prone areas
- Non implementation of the 3 (urban) 20 (agricultural), 40 (forestland and riverbanks)
- Absence of standard early warning system province-wide
- Not all municipalities have Contingency, LDRRM and LCCAP plans and LDRRMO (organic staff) (as stated in RA 10121)
- Absence of a safe evacuation center including sanitation facilities and equipment



SECTOR: SOCIAL DEVELOPMENT

DEMOGRAPHIC TRENDS, SETTLEMENT PATTERNS AND THE SOCIAL ENVIRONMENT

The spatial distribution of populations and settlements across an area and their interconnectivity and accessibility from urban areas are important for delivering healthcare, distributing resources and economic development. Improving access of settlements especially of rural populations to other areas and markets is a key driver for development and plays an important role in poverty reduction. Development among rural populations depends on access to markets for buying and selling goods and to various social and economic services such as education, healthcare or banking and credit.

Current social conditions, as it impact on the quality of life of Boholanos, may be gauged from the following state of development, the quality of jobs, and the access which the poor have to decent earning opportunities that will be crucial determinants of poverty reduction.

1. Population and Settlements

1.1 Population Size, Distribution and Growth

Bohol's total resident population, in the latest census survey conducted by the Philippine Statistics Authority (PSA) in 2015 registered at 1.313 million Boholanos.¹ It comprised 1.3 percent of the country's population of 101 million Filipinos, ranking 21st most populous province among the country's 81 provinces in 2015.

Among the three provinces comprising Region VII, Cebu (excluding Cebu City, Lapu-Lapu City, and Mandaue City) had the biggest population in 2015 with 2.94 million, followed by Bohol with 1.31 million. Siquijor had the smallest population with 96 thousand. The total population of Region VII accounted for about 6.0 percent of the Philippine population in 2015.

Table DE-1. Population by Province/Highly Urbanized City: Region VII - Central Visayas

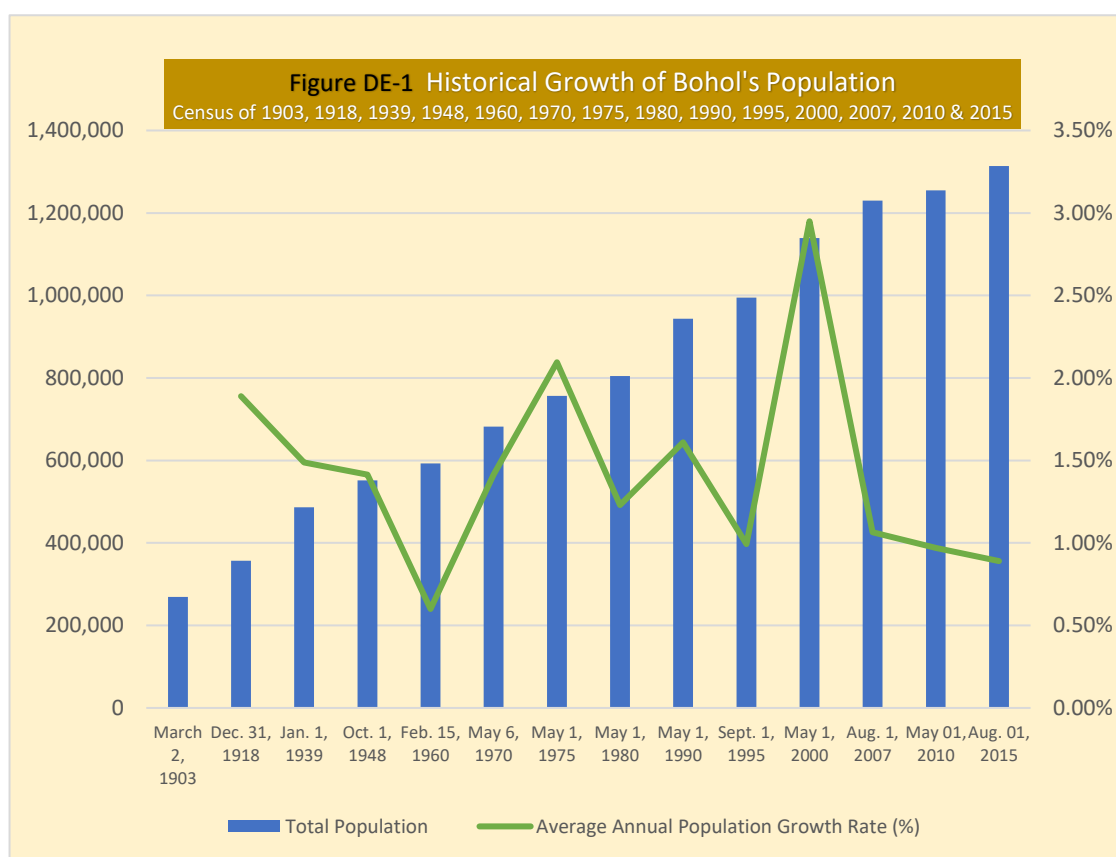
¹ 2015 Census of Population and Housing conducted 01August2015, Philippine Statistics Authority pursuant to Republic Act No. 10625

(Based on the 2000, 2010, and 2015 Censuses)

Province/Highly Urbanized City	Population (in thousands)		
	2000	2010	2015
Bohol	1,139	1,255	1,314
Cebu (excluding Cebu City, Lapu-Lapu City, and Mandaue City)	2,161	2,619	2,939
Cebu City	719	866	923
Lapu-Lapu City	217	350	408
Mandaue City	260	331	363
Siquijor	82	91	96

Source: Philippine Statistics Authority (PSA)

Bohol's population has more than quadrupled in 2015 compared to a decade ago. Its population in 1903 was only about 269 thousand residents. It has since then been steadily increasing thru the years as illustrated in Figure DE-1.



The pace of increase in its population, however, started to slow down between 1990 to the present congruent with the national trend although both still experienced positive growth. The Philippine population increased by 1.72 percent annually, on the average, during the period 2010 to 2015. By comparison, the rate at which

Bohol's population grew during the same period was very much lower at 0.87 percent. At this rate, Bohol's population will double in 79 years.

Among its LGUs, only eight had increased its growth in population while the rest experienced a slowing down of its pace of population growth including Tagbilaran City from 1990 to 2015. The fastest growing localities, in terms of population increase during the same period, were the Municipality of Panglao with a yearly population growth rate of 3.01 percent, followed by Dauis Municipality at 2.76%. Tagbilaran City grew only at 1.54% annually during the same period.

Map DE-1. Population Size Maps: Census of 2010 and 2015

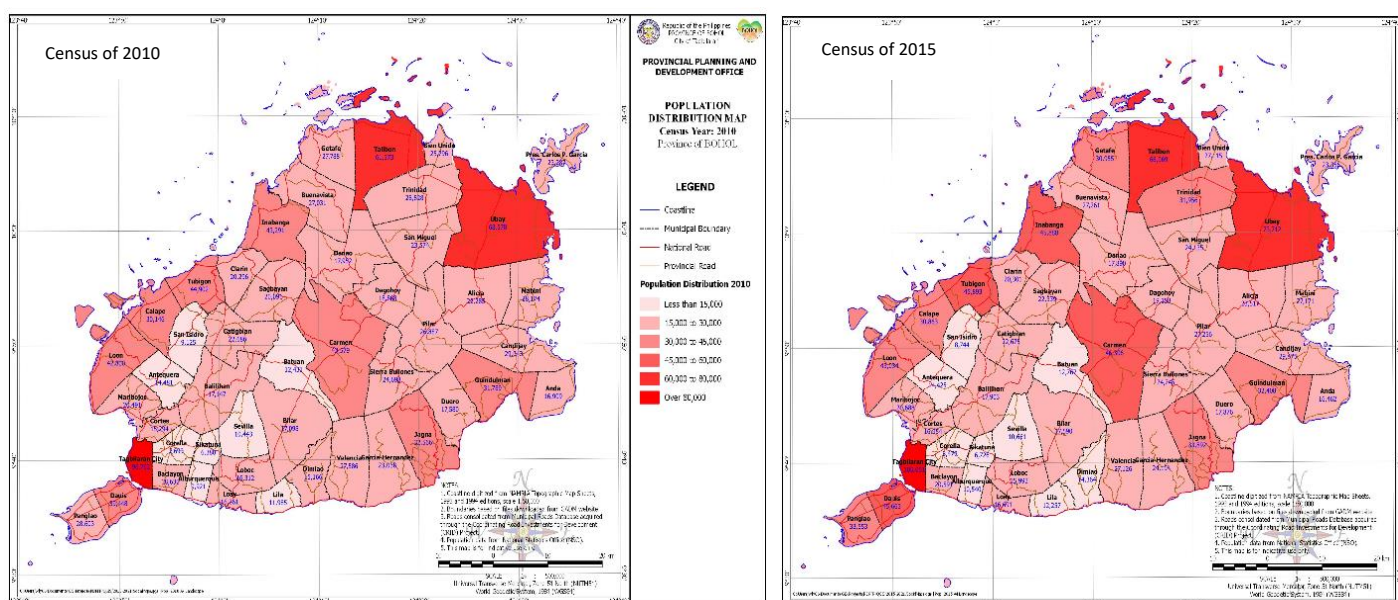


Table DE-2. Total Population by City/Municipality and Corresponding Annual Population Growth Rate (%), Census of 1990, 2000, 2010 & 2015
Bohol Province

City/ Municipality	Number of Barangays	Total Population				Annual Population Growth Rate (%)		
		May 01, 1990	May 01, 2000	May 01, 2010	Aug. 01, 2015	1990-2000	2000 - 2010	2010 - 2015 *
Philippines	42,036	60,703,810	76,506,928	92,337,852	100,981,437	2.34	1.9	1.70%
Central Visayas	2,447	4,594,124	5,706,953	6,800,180	6,041,903	2.19	1.77	-2.25%
Bohol	1,109	948,403	1,119,130	1,255,128	1,313,560	1.85	0.97	0.87
Albuquerque	11	6,881	8,715	9,921	10,540	2.39	1.30	1.14%
Alicia	15	18,653	21,605	22,285	23,517	1.48	0.31	1.02%
Anda	16	13,497	17,863	16,909	16,462	2.84	-0.55	-0.51%
Antequera	21	12,348	13,758	14,481	14,425	1.09	0.51	-0.07%
Baclayon	17	11,986	14,996	18,630	20,591	2.26	2.19	1.89%
Balilihan	31	14,850	16,837	17,147	17,903	1.26	0.18	0.81%
Batuan	15	11,438	11,835	12,431	12,767	0.34	0.49	0.50%
Bien Unido	15	19,047	2,176	25,796	27,115	1.53	1.52	0.94%
Bilar	19	14,926	16,628	17,098	17,590	1.08	0.28	0.54%

City/ Municipality	Number of Barangays	Total Population				Annual Population Growth Rate (%)		
		May 01, 1990	May 01, 2000	May 01, 2010	Aug. 01, 2015	1990-2000	2000 - 2010	2010 - 2015 *
Buenavista	35	21,665	25,960	27,031	27,261	1.82	0.40	0.16%
Calape	33	24,608	27,921	30,146	30,863	1.27	0.77	0.44%
Candijay	21	26,102	30,389	29,043	29,475	1.53	-0.45	0.28%
Carmen	29	34,573	40,713	43,579	46,306	1.65	0.68	1.15%
Catigbian	22	17,362	21,461	22,686	22,675	2.14	0.56	-0.02%
Clarin	24	16,021	18,040	20,296	20,301	1.19	1.18	0.01%
Corella	8	6,150	6,048	7,699	8,479	-0.17	2.44	1.82%
Cortes	14	10,527	12,702	15,294	16,954	1.89	1.87	1.94%
Dagohoy	15	13,121	16,845	18,868	19,158	2.53	1.14	0.29%
Danao	17	12,671	17,265	17,952	17,890	3.14	0.39	-0.07%
Dauis	12	23,601	26,415	39,448	45,663	1.13	4.09	2.76%
Dimiao	35	11,697	14,151	15,166	14,364	1.92	0.69	-1.03%
Duero	21	14,242	16,485	17,580	17,876	1.47	0.64	0.32%
Garcia-Hernandez	30	18,956	21,428	23,038	24,194	1.23	0.73	0.92%
Guindulman	19	26,225	31,028	31,789	32,408	1.69	0.24	0.36%
Inabanga	50	37,400	40,714	43,291	45,880	0.85	0.62	1.10%
Jagna	33	26,163	30,643	32,566	33,892	1.59	0.61	0.75%
Getafe	24	21,135	26,826	27,788	30,955	2.41	0.35	2.04%
Lila	18	8,556	10,322	11,985	12,257	1.89	1.50	0.42%
Loay	24	12,677	14,433	16,261	16,691	1.3	1.20	0.49%
Loboc	28	13,716	15,734	16,312	15,993	1.38	0.36	-0.37%
Loon	67	34,400	45,215	42,800	43,034	2.77	-0.55	0.10%
Mabini	22	21,854	27,250	28,174	27,171	2.23	0.33	-0.68%
Maribojoc	22	15,214	16,786	20,491	20,688	0.99	2.01	0.18%
Panglao	10	17,004	21,337	28,603	33,553	2.29	2.97	3.01%
Pilar	21	19,930	25,095	26,887	27,256	2.33	0.69	0.26%
Pres. Garcia	23	21,173	20,744	23,287	23,356	-0.2	1.16	0.06%
Sagbayan	24	15,364	18,346	20,091	22,339	1.79	0.91	2.00%
San Isidro	12	7,840	9,106	9,125	8,744	1.51	0.02	-0.80%
San Miguel	18	16,775	20,828	23,574	24,135	2.19	1.25	0.44%
Sevilla	13	9,165	10,281	10,443	10,661	1.15	0.16	0.39%
Sierra Bullones	22	21,101	25,499	24,698	24,745	1.91	-0.32	0.04%
Sikatuna	10	5,525	6,602	6,380	6,726	1.8	-0.34	1.00%
Tagbilaran City	15	56,363	77,700	96,792	105,051	3.26	2.22	1.54%
Talibon	25	41,873	54,147	61,373	66,969	2.6	1.26	1.65%
Trinidad	20	19,945	25,683	28,828	31,956	2.56	1.16	1.94%
Tubigon	34	34,302	40,385	44,902	45,893	1.64	1.07	0.41%
Ubay	44	48,902	59,827	68,578	73,712	2.04	1.37	1.36%
Valencia	35	20,879	24,363	27,586	27,126	1.55	1.25	-0.32%

Source: Philippine Statistics Authority * 2015 LGU APGR computed by PPDO using Exponential Growth Rate where t= 5.3 years

1.2 Density and Urbanization

Although Bohol's provincial population density at 288 persons per square kilometer (p/k²) is lower than that of the national and regional averages, it has 17 LGUs with more than 337 residents p/k² of land. The top most densely populated LGUs are Tagbilaran

City, Dauis, Bien Unido, Panglao, Baclayon, Tubigon, Cortes, Pres. Carlos P. Garcia, Talibon and Loon. Tagbilaran City is as closely dense as Cebu City with Mandaue City being the most densely populated Highly Urbanized City in Region 7 outside of NCR with 14,402 p/k² of land, an additional 1,586 persons p/k² from the 18,402 p/k² in 2010. It is almost 10 times higher than the population density of the country.

In Bohol, Tagbilaran City was the most densely populated among the province's LGUs at 3,320 p/k², followed by Dauis Municipality at 1,054 p/k². Among the three legislative districts of Bohol, 1st District was the most densely populated and had the biggest share of Bohol's population in 2015. The concentration of population distribution in Bohol are found along its coast and island barangays.

Map DE-2: Population Density Maps, Census of 2010 and 2015: Philippines & Bohol Province

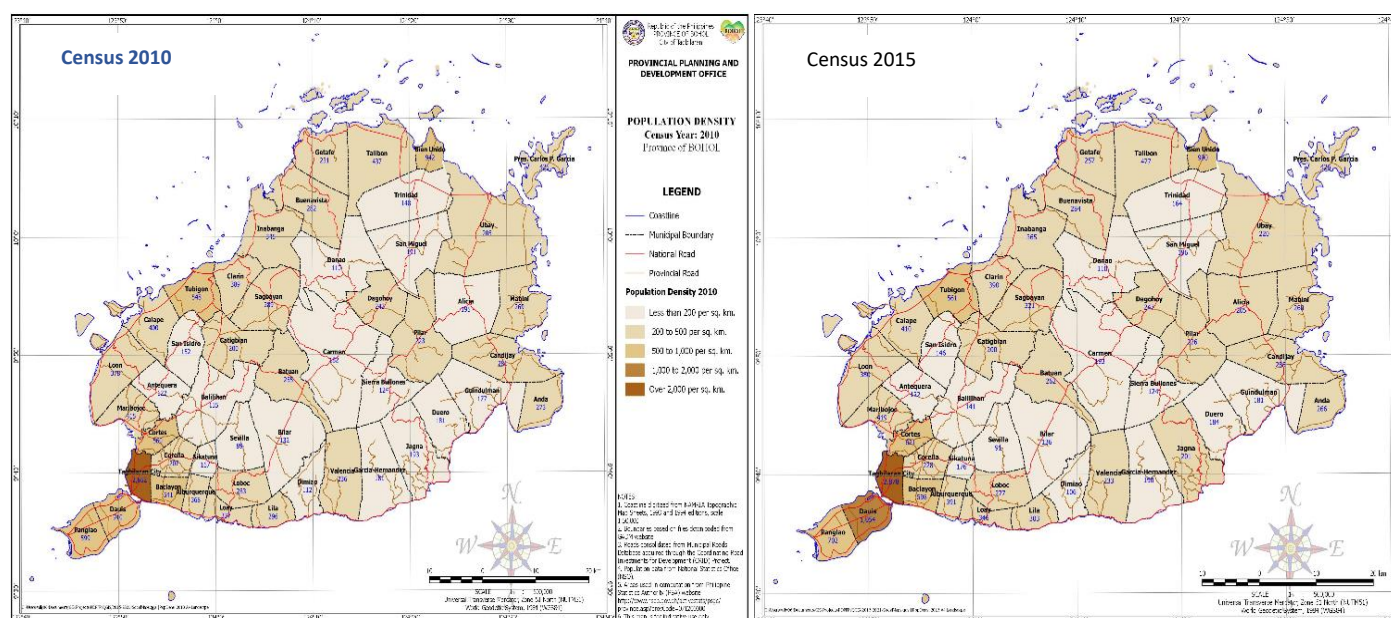


Table DE-3. Top 10 LGUs in Bohol Province by Population Size, Land Area and Population Density and Legislative District: 2015
Bohol Province

Area	Population	Land Area (square kilometers)	Population Density (persons per square kilometer)
PHILIPPINES ^{b1/}	1,340,821	300,000.00	337
Region VII – Central Visayas	45,663	1,053.84	598
Bohol	1,313,560	4,555.62	288
Tagbilaran City (Capital)	105,051	32.52	3,230
Dauis	45,663	43.33	1,054
Bien Unido	27,115	27.39	990
Panglao	33,553	47.78	702
Baclayon	20,591	35.55	579
Tubigon	45,893	81.87	561

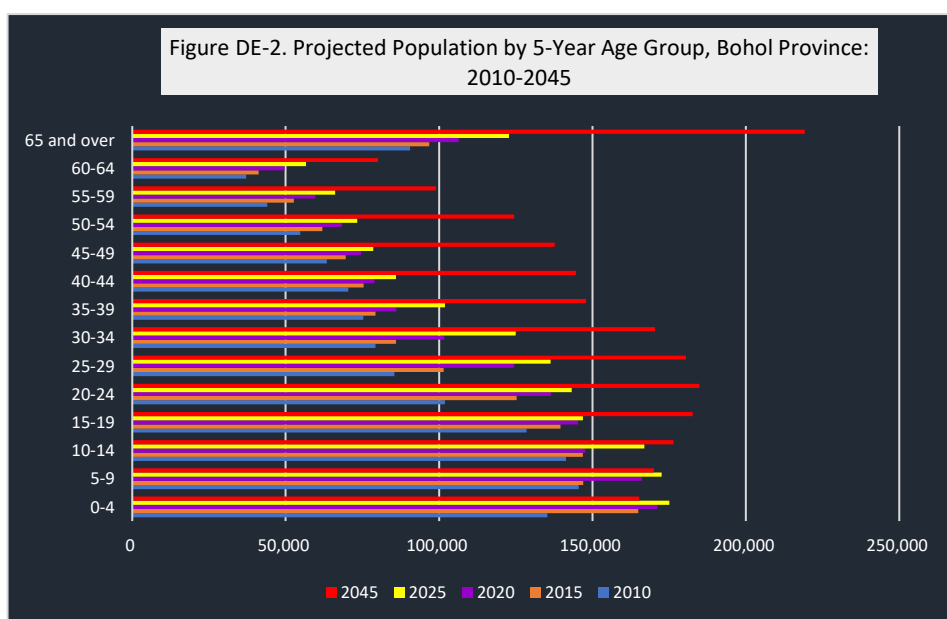
Area	Population	Land Area (square kilometers)	Population Density (persons per square kilometer)
Cortes	16,954	33.31	509
Pres. Carlos P. Garcia	23,356	46.67	500
Talibon	66,969	140.46	477
Loon	43,034	100.98	426
<i>First Legislative District</i>	443,038	909.67	487
<i>Second Legislative District</i>	439,771	1,795.77	245
<i>Third Legislative District</i>	430,751	1,850.18	233
Notes: ○ Land area was based on cadastral survey (certified and provided to the Department of Budget and Management) from the Land Management Bureau, Department of Environment and Natural Resources. ○ Estimated land area (certified and provided to the Department of Budget and Management) from the Land Management Bureau, Department of Environment and Natural Resources.			

Source: Philippine Statistics Authority

The increase in Bohol's population is primarily a result of in-migration rather than the increase thru its natural births. In 2015, Bohol's Rate of Natural Increase (RNI) accounted only for 1.2 percent of its total population in that year. This means that the increase of Bohol's population is attributed largely to the influx of migrants to the province during the period 2010 to 2015. Among its component LGUs, Panglao had the most number of migrants in 2015 with RNI computed at almost 0 percent. Majority of the LGUs in Bohol had RNI of less than 1 percent. Only 11 towns, including Tagbilaran City, which had the highest RNI of about 5 percent, had RNI's greater than 1 percent.

In 2010, Bohol was 10.4 percent urban compared to 7.4 percent in 2007. In 2015, Bohol's urban population constituted 25 percent of its total population, a 17 percent increase in its urban population. This trend is foreseen to continue in the years to come when future development programs and projects of Bohol will be realized.

1.3 Population Projection



Bohol's population is projected to increase from its 2015 census count of 1.3 million to 1.5 million in 2020 and will reach the 2 million mark 2035 as projected by the Philippine Statistics Authority with projections based on medium assumption (Figure 2, Table 3). The increase is expected even with the projected slowing down in its average annual population growth rate in the coming years in accordance with the assumption of a declining fertility trend.

Just like the projected population estimates for the country, the projected population by age groups of Bohol for the period 2015 to 2045 will likewise increase across the years (Table 7). Generally, all age groups are projected to increase until the year 2045 except for the age group 0-14 years which is projected to decline after year 2025 to 2045 from a share of 31 percent dropping to 23 percent share of Bohol's total population. The Female Reproductive Age Group 15-49 years will gradually increase doubling its current number by year 2045. The projected population of Bohol's working age population 15-64 years is likely to have the biggest increase in population from 833 thousand in 2015 to 1.45 million potential workers in Bohol by 2045. This will be a big challenge in Bohol especially in providing employment to this group.

Also projected is the increase of those aged 65 and older who will almost triple in size accounting for 10 percent of Bohol's population by 2045 from only 7 percent in 2015. The Old Age Dependency Ratio of Bohol by then is estimated at 15 elderly persons per 100 persons in the working ages 15-64 years old compared to only 12 elderly persons per 100 persons in 2015. Older people face special physical and mental health challenges which need to be recognized. Although older adults, those aged 60 or above, make important contributions to society as family members, volunteers and as active participants in the workforce with most still enjoying good mental health, many older adults will be at risk of developing mental disorders, neurological disorders or substance use problems as well as other health conditions such as diabetes, hearing loss, and osteoarthritis. Furthermore, as people age, they are more likely to experience several conditions at the same time. Government, in particular, should be ready to face these challenges.

Table DE-4. Population Projection Increase by Age Group, Bohol Province

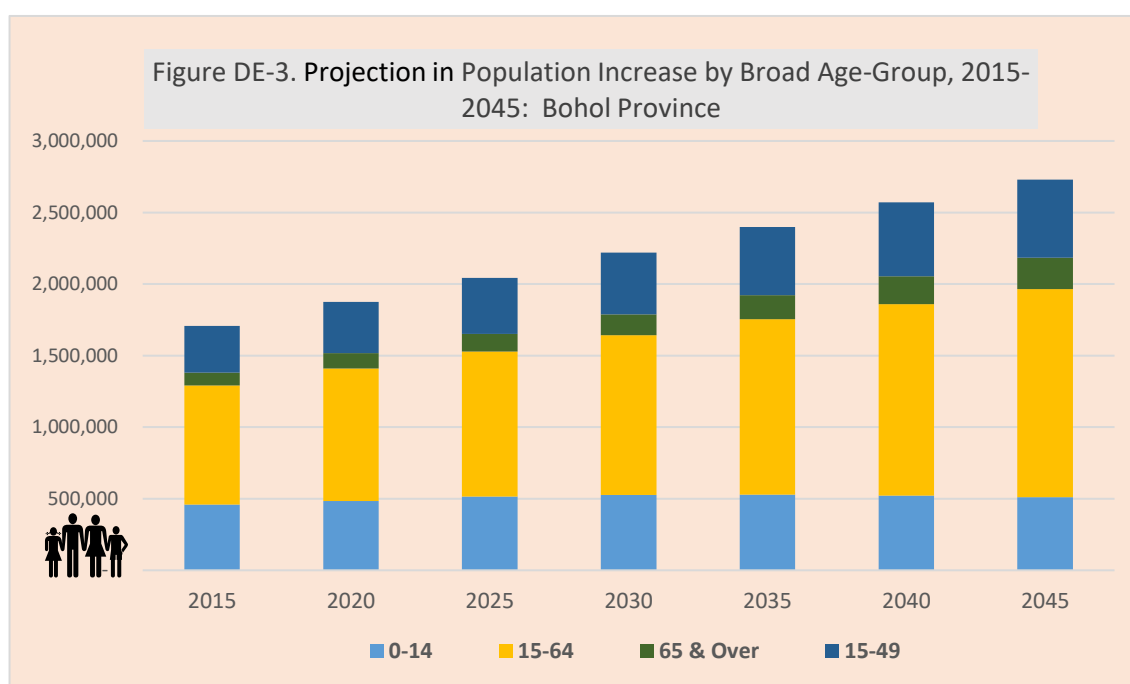
Age Group/ Dependency Ratio (DR)	2010 (Actual)			Projection			
	Total	Male	Female	2015	2020	2025	2045
	1,252,793	635,815	616,978	1,388,200	1,516,800	1,651,100	2,183,200
Annual Growth Rates : (Medium Assumption)				1.82	1.79	1.71	1.22
Pop 0-4	135,262	70,239	65,023	164,900	171,200	175,100	165,300
% Share to Total Population	11%	11%	11%	12%	11%	11%	8%
Pop 0-14	422,148	218,567	203,581	458,800	485,000	514,500	511,700
% Share to Total Population	34%	34%	33%	33%	32%	31%	23%
Pop 15-64	740,076	378,268	361,808	832,600	925,400	1,013,800	1,452,300
% Share to Total Population	59%	59%	59%	60%	61%	61%	67%
Pop 60 & over	127,690	56,599	71,091	138,000	156,000	179,400	299,300
% Share to Total Population	10%	9%	12%	10%	10%	11%	14%

Age Group/ Dependency Ratio (DR)	2010 (Actual)			Projection			
	Total	Male	Female	2015	2020	2025	2045
Pop 65 & over	90,569	38,980	51,589	96,800	106,400	122,800	219,200
% Share to Total Population	7%	6%	8%	7%	7%	7%	10%
Female 15-49	292,610	-	292,610	326,000	359,000	391,600	547,100
% Share to Total Female Population			47%	48%	48%	48%	51%
Total DR ¹	69	68	71	72	69	68	56
Child DR ²	57	58	56	55	52	51	35
Old Age DR ³	12	10	14	12	11	12	15

¹ Total Dependency Ratio (DR) = the ratio of the number of dependent population (0-14 years old and 65 yrs old) per 100 persons of working age population (15-64 yrs old)
² Child Dependency Ratio (DR) = the number of economically dependent persons 0-14 yrs old per 100 persons in the working ages 15-64 yrs old
³ Old Dependency Ratio (DR) = the number of elderly persons (65 and above) per 100 persons in the working ages 15-64 yrs old

Source: Philippine Statistics Authority, 2010 Census-based Population Projections in collaboration with the Inter-Agency Working Group on Population Projections

The projected changing age structure of Bohol's population may also present an opportunity of economic-demographic advantage given a projected bigger working-age population together with a narrowing of young dependents. This would mean smaller number of children per household which generally leads to larger investments per child, more women to enter the formal workforce and more household savings (UNFPA).



If coupled with benefits of good health, quality education and decent employment, this in effect will redound to a better future for Boholanos, one that UNFPA calls a “demographic dividend”.² With fewer births each year, the young dependent population of Bohol grows smaller in relation to the working-age population. With

² The accelerated economic growth may result from a decline in mortality and fertility and the subsequent change in the age structure of the population (UNFPA).

fewer people to support, it has a window of opportunity for rapid economic growth if the right social and economic policies are developed and investments made.

1.4 Settlement Pattern and Hierarchy³

The established settlement pattern and transport links of Bohol have evolved over a long period of time, and have been strongly influenced by its coastal location and geography. The province is roughly 4,555.62 square kilometers⁴ in land area, and in 2015, had a resident population of about 1.313 million. It is a physically small island province compared to the other island provinces of the country and contains 30 coastal towns including the City of Tagbilaran. About 43% of Bohol's residents live in the coastal belt containing these towns. The rural share in Bohol contains the largest settlement comprising 75 percent of Bohol's population. However, rural settlement patterns in Bohol are commonly dispersed with residential population mostly concentrated in the *Poblaciones* or in areas where major services and facilities are found or in barangay centers.

Population decline in some rural areas appears to have had adverse impacts on social cohesion and quality of life, and has undermined the economic viability of some rural enterprises as there are economic and environmental costs associated with dispersed and uncoordinated settlement patterns.

Settlement patterns continue to present challenges in managing hazard risks. Dispersed settlement patterns have led to widespread and mixed environmental impacts on air and water quality, and on biodiversity and landscape values. Settlements and the people, physical assets and infrastructure they contain, are also vulnerable to a number of natural (and human exacerbated) hazards. Bohol is susceptible to severe floods and other natural hazards. Some settlements in low-lying coastal areas are vulnerable to storm events that may have a greater frequency and intensity because of climate change. The issue of adapting coastal settlements to climate change strongly needs to be considered. Dispersed settlement patterns may have various other impacts on water quality and on heritage, and biodiversity as well.

³ The settlement pattern is defined as the pattern of where people live in relation to their work, their schools, their hospitals and other social amenities and in relation to where other people live. A central place is a settlement which provides services for the area for which it is a center.

⁴ Land area was based on cadastral survey (certified and provided to the Department of Budget and Management) from the Land Management Bureau, Department of Environment and Natural Resources. Estimated land area (certified and provided to the Department of Budget and Management) from the Land Management Bureau, Department of Environment and Natural Resources.

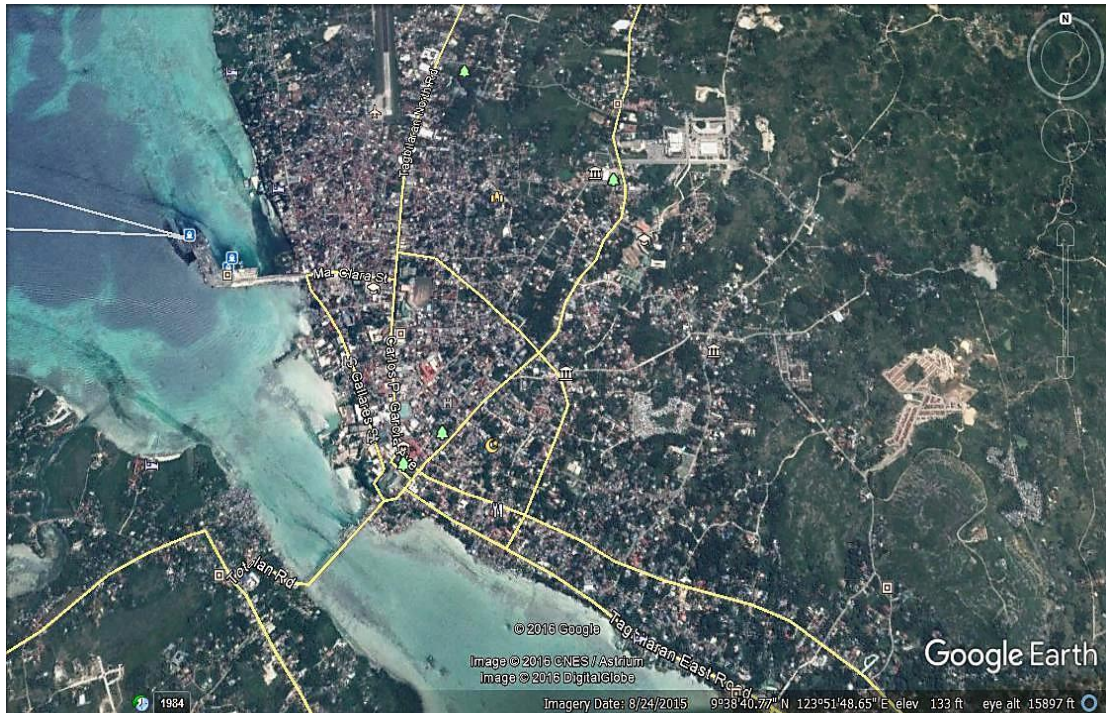


Photo of an urban-coastal settlement pattern in Bohol (along Tagbilaran City and Dausi Municipality)

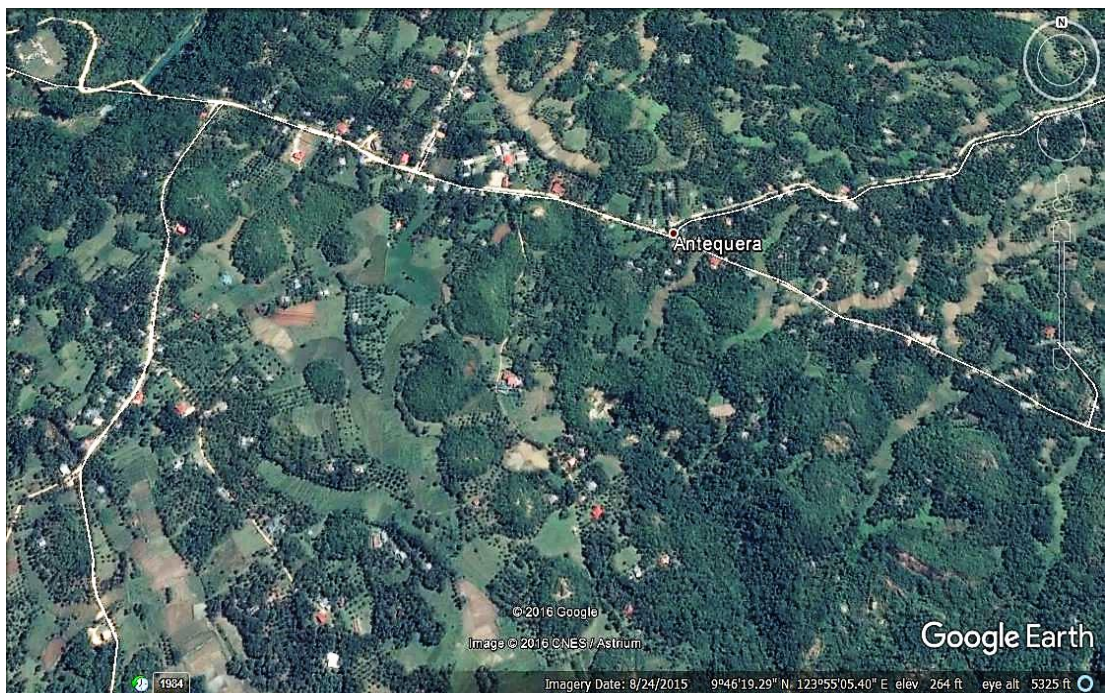
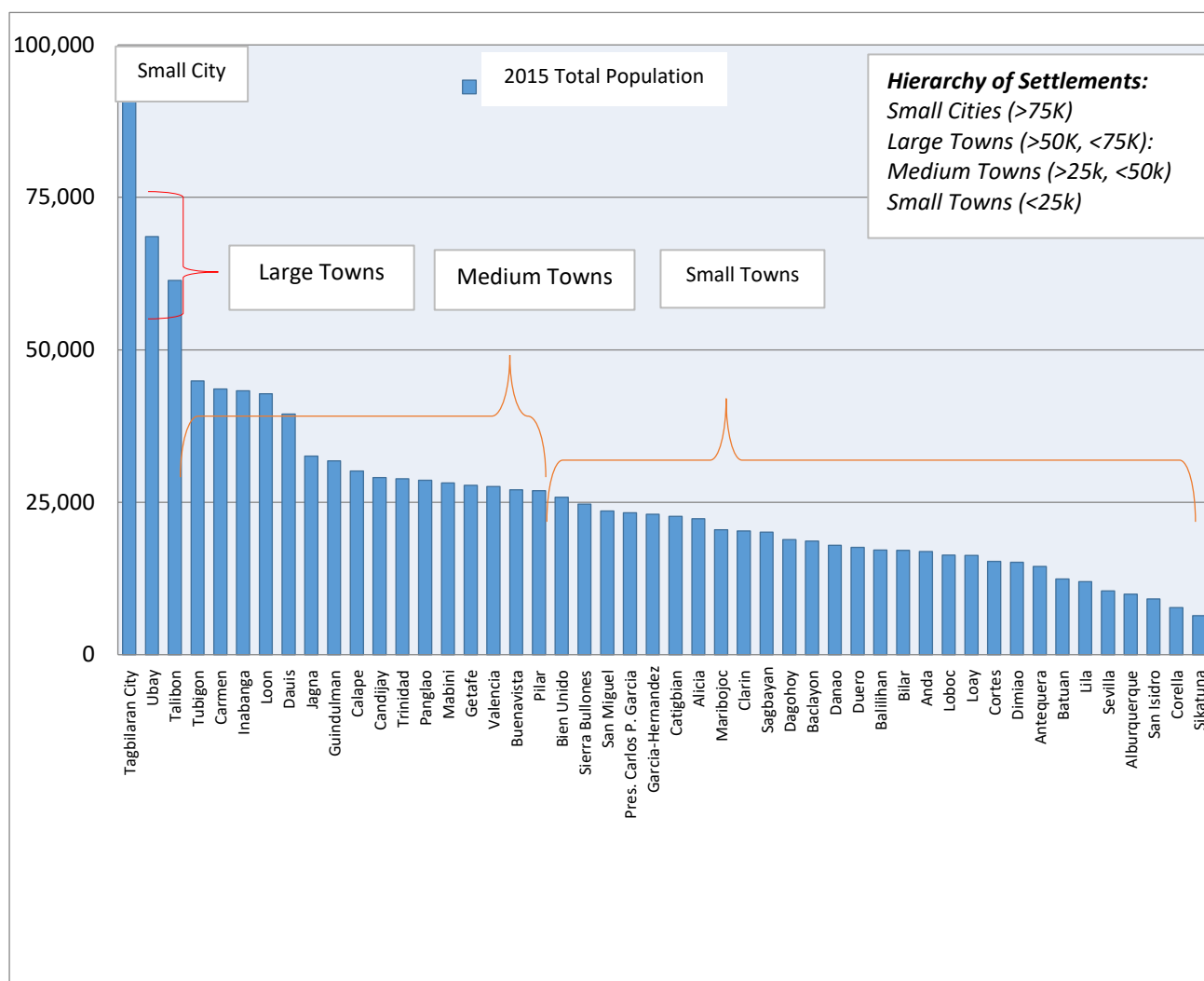


Photo of a rural settlement pattern in Bohol

Groups of settlements in Bohol are organized hierarchically from large settlements to smallest groups of settlements in terms of population size and distribution in the province. Figure 4 illustrates this settlements' hierarchy.

Figure DE-4. Hierarchy of Settlements of Component City & Municipalities



Per data derived from the PSA, the highest concentration of urban population is in Tagbilaran City with almost 90% of its population found in its urban areas increasing by 10% since 2007. This is followed by Talibon Municipality with 25% urban population, Panglao (18%), Ubay (12%) and Tubigon (11%) in 2010. The largest increase of urban population is in Dauis Municipality rising by 14% since 2007. Overall, 10% of Bohol's population in 2010 resided in its urban areas. In 2010, Bohol was 10 percent urban compared to 7 percent in 2007. By 2015, Bohol's urban population constituted 25 percent of its total population.

Bohol recorded 261,408 households in 2010, higher by 48,193 households compared with the 213,215 households posted in 2000. The average household size in 2010 was 4.8 persons, lower than the average household size of 5.3 persons in 2000. In 2015, Bohol registered an average family size of 4.54 persons, slightly higher than the national and regional averages (Table DE-5). The municipality of Lila had the largest average

household size of 5.85 persons in 2015 while the municipality of San Isidro had the smallest average household size at 3.98 persons in that same year. Total number of households in 2015 was recorded at 288,515.

Table DE-5. Household Population, Number of Households and Average Household Size of Top 10 Municipalities, Region 7 and Philippines, Y2015
Bohol Province

Region, Province, City, and Municipality		Household Population (in thousands)	Number of Households (in thousands)	Average Household Size
PHILIPPINES		14,807,171	3,559,160	4.16
REGION VII (Central Visayas)		6,008,987	1,388,475	4.33
BOHOL		1,308,785	288,515	4.54
1	Lila	12,224	2,090	5.85
2	Garcia-Hernandez	24,192	4,993	4.85
3	Valencia	27,067	5,587	4.84
4	Getafe	30,955	6,487	4.77
5	Sevilla	10,661	2,240	4.76
6	Panglao	33,244	7,020	4.74
7	Bien Unido	27,111	5,725	4.74
8	Tagbilaran City (Capital)	102,448	21,863	4.69
9	Baclayon	20,512	4,397	4.66
10	Loay	16,680	3,578	4.66

Source: Philippine Statistics Authority, 2015 Census of Population

Although the average size of households in Bohol has decreased, the number of households has consistently increased through the years. This may result in greater demand for residential developments and engender various settlement patterns in Bohol in the coming years.

1. Income. Social Services Access and Poverty

1.1. Family Income and Economic Status of Boholanos

According to the latest data released by the Philippine Statistics Authority (PSA), the Average Annual Income of a Boholano family in 2009 was ₱148,638.00 with an Average Annual Family Expenditure of ₱129,881.00. Of this, only 12 percent of the families belonged to the middle-income class or those families with a per capita annual income limits ranging from ₱57,396 to ₱702,822 (Table 4). Notable, however, is the increasing middle-income class in Bohol from 9.8 percent share or 22,037 families in 2003 to 11.6 percent in 2009. The increased share of the province comes from the reduced share of low income class families from 90.2 percent in 2003 decreasing to 88.4 percent in 2009. In Bohol, there were no high-income families or those with income greater than ₱702,822 as reported in that same survey.

Table Soc-1. Distribution of Families by Per Capita Income Class: Years 2003, 2006 and 2009

Area	Low Income Families		Middle Income Families		High Income Families	
	Level	Percent	Level	Percent	Level	Percent
Philippines						
2003	12,527,808	76	3,929,591	23.8	22,993	0.1
2006	13,230,650	76	4,152,006	23.9	20,089	0.1
2009	13,770,676	74.7	4,659,178	25.2	21,688	0.1
Bohol						
2003	203,560	90.2	22,037	9.8	0	
2006	208,350	87.5	29,738	12.5	0	
2009	221,075	88.4	29,078	11.6	0	

Source: Special computations made by the NSCB Technical Staff using the results of the 2003, 2006 and 2009 Family Income and Expenditure Survey of the National Statistics Office

In the 2012 Family Income and Expenditure Survey (FIES), the survey results showed that the average annual family income of Boholano families of 5 family members was approximately 180 thousand pesos, higher than in 2009, resulting to an average per capita income of 36 thousand pesos. In comparison, the average annual family expenditure for the same year was about 141 thousand pesos. Hence, Boholano families have savings of 52 thousand pesos annually, on the average in 2012.

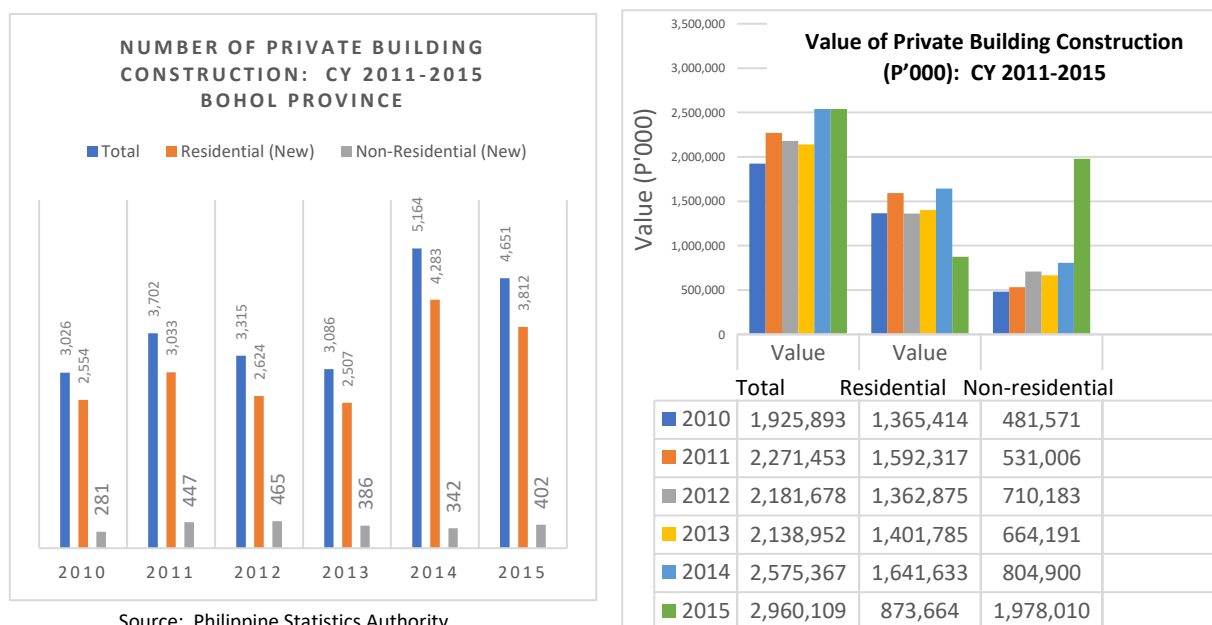
Table Soc-2. Estimates of Average Family Income and Expenditure: Year 2012
Bohol Province

Area	Average Family Income	Average Family Expenditure	Savings
Philippines	234,129	185,252	48,877
Region VII	208,194	159,539	48,655
Bohol	180,047	140,850	39,197
Cebu	227,827	175,753	52,074
Negros Oriental	170,929	126,901	44,028
Siquijor	232,525	159,708	72,817

Source: NSO, 2012 Family Income and Expenditure Survey

The economic status of the Boholanos may also be gauged by the number of private building construction over the years. Per report of the Philippine Statistics Authority (PSA), a total of 4,651 private buildings valued at ₱2.96 million were constructed in 2015, mostly private residential houses (Figure 5). The number of building construction is, however, lower compared to 2014 considering that many of the private buildings damaged by the earthquake started to be constructed in 2014 numbering 5,164 privately-owned buildings. Total value of construction in 2014 was ₱2.58 million.

Figure Soc-1: Number and Value of Private Building Construction, CY 2011-2015, Bohol Province



1.2. Human Development and Gender-related Development

The HDI, an indicator of the state of well-being of a population, had a rating of 0.602 for Bohol Province in 2009, a medium-level achievement but a higher rating than previous years for the province.¹ The latest sub-national level Philippine Human Development Report states that Bohol registered among provinces with the largest improvement in human development in 2009 at 19.8 percent since 1997. The good results were due to improvements in life expectancy, income and education. Bohol was among the top ten provinces with largest gain in education in 2009 with an improvement of 37.3 percentage points. Its HDI ranked higher than the per capita income rank, producing a positive difference. This means that Bohol was able to leverage its resources relatively well for human development.

Bohol's Gender-related Development Index (GDI), a measure to account for gender-based inequalities, likewise marked a great improvement from a rating of 0.386 (ranked #64 among provinces) in 1997 to 0.504 (ranked #36) in 2009 based on the same report for provinces. This indicates that achievements in development in the province are more evenly distributed between men and women in Bohol.

1.3. Poverty Situation

The reduction, if not the elimination of poverty continues to be a challenge in Bohol with a number of its families still considered as poor. However, Bohol's Poverty Incidence as well as its Subsistence Incidence² among families has been steadily decreasing since 2006. From 40.3 percent in 2006, poverty incidence among families lowered to 30.6 percent in 2012, then to 21.7 percent in 2015 or a decrease of about 20 percent over a period of nine years (Table 5).³ This translates to a total of 60,279 poor families in 2015 from 97,368 poor families in 2006. In the same period, the proportion of Boholanos in extreme poverty whose incomes are not sufficient to meet basic food needs registered at 7.2 percent numbering 20,135 Boholano families in extreme or subsistence poverty.

The Annual Per Capita Threshold, however, continued to increase with an Annual Per Capita Poverty Threshold (ACPT) rising from ₱14,098 in 2006 to ₱20,437 in 2015. The Annual Per Capita Food Threshold (ACFT) of ₱9,831 in 2006 to ₱14,249 in 2015, the lowest in Region 7 and the national figure. This means that a family of five in Bohol in 2015 will need around ₱4,088 monthly income to buy their minimum basic food needs; and around ₱7,852.92 monthly for their minimum basic food and non-food needs. Both ACPT and ACFT were higher in the urban areas of Bohol at ₱19,700 in

¹ Human Development Report in Philippine Provinces: 2012-2013, Human Development Report

² Families with income below the food threshold; subsistence incidence is often referred to as the proportion of Boholanos in extreme or subsistence poverty

³ 2015 official poverty statistics released by PSA at the sub-national level

2012. Bohol improved 2 notches higher in its cluster standing of poorest provinces in 2015, from Cluster 1, the bottom or poorest cluster of provinces in 2006 to Cluster 2 in 2009 and 2012, then to Cluster 3 in 2015.

The income gap in 2015, which measures the amount of income required by the poor in order to get out of poverty, was estimated by PSA at 25.7 percent. This means that, on the average, a Boholano poor family of five members, needed an additional monthly income of about ₱5,252.00 to move out of poverty in 2015. Using this as a hypothetical benchmark to eradicate poverty in the province thru a mere cash transfer to all poor households to cross the poverty line in Bohol, government would need about ₱ 0.317 billion, at the minimum, to eradicate poverty in the province in 2015.

Table Soc-2. **Poverty Profile, Bohol Province**

Annual Per Capita Poverty & Food Thresholds, Poverty and Subsistence Incidence and Magnitde of Poor Families and Other Poverty Indicators in Region 7 and Bohol Province
1991, 2006, 2009, 2012 and 2015

Region/ Province	Annual Per Capita Poverty Threshold (in Pesos)				Poverty Incidence among Families (%)				Magnitude of Poor Families			
					Estimates (%)				Estimate			
	2006	2009	2012	2015	2006	2009	2012	2015	2006	2009	2012	2015
PHILIPPINES	13,357	16,871	18,935	21,753	21.0	20.5	19.7	16.5	3,809,283	4,036,915	4,214,921	3,746,513
Region VII	13,963	16,662	18,767	21,914	30.7	26.0	25.7	23.6	411,431	378,221	405,694	394,336
Bohol	14,098	16,633	18,847	20,437	40.3	36.6	30.6	21.7	97,368	93,942	83,455	60,279
Cebu	15,064	17,770	18,855	21,740	25.6	22.3	18.9	17.9	209,301	200,481	185,603	179,162
Siquijor ^{b/c/}	13,971	16,469	18,420	21,675	25.6	27.2	24.0	48.9	5,027	5,676	5,319	16,866
Region/ Province	Annual Per Capita Food Threshold (in Pesos)				Subsistence Incidence among Families (%)				Magnitude of Subsistence Poor Families			
					Estimates (%)				Estimate			
	2006	2009	2012	2015	2006	2009	2012	2015	2006	2009	2012	2015
PHILIPPINES	9,308	11,780	13,232	15,189	8.8	7.9	7.5	5.7	1,596,850	1,553,082	1,610,865	1,303,549
Region VII	9,765	11,635	13,048	15,357	14.9	11.1	11.1	9.8	200,484	161,818	175,581	164,496
Bohol ^{b/}	9,831	11,596	13,155	14,249	21.9	16.6	12.2	7.2	52,901	42,619	33,288	20,135
Cebu	10,519	12,360	13,049	15,139	11.6	9.7	7.0	6.8	95,289	86,825	68,383	68,345
Siquijor ^{c/}	9,756	11,500	12,863	15,136	18.7	5.9	8.7	18.8	3,672	1,236	1,916	6,495
Region/Province	Income Gap				Poverty Gap				Severity of Poverty			
	2006	2009	2012	2015	2006	2009	2012	2015	2006	2009	2012	2015
PHILIPPINES												
Region VII	30.8	27.7	28.1	27.9	9.4	7.2	7.2	6.6	4.0	2.8	2.9	2.6
Bohol	33.6	28.7	24.5	25.7	13.5	10.5	7.5	5.6	6.0	4.3	2.6	2.1
Cebu	29.8	28.4	26.3	26.3	7.6	6.3	5.0	4.7	3.1	2.6	1.9	1.8
Siquijor ^{a/}	33.9	21.0	25.0	25.7	8.7	5.7	6.0	12.6	3.5	1.6	2.0	4.3

Note: a/ Caution in utilizing the estimate for these provinces due to its very small sample size.

b/ Coefficient of variation of 2015 subsistence incidence among population is greater than 20%.

c/ Caution in utilizing the estimate for these provinces due to its very small sample size.

1.4. Social Services Access

1.4.1. Healthcare

Good health is critical to wellbeing as it enables people to participate in society and the economy. Without good health, people are less able to enjoy their lives to the fullest extent, and their options may be limited. A range of factors affect and are affected by health outcomes, including physical and social environment and awareness and availability of health services. The Table below provides a picture of the current state of the health of Boholanos and likely health trends in the future.

Table Soc-3. Vital Health Statistics and Resources, Year 2014 to 2016
Bohol Province

Health Indicators	Year		
	2014	2015	2016
Vital Health Statistics			
Fertility			
Crude Birth Rate (<i>per 1,000 population</i>)	17.83	17.55	16.97
Total Fertility Rate ^{a/} (<i>number of children per woman</i>)	2000-2005 3.56	2005-2010 3.32	2010-2015 3.09
Crude rate of natural increase (<i>per thousand population</i>) ^{a/}	18.06	17.82	16.93
Life Expectancy at Birth ^a (<i>in years; medium assumption</i>)	68.15	69.66	71.0
Male	65.28	66.78	68.28
Female	71.03	72.53	73.73
Mortality	2014	2015	2016
Crude Death Rate (<i>per 1,000 population</i>)	5.11	5.07	6.04
Maternal Mortality Rate (<i>per 10,000 Live Births</i>)	9.45	7.37	3.43
Young Child Mortality Rate (<i>per 10,000 Live Births</i>)	48.56	145.72	136.91
Infant Mortality Rate (<i>per 10,000 Live Births</i>)	44.69	91.51	72.01
Percent of infants with low birth weight	6.39%	7.82%	9.20%
Mortality Rates by Leading Causes (Top 10)			
Cardiovascular Disease/Accident	366	926	997
Pneumonia, all types	690	1,014	982
Cerebrovascular Disease/ Accident	202	539	584
Pulmonary Disorders/ Disease		678	579
Myocardial Infarction	339	475	523
Heart Failure	211	491	481
Cancer, all types	316	554	472
Sepsis/ Septicemia	220	361	409
Renal Disease/Failure	142	412	386
Wounds/ Injuries/ Trauma	50		335
Morbidity			
Morbidity rates by leading causes (Top 10)			
Upper Respiratory Tract Infection	66,815	85,585	68,857
Hypertension, all types	18,254	24,351	22,243
Lower Respiratory Tract Infection	37,766	12,446	13,890
Gastrointestinal/Diarrheal Diseases	10,891	14,606	13,306
Influenza/Coryza/Cough	7,104	10,751	11,671
Injuries/Wounds/Accidents All Types	8,778	14,503	11,592
Skin Diseases, all types	6,718	15,624	11,224

Health Indicators	Year		
	2014	2015	2016
Urinary Tract Infection	5,969	7,478	6,428
Asthma		5,152	5,469
Fever, unknown origin	3,265	7,401	4,107
Health Resources			
Population - Hospital Bed Ratio (<i>Population per Hospital Bed</i>)			1,102
Government Doctor-Population Ratio	18,640	18,244	19,490
Percent of Existing BHS to Barangays	39.04%	45.81%	47.61%
Percent of Birth Deliveries at Home	5.67%	3.61%	2.23%

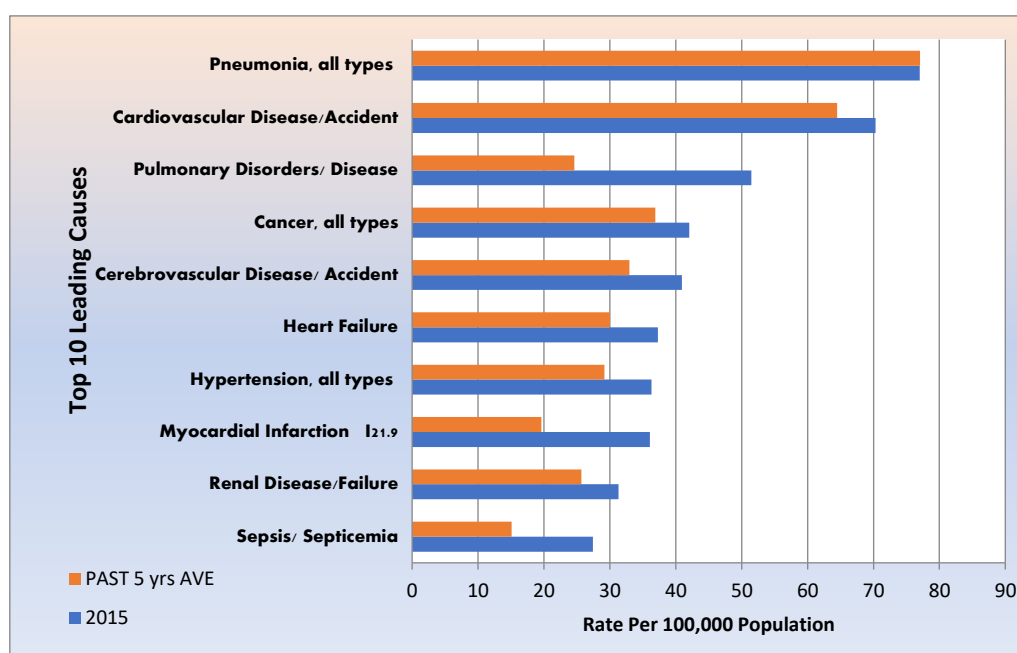
Sources: Provincial Health Office-Bohol ^{a/} 2000 Census-Based National, Regional and Provincial Projections, Philippine Statistics Authority (PSA)

- Vital Health Statistics and Leading Causes of Death and Illness**

Bohol's vital health statistics show a declining birth rate and an estimated decrease in its total fertility rate or the number of children a woman bears in her lifetime from the period 2014 to 2016 (Table Soc-3). The Crude Rate of Natural Increase or the speed at which a population is increasing due to interactions of births and deaths, is likewise in the downtrend.

Among the leading causes of mortality in Bohol, an increasing trend in the incidence of cardiovascular disease/accidents, cerebrovascular disease/accidents, myocardial infarction and sepsis/septicemia (blood infection) is noted while a decreasing trend is observed for pneumonia (all types), pulmonary disorders/disease, heart failure, cancer (all types) and renal disease/failure. Although the trend is decreasing for these diseases, its magnitude of prevalence is still high with 2,900 Boholanos dying from these diseases in 2016. Alarming also is the significant increase of injuries/wounds/accidents (all types) with 11,592 cases recorded in 2016 causing 335 deaths in that same year.

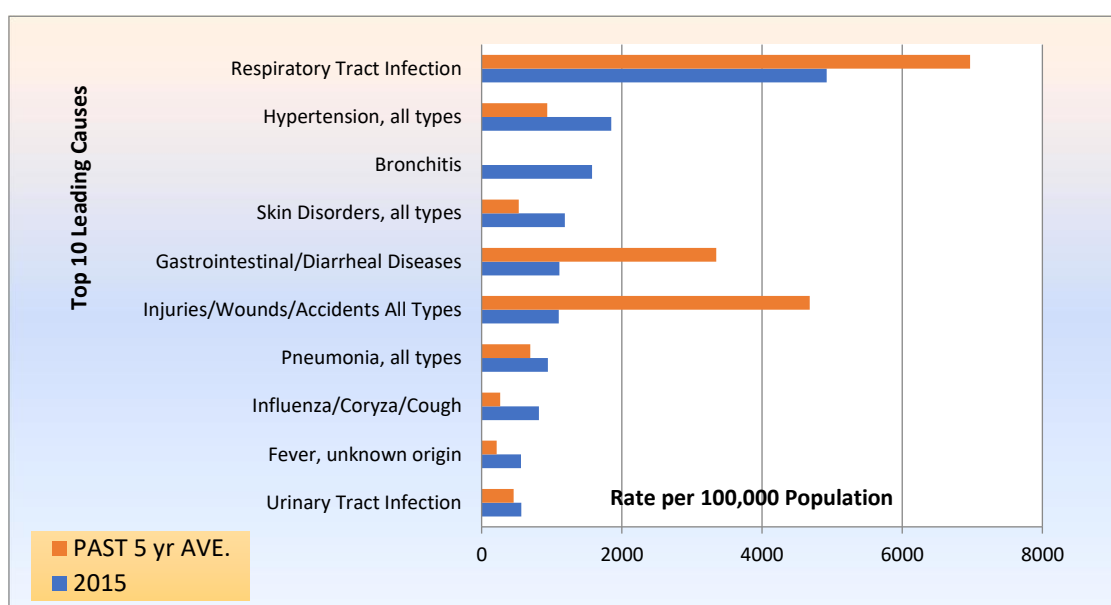
Figure Soc-2. 10 Leading Causes of Mortality in 2015 vs Past 5-Year Average, Bohol Province



Source: Provincial Health Office

Other diseases prevalent in Bohol are Respiratory Tract Infections which continue to be the number one cause of illness in the province in all ages replacing gastro-enteritis which is still among the top leading causes of morbidity (Figures 7 and 8). Pneumonia was the leading cause of death in 2015 in Bohol while death due to chronic and degenerative diseases is in the upward trend in Bohol with 8 out of its 10 leading causes of mortality in 2015 were non-communicable diseases. These 10 causes accounted for approximately 72% of all deaths in Bohol. There was no incidence of malaria in Bohol for several years now.

Figure Soc-3. 10 Leading Causes of Morbidity in 2015 vs Past 5-Year Average, Bohol Province



Much of this health burden could be prevented or postponed through improved nutrition, increased physical activity, improved vaccination rates, avoidance of tobacco use, adoption of measures to increase motor-vehicle safety, early detection and treatment of risk factors, and health-care quality improvement. Finally, ensuring the well-being of mothers and infants and preventing unintended pregnancies among teenagers are critical public health goals to establish better health of future generations.

- *On Malnutrition*

The results of the Operation Timbang conducted by the Provincial Nutrition Council in 2015 to children aged 0-71 months in Bohol had about 71 percent of those surveyed with normal weights. However, about 16 percent of children surveyed in Bohol aged

0-71 months are malnourished/wasted/stunted at varying degrees per the same Operation Timbang Results in 2015. This translates to about 30,313 pre-schoolers as reported by the Provincial Nutrition Council (Table 6). In children, the three most commonly used anthropometric indices to assess their growth status are weight-for-age, weight-for-height, and height-for-age (WHO). The top five municipalities with the most number of severely malnourished children in 2015 based on the same results are Ubay, Getafe, Sagbayan, Pres. Garcia, Buenavista and Loon.

Also, in that survey, about 3 percent of these children were considered nutritionally wasted with 161 of them severely wasted. Low weight-for-height or wasting or thinness indicates, in most cases, a recent and severe process of weight loss, which is often associated with acute starvation and/or severe disease. However, wasting may also be the result of a chronic unfavorable condition (WHO). The top municipalities with the most number of wasted children are Ubay, Sagbayan, Pilar, Guindulman, Getafe, Pres. Garcia and Buenavista.

Notable also is the finding that about 10 percent or 19,346 children surveyed were stunted or with short height-for-age. Low height-for-age or stunted growth reflects a process of failure to reach linear growth potential as a result of sub-optimal health and/or nutritional conditions (WHO). According to WHO, on a population basis, high levels of stunting are associated with poor socio-economic conditions and increased risk of frequent and early exposure to adverse conditions such as illness and/or inappropriate feeding practices. The top 5 municipalities with the most number of stunted children surveyed were the municipalities of Candijay, Ubay, Anda, Carmen and Pres. Garcia.

Table Soc-5. Operation Timbang Results, Bohol Province, 2015

Age/Sex	Normal	Under-weight-for-Age	Severely Under-weight-for-Age	Stunted/ Short Height-for-Age	Wasted Weight-for-Length/Height	Severely Wasted Weight-for-Length/Height	Total Under-weight
Bohol	150,406	5,445	849	19,346	3,692	981	30,313
0-5 months	11,946	118	37	889	242	146	1,432
Boys	6,191	67	23	484	132	81	787
Girls	5,755	51	14	405	110	65	645
6-11 months	10,970	246	59	1,066	297	86	1,754
Boys	5,657	138	35	578	161	51	963
Girls	5,313	108	24	488	136	35	791
12-23 months	22,968	831	146	3,167	705	224	5,073
Boys	11,981	490	89	1,802	378	118	2,877
Girls	10,987	341	57	1,365	327	106	2,196
24-35 months	23,407	1,008	165	3,393	690	170	5,426
Boys	12,206	500	84	1,754	369	98	2,805
Girls	11,201	508	81	1,639	321	72	2,621

Age/Sex	Normal	Under-weight-for-Age	Severely Under-weight-for-Age	Stunted/ Short Height-for-Age	Wasted Weight-for-Length/Height	Severely Wasted Weight-for-Length/Height	Total Under-weight
36-47 months	23,847	1,079	157	3770	718	146	5,870
Boys	12,437	530	73	1,985	348	78	3,014
Girls	11,410	549	84	1,785	370	68	2,856
48-59 months	23,801	1,109	148	3745	624	118	5,744
Boys	12,528	542	72	1,930	315	64	2,923
Girls	11,273	567	76	1,815	309	54	2,821
60-71 months	22,497	1,054	137	3316	416	91	5,014
Boys	12,219	553	74	1,817	211	49	2,704
Girls	10,278	501	63	1,499	205	42	2,310

Source: Provincial Nutrition Council/PHO

- *On Improving Maternal Health and Child Care*

Reducing/eliminating the occurrence of maternal death has always been a challenge to the health sector. In 2015, a total of 17 mothers died during childbirth of causes that could have been prevented if basic pre-natal care and health facilities and personnel were readily available and easily accessed. In 2016, 4 maternal deaths were recorded.

There were 833 or about 4 percent of deliveries done in the home in 2015 as reported by the PHO. Infant Mortality Rate was at 9 deaths per 1,000 livebirths while fetal death was registered at 3 deaths per 1,000 livebirths in 2015. Stillbirth and other devastating pregnancy complications have also been recorded in that year.

- *On Combating HIV/AIDS, Malaria and other diseases*

More than 30 years since the disease was first described globally in 1981, the incidence of HIV continues to be a challenge, even in Bohol, as one of the causes of ill-health in the province and worldwide. In a report provided by the Philippine HIV and AIDS Registry, a total of 9 AIDS-infected individuals and 57 persons considered asymptomatic or carriers exposed to the infection were reported from 1984 to 2014 in Bohol. In 2015, an additional 3 persons living with HIV and 82 asymptomatic individuals were reported bringing to a total of 12 AIDS-infected individuals and 89 persons considered asymptomatic from 1984-2015 in Bohol. For Region 7, there were 108 AIDS-infected individuals and 2,596 asymptomatic individuals during the same period.

Also in that same report, majority of those infected were mostly within the reproductive age group (15-49 years old) and mostly males. Interrupting HIV transmission among key populations, including sex workers, men who have sex with men, people who inject drugs, transgender people and prisoners, remains a challenge

in many countries. The SDG target is to end the AIDS epidemic by 2030. The global strategy targets a reduction in the annual number of people newly infected with HIV by 90% and the annual number of people dying from AIDS-related causes by 80% as compared with 2010 statistics.

- *On Health Facilities and Personnel*

In Bohol, a total of 583 DOH-registered health care facilities, both public and privately-owned are situated in the province (Map 3). These are composed of 30 licensed hospitals registered with the Department of Health (DOH), 51 Rural Health Centers/Units (RHUs) and 367 Barangay Health Stations (BHS) with a ratio of 1 Health Facility to 2,932 persons (Table Soc-9).

Table Soc-6. Health Facilities and Personnel, 2016: Bohol Province

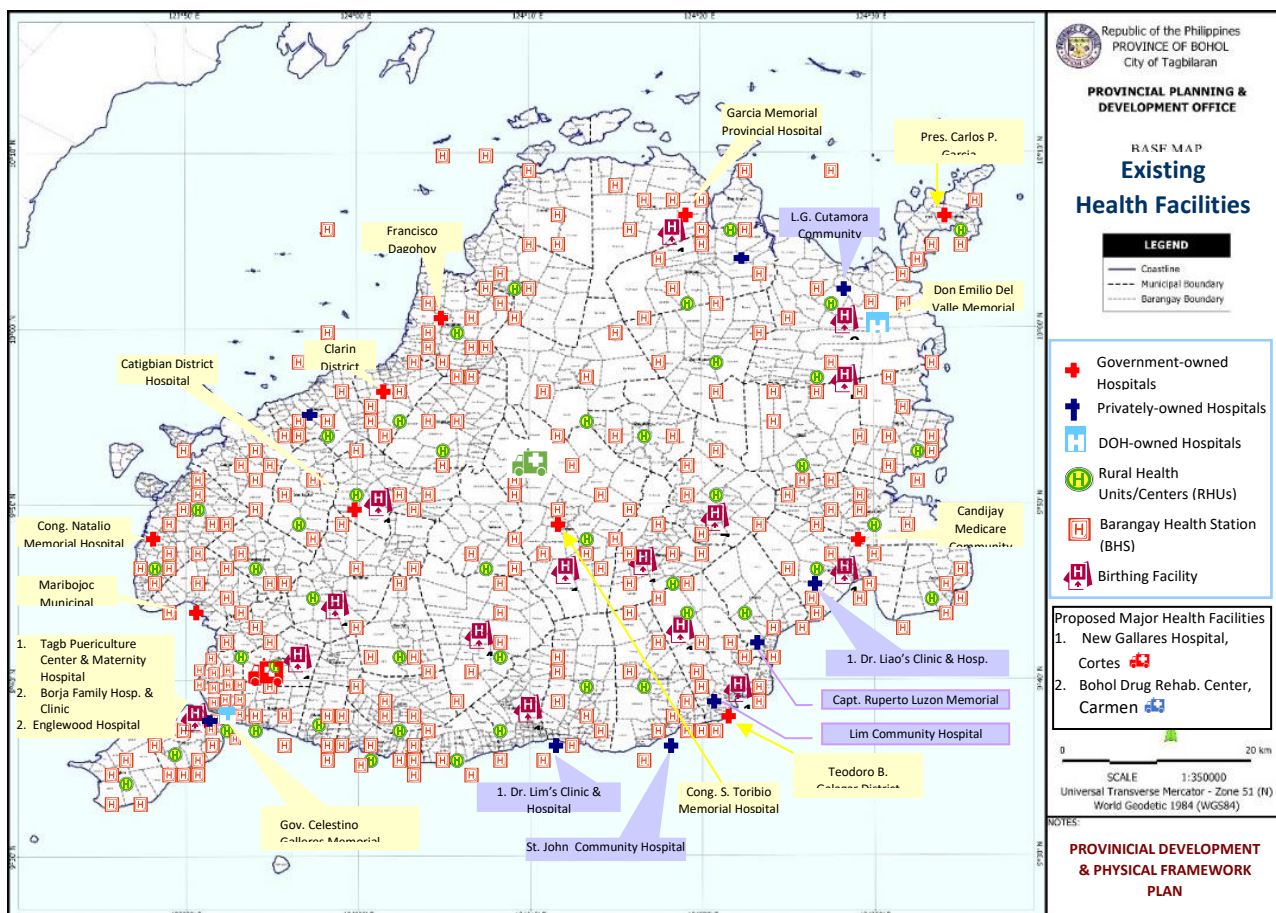
Indicators	Number			Ratio to Pop.
	Male	Female	Total	
Barangays			1,109	
Barangay Health Stations			416	37.51%
Health Centers			51	
Households			246,420	
Physicians/Doctors	29	37	66	20,134.91
Dentist	7	10	17	78,170.82
Nurses	7	65	72	18,457.00
Midwives		319	319	4,165.84
Medical Technologists	5	25	30	44,296.80
Laboratory Technologists	0	7	7	44,296.80
Sanitary Engineers	0	0	0	0.00
Sanitation Inspectors	29	36	65	20,444.68
Nutritionist		10	10	132,890.40
Active Barangay Health Workers	38	8,096	8,134	163.38

Source: Provincial Health Office-Bohol

The number of health facilities in Bohol continue to increase thru the years. As reported by DOH, there were a total of 30 hospitals and infirmaries in the province in 2016 providing tertiary health services to Bohol's population giving a Population to Hospital Bed Ratio of 1,102 population per hospital bed. Presently, congestion is occurring in some hospitals, especially in government hospitals particularly at the

regional hospital - the Gov. Celestino Gallares Memorial Regional Hospital with patients already staying along its corridors. This has prompted government to expand said hospitals to accommodate increasing patient demand in the coming years. Complementing these hospitals are 528 Barangay Health Stations (BHS) where basic health care, such as maternal and child care, immunizations and treatment of simple medical conditions are dispensed. Current number only covers 48 percent of all barangays in Bohol.

Map 3. Health Facilities Map, 2016, Bohol Province



In terms of geographic location, majority of these health facilities are in the Poblaciones of city/municipality that it becomes a challenge to avail of health services by the people who are living in the rural and far-flung areas. This could account for the fact that there are still childbirths/deliveries in the home done by “hilots” or non-health personnel as reported by PHO. Of a total of 23,058 livebirths in 2015, 440 or 2 percent of childbirths were delivered by hilots/TBA. However, most of the childbirths were delivered by doctors (54%), nurses (1%) and by midwives (43%) in a health facility. In 2017, DOH proposed to expand/renovate/construct 153 BHS provincewide with birthing facilities. Presently, out of the 51 RHUs, only 31 have birthing facilities.

Table Soc-7. List of Health Facilities, Bohol Province: 2016

Name of Hospital	Location	Authorized Bed Capacity	Service Capacity
A. Licensed Hospitals:			
A.1. Private Hospitals			
1 Ramiro Community Hospital Corp.	Tagbilaran City	100	level 2
2 Tagbilaran Community Hospital Corporation	Tagbilaran City	48	Level 2
3 Holy Name University Medical Center Foundation, Inc.	Tagbilaran City	50	Level 1
4 Medical Mission Group Hospital- Health Service- Bohol Cooperative Hospital	Tagbilaran City	50	Level 1
5 Bohol St. Jude General Hospital	Tagbilaran City	25	Level 1
6 Borja Family Hospital	Tagbilaran City	40	Level 1
7 Dr. Lim's Clinic And Hospital	Valencia	25	Level 1
8 Englewood Hospital	Tagbilaran City	50	Level 1
9 Leona O. Lim Memorial Hospital	Valencia	75	Level 1
10 Lim Community Hospital	Jagna	40	Level 1
11 Paulina Lim Memorial Hospital	Guildulman	40	Level 1
12 Tagbilaran Maternity And Childrens Hospital, Inc.	Tagbilaran City	30	Specialty
13 Cutamora Community Clinic	Ubay	10	Primary/Infirmary
14 Mitiong Doding Memorial Hospital	Duero	25	Primary/Infirmary
A. 2. Government-owned Hospitals			
A.2.1 Government - DOH Retained Hospitals			
15 Gov. Celestino Gallares Memorial Hospital	Tagbilaran City	200	Level 3
16 Don Emilio Del Valle Memorial Hospital	Ubay	50	level 1
A.2.2. District Hospitals			
17 Garcia Memorial Provincial Hospital	Talibon	75	Level 1
18 Teodoro B. Galagar District Hospital	Jagna	50	Level 1
19 Catigbian District Hospital	Catigbian	25	Level 1
20 Candijay Community Hospital	Candijay	10	Level 1
21 Clarin Commuunity Hospital	Clarin	15	Primary/Infirmary
22 Cong. Natalio P. Castillo, Sr., Memorial Hospital	Loon	25	Primary/Infirmary
23 Cong. Simeon G. Toribio Memorial Hospital	Carmen	50	Primary/Infirmary
24 Francisco Dagohoy Municipal Hospital	Inabanga	10	Primary/Infirmary
25 Maribojoc Community Hospital	Maribojoc	15	Primary/Infirmary
26 Pres. Carlos P. Garcia Municipapal Hospital	Pres. Garcia	10	Primary/Infirmary
A.2.3. Government Municipal Hospital			
27 Dimiao Municipal Infirmary	Dimiao	8	Primary/Infirmary
28 Tubigon Community Hospital	Tubigon	15	Primary/Infirmary
29 San Miguel Hospital	San Miguel	25	Primary/Infirmary
30 Calape Mother & Child Hospital	Calape	12	Primary/Infirmary
B. Rural Health Centers/Units	All City/Mun.	51 units	
C. Barangay Health Stations (BHS)	367 Barangays	38 units	

Source: Provincial Health Office, Bohol

To rationalize hospital services in the province, it is envisioned that PGBh-owned hospitals will, in the coming years, upgrade services by positioning these facilities towards specialization of hospital services as part of the Provincial Government's Hospital Modernization Program as follows:

Table Soc-8. Proposed Hospital Services Specialization of PGBh-owned Hospitals, Bohol

Name of Hospital	Location	Service Specialization
Garcia Memorial Provincial Hospital	Talibon	Level 3 Hospital (Teaching & Training Hospital)/ Nephrology
Francisco Dagohoy Municipal Hospital	Inabanga	Diabetology
Cong. Simeon Toribio Memorial Hospital (CSTMH)	Carmen	Orthopedics
Candijay Community Hospital (CanCH)	Candijay	Hospice Care and Geriatrics
Catigbian District Hospital (CDH)	Catigbian	Rehabilitation Medicine & Wellness
Teodoro B. Galagar District Hospital (TBGDH)	Jagna	OB-Gyn & Pediatrics (Mother & Child Hospital)
Cong. Natalio P. Castillo, Sr. Memorial Hospital (CNCMH)	Loon	Cardiology & Pulmonology
Maribojoc Community Hospital (MCH)	Maribojoc	Nephrology
Clarín Community Hospital (ClACH)	Clarín	Oncology
Pres. Carlos P. Garcia Memorial Hospital	Pres. Garcia	Drug Rehabilitation & Mental Health

Source: Provincial Health Office, Bohol

- *Life expectancy at birth⁴*

Life expectancy at birth of the Boholano continues to increase over time, with the gap between male and female life expectancy narrowing. In 2000–2005, life expectancy at birth (LEB) for Boholanos was estimated at 68 with females LFB at 65 years and 71 years for males, and 72.53 years for females/66.78 for males in 2005-2010 as calculated by PSA Period Life Tables. For the period 2005-2010, this was estimated at 69.66 years. But recent available data placed the life expectancy at birth of Boholanos at 71 years in 2010-2015. This means that a Boholano can expect to live independently (i.e., free of any disability requiring the assistance of another person or complex assistive device) up to this age. Life expectancy measures a population's health, combining both fatal (life expectancy) and non-fatal (disability requiring assistance) health outcomes.

1.4.1 Sanitation

In 2015, about 92 percent of Boholano families had access to safe water compared to 86 percent in 2014 and 81 percent in 2000, according to the Provincial Health Office (PHO). In real figures, the number of families with access to safe drinking water climbed to 221,946 in 2015 from only 183,338 in 2000. The top towns with the most number of households with access to Level 3 source of water supply in 2015 in Bohol were the City of Tagbilaran and 15 municipalities, namely: Alicia, Antequera, Balilihan, Bilar, Corella, Cortes, Danao, Dimiao, Duero, Garcia-Hernandez, Sierra Bullones, Sikatuna, Ubay and Valencia.

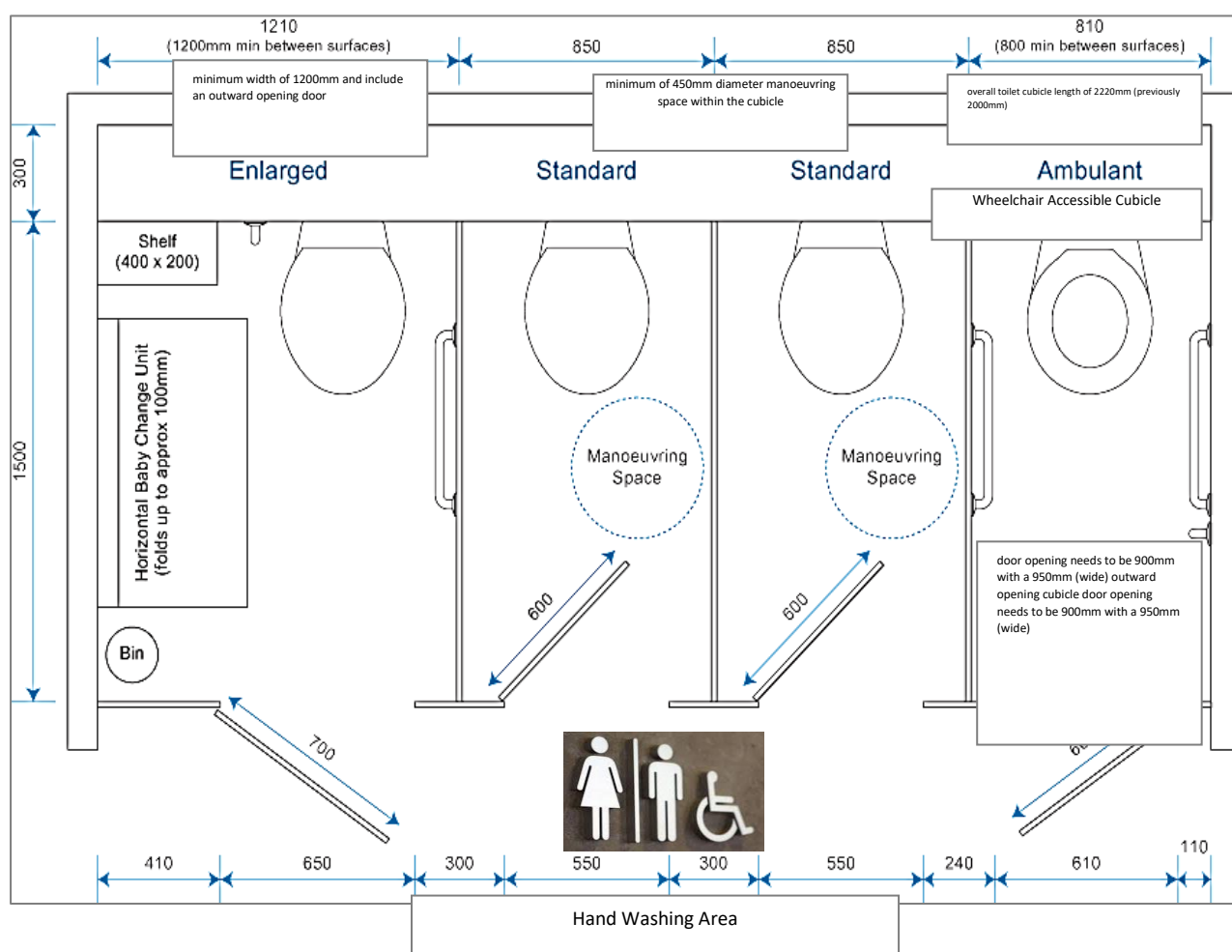
As to access to sanitary toilets, only 88 percent of Boholano families had sanitary toilet facilities in 2015 per PHO Report. In real numbers, this translates to 192,338 families

⁴ Life expectancy at birth is the average length of life remaining at birth, assuming people experience the age-specific death rates of a given period from birth onwards

with sanitary toilets in 2015, down from 201,902 families four years earlier. Among the top municipalities having 96 percent and above household coverage with sanitary toilets are the municipalities of Jagna, Lila, Dimiao, Tagbilaran City, Corella, Loay, Balilihan, San Miguel, Baclayon, Garcia-Hernandez, Sikatuna, Dagohoy, Antequera and Valencia.

To promote hygiene especially in public places, clean, well-maintained and standard public toilets should be made available especially in public facilities for use by the general public, separated into male and female facilities and accessible to people with disabilities. It is suggested that the Provincial and Municipal Governments initiate this in all of their facilities. It is recommended that a minimum total area of about 5,000 square meters with a least of four cubicles be allotted per public toilet to meet the recommended standard of one enlarged cubicle, two standard-size cubicles and one ambulant cubicle for persons with wheelchairs (Figure 6). For private households, a total land requirement of about 58 hectares (at 6 sq. m. per household) for the 96,177 households with no sanitary toilets will be needed for a 100 percent coverage in 2015.

Figure Soc-4. Recommended Standard Design of a Public Toilet



Access to safe water supply and sanitary toilet facility are essential to good health, clean environment, growth and development. Safe water supply and good sanitation can prevent common waterborne diseases such as gastro-enteritis, diarrhea, typhoid, and other diseases which in Bohol were among the leading causes of illness of its populace. In 2015, the No. 1 cause of admission in public hospitals was Acute Gastro-enteritis/diarrhea, a leading cause for several years now in Bohol, as reported by the Provincial Health Office. This was also the No. 8 cause of death in government-owned hospitals in that year. Nationwide, about 27 percent at the bottom 30 percent families use unsafe water source while 14.1 percent used unsanitary toilet.⁵

1.4.1. Human Capital Development

The people's ability to meet their basic needs, widen the range of options open to them, and enable them to influence the direction their lives will take may be enhanced by knowledge and skills thru education. Education is one of the most important factors determining employment and thus income. There exists a close association between poverty and the lack of education. For instance, the lack of education of the head of a household is closely correlated with poverty in households.

Education in the Philippines is managed and regulated by the Department of Education (DepEd), Commission on Higher Education (CHED) and Technical Education and Skills Development Authority (TESDA). DepEd is responsible for the K–12 basic education; it exercises full and exclusive control over public schools and nominal regulation over private schools, and also enforces the national curriculum. CHED and TESDA, on the other hand, are responsible for higher education. CHED regulates the academically-oriented universities and colleges while TESDA oversees the development of technical and vocational education institutions and programs.

In Bohol, there are 3 universities and 7 colleges with campuses located outside Tagbilaran City, 1,021 elementary schools and 241 high schools, as of SY 2015.

- *Basic Education*

Basic education has three very important roles: to prepare young people for adulthood, working lives, and further learning. Hence, the school holds the key for transmitting values for adult life, skills for work life and cognitive readiness to engage in higher levels of learning.

⁵ MDG Report - NEDA

A total of 1,262 schools provide basic education in Bohol. The public school system bore the brunt of providing basic education to Bohol's school-age population with almost 90% of these schools owned and operated by government (Table Soc-9).

Table Soc-9. Number of Elementary and Secondary Schools, Public and Private: SY 2015
Bohol Province

Level of Education	Ownership		Total
	Public	Private	
Bohol	1,122	140	1,262
Elementary Schools	951	70	1,021
Bohol Division	933	52	985
City Division	18	18	36
Secondary Schools	171	70	241
Bohol Division	164	58	222
City Division	7	12	19

Source: DepEd-Bohol

The performance of the basic education sector in Bohol from School Years (SY) 2010 to 2015 is summarized in the Table below.

Table Soc-10. Basic Education Performance: SY 2010 to 2015, Bohol Province

Elementary						NAT Result (MPS)				
SY	Gross Enrolment Rate	Cohort Survival Rate	Participation Rate (NER)	Completion Rate	Drop-out Rate	Math	Science	English	Filipino	HEKASI
2010-2011	97.05	82.07	80.59	78.69	6.48	78.52	62.18	68.16	82.23	77.02
2011-2012	98.78	88.08	82.59	86.66	5.29	81.17	75.08	73.07	77.13	73.91
2012-2013	103.01	87.49	84.78	85.6	1.84	73.62	73.62	73.29	80.15	79.08
2013-2014	110.3	94.15	91.58	93.76	1.65	88.86	76.18	82.27	86.37	69.65
2014-2015	108.07	90.45	90.52	89.91	2.04	87.61	79.28	87.27	80.22	82.77
Secondary										
SY	Gross Enrolment Rate	Participation Rate or NER	Cohort Survival Rate	Completion Rate	Drop-out Rate	NAT Result (MPS)				
						Math	Science	English	Filipino	AP
2010-2011	58.51	39.57	80.78	77.9	7.06	43.71	47.61	49.55	61.11	42.69
2011-2012	57.99	40.66	76.43	70.81	9.57	51.33	46.12	50.49	61.7	63.22
2012-2013	74.71	54.48	74.72	73.08	6.58	58.84	48.37	59.16	63.65	68.44
2013-2014	87.41	66.14	87.5	86.18	6.98	70.05	56.84	65.98	63.94	69.01
2014-2015	87.67	65.99	81.18	80.52	Not yet available	61.79	53.28	50.4	66.13	55.02

Source: DepEd-Bohol

Table Soc-11. Total Enrolment by Level of Education: SY 2010 to 2015, Bohol Province

School Year	Enrolment									
	Kindergarten			Elementary			Secondary			Total
	Public	Private	Total	Public	Private	Total	Public	Private	Total	
2010-2011	29,593	6,775	36,368	183,614	6,513	190,127	74,768	21,275	96,043	322,538
2011-2012	29,441	4,817	34,258	189,137	9,207	198,344	75,100	21,711	96,811	329,413
2012-2013	25,124	5,246	30,370	193,474	8,189	201,663	77,254	21,916	99,170	331,203

2013-2014	26,176	4,480	30,656	194,362	9,422	203,784	81,575	21,511	103,086	337,526
2014-2015	24,749	4,554	29,303	190,184	8,710	198,894	83,732	25,289	109,021	337,218
2015-2016	23,264	4,145	27,409	187,428	9,778	197,206	83,818	26,157	109,975	334,590

As of School Year (SY) 2015-2016, actual enrolment for basic education stood at almost 335 thousand for both public and private schools with 59 percent in the elementary and 41 percent in the secondary. About 82 percent of students were in the public school system (Table Soc-11). Net Participation Rate was at 90.52 percent for elementary and 65.99 percent for the secondary. Drop-out Rates were quite high in the secondary level compared to the elementary.

Due to the low ratings in terms of learning achievement, the DepEd adopted a shift in student assessment policy beginning in SY 2002-2003 that includes diagnostic testing at the start of the school year for Grade IV pupils and Year I students in public schools. NAT results showed very poor competencies of students in math, science and English in both levels, most especially at the secondary level where scores were in the range of 50 to 66 percent only.

Other critical resources for delivering quality education include classrooms, school chairs/desks, teachers and textbooks (Table Soc-12). In SY 2016-2017, a total of 942 classrooms, 42,480 school chairs/desks, 24 DepEd school sites, 65 school libraries, 107 science laboratories and some other physical structures as shown in Table Soc-12, are some of the needed structures that will have an impact in terms of land requirement. At 63 sq. meters per classroom, a total of 6 hectares is required to fill-up current gap. For the other physical structures listed in the Table below, current land requirements will reach 10 hectares to address the gap of these resources. It is expected that this gap will further increase for the planning period 2018-2028 if current requirements are not met.

About 1,699 formal teachers as well as specialized teachers (SpEd, IpEd) are some of the current education personnel gaps in Bohol in SY 2016 - 2017.

**Table Soc-12. Current Educational Resources Requirements/Gaps for School Facilities and Teachers, Elementary and Secondary Levels: SY 2016-2017
Bohol Province**

School Facilities	Elementary		JHS		SHS		Total		Gap	Land Requirements (Hectare)
	2016	2017	2016	2017	2016	2017	2016	2017		
Classrooms	7,368	7,904	3,013	3,105	570	884	10,951	11,893	942	5.93
School Seats/ Desks	255,024	279,234	77,297	81,437	25,280	39,410	357,601	400,08	42,480	
WATSAN (schools)	909	933	160	165	129	151	1,198	1,25	51	0.40
Learning Centers	2	6	-	-	-	-	2	6	4	0.01
Science Lab.	0	47	0	30	0	30	0	107	107	2.40

TVL Workshop	-	-	4	165	0	129	4	294	290	
School Library	54	108	154	165	-	-	208	273	65	1.01
Total Land Area Requirements (in hectares):										9.76

Personnel	Elementary		JHS		SHS		Total		Gap
	2016	2017	2016	2017	2016	2017	2016	2017	
Teachers (Formal)	6,736	7,678	2,531	3,034	1,132	1,386	10,399	12,098	1,699
MADRASAH Teacher	6	0	-	-	-	-	6	0	0
SPeD Teachers	16	20	-	-	-	-	16	20	4
IPeD Teachers	0	2	-	-	-	-	0	2	2
Mobile Teachers	-	-	-	-	-	-	50	54	4
DALSCs	-	-	-	-	-	-	0	54	54

Source: DepEd-Bohol

From 2017 to 2022, it is projected that the various education performance indicators will improve as shown in the Table below.

Table Soc-13

Projected Key Education Performance Indicators, Bohol Province SY 2017-2018 to 2021-2022
Bohol Province

Elementary	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Net Intake Rate	85	86	87	88	89
Gross Enrolment Rate	106	106.5	107	107.5	108
Net Enrolment Rate	92.5	93	93.5	94	94.5
Cohort Survival Rate	96	97	98	98	98
Completion Rate	91	92.5	93	94	95
Promotion Rate	92	92.4	93	94	95
Drop out Rate	0.5	0.5	0.5	0.5	0.5
Repetition Rate	0.5	0.5	0.5	0.5	0.5
School Leaver Rate	0.75	0.5	0.5	0.5	0.5
Failure Rate	0.75	0.5	0.5	0.5	0.5
Secondary	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Gross Enrolment Rate	89	89.5	90	90.5	91
Net Enrolment Rate	74	76	78	80	82
Cohort Survival Rate	90	92.67	95.34	98	98
Completion Rate	92	94	96	98	98
Promotion Rate	92.5	92.85	93	94	95
Drop out Rate	0.5	0.5	0.5	0.5	0.5
Repetition Rate	0.5	0.5	0.5	0.5	0.5
School Leaver Rate	2.5	2	2	2	2
Failure Rate	0.5	0.5	0.5	0.5	0.5

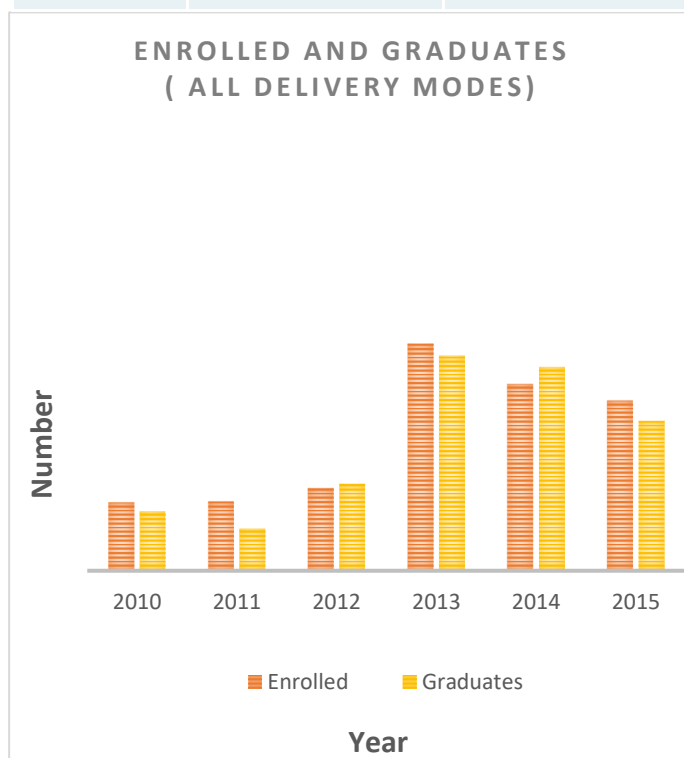
Source: DepEd-Bohol

- *Technical/Vocational Education*

The Year 2013 got the highest enrolment and graduates for technical/vocational education administered by the Technical Education and Skill Development Authority (TESDA) in Bohol. Enrolment and number of graduates of TESDA comes from different delivery modes, namely, school-based programs which include scholarship programs, center-based programs and community-based programs.

Table Soc-16. Enrolment and Graduates of Technical/Vocational Courses
2010-2015, Bohol Province

Year	Enrolled	Graduates
2010	13,972	12,124
2011	14,158	8,596
2012	16,908	17,755
2013	46,408	43,883
2014	38,149	41,563
2015	34,726	30,603

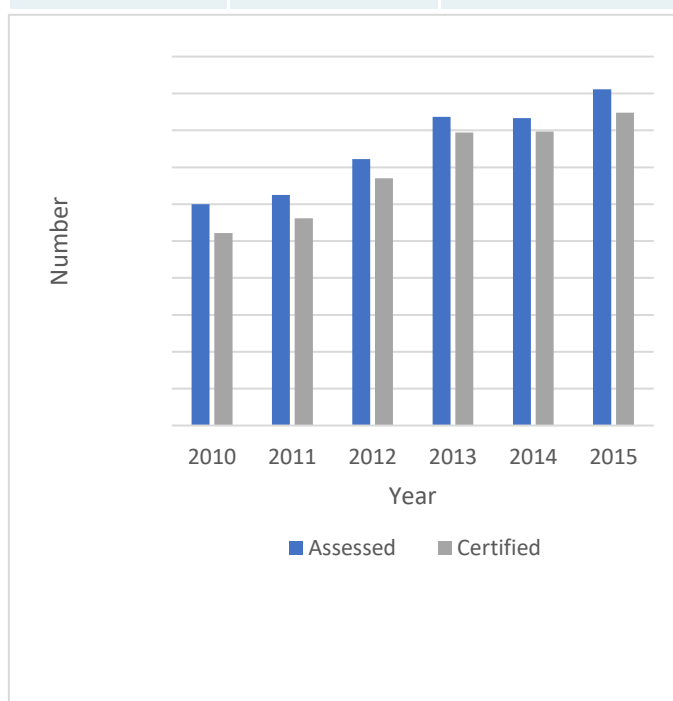


Source: TESDA-Bohol

One of the core programs of TESDA is the competency assessment and certification the bulk of which started in 2013 until 2015.

Table Soc-17. Assessment and Certification: 2010-2015

Year	Assessed	Certified
2010	12,003	10,430
2011	12,495	11,233
2012	14,446	13,397
2013	16,742	15,893
2014	16,671	15,939
2015	18,229	16,968



Source: TESDA-Bohol

This is due to the preparation for the K to 12 implementation in which there were many DepEd teachers who took the competency assessment and certification as well as high school students in schools which already have their techvoc track in the curriculum.

TESDA Provincial Training Centers/Facilities:

Figure . TESDA Provincial Training Centers



TESDA -Bohol has 5 Provincial Training Centers, also called as TESDA Technology Institutes (TTIs) namely: PTC-Bilar, PTC-Jagna, PTC-Inabanga, PTC-Tubigon and PTC-Pilar. There is a 6th TESDA Training Center in Balilihan which is an annex of PTC-Tubigon. The TESDA Training Center in Balilihan is a project of then Cong. Edgardo Chatto. The operation of the 5 PTCs is co-managed by the LGUs concerned.

- **Tertiary Education**

In Bohol, there are 25 higher education institutions (HEIs), including their campuses, spread throughout the province. Three of these are universities, i.e., Bohol Island State University (BISU), Holy Name University and University of Bohol, with main campuses all situated in Tagbilaran City. All of these HEIs are privately-owned except for BISU which is a state-owned university with five campuses located in Balilihan, Bilar, Calape, Candijay, Clarin and Tagbilaran City.

Table Soc-9. List of Higher Educational Institutions (HEIs): SY 2015-2016
Bohol Province

Name of Institution		Location
Universities		
1	Bohol Island State University - Tagbilaran	Tagbilaran City
	Bohol Island State University - Bilar	Bilar, Bohol
	Bohol Island State University - Calape	Calape, Bohol
	Bohol Island State University - Candijay	Candijay, Bohol
	Bohol Island State University - Clarin	Clarin, Bohol
	Bohol Island State University - Balilihan	Balilihan, Bohol
2	Holy Name University	Tagbilaran City
3	University of Bohol	Tagbilaran City
Colleges		
1	ACLC	Tagbilaran City
2	Batuan Colleges	Batuan, Bohol
3	Blessed Trinity College	
4	BIT International College	Carmen, Bohol
5	BIT International College	Jagna, Bohol
6	BIT International College	Tagbilaran City
7	BIT International College	Talibon, Bohol
8	Bohol Northwestern College	Poblacion, Catigbian
9	Bohol Wisdom School	Tagbilaran City
10	Buenavista Community College	Buenavista, Bohol
11	Cristal e-College	Panglao, Bohol
12	Cristal e-College	Tagbilaran City
13	Immaculate Heart of Mary Seminary	Tagbilaran City
14	Mater Dei College	Tubigon, Bohol
15	PMI Colleges	Tagbilaran City
16	STI College	Tagbilaran City
17	Trinidad Municipal College	Trinidad, Bohol

Source: Commission on Higher Education-R7

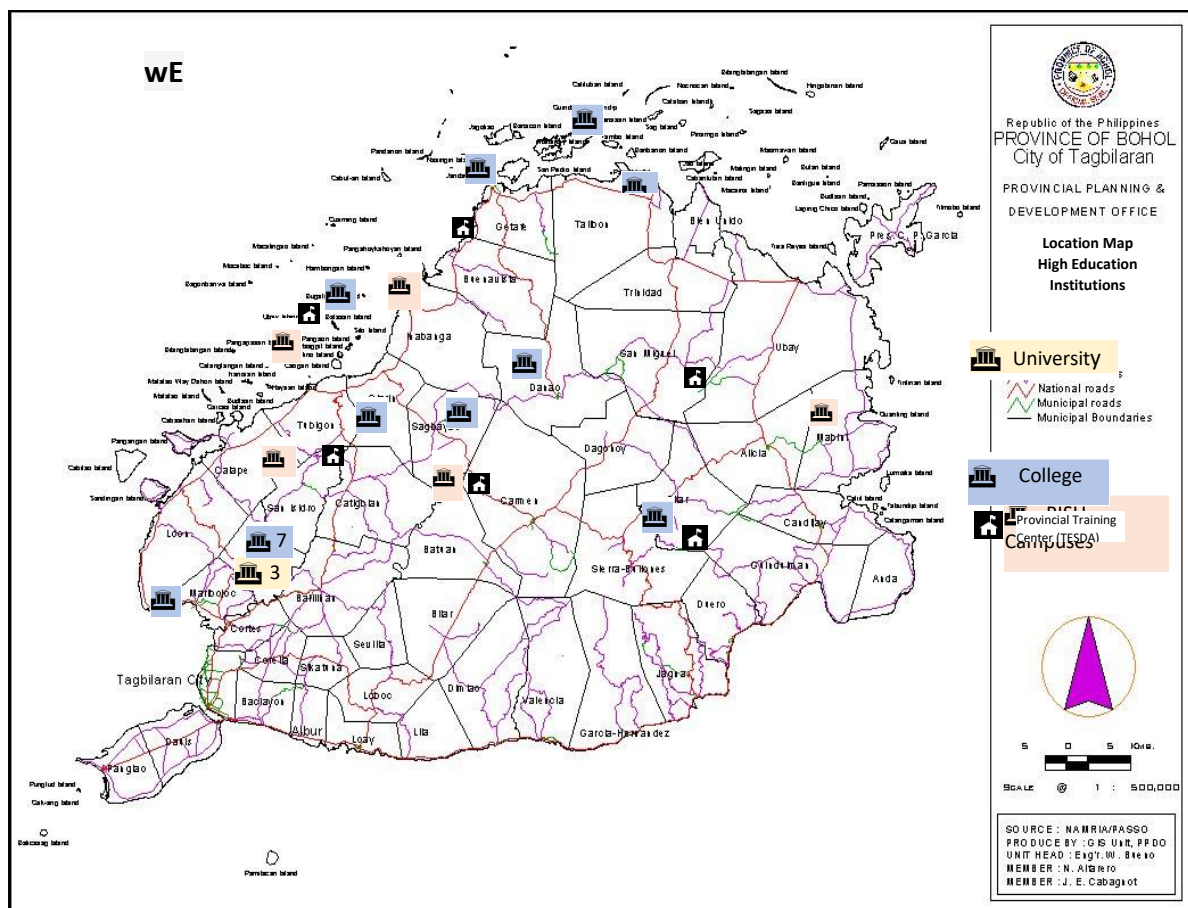
In SY 2015, a total of 7,340 were enrolled in the various courses offered by these schools with, more or less, the same number of male (3,612) and female (3,728) students. About 92 percent of the students took up baccalaureate or college bachelor's degree mostly enrolled in Education Science and Teacher Training, Maritime and Business Administration and Related Courses (Table Soc-10). About 3 percent or 1,700 enrollees took up masteral or doctoral degrees.

Top 10 College Courses with Highest Percentage of Enrollees: SY 2015
Bohol Province

Course	% Enrollment
Education Science and Teacher Training	19%
Maritime	18%
Business Administration and Related	17%
Engineering	13%
IT-Related	8%
Other Disciplines	7%
Service Trades (Hotel, Resort & Restaurant Mgt/Travel & Tour Operations Mgt/Tourism & Travel Mgt)	5%
Agricultural, Forestry, And Fisheries	5%
Medical and Allied	4%

Source: Commission on Higher Education-R7

Map . Location Map of Higher Education Institutions and TESDA-Provincial Training Centers, Bohol Province



- *Highest Educational Attainment*

Of the household population aged five years and over in 2010 in Bohol, 43.7 percent had attended or completed elementary education, 30.1 percent had reached or finished high school, 7.2 percent were college undergraduates, and 9.1 percent were academic degree holders⁶. Among those with an academic degree, there were more females (53.4 percent) degree holders than the males (46.6 percent). Similarly, more females (61.1 percent) than males (38.9 percent) had pursued post-baccalaureate courses.

Table Soc- Highest Educational Attainment, 2000, 2007 and 2010, Bohol Province

Highest educational attainment (Household population by 5 years old and over)	Census Year		
	2010	2007	2000
Bohol	1,117,531	1,079,154	1,004,484
No grade completed	38,980	56,474	52,721
Pre-school	41,462	34,858	23,662
Elementary	488,315	489,608	518,227
1st-4th Grade	-	246,112	267,897
5th-6th Grade	-	82,047	250,330
Graduate	-	161,449	-
High school	335,910	310,033	242,131
Undergraduate	-	162,573	151,223
Graduate	-	147,460	90,908
Post-secondary	23,615	19,510	27,566
Undergraduate	-	2,130	5,853
Graduate	-	17,380	21,713
College undergraduate	80,710	65,197	81,242
Academic degree holder	102,033	86,695	34,939
Post-baccalaureate	2,843	999	4,702

Source: Philippine Statistics Authority

Of the 971,957 household population 10 years old and over in Bohol, 2.2 percent (or 21,201 persons) were overseas workers. Male overseas workers outnumbered their female counterparts as they comprised 63.4 percent of all the overseas workers from this province. Overseas workers aged 30 to 34 years made up the largest age group, comprising 20.3 percent of the total overseas workers from this province, followed by the age groups 25 to 29 years (19.7 percent), 45 years and over (19.5 percent), and 35 to 39 years (17.7 percent).

Among overseas Boholano workers, there was an increasing number of them who had formal schooling. Majority or 65 percent of Bohol's OFWs are academic degree holders per statistics provided by PSA compared to 12 percent in 2000 (Table Soc-). Noted also is the marked decrease of OFWs with no grade completed in 2010 at only

⁶ Census of Population, Philippine Statistics Authority

14 OFWs compared to about 217 OFWs in 2000. About 17 percent of Boholano OFWs in 2010 have completed elementary and secondary schooling.

Table Soc- . Highest educational attainment 10 years old and over of Boholano Overseas Workers by Census Year: 2000, 2007 and 2010
Bohol Province

Overseas workers (Highest educational attainment 10 years old and over)	Census Year		
	2010	2007	2000
Bohol, both sexes	21,201	17,351	17,337
No grade completed	14	10	217
Pre-school	2	3	38
Elementary	847	698	5,013
1st-4th Grade	288	182	2,173
5th-6th Grade	189 ¹	116	-
5th-7th Grade	-	-	2,840
Graduate	370	400	-
High school	2,815	2,440	3,751
Undergraduate	729	575	2,206
Graduate	2,086	1,865	1,545
Post-secondary	1,629	1,265	2,777
Undergraduate	160	91	339
Graduate	1,469	1,174	2,438
College undergraduate	2,050	1,467	2,719
Academic degree holder	13,696	11,017	2,125
Post-baccalaureate	120	40	206
Not stated	28	411	491

Source: Philippine Statistics Authority

- *Literacy*

Based on the 2000 Functional Literacy Education and Mass Media Survey (FLEMMS), the basic or simple literacy rate in Bohol stood at 92 percent translating to 800 thousand Boholano literates in 2000 as shown in the Table below.

Table . Literacy: Number and Rate for the Years 1990, 1994 and 2000
Bohol Province

Literacy	2000	1994	1990
Literate (<i>simple literacy in thousands</i>)	800	704	647
Literacy rate (<i>Simple Literacy</i>)	92.42	93.49	92.47

Sources: 2000 CPH/1994 Functional Literacy and Mass Media Survey

About 98 percent of the household population 10 years old and over were literates based on the census in 2010. Those aged 10 to 24 years made up the largest age group, comprising 38 percent of the total literates in the province.

Table Soc- . Literacy of Household Population 10 Years Old and Over by Age Group and Sex: 2010
Bohol Province

Age Group	Household Population 10 Years Old and Over			Literate				Illiterate		
	Both Sexes	Male	Female	Both Sexes		Male	Female	Both Sexes	Male	Female
				Number	%					
Bohol	971,957	490,141	481,816	950,387	97.78%	478,314	472,074	21,570	11,827	9,742
10-14	141,312	72,893	68,419	138,987	14.30%	71,386	67,600	2,325	1,507	819
15-19	128,531	67,416	61,115	126,495	13.01%	66,190	60,305	2,036	1,226	810
20-24	101,923	53,186	48,737	100,398	10.33%	52,265	48,134	1,525	921	603
25-29	85,433	43,869	41,564	84,334	8.68%	43,233	41,100	1,099	636	464
30-34	79,223	40,746	38,477	77,944	8.02%	39,932	38,013	1,279	814	464
35-39	75,344	38,615	36,729	74,055	7.62%	37,811	36,245	1,289	804	484
40-44	70,372	35,851	34,521	69,190	7.12%	35,086	34,104	1,182	765	417
45-49	63,391	31,924	31,467	62,210	6.40%	31,188	31,022	1,181	736	445
50-54	54,747	27,477	27,270	53,770	5.53%	26,947	26,822	977	530	448
55-59	43,991	21,565	22,426	42,847	4.41%	20,960	21,887	1,144	605	539
60-64	37,121	17,619	19,502	35,914	3.70%	17,035	18,879	1,207	584	623
65- over	90,569	38,980	51,589	84,244	8.67%	36,281	47,962	6,325	2,699	3,627

Source: Philippine Statistics Authority

1.4.1. Housing

The number of households in Bohol in 2010 was recorded at 261,408, higher by 48,193 households compared with the 213,215 households posted in 2000 with an average household size in 2010 of 4.8 persons, lower than the average household size of 5.3 persons in 2000. A total of 259,520 occupied housing units were documented in the province in 2010. This translates to a ratio of 101 households for every 100 occupied housing units, with 4.8 persons per occupied housing unit. In 2000, there were 101 households per 100 occupied housing units, and 5.4 persons per occupied housing unit. One third (33.9%) of the occupied housing units in the province had outer walls made of concrete/brick/stone, up from 18.3% in 2000. The proportion of occupied housing units with outer walls made of wood, on the other hand, decreased from 26.3% in 2000 to 17.2% in 2010. Meanwhile, 80.8% of the occupied housing units in 2010 had roofs made of galvanized iron/aluminum. This is higher than the proportion recorded in 2000 at 73.2%.

In 2010, of the total 261,408 households, 76.4% owned or amortized the lots that they occupied. The corresponding figure in 2000 was 67.9%. Moreover, 17.7% of the households occupied lots which were rent-free but with consent of the owner, 4.1% rented the lots that they occupied while 0.7% occupied lots which were rent-free but without consent of the owner.

In Bohol, the built-up areas include residential, commercial, industrial and institutional areas as well as parks and open spaces.

Table Soc- **Housing/Household Information**
Bohol Province

Household Population in 2010	1,252,793	Households	261,408
Annual Population Growth (%)	0.97	Households/ Dwelling Units	1.01
Household Size	4.8	Displaced Units	104,563
Housing Stock	258,820	Homeless	54
		Homeless HHs	11

The years prior to 2016 (the base year of the Planning Period for the PGBH Shelter Plan) had shown dramatic growth in terms of catering to the housing needs of informal settlers, the urban poor and the housing concerns of the higher income bracket households including the government employees of the Province. This growth in housing supply was made possible because of the close coordination and participation of government and private housing agencies, developers, investors and lending institutions. The production of houses ranges from core houses to ready-to-occupy units and row houses to duplex in resettlement areas. However, current data gathered magnifies the urgent need for all sectors to join hands and exert a unified effort to effect meaningful changes to secure levels of sustainable housing development programs for future generation, programs which are also congruent to the Province's economic development and growth just as it works tirelessly towards the legislation of a child-friendly and resilient-sensitive housing policies. The magnitude of housing need in Bohol, defined as the housing backlog plus new households, is quite big and is estimated to reach about 115,095 housing by 2025. Innovative and high-density housing strategies are required if the housing deficit is to be effectively addressed.

With rural-urban migration expected to continue, addressing the housing problem must be embedded within a larger urban development framework for environmental sustainability. While the Millennium Development Goals (MDGs) on access to safe drinking water and sanitary toilets have significantly improved, land use and green technology for housing construction have been tackled only within



an action plan for climate change adaptation including disaster risk management. Beyond the public sector providing housing and its auxiliary services, new approaches are needed in the face of continuing rural-urban migration that is bound to exacerbate the housing problem. Also, the affordability of and access to government housing programs by the poor are major challenges in the present and near future.

1.4.1 Social Welfare

A social welfare system provides assistance to needy individuals and families. In Bohol, these are the vulnerable groups that include women in especially difficult circumstances, children in need of social protection, disadvantaged/out of school youths, older persons, rebel returnees, indigenous peoples and upland settlers, dysfunctional families, victims of disasters and calamities, persons adversely affected by socioeconomic risks and shocks, and persons with disabilities.

In 2010, some of the household population 5 years old and over in Bohol had a disability (Table Soc-). Around 55% had difficulty in seeing, even if wearing eyeglasses, 31% had difficulty in walking or climbing steps, 29% had difficulty in hearing, even if using a hearing aid, 22% had difficulty in remembering or concentrating, 14% had difficulty in communicating and 13% had difficulty in self-caring (bathing or dressing).

Table Soc- . Disabled Persons by Type of Disability in 1995 and 2000, Bohol Province

Disabled persons by type of disability	Census Year		
		2000	1995
Bohol	-	17,842	17,681
Total blindness	-	1,070	1,054
Partial blindness	-	1,134	1,631
Low vision	-	7,339	3,571
Total deafness	-	801	829
Partial deafness	-	1,018	2,270
Hard of hearing	-	900	713
Oral defect	-	773	843
Loss of one or both arms/hands	-	442	157
Loss of one or both legs/feet	-	676	181
Quadriplegic	-	923	-
Mentally retarded	-	1,277	1,255
Mentally ill	-	1,128	1,190
Multiple impairment	-	361	-
Muteness	-	-	866
Deafness/Muteness	-	-	-
Others	-	-	3,121

Disabled persons by type of disability	Census Year		
		2000	1995
With at least one type of functional disability	Both sexes	Male	Female
(Household population five years old and over)	38,016	18,022	19,994
Difficulty in seeing, even if wearing eyeglasses	21,031	9,383	11,648
Difficulty in hearing, even if using a hearing aid	11,175	5,245	5,930
Difficulty in walking or climbing steps	11,919	5,852	6,067
Difficulty in remembering or concentrating	8,255	3,781	4,474
Difficulty in self-caring (bathing or dressing)	5,097	2,457	2,640
Difficulty in communicating	5,435	2,890	2,545

Source: Philippine Statistics Authority

- *Social Protection (SP)*

Designed to reduce vulnerability by diminishing people's exposure to risks, and to enhance their capacity to protect themselves against hazards and interruption/loss of income, social protection interventions were implemented in the province hoping that it can make major contributions to the overarching goal of the Provincial Government of Bohol in reducing poverty by lessening vulnerability especially to the poor and addressing the needs of the vulnerable and disadvantaged individuals from all types of risks in Bohol. The government has worked towards converging and aligning its responses to poverty vis-à-vis the identified four Social Protection components, namely Social Welfare, Social Safety Nets, Social Insurance, and Labor Market Interventions. Social insurance programs cushion the risks associated with unemployment, ill health, disability, work-related injury and old age; social assistance and welfare service programs are for the vulnerable groups with inadequate means of support, including single mothers, the homeless, or physically or mentally challenged people; micro and area-based schemes address vulnerability at the community level, including crop/agricultural insurance, social funds and programs to manage natural disasters; and child protection program ensures the healthy and productive development of children. Most notable of the SP programs and interventions in this sector are on social health insurance and social welfare benefits.

- *Social Safety Nets*

Social Welfare seek to support the minimum basic requirements of the poor, particularly the poorest of the poor, and reduce the risks associated with unemployment, resettlement, marginalization, illness, disability, old age and loss of family care. Social welfare and assistance programs usually comprise direct assistance in the form of cash or in-kind transfers to the poorest and marginalized groups, as well as social services including family and community support, alternative care and referral services. Stop-gap mechanisms or social safety nets are urgent responses

addressing the effects of economic shocks, disasters and calamities on specific vulnerable groups. These are measures that specifically target affected groups with specific objective of providing relief and transition. Measures include emergency assistance, price subsidies, food programs, employment programs, retraining programs and emergency loans. In 2015, a total of 11,387 individuals in crisis situation were given cash totaling ₱16.18 million by the Provincial Government of Bohol (PGBh) while 32,582 in day care centers were provided with supplementary feeding with the end goal of improving the nutritional status of children. In 2016, a total of 10,872 individuals in crisis situation were given assistance by PGBh amounting to ₱15.95 million.

Implementation of KALAH-CIDSS-NCDP, Pantawid Pamilya, Sustainable Livelihood Program, Makamasang Tugon and the localization of convergence of poverty and the Bottom-up Budgeting targetted Social Protection Program thru DSWD's National Household Targeting System for Poverty Reduction (NHTS-PR) or "Listahanan", a database of poor families as reference in identifying potential beneficiaries of social protection programs (Table Soc-).

Table Soc-____. Status of Implementation of Various Social Welfare Programs in Bohol Year 2015

Type of Welfare Program	Number of Beneficiaries	Amount (₱)
1. Welfare Assistance Program	11,387	16,178,465
2. Pantawid Pamilyang Pilipino Program	56,958	23,587,306
3. Sustainable Livelihood Program	6,074	
4. KALAH-CIDSS Natl Community-driven Project	268,254	
5. Bottom-up Budgeting Program	36,438	
6. Food-for-Work Program	5,607	

Source: DSWD-Bohol

- *Social Health Insurance*

The social health insurance provider of the country is the Philippine Health Insurance Corporation (PhilHealth), a government-owned and government-controlled corporation (GOCC) tasked to implement universal health coverage in the Philippines. Under the health insurance scheme, the cost of insurance for the poor is fully subsidized by the central and local governments. PhilHealth beneficiaries have access to a comprehensive package of services including in-patient care, catastrophic coverage, ambulatory surgeries, deliveries, and outpatient treatment for malaria and tuberculosis, among others. Those identified as indigents and OFWs are also entitled to outpatient primary care. In 2015, the PhilHealth membership coverage in Bohol from 2012-2014 is as follows:

Table 16. National Health Insurance Program Coverage by Membership Category
Bohol Province: Y 2012-2014

Membership Category	Membership Build-up		
	2012	2013	2014
Government	23,928	25,051	22,354
Private	80,772	90,192	88,097
Individually Paying Program	54,534	62,107	74,973
Overseas Workers Program	19,528	22,364	13,063
Indigent (NHTS)	68,030	69,647	239,688
Sponsored	55,598	64,469	19,402
Lifetime Program	10,478	11,529	49,755
Open-category	261		
Total	313,129	345,359	507,332

Source: PhilHealth-Bohol

Among the LGUs, Tagbilaran City had the most number of PhilHealth members at 46,478 mostly in the employed sector while the municipality of Ubay had the most number of indigents enrolled (18,776) comprising 8% of total enrolled indigents in 2014, per report of PhilHealth. As of April 2016, only 3 percent of RHUs are MCP (3-in-1 Package) accredited which fell short of its target of 100 percent by 2016 due to non-compliance of MCP providers to infrastructure requirements for 3-in-1 accreditation. Also, only 85 percent of enrollment target was attained by April 2016 short of the 95 percent enrolment target coverage set by the agency. Also reported were incidence of out-of-pocket spending of members or the non-implementation of the No-Balance-Billing policy by healthcare providers as promoted by PhilHealth. In 2014, 173 health institutions/facilities and 247 health professionals were accredited. All RHUs in Bohol are also PhilHealth-accredited mostly enrolled in the 3-in-1 package category.

The Provincial Government of Bohol allocates more than ₱30.0 million annually to meet its target beneficiaries consisting of all elected barangay officials and appointed barangay secretaries and treasurers under PhilHealth's Sponsored Program. Total enrolled under this program numbered 6,238 in 2015 and 6,555 in 2016. Also, it funded 3,273 appointed barangay officials and some barangay indigents in 2016 who were beneficiaries under the Point-of-Care Program of PhilHealth amounting to ₱7.86 Million in 2016.

- *Social Welfare Facilities*

A number of welfare facilities are found in Bohol both privately and government-owned and operated. These are

a. Government-run Facilities:

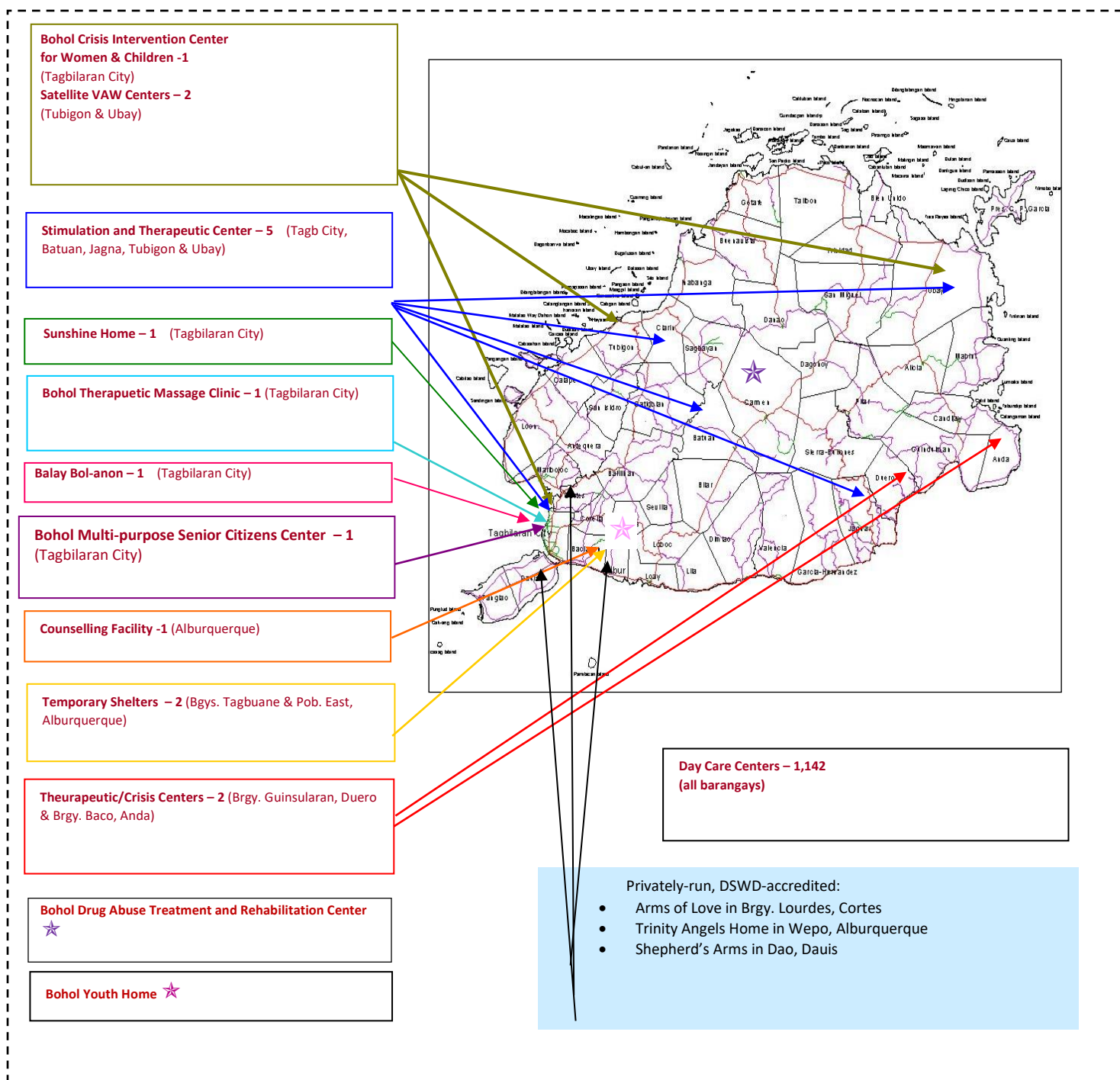
- Bohol Crisis Intervention Center for Women and Children in Tagbilaran City and 2 Satellite VAW Centers located in Tubigon and Ubay providing residential care to abused women and children
- 5 Stimulation and Therapeutic Centers found in Tagbilaran City, Batuan, Jagna, Tubigon and Ubay providing rehabilitation services and non-formal training to poor children with different disabilities
- Sunshine Home in Tagbilaran City providing residential care to abandoned, neglected and orphaned children sponsored by the Catholic Women's League (CWL) and subsidized by the Provincial Government
- Bohol Therapeutic Massage Clinic in Tagbilaran City, a livelihood center for persons with different disabilities
- 3 Model Senior Citizens Centers situated in Tagbilaran City, Loon and Ubay and 8 Day Centers for the Elderly/ Municipal Senior Citizens Centers in the municipalities of Alburquerque, Calape, Dagohoy, Jagna, Garcia-Hernandez, Sagbayan, Talibon, and Tubigon. All municipalities have organized their Senior Citizens Association.
- 1,257 Day Care Centers found in all barangays of Bohol
- Support counseling facility initiated by the Alburquerque LGU
- Temporary Shelters in Brgy. Tagbuane and East Poblacion both in the municipality of Alburquerque
- Therapeutic/Crisis Center in Brgy. Guinsularan (Duero) and Brgy. Baco (Anda)
- Resettlement Center for Rebel Returnees, Ubay, Carmen and Danao

b. Privately-run and accredited by the DSWD such as

- Arms of Love in Brgy. Lourdes, Cortes
- Trinity Angels Home in Wepo, Alburquerque
- Shepherd's Arms in Dao, Dausi

Future plans include the establishment of the Bohol Youth Home, a facility for children-in-conflict with the law (CICL) and the Bohol Drug Abuse Treatment and Rehabilitation Center (DATRC) for the rehabilitation of young and adult drug abusers as well as address the health concerns of the government's drug war.

Map . Social Welfare Facilities Map, Bohol Province



2. Boholano Culture, Arts and Heritage

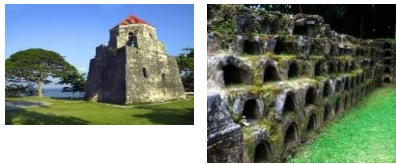
The historical and cultural heritage assets of Bohol are well known in the country which made the province a popular eco-cultural destination and garnered its first Galing Pook Award for its cultural renaissance efforts. These assets include monuments, buildings and properties with historical, aesthetic, archeological, scientific, ethnological or anthropological value. Past researches conducted in Bohol demonstrate that there are numerous archaeological sites in Bohol, dating from Paleolithic period and extending up to the recent Historical period.

2.1. Boholano Culture and Heritage





Its natural heritage includes the tarsier and the Chocolate Hills both protected by law. The Chocolate Hills was declared a geological monument by the National Commission on Geological Science on 18 June 1988.

A number of cultural and heritage sites, edifices and other structures in Bohol were declared by the National Commission on the Culture and the Arts (NCAA) thru the National Historical Institute (NHI) and National Museum (NM). Four historical markers in Dauis and Maribojoc towns were installed in May 2009 by NHI in addition to Baclayon Church, Clarin Ancestral House and Loboc Church as national historical landmarks of Bohol. The unveiling of the markers of Dimiao, Panglao, Maribojoc, Loon, Dauis, and Baclayon Church complexes as national cultural treasures including the Punta Cruz watchtower of Maribojoc was done in July 22-23, 2012. Also, the Bohol Capitol Building and the old Escuela de Niño Building were declared as Important Cultural Properties by the National Museum. Many of Bohol's artifacts/antiques and other cultural/heritage treasures are housed at the National Museum -Bohol Branch and some private collectors.

Table Soc- . List of Formally Declared Cultural and Historical Structures and Sites
Philippine Registry of Cultural Property (PRECUP) - Built Heritage⁷
Bohol Province

Type	Declared Cultural and Historical Structures and Sites
National Cultural Treasures 	<ul style="list-style-type: none"> Bohol Watchtowers (Maribojoc, Dauis, Panglao, Pamilacan, Loay and Balilihan, Bohol)
	<ul style="list-style-type: none"> Immaculada Concepcion Parish Church (Baclayon, Bohol)
	<ul style="list-style-type: none"> Nuestra Señora de la Luz Parish Church Complex (Loon, Bohol)
	<ul style="list-style-type: none"> Panglao Church (Panglao, Bohol)

⁷ Taken from the lists of formally declared cultural and historical structures and sites in the Philippines, Philippine Registry of Cultural Property (PRECUP) - Built Heritage, National Museum (NM) and National Historical Commission of the Philippines (NHCP), NCAA

Type	Declared Cultural and Historical Structures and Sites
	<ul style="list-style-type: none"> ▪ San Nicolas de Tolentino Parish Church and Ermita Ruins (Dimiao, Bohol)
	<ul style="list-style-type: none"> ▪ San Pedro Apostol Church (Loboc, Bohol)
	<ul style="list-style-type: none"> ▪ Santa Cruz Church (Maribojoc, Bohol)
	<ul style="list-style-type: none"> ▪ Shrine Parish of the Assumption of the Blessed Virgin Mary Complex and its Liturgical Objects Therein (Dauis, Bohol)
Important Cultural Properties <i>(includes marked sites, works of National Artists for Architecture, and all structures fifty years and older)</i> 	<ul style="list-style-type: none"> ▪ Bohol Stone Bridges (Dimiao, Bohol) • Blood Compact Site (Sculpture by Napoleon Isabelo V. Abueva)
National Historical Landmarks <i>(Pambansang Palatandaang Makasaysayan)</i> 	<ul style="list-style-type: none"> ▪ Baclayon Church Historical Landmark (Baclayon, Bohol)
	<ul style="list-style-type: none"> ▪ Church of Dauis and its Complex (Dauis, Bohol)
	<ul style="list-style-type: none"> ▪ Church of Loon (Loon, Bohol)
	<ul style="list-style-type: none"> ▪ Church of the Most Holy Trinity Historical Landmark (Loay, Bohol)
	<ul style="list-style-type: none"> ▪ Punta Cruz Watchtower (Punta Cruz, Bohol)
	<ul style="list-style-type: none"> ▪ San Pedro Apostol Church Historical Landmark (Loboc, Bohol)
National Heritage Houses 	<ul style="list-style-type: none"> ▪ Clarin Heritage House (Loay, Bohol)
	<ul style="list-style-type: none"> ▪ President Carlos P. Garcia Heritage House (Tagbilaran, Bohol)

In 2008, Bohol has already crafted and promulgated into law the Bohol Arts and Cultural Heritage (BACH) Code thru Provincial Ordinance No. 2008-002 to protect Bohol's heritage. Four historical markers in Dauis and Maribojoc towns were installed in May 2009 by the National Historical Institute (NHI) in addition to the Baclayon Church, Clarin Ancestral House and Loboc Church as national historical landmarks of Bohol. Culture and Arts Surveys were conducted covering 25 towns on tangible and intangible heritage through the Center for Culture and Arts Development (CCAD).

Successes of the Loboc Children's Choir, the Loboc Ambassadors Band and Alicia Bamboo Ensemble have sustained interest in the province's proverbial position in the country as a cultural haven of sorts, continuing its contribution in the promotion of Bohol and the

recognition the country has given it through special invitations abroad and in Manila. The Loboc Children's Choir concert tours in Europe (2011), China (2011-present), Singapore (2011), Vietnam (2012), Korea (2014), Switzerland (2015), New Zealand and Australia (2015) are milestones in cultural diplomacy. The emergence of new cultural events and activities like the Tagbilaran City's SAULOG Festival, the Bohol International Choir Festival and Competition, the First Bohol International Dance Workshop spearheaded by French artists, the USA Tour of the Alicia Bamboo Music_Ensemble are proving to be wellsprings of a growing cultural growth and tourism potential. The revitalization and re-engineering of the Bohol Sandugo Festival and Competition is a positive step towards developing local aesthetics in music, dance, and design, gradually veering away from being a copycat of the SINULOG and other regional festivals. In the past years, especially before the earthquake, a growing number of community-based performing arts groups devoted to cultural tourism especially in the Abatan area, emerged with the help of the ARDMC, the Province, and DOT/ TIEZA providing informed cultural entertainment to visitors and tourists (Antequera, Cortes, Maribojoc, Balilihan)

There has also been a continued annual program of activities among cultural groups in the visual arts, performing arts, and literary arts, especially around National Arts Month, CPG Day, National Heritage Month, Bohol Day Celebration, National Heroes Day, Rizal Day. Arts for Public Service was modeled in the cultural outreach project of the Provincial Government through HEAT IT Bohol Cultural Arts Caravan. The arts and culture sector led by the newly founded Kasing Sining and supported by various cultural agencies proved to be an instrumental force in addressing the cultural restoration and rehabilitation needs of schools and communities through various Arts for Healing Projects in schools and communities, bringing to the province various international institutions who were quick responders and generous in sharing their experience in cultural rehab. and assessments.

Bohol has been a favorite venue for hosting national and international cultural projects usually spearheaded by the NCCA, to mention, the Tanghal Visayas (2012, 2013), Likha Asya (2013, 2014), Sayaw Pinoy, Ateneo Glee Club, etc., highlighted by the international partnership agreement on the use of arts and culture as a DRR and CCA strategy known as The Bohol Declaration, involving UNESCO and the ITI. The province has been a venue of special capability building programs like the Graduate Course in Cultural Education of the NCCA for public school teachers-scholars, with HNU as the base. Other skills-building projects continue at the HNU, BISU, and the DCPNHS SPA programs. The artistic and cultural communities of Bohol proved its resilience, creativity, commitment, and solidarity in various partnership projects after the earthquake of 2013, the most unforgettable of which was the total theater re-enactment of the earthquake in_Oktubre 15: Memoirs of a People's Faith, performed by almost 700 artists and citizens from all sectors at the CPG Complex, as part of the one year anniversary of the historic tragedy.

Efforts are being continually undertaken to protect and preserve Bohol's historical and cultural sites. Famous historical and cultural landmarks include the Blood Compact Site in Tagbilaran City, the Baclayon Church and Museum in Baclayon and other old colonial stone-

churches in Dauis, Loboc, Loay, Loon, Maribojoc, Cortes, Dimiao, and Alburquerque. Other famous historical sites include war memorial sites in Duero, Jagna and Danao.

Bohol's Indigenous Peoples' (IP)

The Boholano is one of the major mainstream ethnic groups in the Philippines and speaks a variation of Cebuano. Bohol is the homeland of three (3) indigenous groups/cultural communities as reported by the National Commission on Indigenous Peoples (NCIP), namely, the Ati in Loay town, the Badjao in Dauis and the Eskaya Tribe in Duero, Guindulman, Pilar and Sierra Bullones municipalities.

- **Ati**

The Ati community in the Municipality of Loay, Bohol consists of about 200 people with an average family size of 5. Some of them settled along the shorelines of Loay, Bohol which is about 0.30 kilometers from the national highway. Others settled in Brgy. Calvario of the same town which is about 0.70 kilometers from the highway and in Sitio Babag in Brgy. La Salinas Norte, Loay. Their primary sources of income are fishing, hunting and selling herbal plants and medicines. Most head of families go fishing while mothers with their children sell herbal medicines. They derive income and food for the day out of the share they get from fishing with other fishermen in the barangay and from the sale of herbal plants and medicines. Practically, this tribal people does not have fishing paraphernalia of their own although some have their small *bancas*. In some instances, they go fishing by using spear guns and troll line. And during low tide, they gather seashells along the seashore of Loay.

The Atis are believed to have originally come from Panay Island. They are from the Negrito ethnic group in Panay, located in the Visayas Islands of Cebu, Bohol, Siquijor, Leyte, Samar, Masbate, Negros and Guimaras. They are genetically-related to other Negrito ethnic groups in the Philippines such as the Aeta of Luzon, the Batak of Palawan and the Mamanwa of Mindanao.

- **Badjao**

The Badjaos are an indigenous ethnic group of Malaysia and southern Philippines. In Bohol, they are found largely in Brgy. Totolan, a coastal barangay at the northern part of Dauis Municipality, 1.5 kilometers away from the City. This cultural community migrated to this barangay during the tumultuous years in Mindanao in the 70's and have since then found a haven in the shorelines of Dauis. Since then, this cultural group of Badjaos had established a community in said area.

The Badjaos are what are considered as sea gypsies. They Badjaos are a nomadic, seafaring people living off the sea by trading and subsistence fishing. They generally live in the sea using "bankas" as houses if not on stilt houses along the seashore. This particular Badjao group migrated from Tawi-tawi and Zamboanga during the time when pirates were flooding the seas of Mindanao. Their primary source of income is deep sea

fishing. Fishing boats are shared by a group of three to five men and the fish catch are divided among the members and sold individually at the local market. At present, there are 78 families in the community and a population of 545 people.

- **Eskaya Tribe**

The Eskaya is an indigenous tribe found in the hinterlands of the towns of Duero, Guindulman, Pilar and Sierra Bullones, in Bohol's southeast interior. They are a gentle community of about 4,000 hardy peasants. Likewise known as the "Visayan-Eskaya", the community is only found in the island province of Bohol. They have a unique cultural heritage, use a distinct language and literature, and have traditional practices that dates way back to pre-Spanish times. The Eskaya folks appear no strikingly different from the people of the neighboring communities except perhaps that they have an aura of harmony and unity. Indeed, this cultural community is bound together by a common passion to preserve their ancient Eskaya culture and history, most particularly, their language.

The Eskaya people have their own language quite unlike the local Boholano or Cebu dialects, a system of in communal farms, Sundays are set aside for Eskaya classes. Young and old alike learn the Eskaya ways in an attempt to relive and revive the almost forgotten Eskaya legacy. Although the group's distinct culture, literature and language has baffled historians over the years, some of these traditional practices are no longer strictly imposed on the younger generations. A decline in the community's linguistic and cultural education has been noted.

The first settlement of this tribe is in Brgy. Biabas, Guindulman town which was established in the early 20th century by one Mariano Datahan. Datahan died in 1949. A second settlement was established in Brgy. Taytay, in the municipality of Duero in the year 1951 founded by Fabian Baja under Datahan's instructions. Eventually, the group spread to nearby Barangays of Canta-ub, Lundag, Tambongan, Cadapdapan and Abihilan.

Eventually, the group was recognized and the community awarded a Certificate of Ancestral Domain Claim (CADC) in 1996 by Pres. Fidel V. Ramos. CADC No. R7-CADC-14 was deemed as an ancestral domain consisting of 3,173 hectares of land in Taytay (Duero), Biabas (Guindulman), Lundag (Pilar), Canta-ub (Sierra Bullones), and Cadapdapan (Candijay).

Legally, the Eskaya is now classified as an indigenous group under Republic Act No. 8371 entitled "The Indigenous People's Rights Act of 1997". No official census has yet been made of the group but a report in 1991 mentioned 130 Eskaya families living in Bohol.

DEVELOPMENT ISSUES AND CHALLENGES OF THE DEMOGRAPHIC & SOCIAL SECTOR

In its fight against poverty and in the pursuit of its development vision, government faces significant social challenges.

I. Population Development Issues and Challenges

- *Still high population growth rate with implications on settlement patterns and services provision*

Although Bohol's population growth rate has been slowing down through the years, its population size in 2015 is already twice as many as its population in the 1960's. All of the municipalities are more densely populated now than before with some towns increasing by more than 40 percent, i.e., Panglao (49.3%), Dauis (48.3%), Tagbilaran City (46.3%) and Baclayon (41.8%) while other municipalities with 10%-39% more densely populated compared before.

A significant level of migration is observed and this has influenced the patterns of settlements in the province. The Rate of Natural Increase (RNI) or the increase of the population due to the effects of births and deaths was only 1.17 percent in 2015. This means that the increase of Bohol's population size was influenced more by a high level of in-migration of population to the province as gauged by the significant increase of the population density in the province particularly in Tagbilaran City and Panglao Island.

On the other hand, the emigration of Boholanos in response to better employment opportunities abroad is also noted. Most of these emigrants are Overseas Filipino Workers (OFWs), majority of them sea-based⁸. In the 2010 Census, Boholano OFWs numbered 21,201 persons of the household population 10 years old and over (or 2.2 percent) overseas workers compared to 17,337 in 2000. In 2015, it was estimated that about a thousand more households in Bohol will have their place of residence in other provinces or in a foreign country.⁹

- *Increasing urban population*

Population growth in Bohol has meant an increase in population in its urban/urbanizing areas most of which have insufficient basic infrastructures, inappropriate urban planning and the appearance/in-flux of slum-like settlements especially along its coastal and river systems and in some parts of Bohol's protected areas. Bohol's tempo or speed of urbanization, as observed thru its Urban-Rural Growth Differential between 2007 and 2010, was computed at the rate of 13 percent.

⁸ Source: Overseas Workers Welfare Administration (OWWA)

⁹ Place of Residence in 2015, Philippine Statistics Authority (PSA)

In the spatial sense, employment opportunities and developmental changes have been concentrated in a few areas in Bohol, mostly in the city and other urban/urbanizing settlements or in the *Poblaciones*. The rural areas, which dominate in terms of population numbers, have either undergone less growth compared to urban areas or have felt the backwash effects of development. Inclusive development, in the social context, takes the form of ensuring improved education, health, water sanitation and security, among others specifically in the rural locality.

- *Possible displacement of vulnerable population especially in hazardous/danger areas and as a consequence of the impact of climate change*

There are vulnerable settlement areas in Bohol which are densely populated where a possible population displacement of human settlements might occur as a result of the impact of climate changes. In coastal areas, problems like flooding and inundation are expected to increase due to accelerated sea level rise, in addition to cyclones and storm surges. According to initial Vulnerability Assessment Study of Bohol¹⁰, the city of Tagbilaran and 29 coastal towns of Bohol and its component populated islands where 45 percent of Bohol's population resides, are the areas most susceptible to high sea level rise and storm surges. Communities settling in these islands and coastal areas comprising about 13 percent of the province's inhabitants, are most likely to be displaced as an impact to extreme environmental/climate change and natural disasters.

Future resettlement plan for these vulnerable/displaced population is needed including its accompanying demand for housing, amenities, social security and welfare. Also, evacuation centers of global standards, have to be established as temporary shelters for these displaced people prioritized in these areas. These trends in demography, including urbanization, need to be part of the development agenda so that these changes and their consequences are taken account in Bohol's development. The scale, impact, and implications of climate change-related phenomena in Bohol were amply demonstrated by the devastation wreaked by typhoons in recent years leaving a number of dead people, and, families affected by floods and landslides.

- *A continuing increase of Bohol's elderly population*

If current demographic patterns continue, all major areas in Bohol are projected to have significantly higher old-age dependency ratios by 2045. Between 2010 and 2045, the share of the elderly population in Bohol, as projected by PSA based on medium assumption, has increased to 9 percent compared to 7 percent in 2000. Assuming a continuation of current population patterns in Bohol, for every 100 persons of working

¹⁰ Disaster Risk and Vulnerability Assessment, Bohol Province, 1st Draft, UNDP-AusAid-MDGIF-NEDA

age (15 to 64 years), there will be 15 dependent older persons (aged 65 or older) in 2045 compared to a ratio of 12 per 100 persons of working age in 2015.

Likewise, the ratio of children to older citizens is declining. The Ratio of Children to Older Citizens (RCOC) in Bohol currently stands at about 3 children is to one older person (3:1). However, the ratio is projected to decline starting around 2020 with RCOC to begin to decline to a ratio of two children is to one older person (2:1). It is further estimated that there will be more older citizens than children in the future assuming that Bohol's Fertility Rate will continue to decrease.

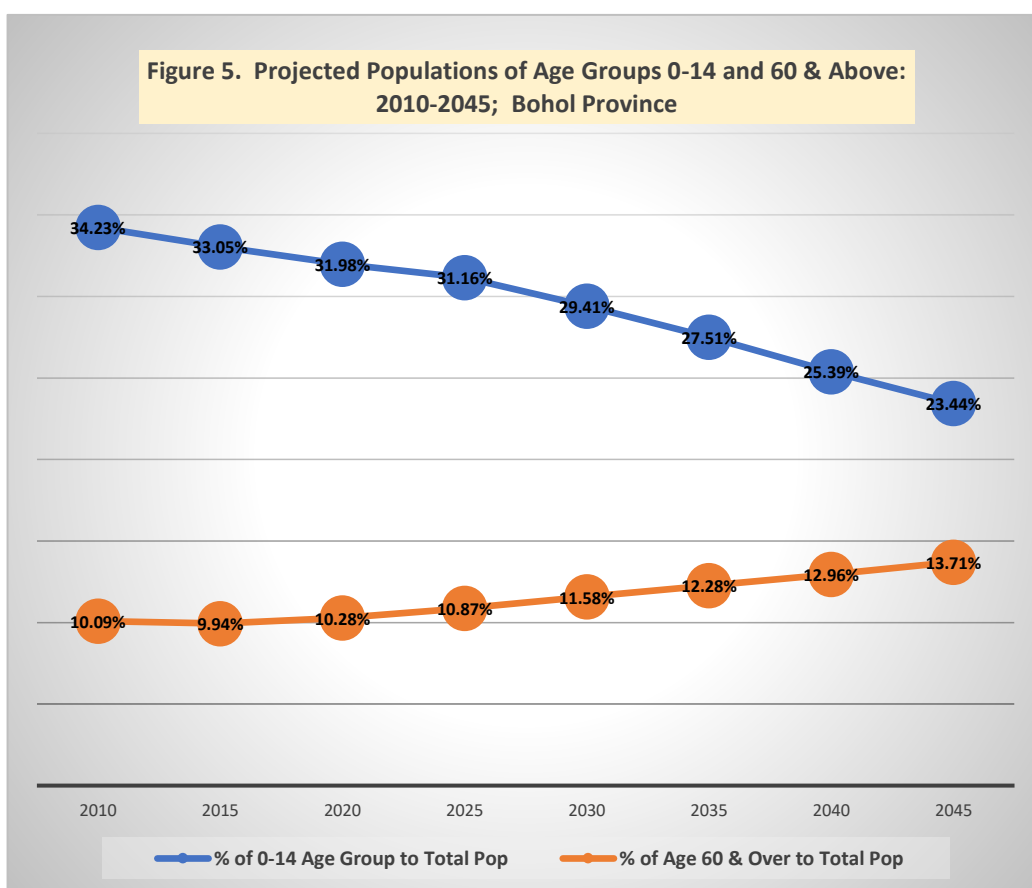


Table . Elderly Population Across Census Years: 2000, 2007, 2010, Bohol Province

Elderly population (60 years old and over)	Census Year		
	2010	2007	2000
Both sexes	127,690	118,671	103,554
Male	56,599	53,463	47,230
Female	71,091	65,208	56,324

As generation ages, demand for housing, life insurance and pharmaceuticals, as well as other social services will increase substantially.

Large population exposed to different natural hazards¹¹

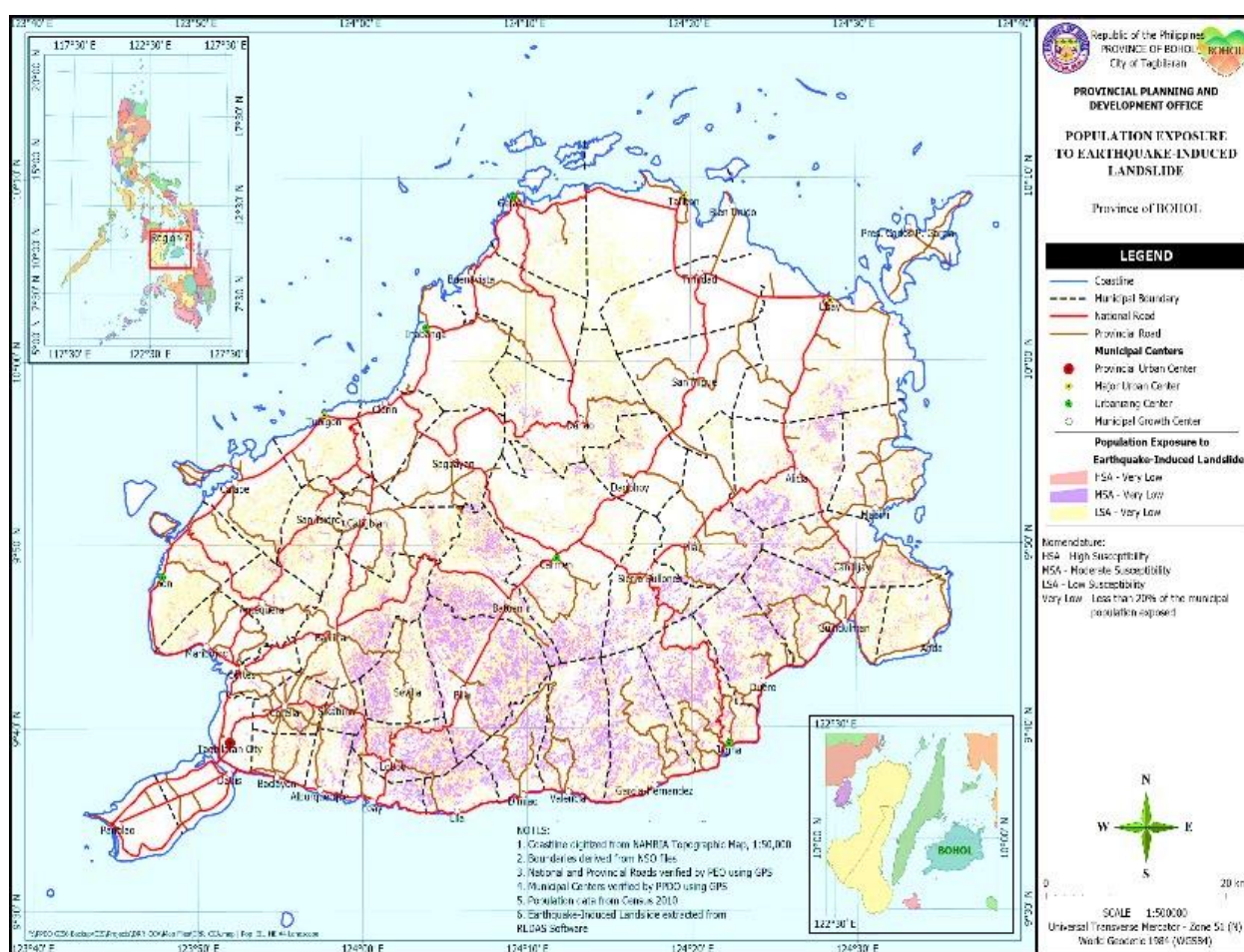
Population Exposed to Earthquake-induced Landslide

Roughly 0.05% of Bohol's population in 2010 are highly exposed to earthquake-induced landslide (EIL) mostly found in Bilar, Garcia-Hernandez, Guindulman, Bilar, Jagna, Lila, Loay, Loboc, Pilar, Sevilla, Sierra Bullones, Sikatuna and Valencia. The rest of the towns and City of Tagbilaran have moderate (0.82%) and low (2.5%) population exposure to EIL.

Built-up Areas Exposed to Earthquake-induced Landslide

The total allocation for built-up areas in the province is 8,633.98 hectares or 2.09 % of Bohol's total land area. Among the top 10 areas with big built-up areas are 1) Tagbilaran City (1,742.55), 2) Panglao (1,005.35), 3) Dauis (939.11), Candijay (437.33), 5) Baclayon (334.20), 6) Tubigon (234.73), 7) Jagna (196.93), 8) Loon (199.94), Anda (184.99) and 10) Buenavista (182.42).

Map _____. **Population Exposure Map to Earthquake-induced Landslide**
Bohol Province

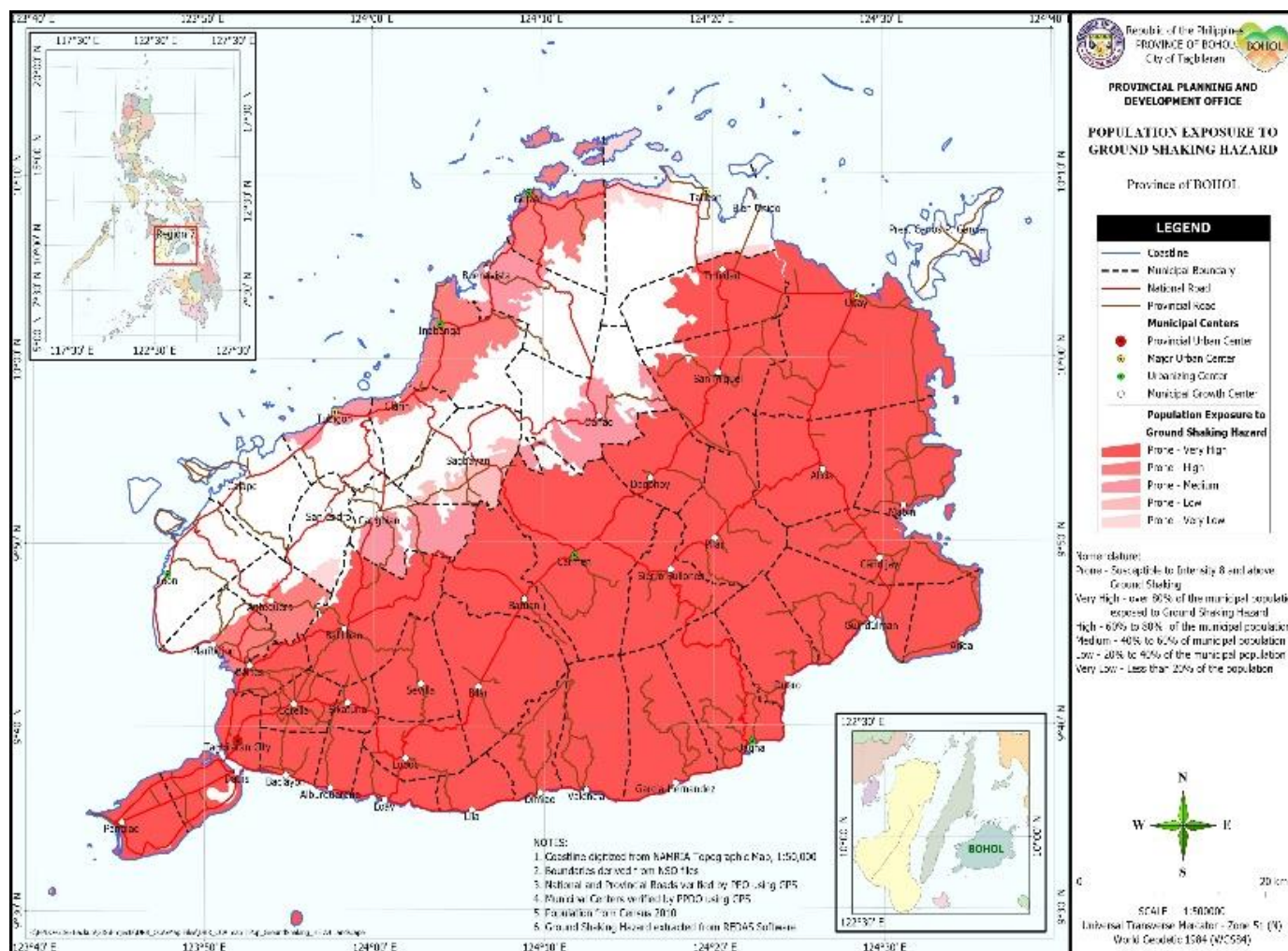


¹¹ Source of data: Provincial Vulnerability Assessment, 1st Draft

Population Exposure to Ground Shaking

All of the 47 municipalities and the city in Bohol are highly susceptible to ground shaking at Intensity 7 and 8 with about 21% or 258,048 Boholanos and 76% or 950,718 people highly exposed to ground shaking with intensity 7 and 8, respectively.

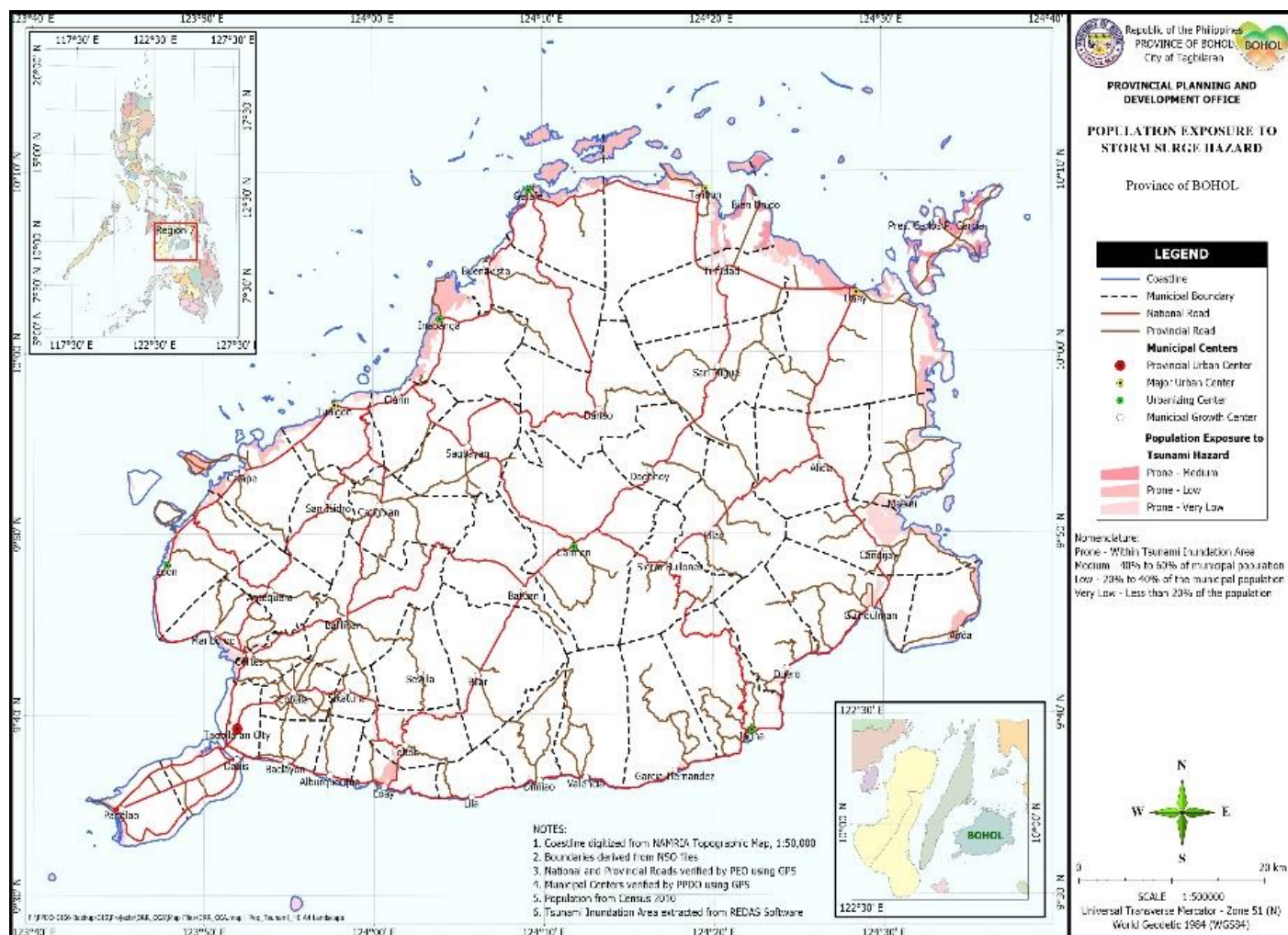
Map __. Population Exposure Map to Ground Shaking
Bohol Province



Population Exposed to Tsunami

Thirty municipalities and the city, with a total population of 143,727 or 11.45% of the Bohol's population, are highly exposed to tsunami. These areas are located along Bohol's coastal zones including its island barangays and islets with the municipalities of Bien Unido and Pres. Garcia with the highest population exposure to tsunami.

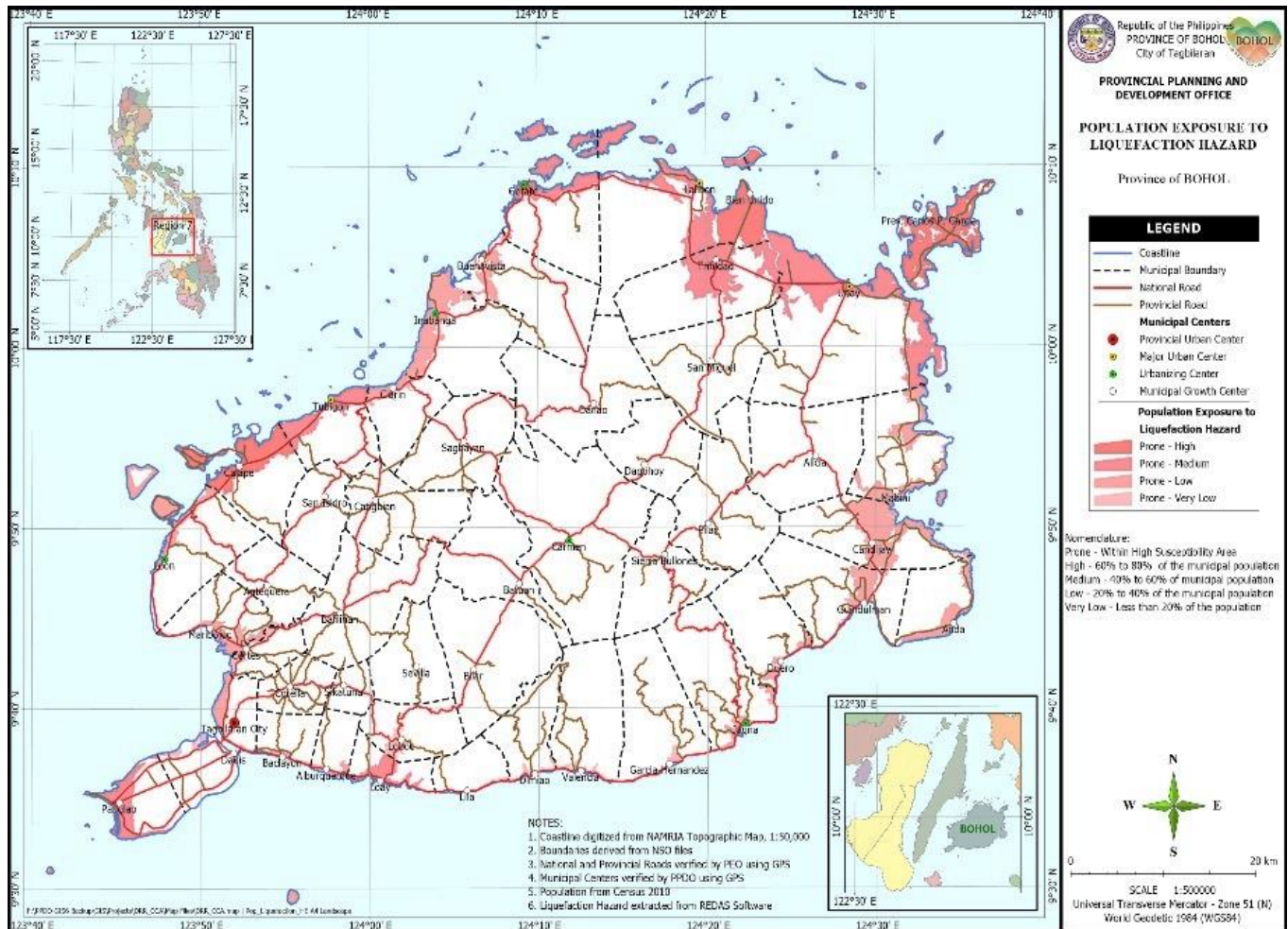
Map __. Population Exposure Map to Tsunami
Bohol Province



Population Exposure Map to Liquefaction

A very high percentage of population in Bohol are exposed to high susceptibility to liquefaction at 26.54% or 333,127 inhabitants compared to those at moderate (34,006 or 2.71%) and low susceptibility (40,947 or 3.26%). The municipalities that are not exposed to liquefaction and are safe from high susceptibility are Balilihan, Catigbian, Corella, Pilar, Sagbayan, San Isidro, Sevilla, Sierra Bullones, San Miguel and Sikatuna.

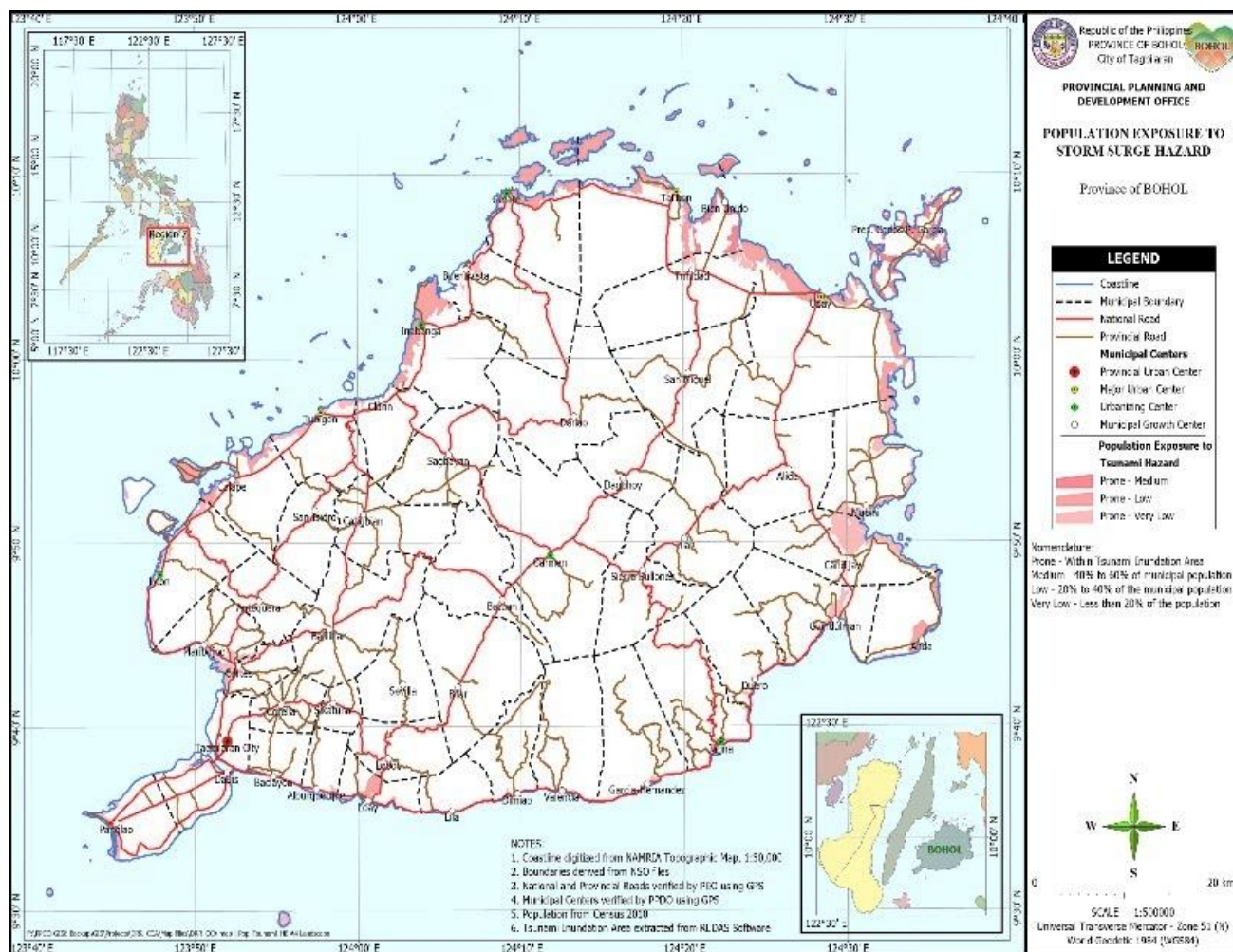
Map___. Population Exposure Map to Liquefaction
Bohol Province



Population Exposure to Storm Surge

Thirty (30) of the coastal municipalities in Bohol are highly exposed to storm surge hazard with about 46,227 or 3.68 % of its population exposed to this hazard. The top 5 municipalities with high percentage of exposure are Getafe (29%), Bien Unido (31%), Talibon (12% and Ubay (4%).

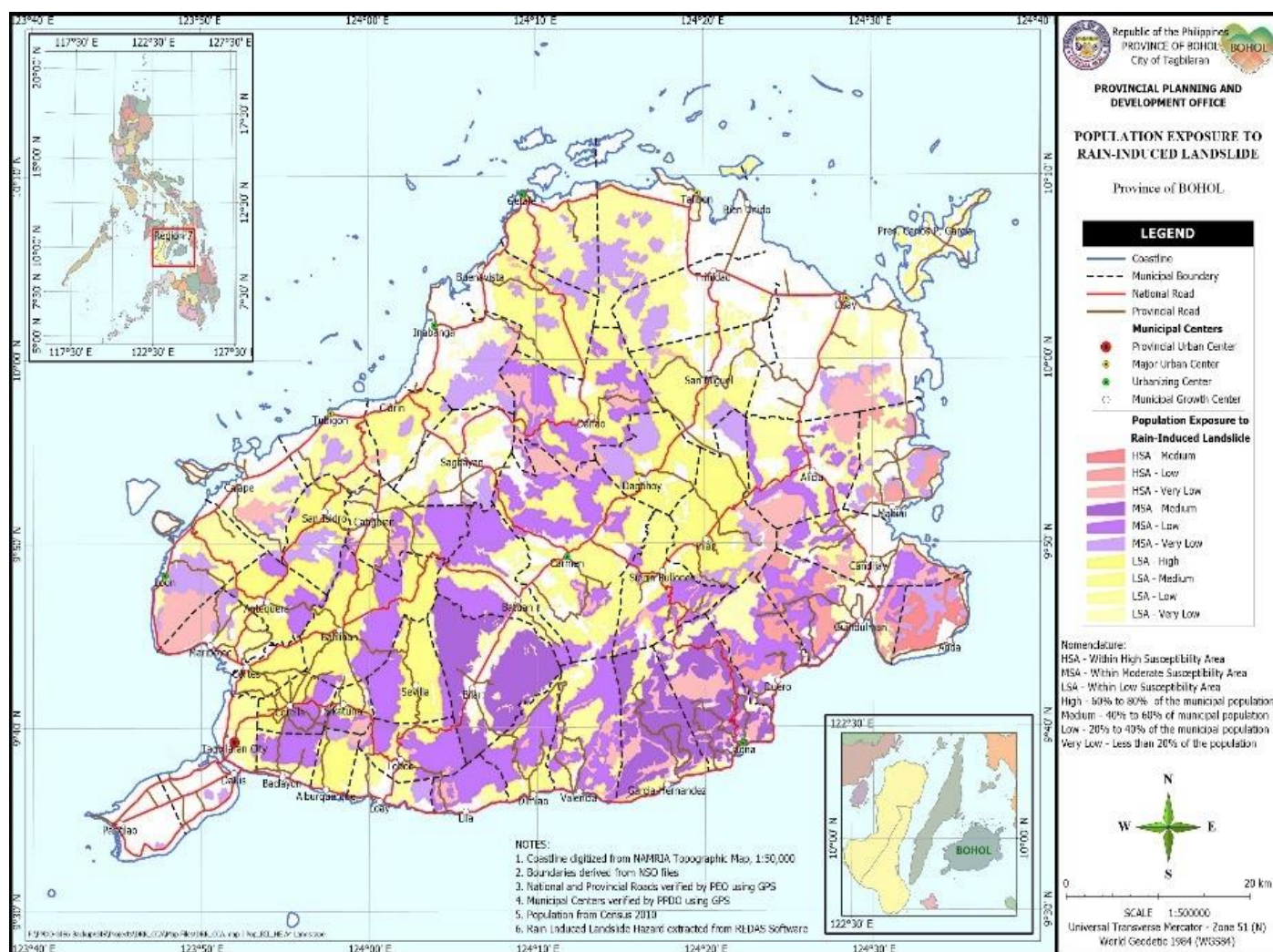
Map __. Population Exposure Map to Storm Surge
Bohol Province



Population Exposure to Rain-induced Landslide (RIL)

A total of 66,291 or 5.28% of the Boholanos are living in areas highly susceptible to RIL while 180,801 or 14.40% and 400,211 or 31.88% of Boholanos are exposed to moderately and low susceptible areas, respectively. The top 10 municipalities with population highly susceptible to RIL are Guindulman (8,096), Anda (7,148), Jagna (6,018), Mabini (5,887), Candijay (3,299), Ubay (2,955), Maribojoc (2,841), Valencia (2,726) and Garcia-Henandez (2,708).

Map _____. Population Exposure Map to Rain-induced Landslide
Bohol Province



Widespread Exposure of Built-up Areas in Bohol to Natural Hazards

Built-up Areas Exposed to Ground Shaking Hazard

Of the 47 municipalities and its city, about 7,739.84 hectares or 89.64% of the total built-up allocation in Bohol (8,633.98 hectares) are exposed to ground shaking with Intensity 8. Tagbilaran City has the biggest areas (1,742 hectares or 99.72%) of exposure to ground shaking, followed by Panglao (975.73 or 97.05%) and Dauis (939.14 or 89.97%).

Built-up Areas Exposed to Earthquake-induced Landslide (EIL)

A total of 19 municipalities have very low exposure to moderate susceptibility to earthquake-induced landslide constituting a total area of 3.98 hectares or 0.047% to the total built-up of the province. Included are Alburquerque, Alicia, Anda, Baclayon,

Balilihan, Batuan, Candijay, Carmen, Corella, Cortes, Dauis, Duero, Garcia-Hernandez, Jagna, Lila, Loboc, Pilar, Sagbayan, Sevilla and Tagbilaran City. The remaining 29 municipalities are safe or not exposed to EIL.

Built-up areas Exposed to Tsunami

A total of 1,359.66 hectares or 15.75% of the built-up areas of Bohol are exposed to tsunami. Areas affected are in the municipalities of Alburquerque, Anda, Baclayon, Bien Unido, Buenavista, Calape, Candijay, Clarin, Cortes, Dauis, Dimiao, Duero, Garcia-Hernandez, Getafe, Guindulman, Inabanga, Jagna, Lila, Loay, Loboc, Loon, Mabini, Maribojoc, Pres. C. P. Garcia, Tagbilaran City, Talibon, Tubigon, Ubay and Valencia. Municipalities that are safe to tsunami hazard are Alicia, Antequera, Balilihan, Batuan, Bilar, Carmen, Catigbian, Corella, Dagohoy, Danao, Pilar, Sagbayan, San Miguel, San Isidro, Sevilla, Sierra-Bullones, Sikatuna and Trinidad.

Built-up areas exposed to Liquefaction

The built-up areas of 37 municipalities and the city are highly exposed to liquefaction hazard with 4,951 hectares or roughly 57.35% of the total areas allocated for built-up. Panglao (803.25 hectares) and Tagbilaran City (609.67 hectares) have the biggest area exposed to liquefaction followed by Candijay (341.63 hectares), Dauis (282.59 hectares) and Tubigon (205.36 hectares). Eleven municipalities are safe from liquefaction exposure, namely Antequera, Balilihan, Catigbian, Corella, Danao, Sagbayan, San Isidro, San Miguel, Sevilla, Sierra Bullones and Sikatuna.

Built-up areas exposed to Storm Surge

Of the total built-up areas in the province, about 359 hectares or 4.16% are highly exposed to liquefaction. These areas can be found in the coastal towns of Alburquerque, Anda, Baclayon, Bien Unido, Buenavista, Calape, Candijay, Clarin, Dauis, Dimiao, Duero, Garcia-Hernandez, Getafe, Guindulman, Inabanga, Jagna, Lila, Loboc, Loon, Mabini, Maribojoc, Panglao, Pres. C.P. Garcia, Tagbilaran City, Talibon, Tubigon, Ubay and Valencia. 17 hinterland municipalities are not exposed to liquefaction.

Built-up areas exposed to Rain-induced Landslide (RIL)

Four municipalities (Anda, Garcia-Hernandez, Guindulman and Jagna) constituting an area of 7.81 hectares are highly susceptible RIL while 17 municipalities or about 95 hectares are exposed moderately to RIL. About 1,559 hectares of built-up areas have low susceptibility. Anda has the biggest area (5.92 has.) exposed to high susceptibility, followed by Jagna (1.43 has) Candijay, Dagohoy, Duero, Loboc, Loon, Maribojoc, Sikatuna, and Valencia all with areas ranging from 0.3 hectare but less than 10 hectares. The municipalities of Bilar, Buenavista, Calape, Catigbian, Lila and San Miguel have no built-up areas highly susceptible nor moderately susceptible areas to RIL.

II. Social Development Issues and Challenges

- *Continued challenge in poverty reduction*

Although the MDG goal of poverty reduction has been achieved ahead of the 2015 deadline with the proportion of people with incomes less than \$1.25 a day (in 2005 prices) was already half the 1990 proportion, the elimination of poverty continues to be a challenge in Bohol. In the latest poverty survey conducted by the Philippine Statistics Authority (PSA) in 2015, about 61 thousand families equivalent to 298,196 population were still considered poor in Bohol. The magnitude of subsistence poor families was placed at 20,135.

- *Rampant drug addiction among Boholanos*

Recent statistics have shown that Bohol Province has the most number of drug surrenderees in Central Visayas, according to Police Regional Office-7.¹² Bohol posted at least 14,000 surrenderees out of the total 28,000 in the region, which included Cebu and Siquijor provinces. Ubay town had the highest number of surrenderees reported in the province with 1,600 drug personalities, 30 of them self-confessed pushers. With the massive crackdown against drug trafficking, the PNP Provincial Command identified the top 10 areas badly infiltrated with the drug trade. Tagbilaran City ranked 1st followed by the municipalities of Talibon, Inabanga, Getafe, Clarin, Ubay, Panglao, Carmen, Tubigon and Dauis. Among the most-desired drugs proliferating in Bohol is *shabu*, slang term for the drug methamphetamine, the most saleable type of drug in the street and is mostly available in places near colleges and universities, fishing communities and tourist destinations. The second drug of choice in Bohol is marijuana with nubain ranking third as drug of choice and mostly prevalent in Tagbilaran City. Marijuana plants were seen in the towns of Maribojoc, Loon, Pilar, San Miguel and Garcia-Hernandez and other mountain barangays of Bohol.

- *Lack of access of some Boholano households to safe water supply and sanitary toilets*

Access to safe drinking water was still lacking in 8 percent of households in Bohol in 2015, according to statistics provided by the Provincial Health Office (PHO). In real figures, the number of families with no access to safe drinking water numbered 18,258 in 2015. Per Report of the PHO, the top five municipalities with the lowest number of households with access to safe drinking water in 2015 in Bohol were the municipalities of Trinidad (29%), Getafe (47%), Bien Unido (53%), Carmen (61%), and Buenavista (70%).

¹² Source: The Freeman

The percentage of Boholano households with no access to sanitary toilets slightly decreased to 12 percent in 2015 from 13 percent in 2011 per report from the PHO. But in real numbers, this translates to 28,851 households with no sanitary toilets in 2015. Among the municipalities with the least number of households with sanitary toilets in 2015 are the municipalities of Getafe (57%), Bien Unido (65%), Batuan (66%), Calape (71%) and Talibon (73%). No access to toilets results in unhygienic practices which in turn lead to a host of diseases that affect hundreds of people.

- *Incidence of Malnutrition, Wasted and Stunted Growth among Boholano Children aged 0-71 months old*

The Operation Timbang Results in 2015 show that about 30,313 pre-schoolers or those aged 0-71 months in Bohol were found to be malnourished/wasted/stunted at varying degrees as reported by the Provincial Nutrition Council. A little over 3 percent of them were found to be underweight with 849 children severely underweight or with low weight-for-age. Weight-for-age reflects body mass relative to chronological age. The top 5 municipalities with the most number of severely malnourished children are Ubay, Getafe, Sagbayan, Pres. CPG, Buenavista and Loon.

Also in that same survey, about 3 percent of the children were considered nutritionally wasted with 961 of them severely wasted. Low weight-for-height or wasting or thinness indicates, in most cases, a recent and severe process of weight loss, which is often associated with acute starvation and/or severe disease. However, wasting may also be the result of a chronic unfavourable condition (WHO). The top municipalities with the most number of severely wasted children are Ubay, Sagbayan, Pilar, Guindulman, Getafe, Pres. Garcia and Buenavista.

Notable also is the finding that about 10 percent or 19,346 children surveyed were stunted or with short height-for-age. Low height-for-age or stunted growth reflects a process of failure to reach linear growth potential as a result of suboptimal health and/or nutritional conditions (WHO). On a population basis, high levels of stunting are associated with poor socio-economic conditions and increased risk of frequent and early exposure to adverse conditions such as illness and/or inappropriate feeding practices. The top municipalities with the most number of stunted children are Candijay, Ubay, Anda, Carmen and Pres. Garcia.

- *Lack of needed social infrastructures and facilities*

Currently, there is still inadequacy of social infrastructures and facilities in Bohol as listed below:

- *“Half-way-house” for Programmatic Management for Drug- Resistant Tuberculosis-Satellite Treatment Centers (PMDT-STCs)*

- Wastewater and Sewage Analysis Laboratory (WWSAL)
- Birthing Centers in all BHS/health care facilities giving priority to island and remote barangays
- Mental health facility in the province
- Home for the elderly/aged
- Rehabilitation Centers for drug dependents and Children-in-Conflict with the law
- Performance Centers and Facilities for culture and arts
- Housing
- Schools and Day Care Centers
- Specialized schools and medical facilities

These are schools with enhanced coverage of certain subjects that constitute the specialization of the school such as agricultural/marine schools, foreign language schools, physical/mathematical (physmath) schools and other specialized schools that offer degrees in specialized fields such as communications, tourism, health and programs in other fields including information technology, animation, video games, photography, and the performing arts, journalism, communication, paramedical specialties, social work, and many more. These types of schools are different from vocational schools whose goal is to deliver skills for a particular type of job.

The need for more funding for the development of these social infrastructures and facilities requires huge investments and specialized knowledge. This will entail the involvement of more private participation to improve the access to and the quality of these social services in the province.

● *Incidence of maternal, infant, fetal and neonatal deaths*

Maternal Mortality Rate (MMR) in Bohol is quite high at 7 death per 10,000 live births in 2015, higher than the previous years. The continued occurrence of infant, fetal and neonatal deaths in the province is an indication of the poor healthcare of Boholanos.

Mortality Rates by Sex: 2015, Bohol Province

Indicators	Number			Rate	
	Male	Female	Total		
Total Deaths	4,225	3,421	7,646	58.21	per 10,000 Population
Maternal Deaths		17	17	7.37	per 10,000 Live Births
Perinatal Deaths	33	41	74	32.09	per 10,000 Live Births
Fetal Deaths	33	37	70	30.36	per 10,000 Live Births
Neonatal Deaths	41	22	63	27.32	per 10,000 Live Births

Infant Deaths	132	79	211	9.15	per 1,000 Live Births
Deaths among children Under 5 yrs old	201	135	336	2.56	per 10,000 Live Births

Source: Provincial Health Office, Bohol

- *Increasing incidence of Injuries (e.g., from motor-vehicle crashes, drug poisonings, and falls), violence, and infectious diseases (e.g., influenza, foodborne illness, health-care-associated infections, and sexually transmitted infections).*

These further add to the preventable morbidity and mortality cases in Bohol and have substantial consequences on the health systems and overall population health of the province. Much of this health burden could be prevented or postponed through adoption of measures to increase motor-vehicle safety, increased physical activity, improved vaccination rates, improved nutrition, avoidance of tobacco use, early detection and treatment of risk factors, and health-care quality improvement. Finally, ensuring the well-being of mothers and infants and preventing unintended pregnancies among teenagers are critical public health goals to establish better health of future generations.

- *Poor performance of school children in NAT*

Test results for both elementary and secondary pupils in public schools in the National Achievement Test (NAT) have low scores especially for high school takers. The NAT results showed poor competencies of public students in math, science and English in both levels with the secondary students scoring within the range of 50 to 60 percent, way below the mean percentage score (MPS) of 75 percent currently set as the goal of DepEd.

- *Expanding student population resulting to big gaps in crucial education resources*

There is a big gap for crucial educational resources especially for textbooks, classrooms, teachers, school desks and toilets, among others. For SY 2015-2016, a total of 942 classrooms are needed 1,699 teachers, 51 toilets/WatSan facilities, and 176 school libraries/learning centers/science laboratories.

Basic education bore the effects of continuing population growth estimated at 0.87 percent annually in 2015. The education resources gap in Bohol remains wide with still a number of barangays remaining school-less or without immediate access to basic education. The public school system is hard-pressed to cope with the requirements of an expanding student population due to, among others, the implementation of free public education.

- *“Under-investment” in basic education due to budgetary constraints*

Budgetary constraints have led to under-investment in basic education. Although it has the biggest share of the national budget, a big percentage of the government’s education budget goes to the payment of salaries and other personnel benefits resulting to a meager budget for developmental purposes such as attendance to trainings, purchase of instructional materials, aids and devices as well as for classrooms and instructional equipment and other crucial resources including computers for teaching and learning purposes.

- *Housing Issues and Challenges*

Although the housing needs of Bohol are not as critical as in some other provinces of the country, government still needs to address the following concerns of the sub-sector:

- Meeting the growing housing need and demand in Bohol

In Bohol, the total housing need, which includes housing backlog and housing for new households, is estimated to reach about 115,095 units by 2025.

Table Soc- . Total Housing Units Needed due to Backlog and Population Growth by Planning Period
Plan Period: 2016 to 2025
Bohol Province

Planning Period	Housing Units Needed			
	Due to Backlog	Due to Population Growth	Total	%
2016 to 2018	32,156	2,231	34,387	30%
2019 to 2021	32,145	2,355	34,500	30%
2022 to 2025	42,860	3,347	46,208	40%
Total	107,162	7,933	115,095	100%

- Continued growth of informal households and settlements

Informal settlements have grown over the years in Bohol as evidenced by more settlements seen occupying danger areas such as along riverbanks, creeks, road-right-of-way, shorelines and waterways.



- High cost of land in urban and urbanizing areas
- High cost of land development prompting LGUs not to take up housing projects
- Lack of technical expertise of some LGUs in undertaking housing development
- Sluggish identification of sites for housing purposes that needs to be defined in their approved Land Use Plan

III. Bohol Arts and Cultural Heritage Issues and Challenges

Bohol's rich culture and heritage showcases its diverse history. Bohol's cultural heritage assets are facing diverse issues and challenges as described below.

- Bohol's cultural heritage treasures are under threat on every front. They are prone to deterioration, robbery, and vandalism, among other risks.

- On Institutional Directions

- Organizational development and leadership

The BACH Council and Organizational Development, Leadership and Vision

The artists' groups need to organize themselves more solidly, armed with a strong development vision. The Bohol Arts and Cultural Heritage (BACH) Council must assert itself as a sustained force for cultural development from planning to implementation, influencing all sectors of society, institutionalizing the values, content, strategies of heritage and the arts. It must lead in the process of research, training, production, communication, and organizing to make the arts a vital domain in Bohol's development. Together with the Provincial Government thru its Center for Culture and Development (CCAD), it must interface with the other sectors of Bohol's society, interacting and converging with polity and business to create dynamic and critical partnerships for all-inclusive growth among communities engaged in the creative industries. It must be at the helm of unleashing artistry, creativity, and the creative genius of communities, whilst preserving and revitalizing Bohol's cultural heritage.

- BACH Code and the BACH Council

The BACH Code, the legal instrument that protects Bohol's cultural heritage, must be further studied, popularized, and implemented with necessary amendments and adaptations. Local governments must adopt its various provisions in the context of their own conditions and aspirations. Cultural institutions can derive ideas and inspiration from the Code to make their work more effective and guided. Provisions in establishing standards and mechanisms for declaring and protecting Local Cultural Properties will be a venue for valorizing local cultural heritage. The BACH Code must be translated into Boholano and must be communicated to all sectors of Boholano society.

- Lack of Disaster Preparation for Cultural and Natural Heritage Properties

This is within the framework of conserving cultural and natural heritage following a disaster. This involves coordinating disaster management with heritage authorities within the first 48 hours following a disaster to avoid irremediable losses to cultural heritage sites. The lack of coordination between disaster management and heritage authorities often causes much of the damage to heritage within the framework of emergency operations and reconstruction programs.

Some of the risks and challenges during and after disasters include the following:

- 1. Cultural heritage is affected by primary risks, that is, direct damage from the natural disaster and also threatened by secondary risks that arise during recovery and reconstruction, including:*
 - rescue and relief measures that are carried out with no regard to heritage value of damaged areas (e.g., water damage from firefighting and debris removal with no regard to heritage value);*
 - looting of heritage buildings; and*
 - reuse of cultural and natural heritage resources as fuel, food, and reconstruction materials.*
 - 2. Infrastructure repair or replacement (e.g., road widening) disregards or encroaches upon cultural assets.*
 - 3. Temporary camps are sited without regard to cultural heritage concerns.*
 - 4. Illegal and uncontrolled relocation and reconstruction spoil heritage landscapes or damage other assets*
 - 5. Financial assistance policies encourage demolition of heritage buildings.*
 - 6. Authenticity and integrity may be lost because of inadequate repair and retrofitting measures.*
- Absence of cultural infrastructures such as performance venues and training facilities or an academy for the professionalization of cultural workers and artists
 - Inadequate policies on conservation and protection

These are policies that provide guidelines in conserving and protecting Bohol's cultural and heritage assets such as policies on restoration of damaged heritage properties as well as policies necessary to implement strategies for stabilization and protection of affected structures and ornamentations in situations of catastrophic events, policies creating incentives, for example, on the conservation of local heritage housing, among others.

DEVELOPMENT FRAMEWORK FOR SOCIAL DEVELOPMENT

In the attainment of its overarching vision for the development of Bohol Province, a most comprehensive development framework has been adopted by the Provincial leadership to eradicate poverty and ensure access to basic social services for all Boholanos. It envisages to transform Bohol's economy through an integrated development framework balancing the social, economic and environmental dimensions of sustainability.

The Social Development Sector shall focus on ensuring an enabling policy environment for inclusive growth, poverty reduction, convergence of service delivery, maximized synergies and active multi-stakeholder participation. Priority strategies include:

- (a) attaining the Millennium Development Goals/Sustainable Development Goals (MDGs/SDGs);
- (b) achieving universal coverage in health and basic education;
- (c) adopting the community-driven development approach;
- (d) converging and aligning government's responses to poverty for priority beneficiaries and target areas;
- (e) accelerating asset reform;
- (f) mainstreaming climate change adaptation and disaster risk reduction in social development;
- (g) mainstreaming gender and development;
- (h) strengthening civil society-basic sector participation and public-private partnerships;
- (i) adopting volunteerism; and
- (j) developing and enhancing competence of the bureaucracy and institutions.

Defining these priorities is critical but implementation also call for a change in political mindset, a continued commitment to effective leadership, and policy and institutional coordination to balance the interests of the people and the environment as it faces the demands for significant financial resources to close infrastructure gaps, provide universal access to social protection, health, housing and education and the challenge of preserving and promoting its cultural heritage assets. Actions are also needed to address climate change and other environmental dimensions of sustainability by mobilizing political commitment, involving communities, building partnerships and sustaining solidarity in the execution of social programs and projects.

- *Population Management*

The overall population development objective, as advocated by the United Nations, is to improve the social, economic and environmental quality of human settlements and the living and working environments of all people, in particular the urban and rural poor.

Development Objectives:

1. To ensure sustainable management of settlements to improve the living conditions of residents, especially the marginalized, thereby contributing to the achievement of national and local economic development goals.

Strategies:

- Formulate and implement programs to reduce the impact of the phenomenon of rural to urban drift by improving rural living conditions;
 - Develop and implement resettlement programs which address the specific problems of displaced populations;
 - Promote human settlement planning and management specifically in disaster-prone areas;
 - Promote the formulation of environmentally sound and culturally-sensitive tourism programs as a strategy for sustainable development of urban and rural settlements;
 - Reduce vulnerability of populations exposed to environmental risk factors;
 - Impose the establishment of an internationally-standard Evacuation Center in every municipality as temporary shelter for displaced families especially during disasters and calamities;
 - Monitor settlements build-up, land used for settlements and population changes as settlements affect most aspects of environmental condition. The environmental and natural resource impacts of settlements must be assessed as to the physical extent of settlements, population, and their impact in changing land cover from the point of view of their ecological footprint.
2. To provide for the land requirements of human settlement development through environmentally sound physical planning and land use so as to ensure access to land to all households, where appropriate.

Strategies:

- Undertake a comprehensive inventory of land resources in order to establish a land information system in which land resources will be classified according to their most appropriate uses and environmentally fragile or disaster-prone areas will be identified for special protection measures;
 - Encourage partnerships among the public, private and community sectors in managing land resources for human settlements development;
 - Promote understanding among policy makers of the adverse consequences of unplanned settlements in especially environmentally vulnerable areas and develop appropriate local land use and settlements policies required for this purpose;
 - Build capacities of government and other actors to face the challenge of environmental migration
3. To plan for sufficient education, cultural and leisure facilities to cater to the needs of Bohol's population especially its growing elderly population by enhancing the quality of life of adults specifically age 60 and older and to fostering their independent living through the delivery of comprehensive mental health and supportive services, advocacy, and education.

Strategies:

- Support "age-friendly" initiatives to address the issue of longevity with the elderly/older people as potential human capital
- Promote programs and projects to support better aging
- Build facilities that cater especially to the needs of the elderly

• *Social Development*

The overall goal for social development is the promotion of the social wellbeing of all Boholanos by improving health and sanitation services, providing quality education and housing and promoting social inclusion of the poor and vulnerable by empowering people, building cohesive and resilient societies, and making institutions accessible to citizens.

Development Objective:

To improve both the overall level and the distribution of well-being amongst Bohol's population.

Strategies:

- Make social welfare programmes and services responsive to the needs of Boholanos especially the poorest of the poor, the marginalized and the most vulnerable groups in society;
 - Strengthen collaborative partnerships essential for developmental social welfare services;
 - Effectively manage the risks to health from hydro-meteorological, geological, biological (such as epidemics and pandemics), technological and societal hazards;
 - Greater investments to strengthen emergency and disaster risk management for health and ensure resilient and functioning health and social protection systems;
 - Implementation of safe medical and other social facilities as a priority to ensure that new and existing social facilities remain operational even during emergencies and disasters;
 - Strengthen preparedness and response capacities of communities as foundation for a timely and effective response;
 - Providing essential services to build human capital in education, healthcare, water and sanitation, among others;
 - Mobilizing political commitment, involving communities, building partnerships and sustaining solidarity in the execution of social development programs and projects
- *Culture and Heritage Preservation*

Cultural risks can be addressed by various means, including the following:

1. Addressing disasters and climate change
 - Disaster risk management plans that incorporate cultural heritage consideration
 - Post-disaster response and recovery programs that are consistent with management plans
 - Raising the cultural sensitivity of disaster management authorities, the families, and other users that occupy heritage properties
 - Regular maintenance and monitoring for risk reduction of heritage properties
2. Culturally-sensitive land use and spatial plans
3. Systematic documentation of cultural heritage
 - Strengthening local cultural information
 - Sustaining cultural education to generate people support for conservation

4. Preserving Bohol's IP Culture
5. Designating history/heritage zones to enhance residents' sense of place and to protect both cultural properties and history

6. Outcome-based Cultural Planning and Management

Cultural groups, bodies, individuals, and institutions must learn how to develop, sustain and implement proactive programs, ensuring inter-generational continuity. They should be steeped in the science of outcome-based planning and management and be adept in the processes of research, experimentation, planning, implementation, evaluation with defined targets and outcomes as well as in the rigors of financial management.

7. Development of Community-based Creative Industries and Community-based Tourism through Resource Generation, Promotions and Marketing

Government and the private sectors must develop collaborations and initiatives for the artists to have gainful livelihoods, expand the economic benefits of community-based cultural tourism, and provide financial and logistical support for arts-based businesses to grow. They should pioneer in establishing Infrastructures for the arts thus providing decent homes for artistic creation and productions. Local business must link with the promotions industries and develop artists-friendly promotions and marketing programs. Local marketing acumen must be promoted and developed. Through these forms of cooperation, night life in Bohol can bristle with exciting cultural entertainment that will attract legions of visitors and tourism repeaters.

8. Mainstreaming/institutionalization in town programs

The arts and culture components of human and social development must be part and parcel of the regular programs of municipalities. They must be seen as not sheer entertainment for fiestas and special occasions, but an integral force in creating a local citizenry imbued with pride of place, and empowered to produce cultural works that can contribute to social and economic progress. Cultural mapping in all municipalities must be conducted as a basis for all forms of development planning. All municipalities must have an Arts and Culture Officers/ Desks to link with the provincial systems.

9. Providing for Cultural Infrastructures and other facilities

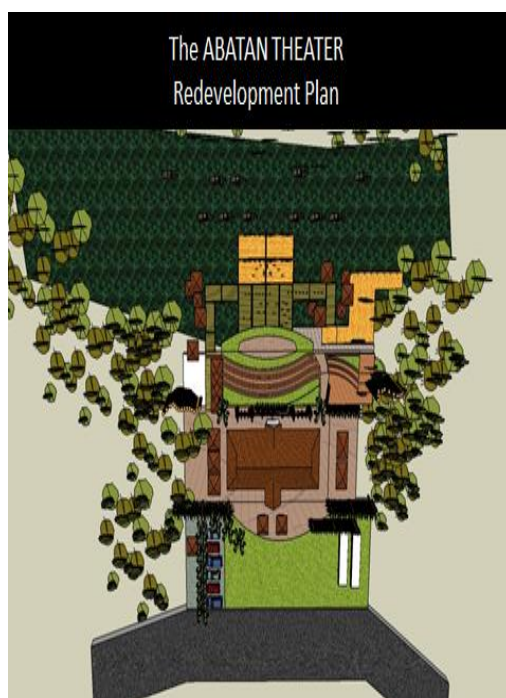
The absence of cultural infrastructures in the province make its cultural life laid-back, boring, uneventful, spiritless, unexciting. There should be more participatory activities for the cultural sector to redefine strategies in re-designing and implementing the integration of arts and culture in the development processes.

There is a need to establish galleries, museums, different forms of cultural tours, productions, cultural clubs and events in Bohol. If we have a proper Center for the Performing Arts and Exhibitions or smaller centers in communities that will be mobilized to generate exciting regular cultural fares thus enhancing their socio-economic progress. There will be regular venues for local artists to showcase and practice their craft.



10. Recommending for Artistic and Cultural Education and Trainings in the Arts and Professionalization of Boholano Artists and Cultural Workers

To achieve excellence and mastery in the arts, to compete with other national bodies of artistic works, local Boholano artists and cultural workers must be provided with the best of artistic and cultural education in non-degree and degree programs in the various artistic and cultural fields such as the visual and industrial arts, the performing and literary arts, architecture, the related disciplines of archaeology, cultural anthropology, humanities, tourism, and cultural management. This will propel a movement of trained, honed, masterful artistic creators, producers and managers who shall infuse our cultural life with great artistic vibrancy.



Academic, conservatory, studio and mentor programs must be developed within the context of Boholano arts and culture and these can be done in collaboration with the NCCA, DepEd, CHED and TESDA. Indonesia and Thailand Regional Centers for Cultural Training and Venezuela's El Sistema are formidable examples of how community youths developed into professional members of town orchestras after years of supported musical trainings.

11. Heritage restoration and reconstruction with community participation

The current rehabilitation of heritage structures especially Bohol's heritage churches demands awesome resources and expertise. Despite the help of national and international agencies and foreign experts, this phenomenon will be a great opportunity for local artisans, craftsmen, artists and cultural workers to develop indigenous knowledge and expertise at restoration, reconstruction, and other forms of rehabilitation. The experience can be a future bank of knowledge that can produce various studios, workshops, shops enunciating local geniuses in heritage development

12. Promoting Arts and Culture in Education

The ongoing unfolding of the K to 12 Programs in our basic educational system can be an easy target for further inroads for cultural globalization and foreign cultural advances. There is a need to seriously implement current educational mandates of Mother Tongue Education, Contextualization/ Indigenization/ Localization of the Curriculum, and Community Outreach and Extension Programs. These will ensure the growth of our Boholano youths as culturally sensitized and sensitive, critical, creative and empowered learners and creators. Recent efforts at establishing cultural and heritage education programs like Escuela Taller and the Heritage Center of BISU must be open for inclusion and participation of all the cultural sectors and artists of the province.

13. Culture and Disaster Risk Reduction and Climate Change Adaptation

The recent natural devastations in the Visayas, particularly in Bohol, necessitate the need to build an ecologically resilient environment. Its programs in Disaster Risk Reduction and Climate Change Adaptation can be more powerful and effective if anchored in local cultural knowledge, and transmitted through creative and local cultural forms of popular education. Along this line, Cultural Heritage Conservation Plans will be prepared thru collaborative efforts, to be designed and developed ideally before a disaster. This should incorporate effective post-disaster heritage conservation strategies to ensure cultural resources are considered in post-disaster damage and loss assessments and to address post-disaster cultural heritage risks

as noted above. Furthermore, the conservation of cultural resources be a consideration in resettlement planning, site selection, and relocation plans.

The importance of restoring damaged cultural assets is linked to the significance of cultural heritage of a community. For cultural heritage, the monetary cost cannot be the only element of assessment; it is necessary to contemplate the heritage significance that justifies its consideration as a cultural asset that society wants to keep. In the case of religious heritage, for example, the inability of people to follow rituals and traditions such as weddings, funerals, religious or festive celebrations necessitates the importance of restoration considerations.

14. Continued Investments for the Conservation and Restoration of Boholano Cultural Heritage Assets

The power that cultural assets have for generating economic resources and the existence of well-preserved elements with cultural relevance can be major factors in the influx of visitors as well as the social and economic development of localities. In this sense, investing in the conservation and recovery of heritage items not only allows the preservation of historical and identity values, but also the maintenance of funding sources for the locality.



SECTOR: ECONOMIC DEVELOPMENT

LIST OF FIGURES

Figure No.	Title
Figure EC-1	Area Harvested of Major Crops, Bohol, 2015
Figure EC-2	Palay Production and Area Harvested, Bohol, 2010-2015
Figure EC-3	Rice Supply & Demand Pattern & Sufficiency Level, Bohol, 2010-2015
Figure EC-4	Bohol & Central Visayas Rice Production, 2015
Figure EC-5	Corn Production, Bohol, 2010-2015
Figure EC-6	Corn Supply & Demand Pattern & Sufficiency Level, Bohol, 2010-2015
Figure EC-7	Fruit Production, Area Harvested & Sufficiency Level, Bohol, 2010-2014
Figure EC-8	Vegetable Production & Demand Pattern & Sufficiency Level, Bohol, 2010-2014
Figure EC-9	Rootcrops Production & Demand Pattern & Sufficiency Level, Bohol, 2010-2014
Figure EC-10	Cattle Inventory, 2010-2015
Figure EC-11	Cattle Production, 2010-2014
Figure EC-12	Carabao Inventory, 2010-2015
Figure EC-13	Carabao Production, 2010-2014
Figure EC-14	Goat Inventory, 2010-2015
Figure EC-15	Goat Production, 2010-2014
Figure EC-16	Hog Inventory, 2010-2015
Figure EC-17	Hog Production, 2010-2014
Figure EC-18	Chicken Inventory, 2010-2015
Figure EC-19	Chicken Production, 2010-2014
Figure EC-20	Broiler Inventory, 2010-2015
Figure EC-21	Layer Inventory, 2010-2015
Figure EC-22	Native Chicken Inventory, 2010-2015

Figure EC-23	Duck Inventory, 2010-2015
Figure EC-24	Duck Production, 2010-2014
Figure EC-25	Chicken Egg Production, 2010-2014
Figure EC-26	Duck Egg Production, 2010-2014
Figure EC-27	Municipal Waters of Bohol
Figure EC-28	Major Fishing Ground of Bohol
Figure EC-29	Fisheries Volume of Production, Bohol, 2011-2015
Figure EC-30	Total Fisheries Production, Bohol, 2015
Figure EC-31	Municipal Fisheries Volume of Production, 2011-2015
Figure EC-32	Commercial Fisheries Volume of Production, Bohol, 2011-2015
Figure EC-33	Aquaculture Volume of Production, Bohol, 2011-2015
Figure EC-34	Volume of Seaweed Production in Region 7 & Bohol, 2011-2015
Figure EC-35	Average Annual Growth Rate, 1990-2015
Figure EC-36	Age-Sex Pyramid of Household Population, 2010
Figure EC-37	Annual Population Growth Rate of Bohol, 1903-2015
Figure EC-38	Production & Consumption of Major Commodities, Bohol, 2015
Figure EC-39	Total Cooperative Registration & Classification, Bohol, 2008-2015

LIST OF MAPS

Map No.	Title
Map EC-1	Palay Production Area (In Hectares)
Map EC-2	Corn Production Area (In Hectares)
Map EC-3	Banana Production Area (In Hectares)
Map EC-4	Mango Production Area (In Hectares)
Map EC-5	Vegetables Production Area (In Hectares)
Map EC-6	Coconut Production Area (In Hectares)
Map EC-7	Palm Oil Production Area (In Hectares)
Map EC-8	Irrigation Facilities, Bohol

LIST OF TABLES

Table No.	Title
Table EC-1	Institutional & Farmers' Dairy Production, 2010-2015

Table EC-2	Total Area of Different Fisheries Ecosystems Including Area Outside of Central Visayas, May 2005
Table EC-3	Aquaculture Volume of Production, Bohol, 2011-2015
Table EC-4	Existing & Potential Areas for Seaweed Farming in Bohol
Table EC-5	Population Increase per Year, Bohol, 1903-2015
Table EC-6	Food Situation of Major Food Commodities, Bohol, 2010, 2013 & 2015
Table EC-7	Projected Production & Consumption (In Metric Tons), Bohol Province: Years 2009, 2011, 2013
Table EC-8	Identified Key Production Areas of Major Agricultural Products
Table EC-9	Coop Classification According to Types, Bohol, December 2015
Table EC-10	Capitalization of Cooperatives, 2015
Table EC-11	Category of Cooperatives
Table EC-12	Top Ten Millionaire Cooperatives
Table EC-13	Status of Irrigation Development in Region 7, 2015

LIST OF ACRONYMS

AFS	Audited Financial Statement
AI	Artificial Insemination
ARB	Agrarian Reform Beneficiary
ARC	Agrarian Reform Community
ARCDP	Agrarian Reform Communities Development Project
ARISP	Agrarian Reform Infrastructure Support Project
AusAID	Australian Agency for International Development
BALA	Barangay Livestock Aide
BAMP	Bohol Agriculture Master Plan
BAPC	Bohol Agriculture Promotion Center
BAPC	Bohol Agriculture Promotion Center
BAS	Bureau of Agricultural Statistics
BCRIP	Bohol Circumferential Road Improvement Project
BEPO	Bohol Employment Office
BES	Bohol Experiment Station
BFAR	Bureau of Fisheries and Aquatic Resources
BHIP	Bohol Irrigation Project
BIPC	Bohol Investment Promotion Center
BOATech	Bohol Organic Agriculture Technology
BOFAMCO	Bohol Farmers Multipurpose Cooperative
BOSS	Bohol Business One-Stop Shop
BTMP	Bohol Tourism Master Plan
BTO	Bohol Tourism Office
CADC	Certificate of Ancestral Domain Claim
CAPR	Cooperative Annual Performance Report
CARP	Comprehensive Agrarian Reform Program
CBU	Capital Build-Up
CDA	Cooperative Development Authority
CES	Central Experiment Station

CIS	Communal Irrigation System
DA	Department of Agriculture
DAR	Department of Agrarian Reform
DOLE	Department of Labor and Employment
DOT	Department of Tourism
DTI	Department of Trade and Industry
FAP	Foreign Assisted Project
FCS	Food Consumption Survey
FIES	Family Income and Expenditure Survey
HDI	Human Development Index
HUDC	Housing and Urban Development Council
HVC	High Variety Crops
ICT	Information Communications Technology
IEC	Information Education Campaign
IT	Information Technology
ITES	Information Technology (IT)-Enabled Services
LGU	Local Government Unit
LIFE	Livestock Integration for Food Enterprise
LOM	Livestock Oksyon Market
MPDP	Multi-Purpose Drying Pavement
MQSST	Manual on Quality Standards for Sustainable Tourism
MSME	Micro, Small Medium Enterprise
NEDA	National Economic Development Authority
NFA	National Food Authority
NFS	Natural Farming System
NGO	Non-Government Organization
NIS	National Irrigation System
NSCB	National Statistical Coordination Board
NSO	National Statistics Office
OPA	Office of Provincial Agriculture
OPV	Office of Provincial Veterinarian
OTOP	One-Town One-Product
PACAP	Philippines-Australia Community Assistance Program
PAHRDF	Phillipines-Australia Human Resource Development Facility
PATCO	Provincial Agriculture and Technology Coordinating Office
PBIA	Panglao Bohol International Airport
PCA	Philippine Coconut Authority
PCC	Philippine Carabao Center
PGB	Provincial Government of Bohol
PITE	Panglao Island Tourism Estate
PO	People's Organization
QSST	Quality Standards for Sustainable Tourism
RACER	Rice Accelerated Enhancement Response
RSPL	Rajah Sikatuna Protected Landscape
SCFO	Small Coconut Farmers Organization
SIAP	Sustainable Integrated Agribusiness Program
T&B	Toilet and Bath
TMP	Tourism Master Plan
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
USF	Ubay Stock Farm

GLOSSARY

Poverty incidence - refers to the proportion of families/ individuals with per capita income/ expenditure less than the per capita poverty threshold to the total number of families/ individuals.

Magnitude of the Poor - refers to the number of families or the population whose annual per capita income falls below the subsistence/ poverty threshold.

Income Gap (I) - refers to the average income shortfall (expressed in proportion to the poverty line) of families with income below the poverty threshold.

Poverty Gap (PG) - is the total income shortfall (expressed in proportion to the poverty line) of families with income below the poverty threshold, divided by the total number of families.

Severity of Poverty (SP) - is the total of the squared income shortfall (expressed in proportion to the poverty line) of families with income below the poverty threshold, divided by the total number of families. This is equal to the Foster-Greer-Thorbecke (FGT) family of measures with $a = 2$. It is a poverty measure which is sensitive to the income distribution among the poor - the worse this distribution is, the more severe poverty is.

HDI - Human Development Index; measures average achievement in human development in the 3 basic human dimensions, namely:

- 1) Longevity (Life Expectancy)
- 2) Knowledge (Educational Attainment)
- 3) Decent standard of living (Per Capita Income)

Sector : ECONOMIC DEVELOPMENT

Sub-Sector : Agriculture and Rural Development

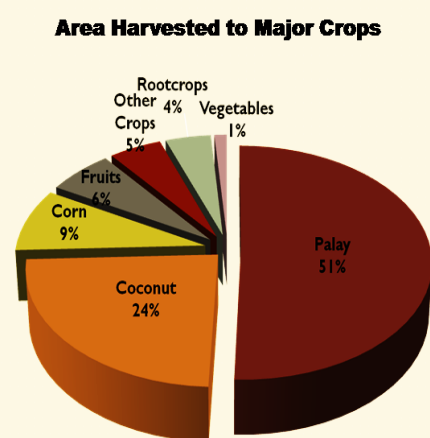
SITUATIONER

LAND UTILIZATION

Bohol has a total land area of 411,726 hectares of which around 356,400 hectares are suitable for cultivation. The land available for agricultural use is 273,950 hectares¹, which is approximately 66% of the total area of the province. However, not all of these lands have been fully utilized. Countrystat, PSA records show that the area planted/harvested to major crops in 2015 is 148,673 hectares which is only 54% of the total area devoted to agriculture. These are mostly planted with palay, corn, coconut, vegetables, fruits, rootcrops and other crops. *Figure EC-1* shows the area harvested of major crops. With

Figure EC-1. Area Harvested of Major Crops, Bohol, 2015

- 273,950 has. or 66% of total land area (411,726 has.) is available for agriculture
- 148,673 has. or 54% of the total area devoted to agriculture is planted/ harvested to major crops
- Largest sector in terms of employment and land use



Source: Countrystat, PSA

this level of land utilization, there is still a substantial potential of 125,277 hectares for the province to enhance its agricultural productivity and harness other crops suitable for its soil and weather conditions. The development of these potential agricultural lands will help increase economic opportunities and will benefit mostly the farmers.

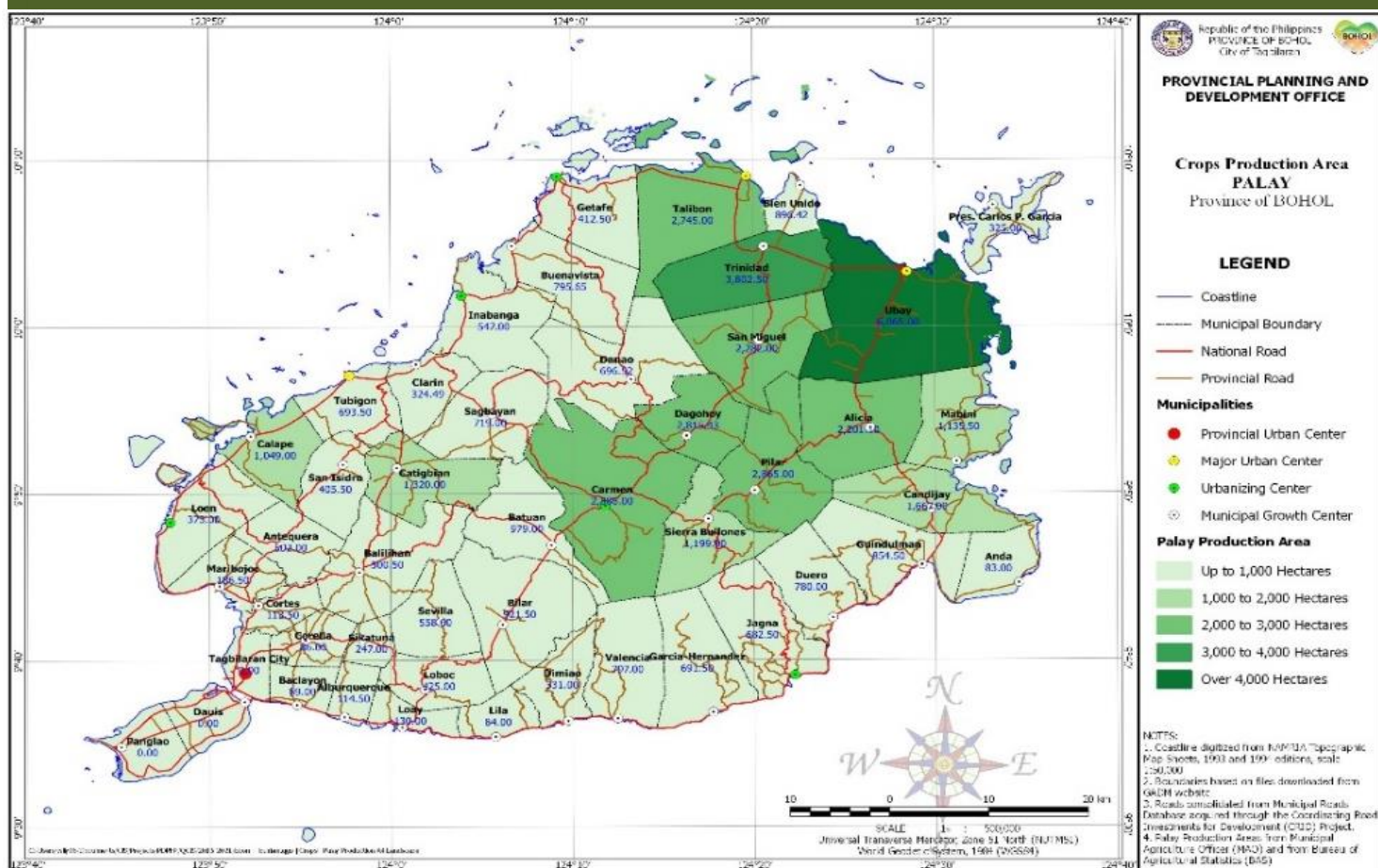
About 42% of the province population is dependent or working in the agriculture sector, indicating that most of the poor households in the province are engaged in the sector. Agriculture remains to be the major source of employment and livelihood in the province.

There is an apparent necessity to address certain issues that have been hindering the full development of agricultural land in Bohol. Foremost of it all is still the large area of idle lands in the province, unutilized or underutilized for agriculture. Technologies to maximize the upland areas have not yet been fully accepted and practiced by farmers. Many of the rural poor are landless or have limited farm lands with an average farm size of only 0.6 hectare which may not be appropriate to achieve viable financial returns. These farmers still remain to engage in subsistence farming. Development of agricultural lands has also been impeded by lack of accessibility and limited road networks that link farms to production support facilities and markets.

¹ Bohol Agriculture Master Plan, 2005

To improve the condition of local farmers, the economic activities must be enhanced by providing farmers with technical know-how not just on production but also value adding in their produce to maximize income. We must not only facilitate land distribution and lease for the beneficiaries, but also the proper and economic usage of land.

Map EC-1. PALAY PRODUCTION AREA (in hectares)

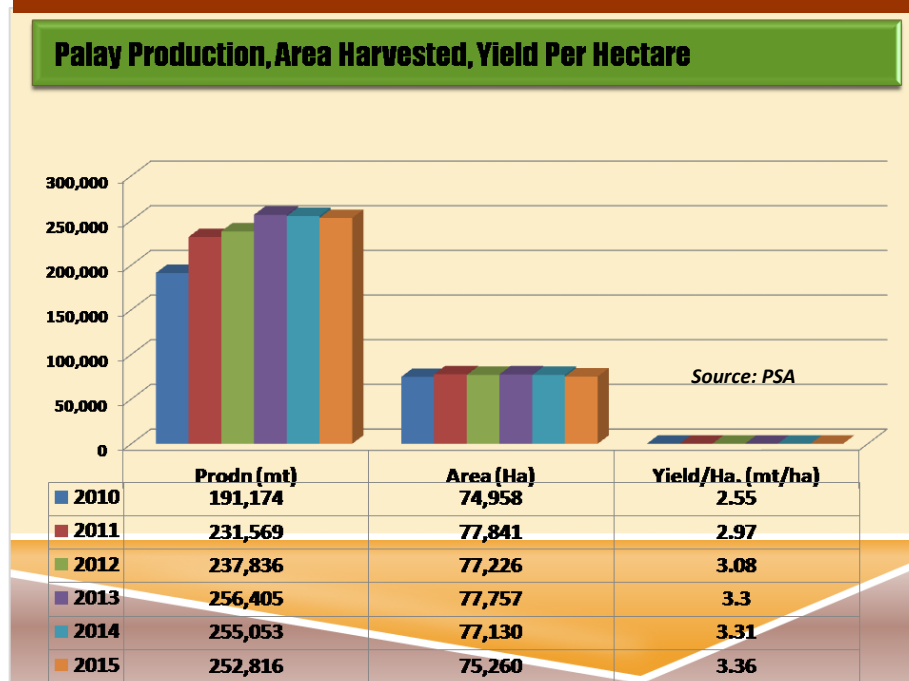


CROPS PRODUCTION AND DEVELOPMENT

• Palay

Rice is the major staple food in the province and is utilizing a significant area of its agricultural land. 2015 PSA data shows a total of 75,260 hectares of land harvested with palay, of which 37,205 hectares are irrigated and 38,055 hectares are rainfed. Major rice producing municipalities in terms of land area planted are: Ubay, Trinidad, Pilar, Dagohoy, Alicia, San Miguel, Talibon, Candijay, Catigbian and Carmen. Land holdings of small rice farmers are generally limited, ranging from 0.6 to 2 hectares. Rice farming served as the primary source of subsistence for about 57,780 farming households.

Figure EC-2. Palay Production & Area Harvested, Bohol, 2010-2015

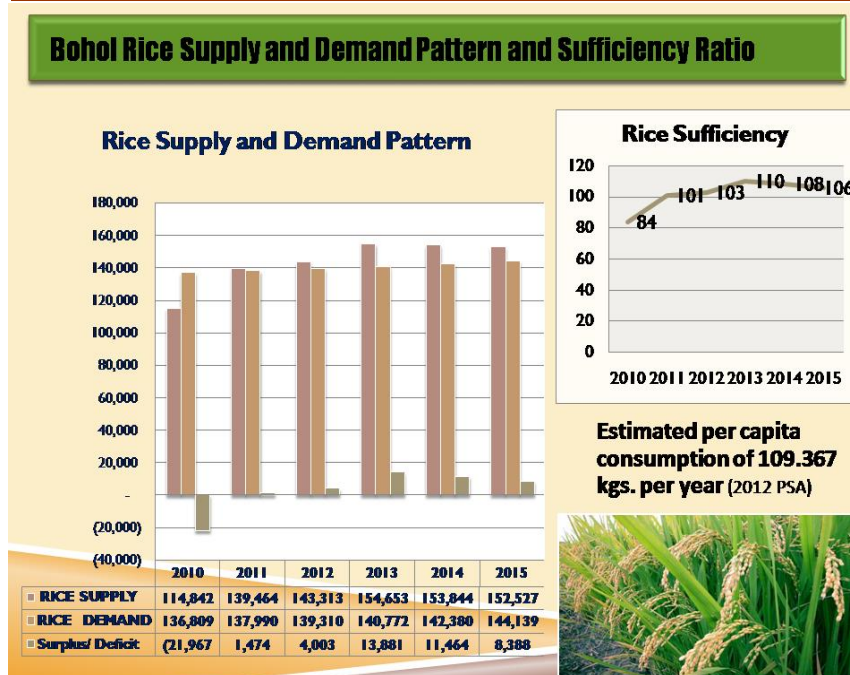


Palay production in the province in 2015 reached 252,816 metric tons for irrigated and rainfed types of riceland which decreased slightly compared to the previous two years. It had been observed that although the number of hectares harvested decreased but as to the yield per hectare, it increased slightly compared to the previous years. Palay production trend has been increasing for the past five years at a rate of 24% even with the erratic weather condition due to climate change.

Figure EC-2 shows the

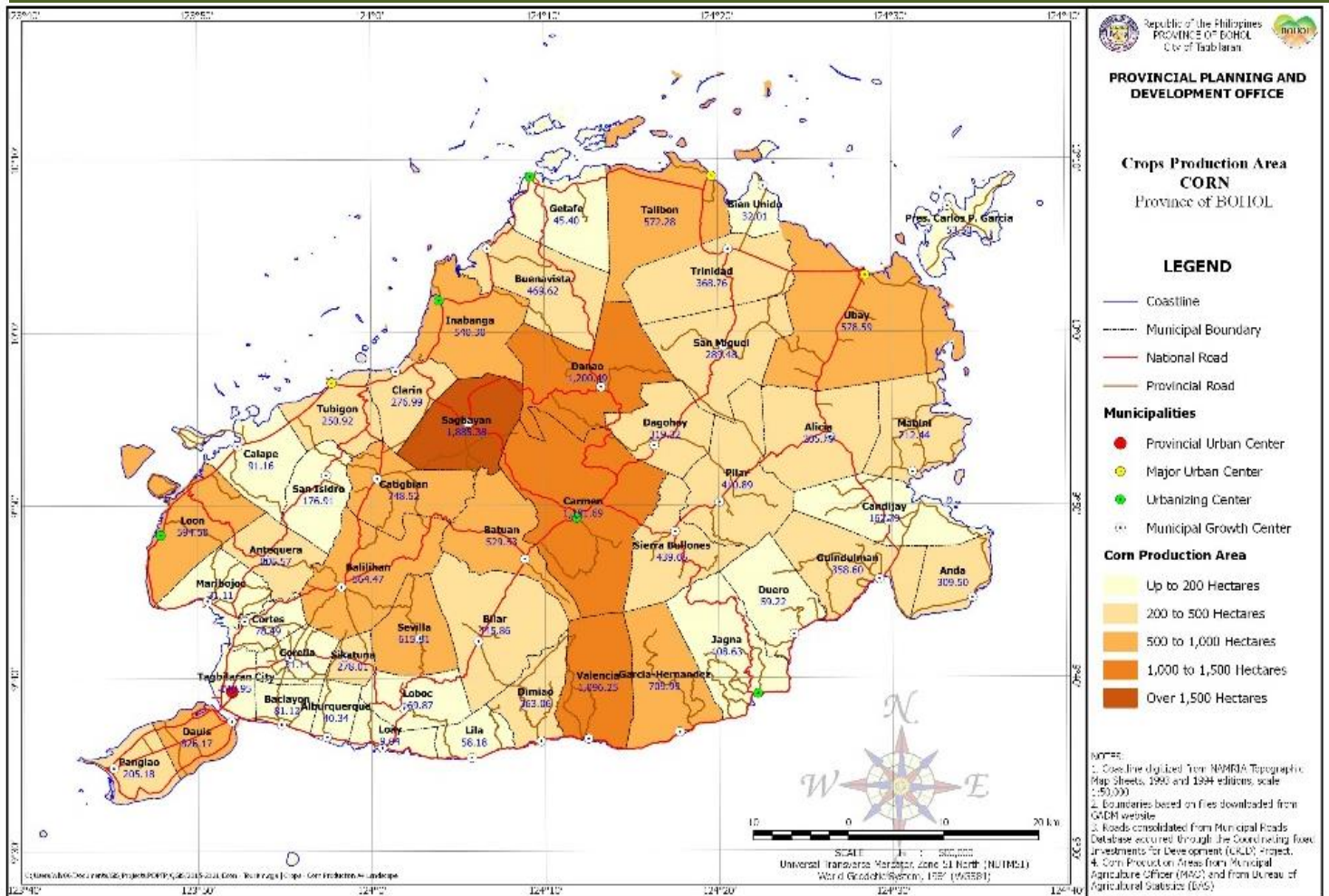
comparative palay production from 2010 to 2015. As reflected in the table/graph, palay production shows an increasing trend for the last 3 years. However, in 2014 and 2015 a slight decrease in area planted was noted that resulted also to a decrease in the production. Erratic weather condition due to climate change maybe was the reason for the farmers not to till their lands. It was in October, 2013 that the province experienced another disaster, a 7.2 magnitude earthquake damaging some rice lands. Despite the calamities, the average yield per hectare increased for both types of riceland is observed. In spite of the decrease in area harvested in 2015, the average yield increased slightly. It is not therefore a determinant as there was a slight increase in the average yield compared to last year. This showed that with proper technology, good variety of seedlings and timing in planting calendar are contributors for the increase in the yield.

Figure EC-3. Rice Supply & Demand Pattern & Sufficiency Level, Bohol, 2010-2015



Comparing the rice production level of the province with the consumption requirements of Bohol's population, there is a remarkable pattern that exists between the supply -demand spectrums during

Map EC-2. CORN PRODUCTION AREA (in hectares)



the last 5 years (2010-2015).

Basing on the PSA census of population for the province and with the average per capita consumption per year of 109.367 kilos of rice (PSA 2012), rice consumption in 2015 is estimated at 144,139 metric tons. Taking into account milling recovery rates, allowance for wastes and usage of rice seeds, estimated rice equivalent for the 2015 palay production in the province is 152,527 metric tons. With this, there is a surplus of about 8,388 metric tons of rice in that year. A major factor of this is the slight increase in the yield of rice per hectare in metric tons inspite of the erratic weather condition due to climate change. The province experienced an increase in the yield per hectare in 5 consecutive years. Thus, a surplus against its expected consumption for 5 years (2010-2015). *Figure EC-3 shows* the rice supply demand pattern of Bohol from 2010 to 2015. The rice supply and demand pattern in the province depicts a promising development within the last 5 years showing an increasing scenario.

As it can be observed in *figure EC-3*, rice sufficiency level in the province is increasing for the three consecutive years starting year 2010 to 2013. It was after the 7.2 magnitude earthquake last October 15, 2013 that rice sufficiency decreased by 1.8% for the two following year thereafter. It can be inferred that the weather conditions for these periods directly affected the production levels

of palay, and the use of high yielding varieties of rice seeds played a crucial strategy to meet demands of the populace by sustaining the sufficiency level above 100%. In 2010, a low rice sufficiency level was observed due to reduction in production as a result to decrease in the area planted during that year.

There is a need to sustain the production levels of rice in order to cope and absorb the ill effects of droughts and typhoons while maintaining food security in the province. An appropriate strategy to maintain the present sufficiency level would be to fully develop the province's irrigation potentials. Productivity of rice lands should also be maximized with the use of high-yielding varieties and appropriate technologies.

At the regional context, Bohol has provided a substantial share for palay production. Referring to [Figure EC-4](#), PSA figures show that Bohol produced 75% of Region VII's total palay production. Negros Oriental followed with 20%, Cebu with 4% and Siquijor with 1.0%. Looking into this production scenario, the region's food requirement for rice is largely dependent on the province, with Bohol producing more than half of the region's total rice production. The region's food requirement for rice is largely dependent on Bohol province. In the year 2015, the rainfed rice field areas is greater compared to irrigated rice fields but the production is higher in irrigated rice fields than rainfed fields. Despite the water levels in the different dams reached far below critical levels due to the El Niño phenomenon.

Going back at the provincial scene, considering that palay is mainly produced by farmers with small farm size, there is really a need to increase their productivity through appropriate technology, inputs and assistance. Rice farming in the province is still generally at the subsistence level and characterized by defective cropping pattern calendar and inadequate crop protection and maintenance practices. The introduction of new seed varieties should be acceptable to farmers in terms of affordability and production performance. There remains to be an issue on farmers' capacities

to adopt certain technologies, brought about by financial constraints, poor know-how on soil and fertilizer management, limited access to information and credit.

The development of irrigation facilities and expansion of coverage areas of existing irrigation systems continue to be a major dream of farmers. The completion of which would provide the

Figure EC-4. Bohol & Central Visayas Rice Production, 2015

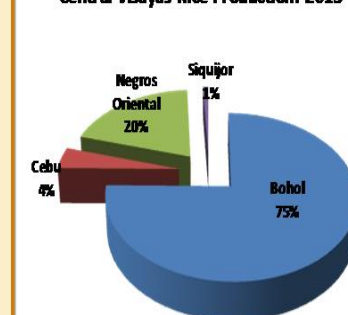
**Bohol Area Harvested & Productions
2015**

RICE	Area Harvested (has.)	Production (m.t.)	Average Yield (m.t./ha.)
Irrigated	37,205	145,601	3.91
Rainfed	38,055	107,215	2.82
Total	75,260	252,816	3.36

Source: PSA



Central Visayas Rice Production: 2015



Source: PSA

The region's food requirement for rice is largely dependent on Bohol province

opportunity to increase cropping intensity, as well as increase in productivity. Improved access to post-harvest facilities is also desired that can facilitate the process of converting palay production to direct economic benefits or cash returns. Farm-to-market roads, although constantly prioritized by local and national governments, still need to be improved, particularly the barangay and municipal roads that link to major arterial roads in the province.

• Corn

Being an alternative food for rice, corn is consumed by about 16% of Bohol's population. The industrial demand for this crop is also increasing, as the livestock sector in the province continues to expand. In 2014, there are about 13,869 hectares of land harvested with corn. Much of these lands are utilized for white corn production (13,672 hectares – 98.5%) and some lands for yellow corn production (197 hectares – 1.5%). Farmers engaged in corn production have limited farm size with land holdings between 0.5 hectares to 1.5 hectares. There are about 19 municipalities identified as key production areas for corn in Bohol.

Figure EC-6. Corn Supply & Demand Pattern & Sufficiency Level, Bohol, 2010-2015

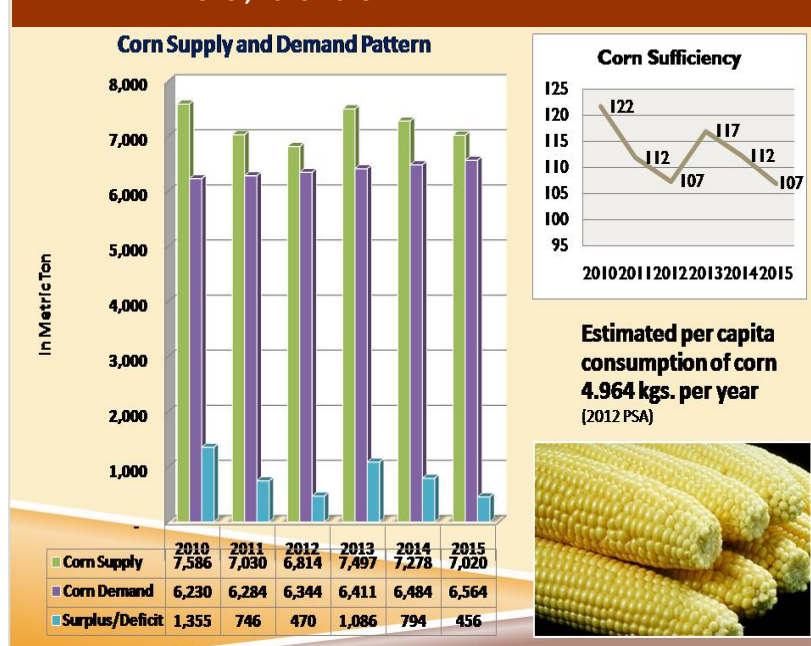
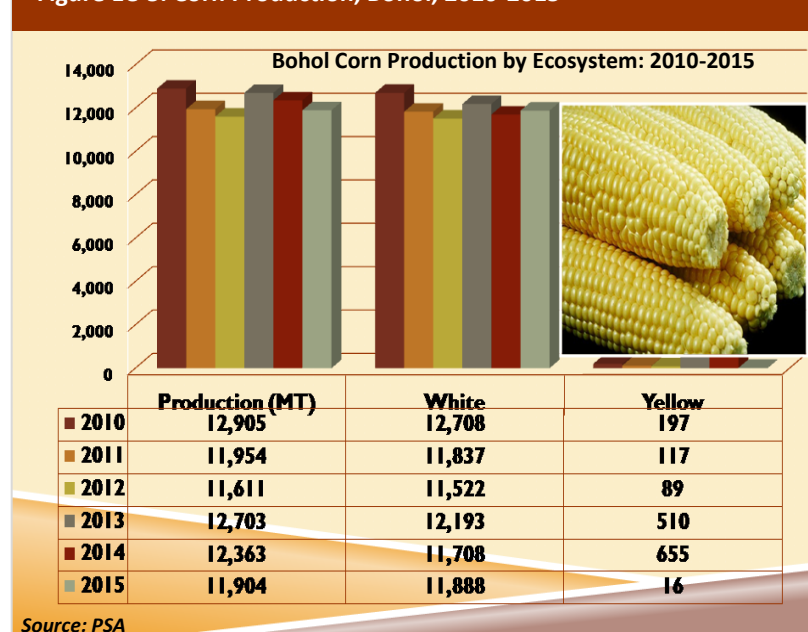
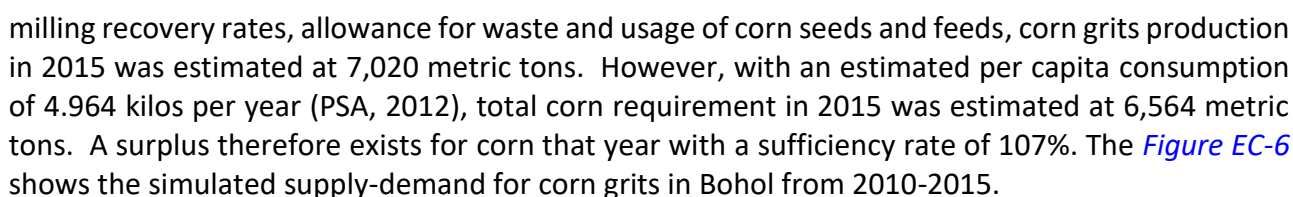


Figure EC-5. Corn Production, Bohol, 2010-2015



Corn production in the province is characterized by a fluctuating trend. With the El Niño, corn production in the province may decrease or increase slightly. In the year 2015, corn lands produced a total of 11,904 metric tons of corn, marking a 3.7% decrease from the 12,363 metric tons production in 2014. The Boholano farmers preferred to cultivate white corn than yellow corn. The usage of yellow corn are for feeds.

In totality, there is a surplus in corn production to satisfy the consumption needs of the Boholanos. With consideration on

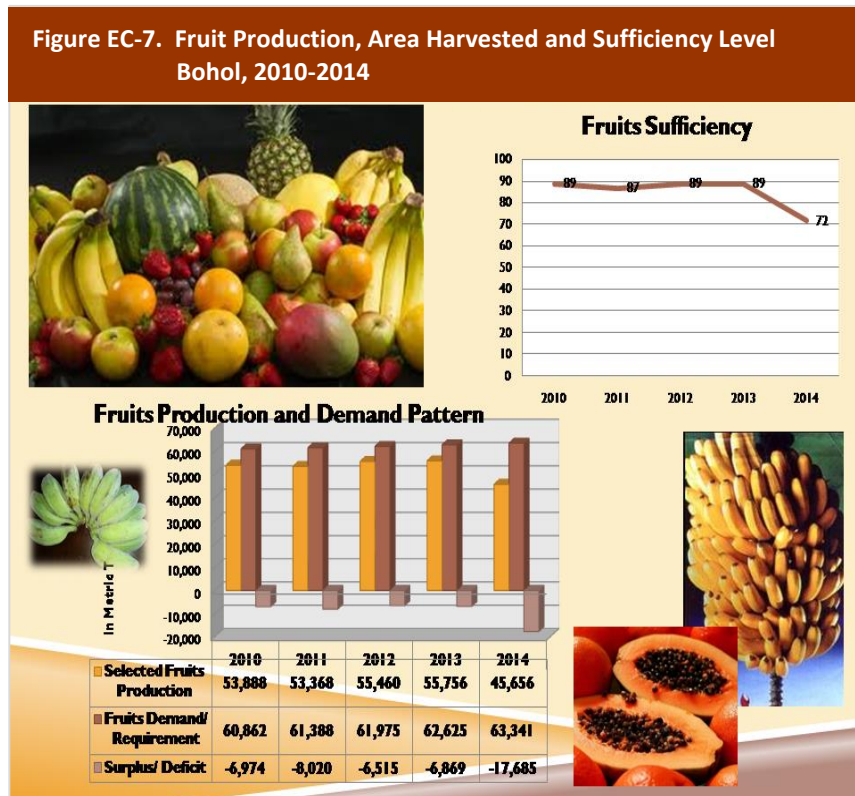


There is still a need to sustain the corn production in the province to sufficiently provide for the food consumption of Boholanos and to economically supply for the industrial requirements of feed production for livestock and poultry. To achieve this end, it is necessary that proper technologies be disseminated to farmers. To facilitate their adoption, mechanisms like affordable farm inputs, skills development assistance, access to markets and credits should be established.

On the regional perspective, Bohol's 2015 corn output has contributed substantial share of the total corn production in Region VII. Cebu province provided the dominant share followed by Negros Oriental and then Siquijor.

- **Fruit crops**

In 2014, overall production of selected fruits in the province has decreased to 45,656 metric tons compared to the 2013 figure of 55,756 metric tons. Major fruits in the province include banana, mango, papaya, watermelon and pineapple. With an estimated 29.22 kilos per capita consumption per year, fruit sufficiency decreases from 89 % to 72%. We are deficit in fruit production as against the needs of the Boholanos plus the influx of tourists in the province. There must be a strategy to address the problem. The Provincial Government of Bohol thru the Office of the Provincial Agriculturist is distributing fruit tree seedlings. An ordinance will be drafted for the provision of one hectare vacant land with fruit tree seedlings sexual or asexual.



Banana is the dominant fruit in the province in terms of land area and production volume. Banana production in 2014 reached 25,725.16 metric tons, lower by about 26% from its 2013 production levels. The trend is decreasing since 2013. The production areas are Tubigon, Jagna, Batuan, Carmen, Sierra Bullones, Pilar, Alicia, Ubay, Trinidad, Candijay, Guidulman and Calape.

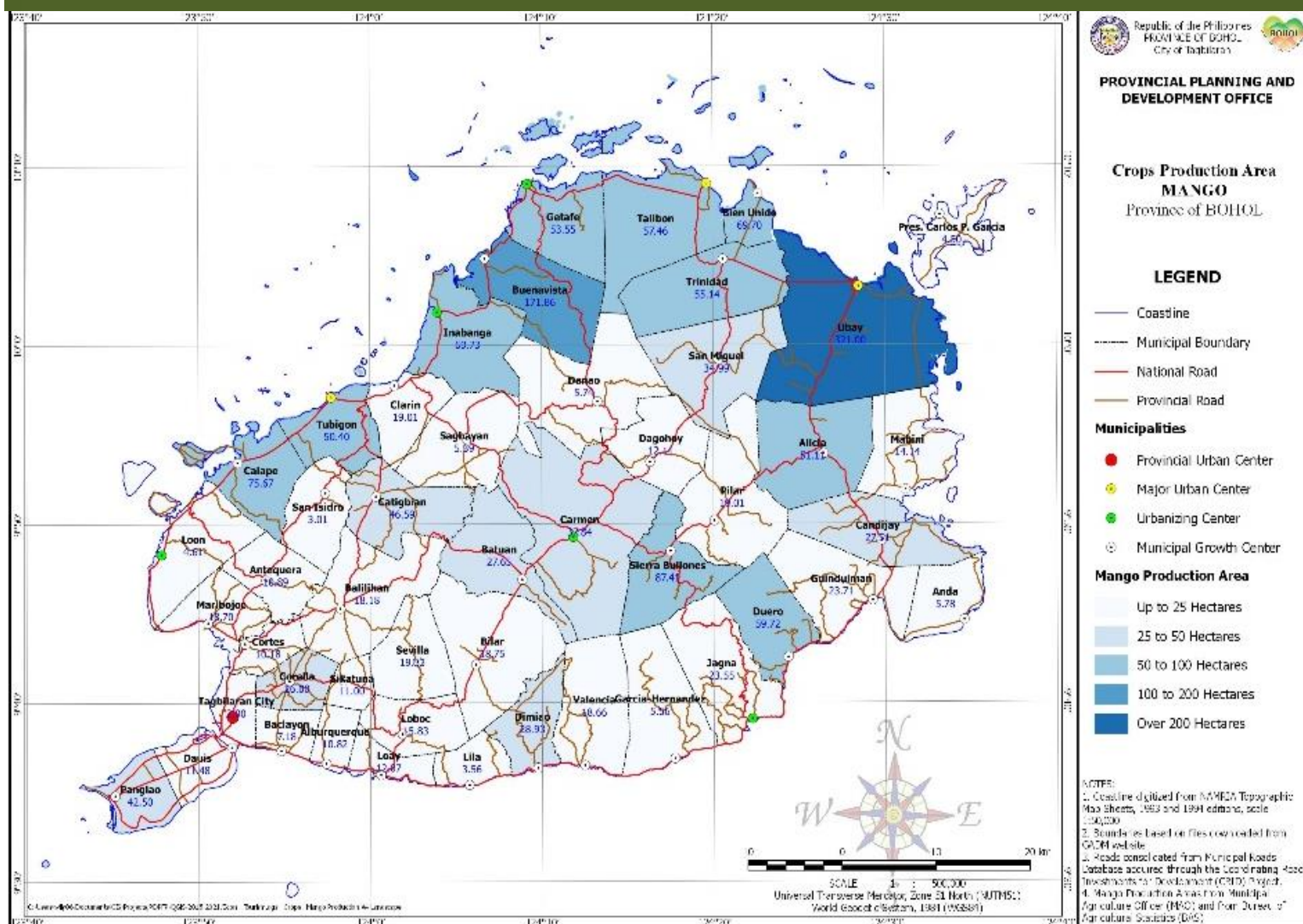
Mango production, on the other hand, showed a fluctuating performance, marking a slight increase of 1.4% of the year 2014 from that of the previous year 2013. It has been observed that the area planted by mango in the province did not increase since 2010, signifying the reluctance of the Boholano farmers in expanding the mango industry. Mango planting is mostly dominated by backyard growers. There are about 27 municipalities identified as mango producing areas in the province, with the municipality of Ubay having the highest number of bearing trees followed by Buenavista. The farming system for mangoes need to be improved. Mango plantation, specifically for Carabao varieties, should also be expanded through clustered mango farms and aggressive expansion of mango plantation in key mango growing municipalities.

Maps EC-3 and EC-4 show the production areas of two major fruit crops in the province in terms of land area planted and production volume.

Watermelon, papaya and calamansi production fluctuates every year and so also with the area planted since 2010. In terms of area utilized, PSA data revealed a decrease in total area harvested

for selected fruit crops in the province. For 2015, a total of 4,169.50 hectare was planted with the selected fruits which decreased by 11% compared to 2013.

Map EC-4. MANGO PRODUCTION AREA (in hectares)

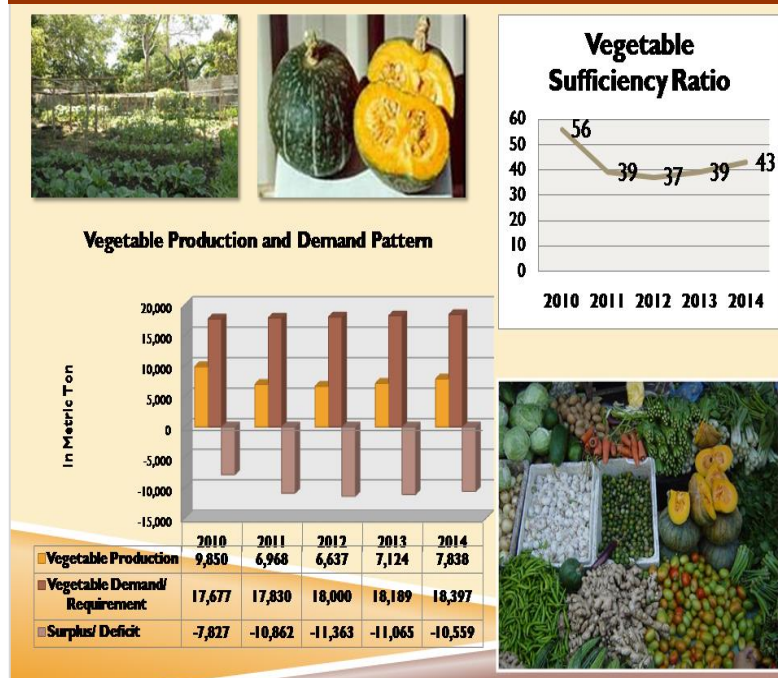


On the regional context, Bohol ranks third in banana and mango production. Bohol accounts 22% of the regional banana production, with Negros Oriental contributing 34%, and Cebu 32%. Siquijor produced the least volume of 11%. Cebu province, on the other hand, maintains its major share in mango production, sharing 55% of the total regional output. Negros Oriental follows with 26% share and Bohol with 17%.

• Vegetables

In 2014, total production of major vegetables in the province reached 7,838 metric tons, higher by 10% from the 2013 production of 7,124 metric tons. Large volume of Bohol's production were attributed from harvests of eggplant (2,129 metric tons), tomato (1,870 metric tons), ampalaya (1,144 metric tons) and squash (1,007 metric tons). Harvests were also made from stringbeans, pechay, okra, and habichuelas.

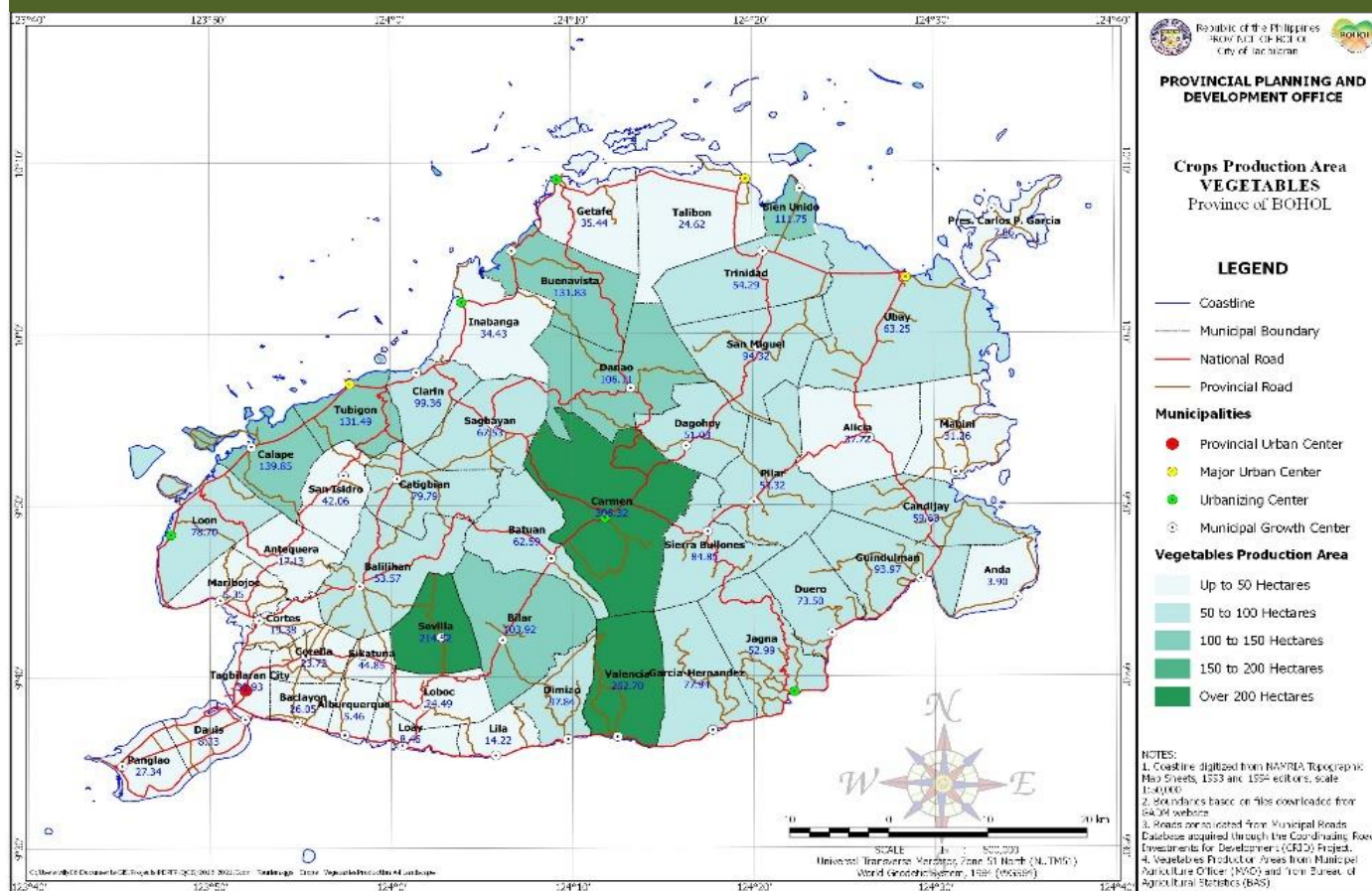
Figure EC-8. Vegetable Production & Demand Pattern & Sufficiency Level, Bohol, 2010-2014



The estimated consumption of vegetable is almost thrice its production level resulting to a huge deficit for the past four years. Based on the 2014 PSA production data of only 7,838 metric tons as against the estimated consumption of 18,397 metric tons, Bohol has an enormous deficit in its supply of vegetables with only 43% sufficiency level to support the vegetable food requirements of Boholanos. At present, majority of the vegetables like carrots, cabbage and potato come from Cebu and Cagayan de Oro City. More so, rapid expansion of population in the province and even in the entire region logically increases the demand for these vegetables, making the increase in its production a very crucial agricultural

thrust. It is worthy to note that the utilization of suitable land for vegetables, especially for high

Map EC-5. VEGETABLES PRODUCTION AREA (in hectares)



value varieties, should be maximized. Highland and vegetable farming should be enhanced and the promotion of home lot vegetable gardening should be intensified. The Provincial Government thru its program Bahay Kubo, FAITH, HOPE and Gulayan sa Paaralan is allocating a budget for best practitioners by district for the purpose of increasing vegetable sufficiency in the province. Bohol has some municipalities with land suitable for vegetable farming. Key production low land areas are identified in Calape, Tubigon, Catigbian, Corella, Bilar, Carmen and Balilihan. Highland vegetable farming, on the other hand, is identified ideal in the municipalities of Jagna, Duero, Sierra Bullones, Guindulman, Candijay and Garcia Hernandez. It is also necessary to encourage the production of high quality vegetables in order to meet the demands of the market, especially in growth centers in the province and in the region.

• Rootcrops

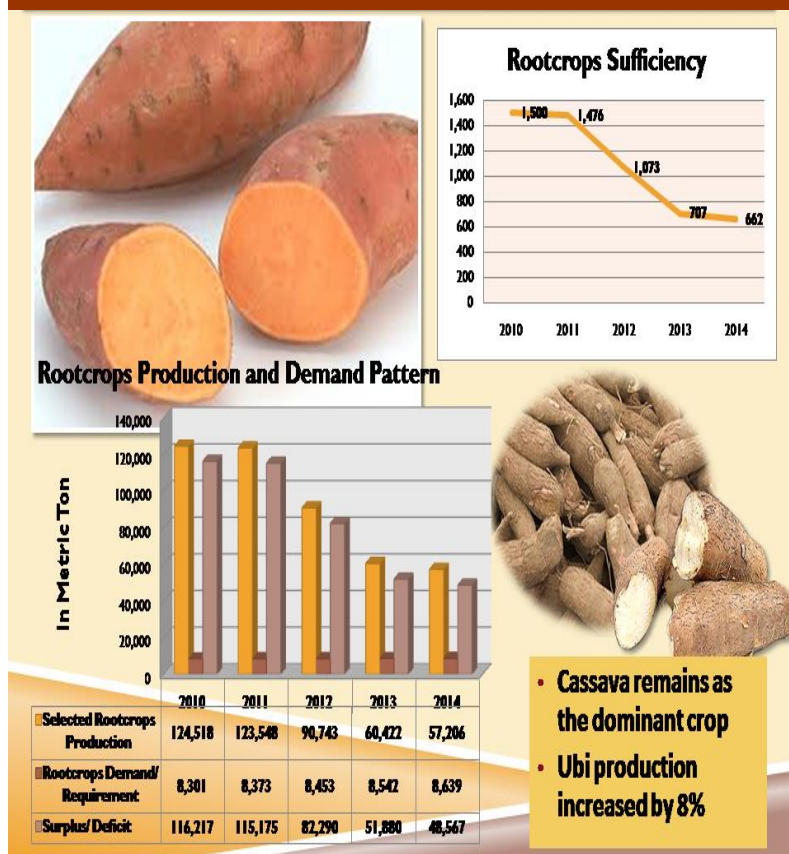
In 2014, Bohol's major rootcrops posted a production of 57,206 metric tons. This is lower by 5% from the 2013 production of 60,422 metric tons. Cassava remains to be the dominant crop with a total production of 39,716 metric tons. This production is lower than the 2013 figure by 17%. Camote and ubi produced 7,919 metric tons and 5,847 metric tons, respectively. Gabi, on the other hand, posted 3,724 metric tons.

It can be observed that the production of ubi decreased, among Bohol's major crops for 2011 due to a significant decrease, about 30% and 24% in area planted for the 2011 and 2012 respectively as compared to 2010. However, for the year 2013 and 2014, ubi production increased by 8%. The decrease in area planted is an unfortunate scenario considering the potential for ubi has been seen

with the growing demand of the crop due to the increase in hotels, restaurants and pastry makers in the province that requires a substantial supply of the crop. There is therefore a need to make the necessary measures that would ensure a sustainable production of ubi especially in the 13 municipalities of Albuquerque, Dauis, Baclayon, Corella, Cortes, Panglao, Sikatuna, Tagbilaran City, G-Hernandez, Loay, Lila, Ubay and Mabini. These municipalities are identified as key production areas for ubi in the province.

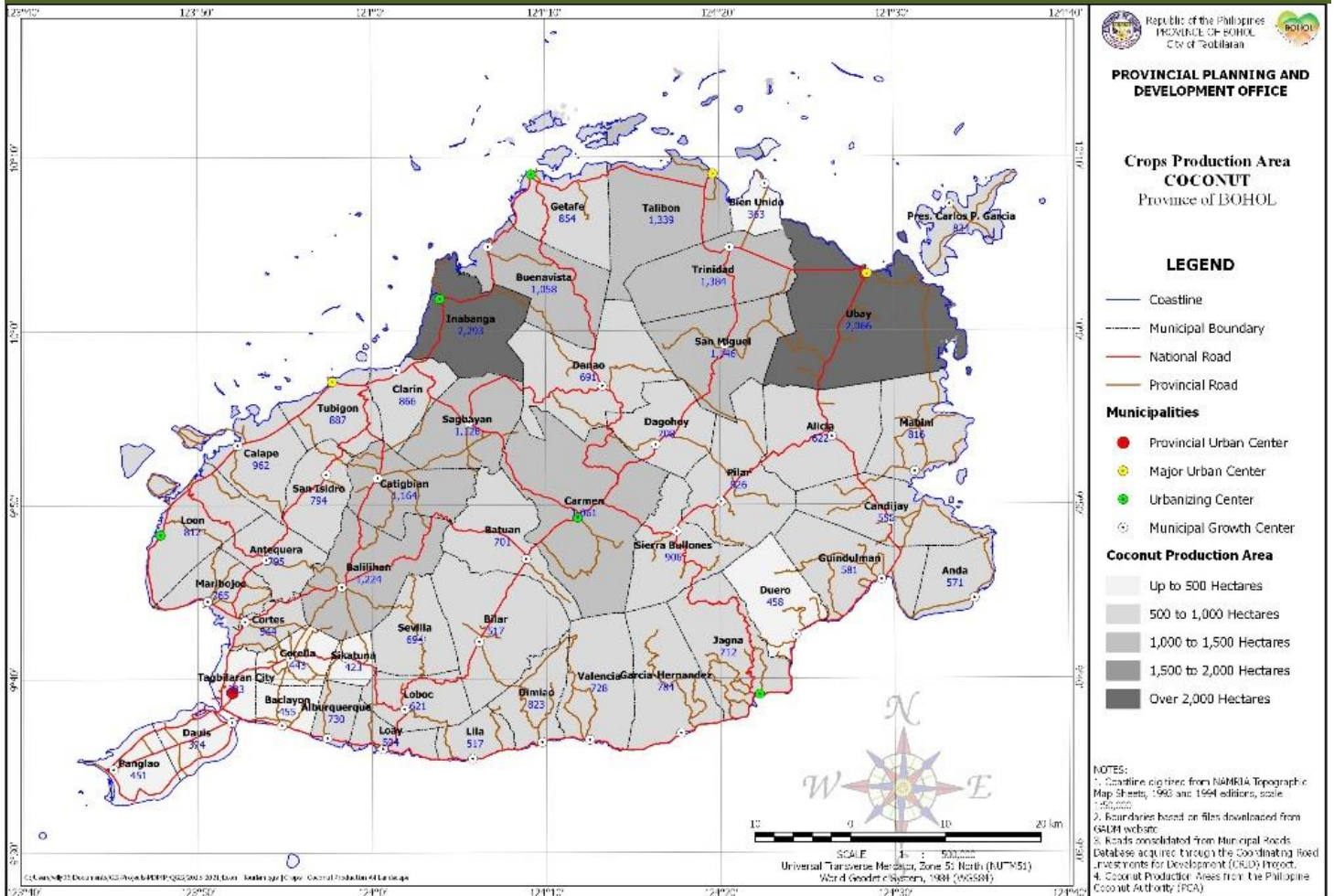
Total rootcrop production for the past 5 years is more than enough for the consumption of the Boholanos as seen in the [Figure EC-9](#) resulting to a sufficiency level of 662% in 2015.

Figure EC-9. Rootcrops Production & Demand Pattern & Sufficiency Level, Bohol, 2010-2014



A total of 6,497 hectares of land had been harvested with major root crops in year 2014. About 47% of these areas were harvested with cassava, 26% with camote, 16% for ubi, and gabi shows 11% of the harvested land.

Map EC-6. COCONUT PRODUCTION AREA (in hectares)



- **Commercial Crops**

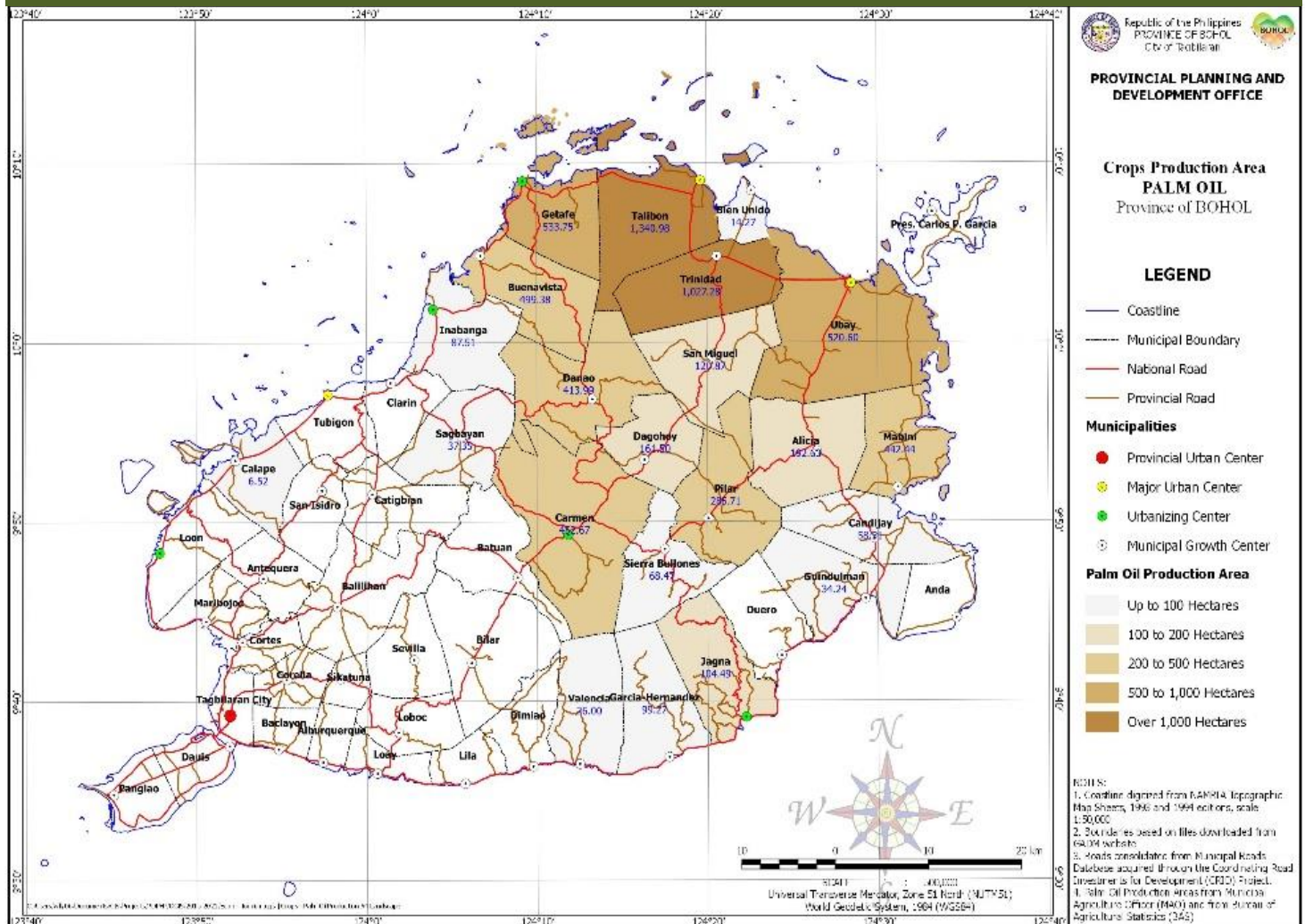
The province is producing many commercial crops but it is coconut that is widely and significantly produced which makes it the major commercial crop in Bohol. In 2014, coconut production in the province reached 177,573 metric tons. Even with the fluctuating price of copra, coconut production is generally increasing from its 2011 levels. The crop is still among the top outgoing commodities in the province.

In 2011, PSA data shows that a total of 35,193 hectares of land are planted with coconut. Since then, coconut population in the province increased, owing to the continued massive coconut planting and replanting programs implemented by the Philippine Coconut Authority (PCA) and the Provincial Government of Bohol as well as privately initiated coconut plantings.

Approximately 1.5 million coco trees were planted from 2008 up to present under the Coconut Seedlings Dispersal Project (CSDP) and the Participatory Coconut Planting Project (PCPP) being implemented by the Philippine Coconut Authority. On the other hand, the Provincial Government

of Bohol was able to distribute more than 400,000 pieces of dwarf coconut seedlings as planting materials to farmers all over the province under the Bohol Coconut Planting Program.

Map EC-7. PALM OIL PRODUCTION AREA (in hectares)



Aside from increasing coconut population, there is also a dire need to enhance farmer's income through coconut-based farming systems by way of inter-cropping and livestock integration. Relative to this, the Philippine Coconut Authority distributed 151,200 cacao seedlings and 50,000 coffee seedlings as intercrops to some 586 farms from the 8 KAANIB Enterprise Development Project (KEDP) sites within the province. The project is designed to promote and institutionalize coconut-based enterprise through an integrated resource service convergence approach to increase farm productivity and incomes of the small coconut farming communities. Likewise, 21 heads of carabao, 57 heads of cattle, 57 heads of goat, and 1,242 heads of native chicken were distributed for integration into some 197 coco farms from 10 KEDP sites.

Copra still remains as the major product from coconut. The major problem of copra production is the fluctuating and decreasing farm gate prices which lessens the real economic benefits for farmers. It is therefore encouraged to involve farmers in the production of other coconut products and by-products, thereby providing them with new sources of income. In line with this, PCA is already assisting four Virgin Coconut Oil (VCO) processing plants from four municipalities and one

Coir Processing Plant in Carmen. In addition, PCA is going to establish 7 Coir Processing Plants and 1 Coconut Sugar Processing Plant in eight municipalities under the KANIB Enterprise Development Project (KEDP). Furthermore, 2 Coco Hub sites will also be established in the province, which will engage in geonet and coco sugar production.

In Bohol, there exist a potential for the development and enhancement of other commercial crops. An emerging crop is the oil palm, which offers promising economic opportunities and benefits to farmers. Since 2008, there are about 6,500 hectares of land in the province planted with oil palm ([Map EC-7](#)), although its production has been decreasing by 40% from 54,166 metric tons in 2010 to 32,398 metric tons in 2014. It has been estimated that a hectare of plantation can produce 5 to 10 tons of palm oil depending on the palm maturity.

While this development may be promising, there are still some sectors in the province that are skeptical on the environmental viability of oil palm development, stressing the harmful effects that the crop may bring to the environment. These environmental concerns can be addressed through the use of new technologies for better yield and environment-friendly processes. There is a necessity to sustain soil fertility through the use of organic-inorganic technology for fertilizers, and waste recycling.

LIVESTOCK AND POULTRY DEVELOPMENT

Livestock and poultry significantly contribute to the economic status of the province and its people. Being a good source of milk, meat and eggs, animal protein requirement of the Boholanos are sufficiently met by our local production of livestock and poultry. With an average farmer's land area of 0.25 hectare, the carabao, considered to be the "beast of burden" is commonly recognized to be the farming buddy of farmers. Despite being a large contributor to greenhouse gases, livestock and poultry wastes are also good sources of organic fertilizer and renewable energy. Livestock and poultry raising is a good source of income as it provides alternative livelihood and entrepreneurial opportunities at the household and community levels.

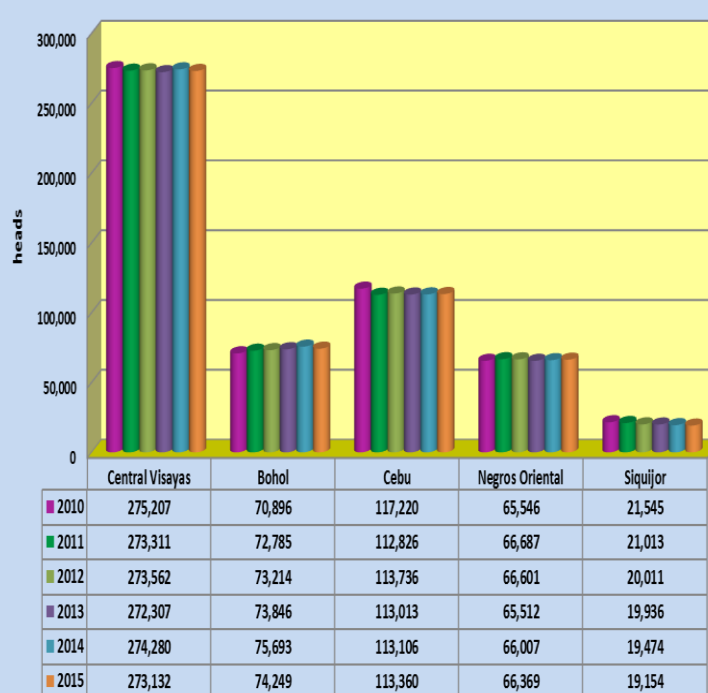
The province of Bohol has the following conditions that make livestock and poultry production favorable:

- Bohol as an island is bounded by bodies of water that provide natural boundaries and defense against livestock diseases. To date, the province is FMD and Avian-flu-free area, thus having the advantage edge for exporting livestock to other provinces;
- Geographically located in the central part of Visayas, the province is part of the nautical highway, thus providing easy access to markets within Visayas, Mindanao and Luzon;
- As a prime tourist destination, production requirement of meat, eggs, milk and milk products is high for local consumption and domestic markets;
- Demand for livestock and poultry product is huge considering that it is the "BIDA" or the basic commodity during celebrations especially on fiestas, thanksgiving and social reunions;
- Bohol has vast agricultural areas where farm products and by-products can be utilized as feed resource and the existing non-arable areas can be utilized for livestock production;
- It is fortunate that the largest government production center in the country, the Ubay Stock Farm, is located in the province where livestock production management, breed preservation, technical services and researches are offered, demonstrated and showcased;

- The presence of national dairy facilities such as the National Dairy Authority (NDA) multiplier farm and processing center as well as the Philippine Carabao Center (PCC) dairy farm, processing and research center has boosted the development of our local dairy industry;
- There is the presence of organized active network of volunteers called Barangay Livestock Aides "BALA" and Village-based AI Technicians "VBAIT" providing immediate services in terms of livestock-related needs of our farmers or livestock raisers even in the far-most communities; and
- The Provincial Government considers dairy and native chicken as its commodity champions and has poured out its strong support with resources and policies.

Generally, production is still backyard and livestock and poultry remains to be the most convenient immediate option in critical times like hospitalization and emergencies, educational needs and immediate source of cash. Initiatives have been developed to enhance production and health management yet, more has to be done on the aspects of waste management, the provision of support pre and post-harvest facilities to meet public safety standards and product development requirements. More so, there is a need to educate our local producers, traders and livestock handlers on the importance of value chain and the necessary interventions needed for the total development of the industry to achieve not only production sufficiency but value adding of products to open entrepreneurial opportunities.

Figure EC-10. Cattle Inventory, 2010-2015



• Ruminant Production

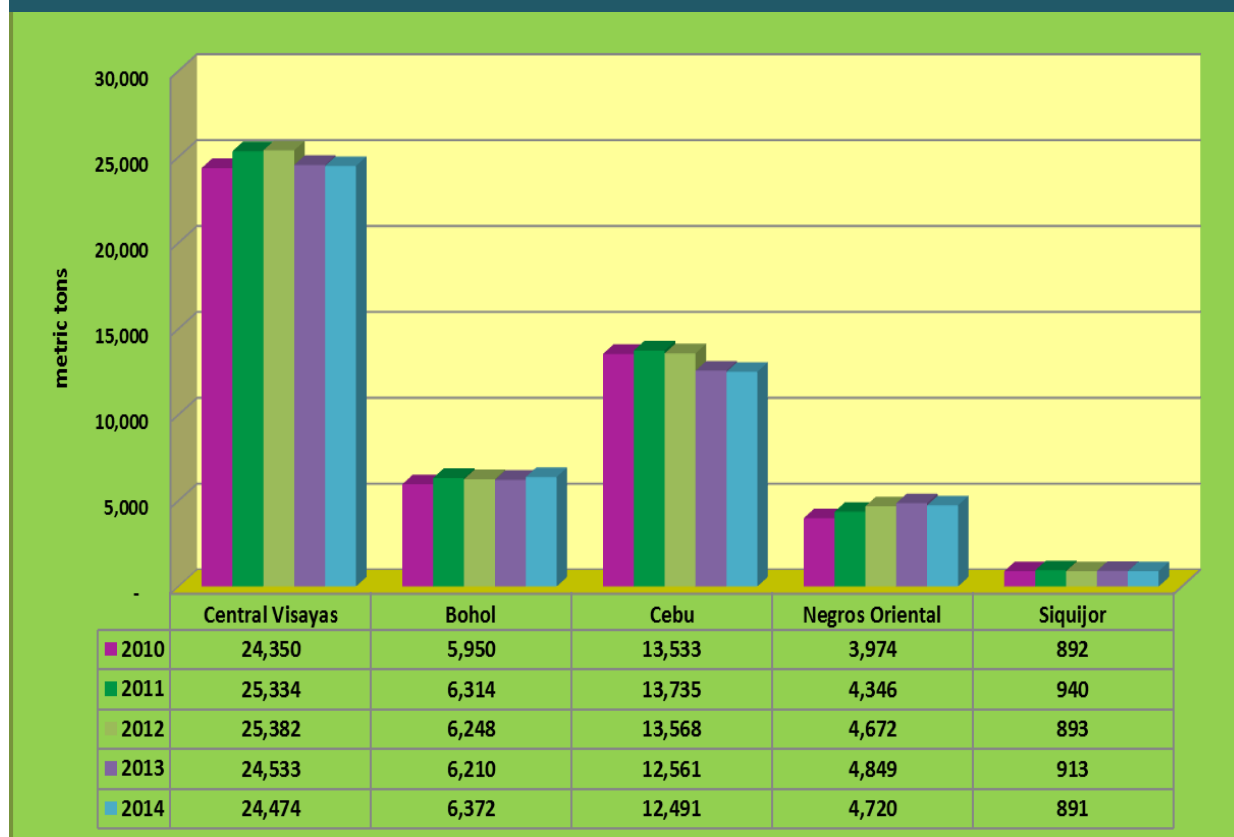
The province's ruminant production is centered on cattle, carabao and goat which are predominantly on the backyard scale. Although government and private sector initiatives have been pushing to upgrade existing local breeds through artificial insemination or natural breeding, the ruminant population is dominantly of native breed.

Cattle

The inventory of cattle in the province showed an increasing trend from year 2010 with 70,896 heads to 75,693 heads in 2014 while a slight decrease of about 2% is reported in 2015². In terms of number, cattle have the second largest population among the ruminants in Bohol with 74,240

² CountryStat Philippines, Philippine Statistics Authority

Figure EC-11. Cattle Production, 2010-2014



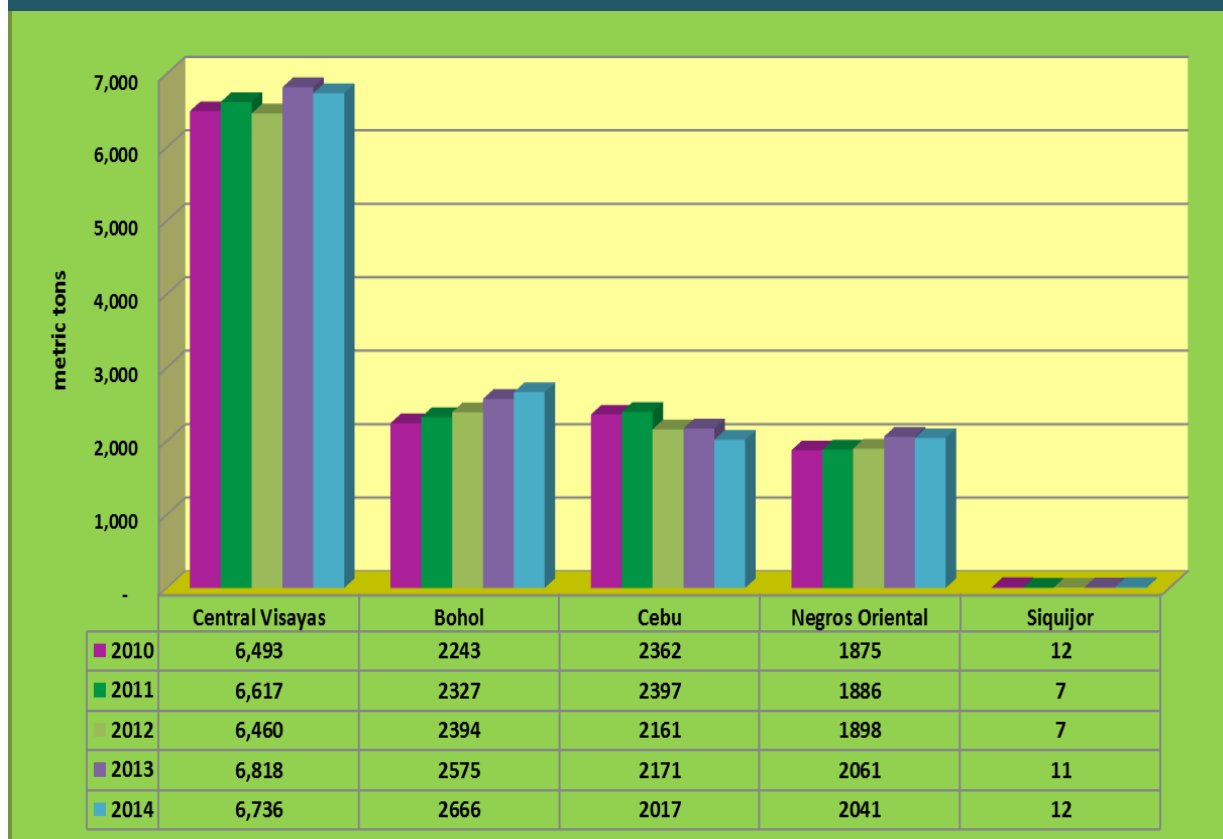
heads in 2015, or 33% of the total inventory of ruminants for that year. Within same period, Bohol's cattle population consistently ranks second to Cebu and notably provides a significant share of 27% to the cattle supply in region 7 for the year 2015.

On beef production in 2014, Bohol has 26% share in the region with 6,372 metric tons. With an average per capita consumption of 0.522 per year, Bohol on same year showed a sufficiency level of 438.07%. It is worthy to note that beef has been consistently sufficient for the past 5 years. The national production in 2014 also showed that Region 7 is the tenth among other regions producing 794 metric tons³.

According to the slaughter records of 2015, the top 5 municipalities with most number of slaughtered cattle are as follows: Ubay with 725 heads; Talibon 664 heads; Carmen 596 heads; Jagna 586 heads; and Guindulman with 537 heads. It is indicated that the average live weight of cattle butchered in municipal-operated slaughterhouses is 160.43 kilograms only which is below the ideal weight for economic recovery.

³ Philippine Statistics Authority (PSA)

Figure EC-13. Carabao Production, 2010-2014



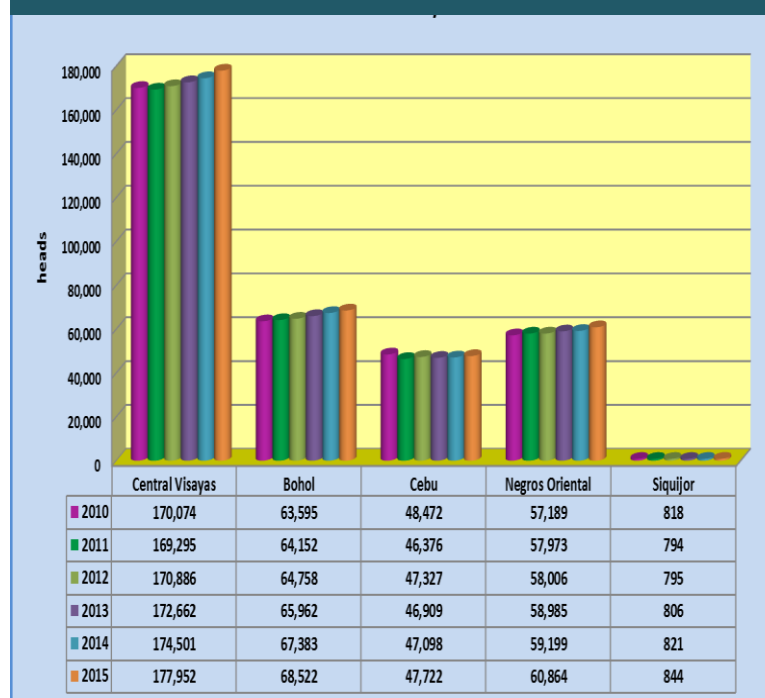
Carabao

For the period 2010-2015, the carabao population of the province showed a consistently increasing trend from 63,595 heads in 2010 to 68,522 heads in 2015 at an average rate of 1.5%. Carabao inventory ranks third over all other ruminants in the province.

At the regional level, Bohol is on top among other provinces of region 7 and contributes 39% of the total inventory of Central Visayas in 2015.

Being known as silent heaters, carabaos are difficult to breed. However, with the strong upgrading program being pushed by the Provincial

Figure EC-12. Carabao Inventory, 2010-2015



Government of Bohol, with the support of Philippine Carabao Center (PCC) and the Department of Agriculture (DA), increase in population is achieved. Among the priority aspects given attention are the following:

- 1) Productivity among carabaos through the conduct of heat synchronization and flushing in support to artificial insemination services;
- 2) Provision of drugs and biologics to support animal health program;
- 3) Enhancing the capabilities of AI technicians; and
- 4) Provision of incentives to AI Technicians for every calves dropped.

Furthermore, the infusion of carabaos through dispersal and livelihood programs funded by the Provincial Government of Bohol (PGBh) and other national agencies like Department of Agriculture (DA), Department of Social Welfare and Development (DSWD) and Department of Labor and Employment (DOLE) has also affected this population increment. The successful implementation of the LETS HELP Bohol Program where original farmers were able to pass on caracalves to new farmers, also contributed to the increase of carabao population.

On meat production at the regional level, the province ranks second to Cebu in 2010 with 2,243 metric tons, but showed a consistently increasing trend surpassing Cebu until 2014. Bohol produced 2,666 metric tons which represents 40% share of the total carabeef produced in Central Visayas in 2014. At the national scenario, Region 7 placed 13th among other regions producing 178 metric tons. With a per capita of 0.145, carabeef is sufficient indicating a positive rate of 659.83% in 2014.

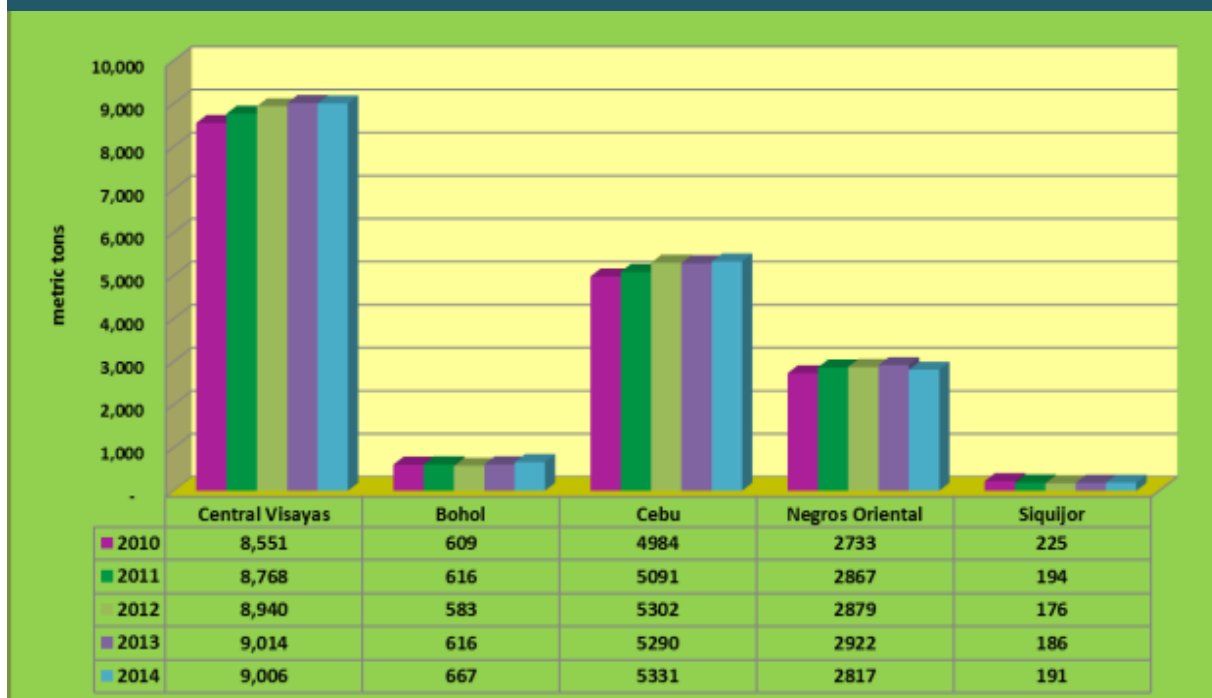
Boholanos claimed to be carabeef consumers that made the dish very special during fiesta celebrations. Contrary to this claim, the study conducted in 2008 by the OPV personnel, revealed that not all parts of Bohol favors or like carabeef over other meat.

Among the top 5 municipal-operated slaughterhouses with the most number of carabao slaughter based on the 2015 records of the Municipal Meat Inspectors, revealed that Tagbilaran City as the top with a total of 1,147 heads, followed by Ubay with 366 heads, Tubigon with 292 heads, Loboc with 120 heads, and Jagna with 101 heads slaughtered. Among these municipalities, records also showed that butchered carabaos has an average live weight of 250.60 kilograms, which is below the ideal weight for economic recovery.

Goat

The total inventory of goats in the past 6 years, showed an increase of 3% from 2010 with 69,091 heads to 71,245 heads in 2011. However, a slight 1% decrease is observed in 2012, followed by an increasing trend in the succeeding years. Consistently, Bohol ranks third among the provinces of Region 7 and shares 16% of the total inventory in Central Visayas. Chevron production showed

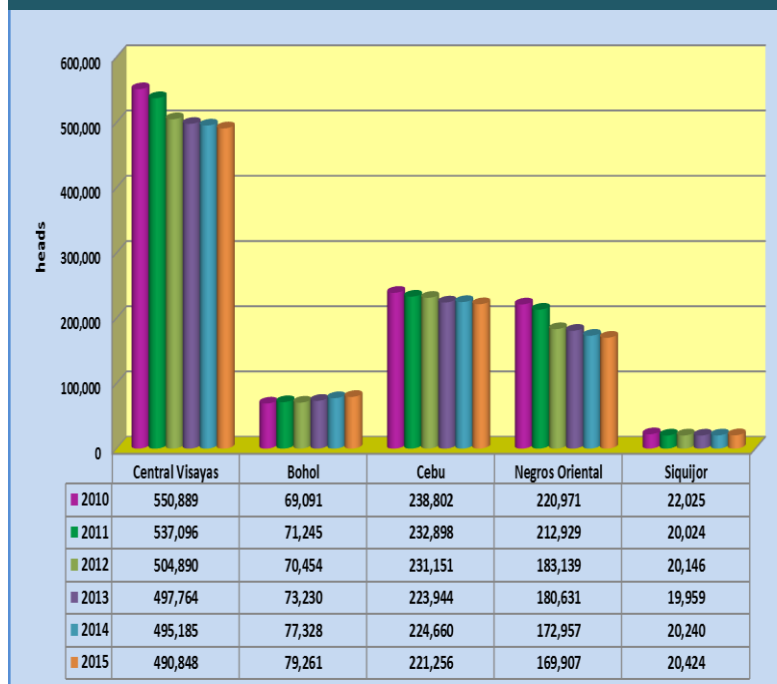
Figure EC-15. Goat Production, 2010-2014



a downtrend from 609 metric tons in 2010 to 583 metric tons in 2012 but showed an increasing trend in the succeeding years until 2014 with 667 metric tons. The national production of 2014 showed that Region 7 ranks third among other regions producing 341 metric tons. With a per capita consumption of 0.030, Bohol is very sufficient of chevon at a rate 702.15% in 2014.

Attempts have been made by private raisers to commercialize goat production in Bohol, considering it as generally backyard. Chevon provides a special yet an expensive menu for Boholanos. It is not commonly sold at the local markets and seldom in the groceries and meat shops. Live goats also are not commonly found in livestock pooling areas and local markets and its availability commands a higher price. One of the factors affecting low supply is that our farmers' knowledge on goat farming and the importance of forages and pasture development, is not enough compared to large animal raising

Figure EC-14. Goat Inventory, 2010-2015

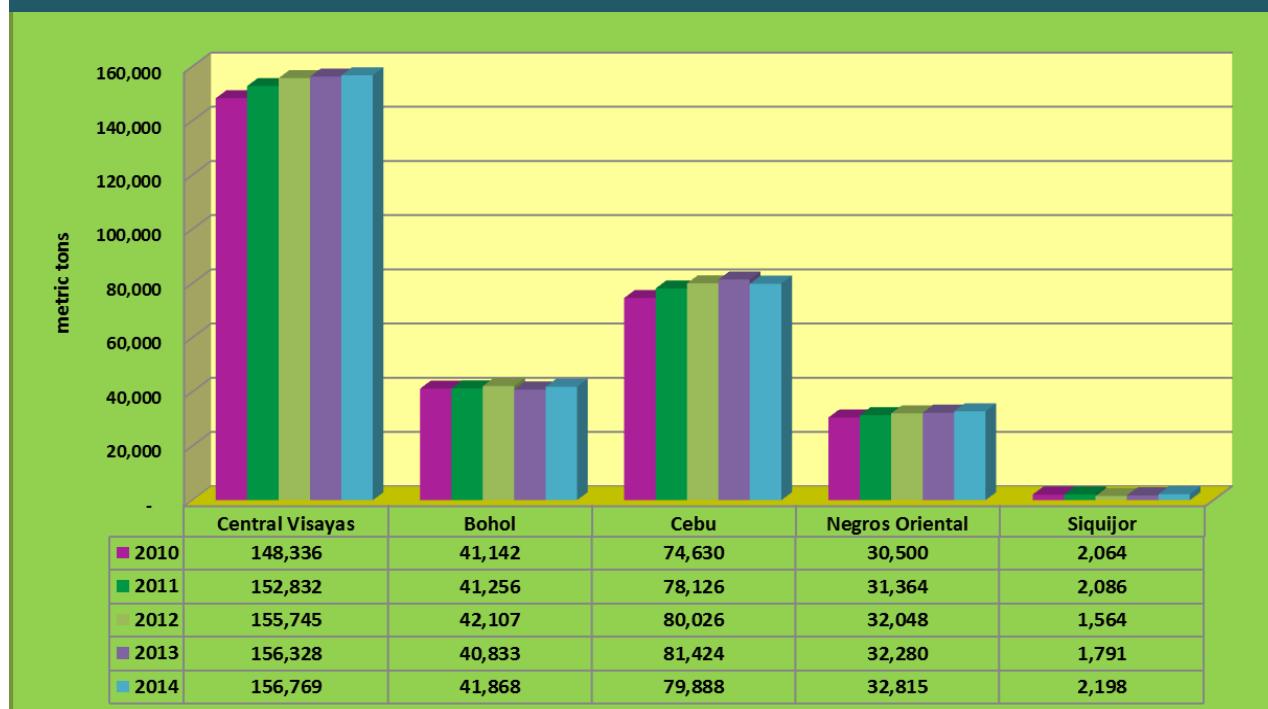


and this area must be a top consideration in the next 5 years. Goat also seldom goes to the

slaughterhouses. The 2015 records show that there are only 133 heads slaughtered in 2015 with a total dress weight of 1,604 kgs. Based on this, a head of butchered goat has an average live weight of only 24.12 kgs.

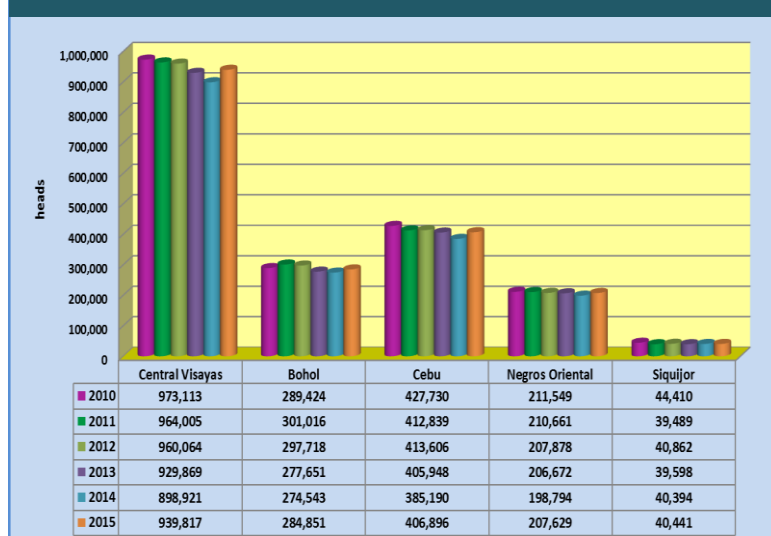
- **Hog Production**

Figure EC-17. Hog Production, 2010-2014



The province ranks second to Cebu among the provinces of Region 7 in hog inventory. However, an erratic trend is shown in the past 5 years (2010-2015) reflecting the highest count in 2011 with 301,016 heads. The province has 30% share of the total inventory in Central Visayas.

Figure EC-16. Hog Inventory, 2010-2015



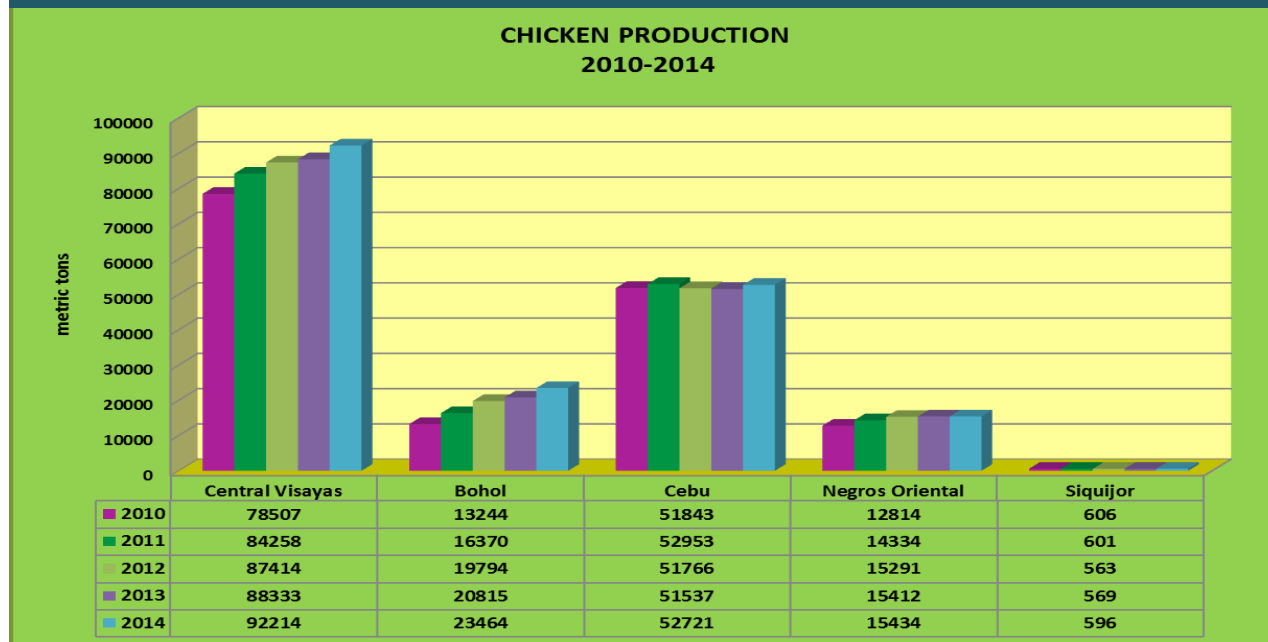
Pork production also reflected the same fluctuating trend in the past 5 years and has contributed 27% of the total pork produced in Central Visayas in 2015. At the national level, Region 7 belongs to the top 5 producing provinces and ranks fourth among all other regions with a recorded pork production of 7,752 metric tons.

Production of hogs has reached the level of commercialization with the private sector on the lead. In fact, there are a number of commercial farms, even breeder farms that are

operating in different municipalities. This affected the value of hogs from small scale backyard raisers resulting to a cheaper/lower buying price or difficulty in marketing for a live weight over 80 kilograms.

- **Poultry Production**

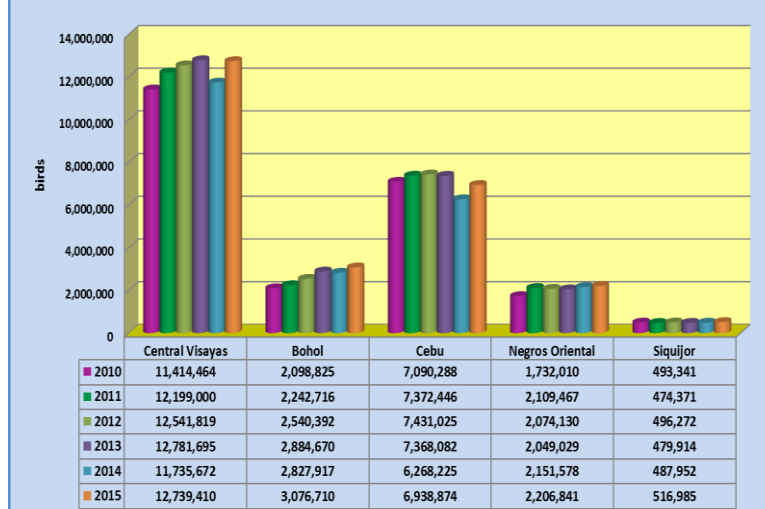
Figure EC-19. Chicken Production, 2010-2014



Poultry production refers to broiler, layer, native chicken and ducks including eggs. The total inventory for the past 5 years showed an increasing trend with a recorded 2,098,825 heads in 2010 to 2,884,670 heads in 2013, as per PSA report. A slight decrease of 20% is observed in 2014 followed by an increasing trend in the succeeding year 2015. Bohol placed second to Cebu and has 27% share to the total inventory of chickens in 2015.

A consistently increasing trend from 2010 to 2014 with a 25% share in the total chicken production in Central Visayas in 2014, Bohol is positioned as second to Cebu with a total of 23,464 metric tons of chicken meat produced. At the national level on same year, Region 7 placed sixth among all other regions with a recorded total production of 4,562 metric tons. Bohol has reached the level of commercializing chicken production more particularly in broiler and layer. In fact, private

Figure EC-18. Chicken Inventory, 2010-2015

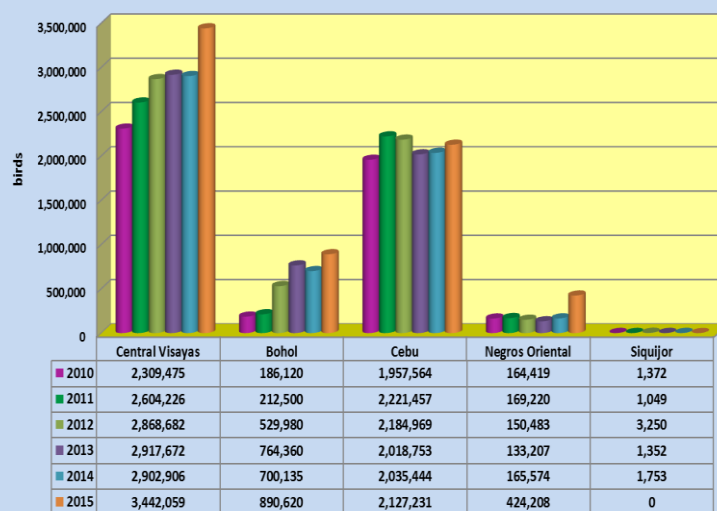


farms or contract growing is evident and progresses even without government intervention. With a per capita consumption of 4.933 kilograms, the province recorded a positive sufficiency rate of 262.88% in 2014.

Broiler

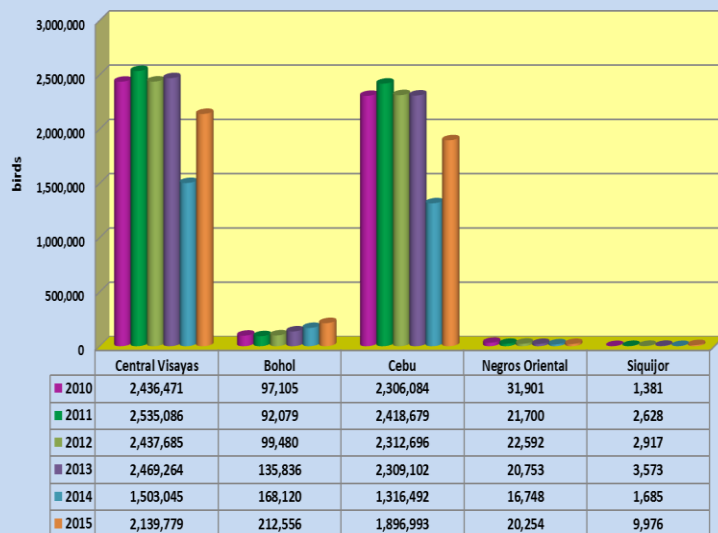
Bohol showed a consistently increasing trend in broiler inventory in the past 4 years from 2010 to 2013, with a drop of 8% in population in 2014 followed by an increase in the succeeding year. Bohol ranks second to Cebu in 2015 and contributing 26% share to the total inventory in Central Visayas. Records of 2015 (NMIS-Bohol) showed a total of 12,061,564 broilers slaughtered with a total dressed weight of 13,076,299.9 kilograms; 99.9% of it comes from privately owned and operated dressing plants of BQ, Marcela, Alturas and Albuquerque.

Figure EC-20. Broiler Inventory, 2010-2015



Layer

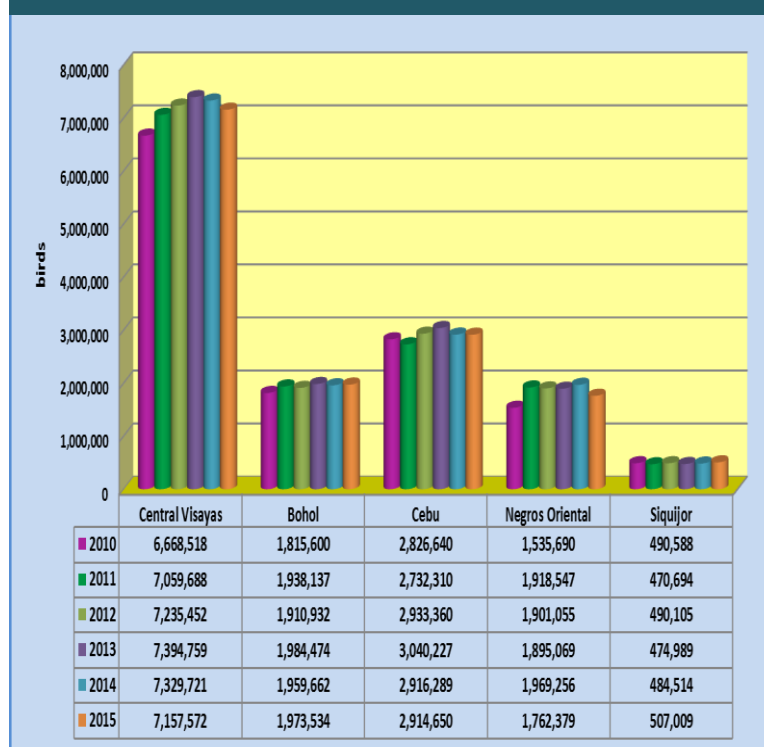
Figure EC-21. Layer Inventory, 2010-2015



From year 2010 to 2011, a downtrend on layer inventory from 97,105 birds to 92,079 birds is indicated but becomes consistently increasing in the succeeding years. Among the 4 provinces of Region 7, Bohol is second to Cebu and has 10% share of the total inventory of Central Visayas in 2015. Production of layers has been assumed by a commercial hatchery owned and managed by a private company.

Native Chicken

Figure EC-22. Native Chicken Inventory, 2010-2015



At the regional level, native chicken inventory is higher over broiler and layer. Records show that Bohol ranks second to Cebu and has 28% share of the total inventory of Central Visayas in 2015. At the provincial level, native chicken inventory is fluctuating from 2010-2015. This can be attributed to the following general conditions: prevalence of poultry diseases; the unpredictable weather conditions brought about by strong typhoons; and the effects of El Nino.

Contributing factors that boosted the increasing inventory from 2014-2015 include the following: stock infusion through dispersal and livelihood programs of government agencies including

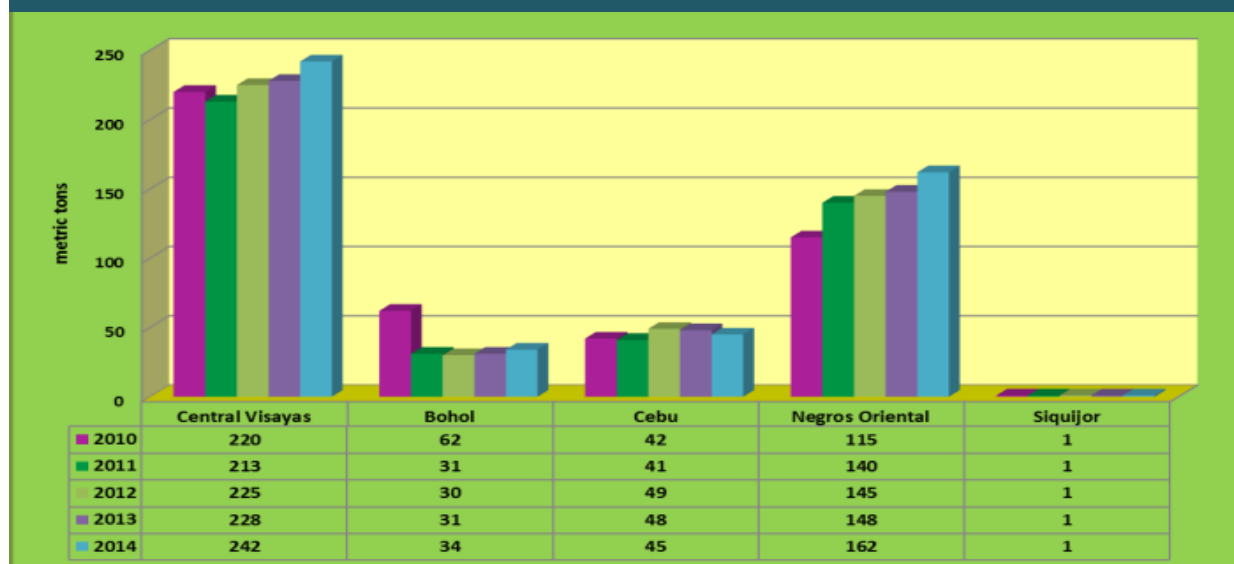
NGOs; the establishment of native chicken production and learning centers in the municipalities; the demand for native chicken meat and menus; and the enhanced awareness of growers on native chicken slowly shifted the idea of production for consumption to an enterprising endeavor.

The native chicken has increased its popularity among the health conscious and tourists, thus demand seemingly increases. The Provincial Government of Bohol considers native chicken as a commodity champion with dairy and has strongly supported the implementation of a Native Chicken Development Program. Starting year 2015, provincial and municipal-based Native Chicken Production Centers are established covering 25 municipalities with the intention of providing breeder stocks for massive production. Organized groups of native chicken raisers are now leveling up its operation from a mere production for consumption into the higher segment in the value chain which is commercial venture such as processing and vending.

Ducks

The inventory of duck has declined from 2010-2011 but recovered in the succeeding years until 2015. However, for the past 6 years, a greater decline is revealed from 29,146 heads in 2010 to 26,199 head in 2015. Bohol ranks second to Negros and has 18% share to the total inventory in Region 7. Duck production in Central Visayas also showed an erratic movement from 2010-2014.

Figure EC-24. Duck Production, 2010-2014

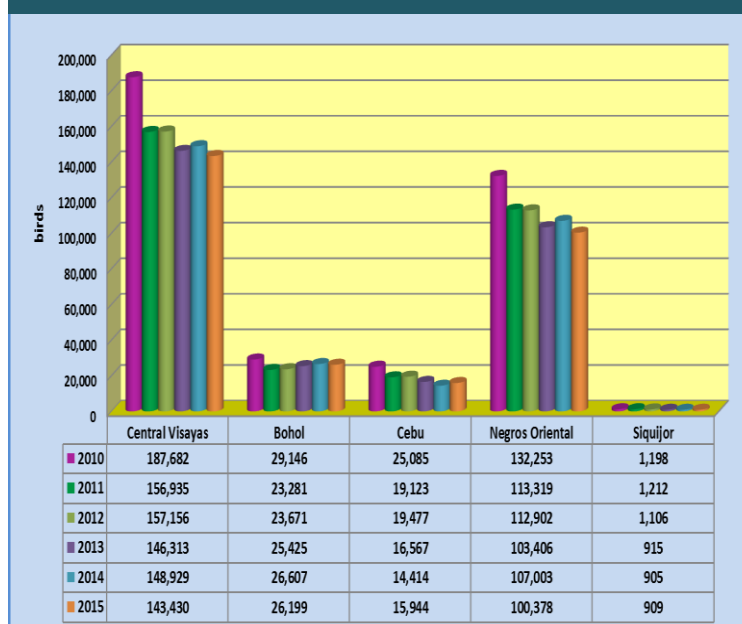


At the national level, Region 7 in 2014 is positioned at seventh place among all other regions producing 11 metric tons. With a per capita consumption of 0.014 kilograms, Bohol recorded a sufficiency rate of 128.79% which indicated that the province has enough production of duck meat.

Duck raising however is concentrated more on production of eggs for balut rather than for meat. It is also used by rice farmers as a control measure against water snails or “Kuhol”. Generally, duck -based menus are not very common in the province and even in the City. In fact, duck meat is seldom sold in groceries and restaurants.

Very few are raising ducks and the flock maintained is just enough for egg production. Areas of concern like space requirement, the production management and health aspects including value-adding or

Figure EC-23. Duck Inventory, 2010-2015

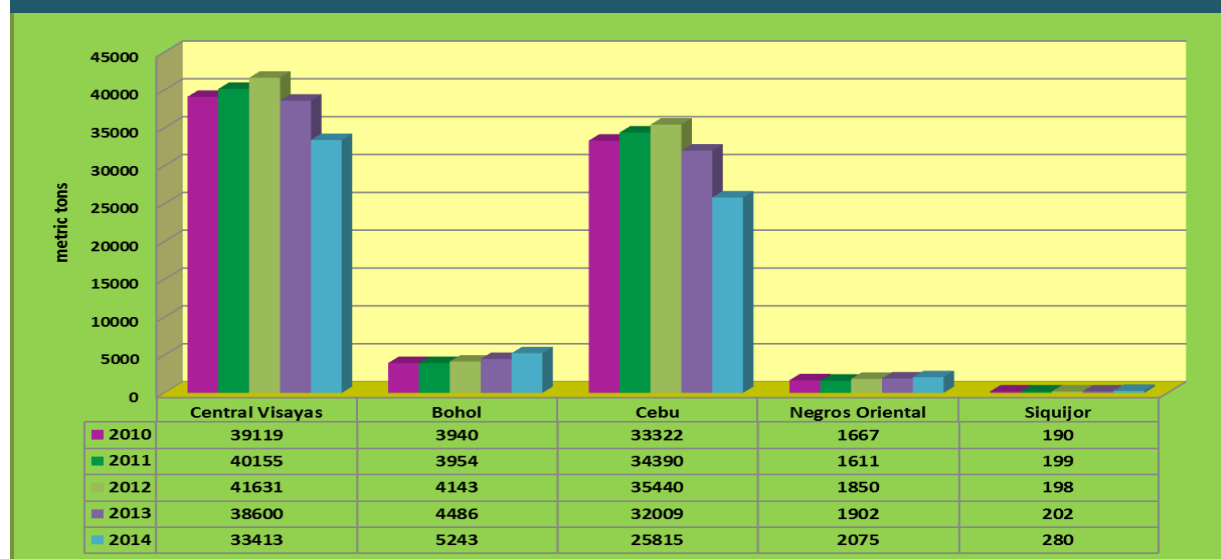


product development has not been intensely promoted making it difficult to produce in the province despite market demand.

Eggs

The national scenario indicated that Region 7 ranks fifth among the regions in egg production in 2014. Bohol ranks second to Cebu in 2014 which has a 16% share to the total egg production in Central Visayas.

Figure EC-25. Chicken Egg Production, 2010-2014



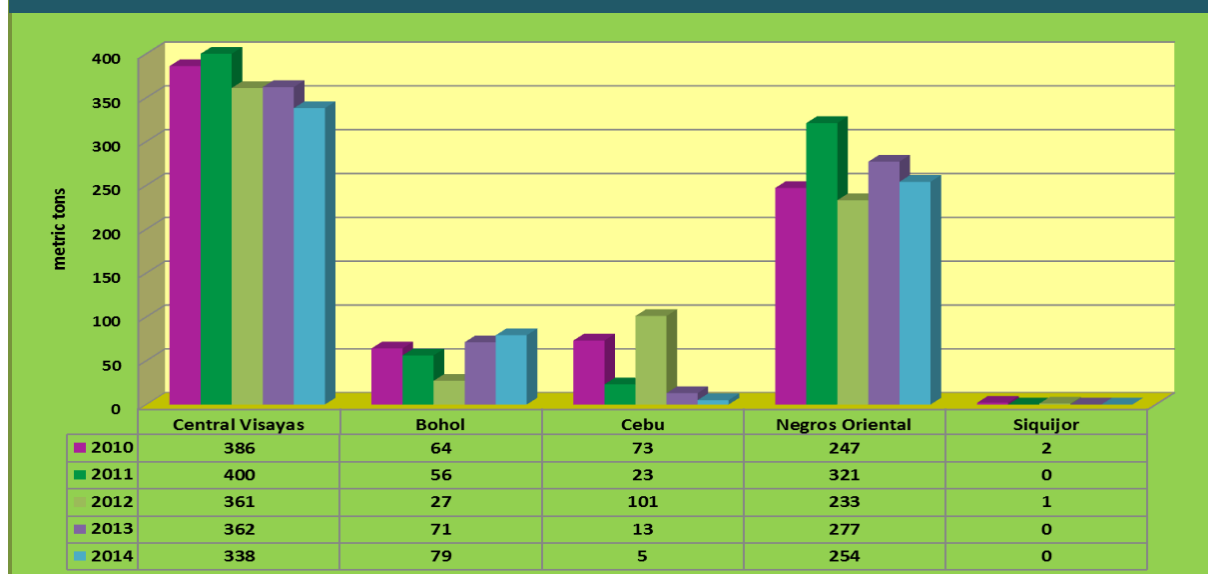
Chicken egg production in the province has been consistently increasing for the past 5 years, from 3,940 metric tons in 2010 to 5,243 metric tons in 2015. However, despite the above-performance, chicken eggs have been consistently insufficient for the past 5 years from 2010-2014. With a per capita of 3.406 kilograms, a sufficiency rate in chicken eggs of 82.86 % in 2014 is recorded, which is below the 100% sufficiency level.

Chicken egg requirement in 2015 (VQ Report) has been compensated by the importation of 2,431,300 eggs from Cebu and Misamis Occidental while 3,510,389 eggs come from Cebu and Misamis Oriental for the period January - June 2016.

Balut

Compared to chicken egg, duck egg production shows a declining trend from 2010-2012 from 64 metric tons to 27 metric tons. However, an increase is reflected in 2013-2014 from 71 to 79 metric tons. In Central Visayas, Bohol ranks next to Negros in 2015, and at the national scenario, Region 7 is the last among regions with a production of 13 metric tons compared to Region 3 which ranked first with a production of 642 metric tons. Just like chicken eggs, duck egg production is consistently insufficient for the past 5 years. With a per capita consumption of 0.104 kilograms, the year 2014 indicated a low sufficiency rate of only 42.94%.

Figure EC-26. Duck Egg Production, 2010-2014



Balut in the province is largely imported from Luzon. The 2014 records (VQO Report) show that 536,920 pieces of balut or embryonated eggs with a monetized value of P9,664,560.00 were shipped in from Manila. This increased to 756,800 pieces with a monetized value of P13,622,400.00 in year 2015.

• Dairy Production

Dairy is one of the commodity champions identified by the province aside from native chicken. Dairy farming initiatives started with the Philippine Carabao Center (PCC) using dairy type murrah buffaloes. The National Dairy Authority (NDA) also started with 100 head multiplier dairy farm in 2010 with Holstein Friesian bloodline. These dairy herds can be found in barangays Lomangog and Calanggaman in Ubay, respectively.

Since then, these 2 government agencies are working hand-in-hand with the Provincial Government of Bohol in improving local milk production by increasing the number of dairy animals and also improving milk production potential through genetic improvement program.

Dairy animal population and milk production has been significant in Bohol considering its carabao population of 68,522 heads and 74,249 heads of cattle, as of 2015. The consolidated data of milk production from various sources has indicated a growth at an average of 33% from years 2010 to 2015.

Table EC-1. Institutional and Farmers' Dairy Production, 2010- 2015

Year	Institutional Farms Milk Production: PCC (in liters)	Farmers Level Milk Production (in liters)	Institutional Farms Milk Production: NDA (in liters)	Total (in liters)	% Increase of Milk Production
2010	43,652.35	10,786.70	12,139.30	66,578.35	
2011	52,849.60	19,622.32	148,580.00	221,051.92	233.00
2012	61,591.90	35,531.00	154,948.80	252,071.70	14.03
2013	65,476.60	56,441.00	168,882.30	290,799.90	15.36
2014	78,574.31	66,217.86	174,325.20	319,117.37	9.74
2015	76,878.78	62,319.34	132,060.70	271,258.82	-15.00

Source: PCC & NDA

In a span of time, value-adding and product development made fresh milk more popular with new product formats booming like milk bars of various flavors, milk-based bread and pastries, ice cream, cheese, yogurts and even milk-based soaps. The establishment and operation of the milk processing plants of NDA side by side with PCC in Ubay, has promoted milk and created public awareness on its availability and affordability. Community or farmer-based dairying is something that should be intensified and provided support.

FISH PRODUCTION

Fishing is the second source of income and livelihood in the province. Out of the province' 47 municipalities, 30 are coastal that are highly dependent on fishing and of the total 1,109 barangays, 303 are coastal and 64 are island barangays. Bohol has a coastline length of 654 kilometers and about 6,245 square kilometers of municipal waters. The number one source of animal protein in Bohol comes from our coastal ecosystems.

As of the 2015 Census of Population, Bohol has a total population of 1,314,000, of which about 33% are directly dependent on marine ecosystem for livelihood through fishing. Out of this population, more than 47,772 are registered Municipal Fisherfolk and 20,125 are full time Commercial Fishers and the rest are those involved in ancillary industries related to fishing, such as fishing gear trading, fish sellers, fish processors and fish consolidators. BFAR data shows that as of March 2016, the number of boats in the province reached 9,611 and 6,407 registered gears.

Water Resources for Fisheries⁴

There are three (3) major fishing grounds that surround the province. The Bohol Sea is the major fishing ground for fishers from the Eastern and Southern part of Bohol. Cebu Strait is the fishing ground for those living in Northwestern part of the province, while the Danajon Bank caters for fishers from the Northern portion of Bohol.

Municipal waters cover 6,245.06 km² (refer [Figure EC-27](#)), and a total length along shoreline excluding offshore islands of 653.65 kilometers. There are three (3) major fishing grounds in Bohol, namely: Bohol Sea, Cebu Strait and Danajon Bank with a total area of 27,352.5 km² inside and outside Central Visayas. Bohol Sea has 273.3 km. coastline, Cebu strait has 264.8 km. and Danajon Bank has 301.0 km. (see [Table EC-2](#)). Each of these bodies of water can be considered a discrete ecosystem which has multitudes of habitats, such as mangrove forest, seagrasses, mudflats, sandy beaches and others. These are the main feeding grounds, nursery areas and spawning grounds of coastal dwelling marine aquatic organisms.

The area of municipal waters is even bigger than the total land area of the province. Productivity is directly associated by the diversity of the major ecosystem abutting these areas. Municipal fishers which constitute the bulk of resource users have competed with the commercial fishers in using the resources. Municipal waters under R.A. 7160 and R.A. 8550 extend fifteen (15) kilometers going seaward measuring from each coastal shoreline, which is under the management jurisdiction of the local government units.

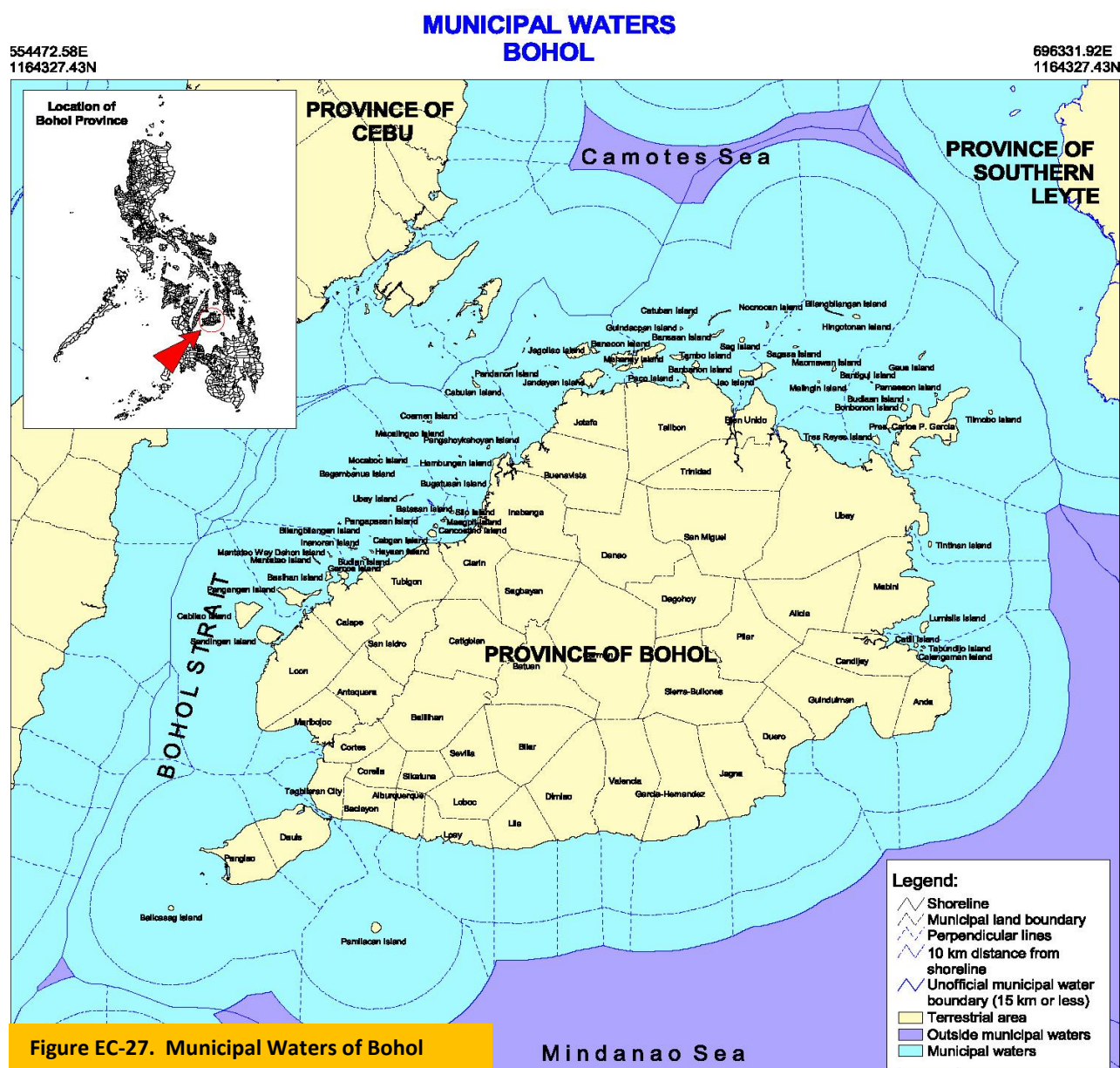
⁴ Bohol Agriculture Master Plan (BAMP), 2006-2026

Table EC-2. Total Area of Different Fisheries Ecosystems Including Area Outside of Central Visayas, May 2005

Ecosystem	Coastline (km)	Total Ecosystem Area (km ²) (Inside & Outside of CV)
Bohol Sea	273.3	20,943.6
Cebu Strait	264.8	3,933.0
Danajon Bank	301.0	2,475.6
Camotes Sea	248.2	7,448.0
Tanon Strait	452.7	3,995.2
Visayan Sea	242.1	11,696.3
Sulu Sea	205.5	285,612.9
Total	1,987.6	336,104.6

Source: CRMP-GIS, 2004; BFAR Reg. VII, Cebu City; May 2005

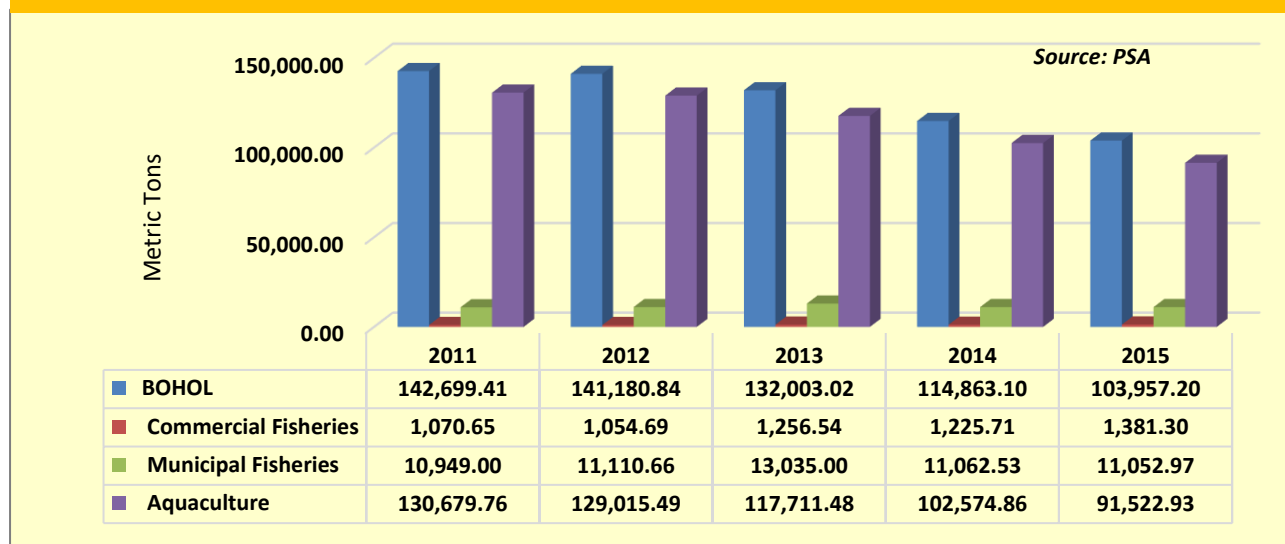
Bohol Sea is also known as **Mindanao Sea**. This large body of water is bounded by the island of Mindanao (south and east), Bohol and Cebu (north) and Negros (west). It measures about 270 km.



Fisheries Production

Although the province is rich in marine resources, but its fish production cannot meet the requirement of its population. More so with its declining production, from 142,699 metric tons fish catch in 2011, it decreased by 27% in 2015, resulting to a production of 103,957 metric tons, increasing its deficit to 9,9045 metric tons or a sufficiency level of only 61% (*Figure EC- 29*).

Figure EC-29. Fisheries Volume of Production, Bohol, 2011-2015



For fisheries production, catch from aquaculture activities remains to be the highest contributor to the volume of fishery production in the province. In 2015, aquaculture posted 88% share in total production with seaweeds production contributing a larger share of 85%. Municipal fishery shared only 11% of the production, with commercial fishing and brackishwater/ freshwater fishing both contributing only 1% (*Figure EC-30*).

• Municipal Fishing

The province has municipal waters that cover an area of 624,506 hectares. It is in these areas where most of fisherfolks get their catch. However, municipal fishing in the province has been observed to have a declining trend of fish catch for the past 2 years from the 2013 production of 13,035 metric tons, it decreased by 15% into 11,053 metric tons in 2015 from 11,062 metric tons fish catch in the previous year, (*Figure EC-31*). Marine municipal production contributed 99% of the total municipal fisheries volume of production, while a measly 1% comes from the inland municipal fisheries.

Figure EC-30. Total Fisheries Production, Bohol, 2015

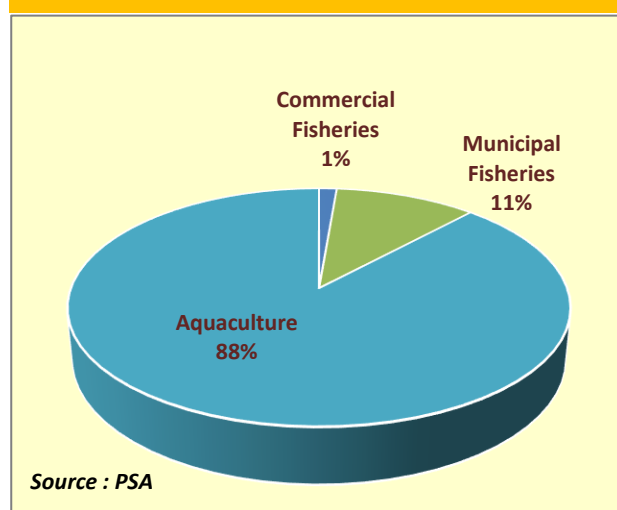
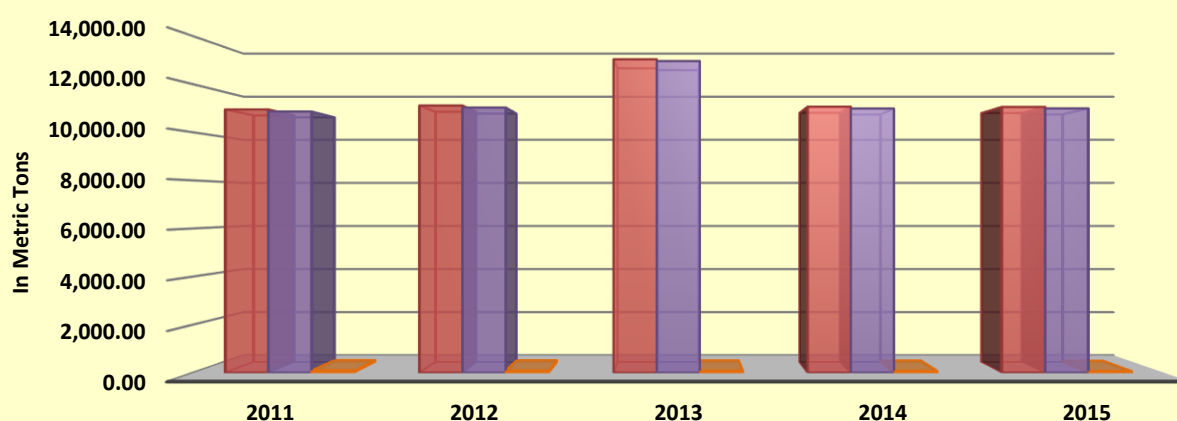


Figure EC-31. Municipal Fisheries Volume of Production, 2011-2015

	2011	2012	2013	2014	2015
Municipal Fisheries	10,949.00	11,110.66	13,035.00	11,062.53	11,052.97
Marine Municipal Fisheries	10,862.63	11,028.08	12,958.84	10,987.80	10,991.15
Inland Municipal Fisheries	86.37	82.58	76.16	74.73	61.82

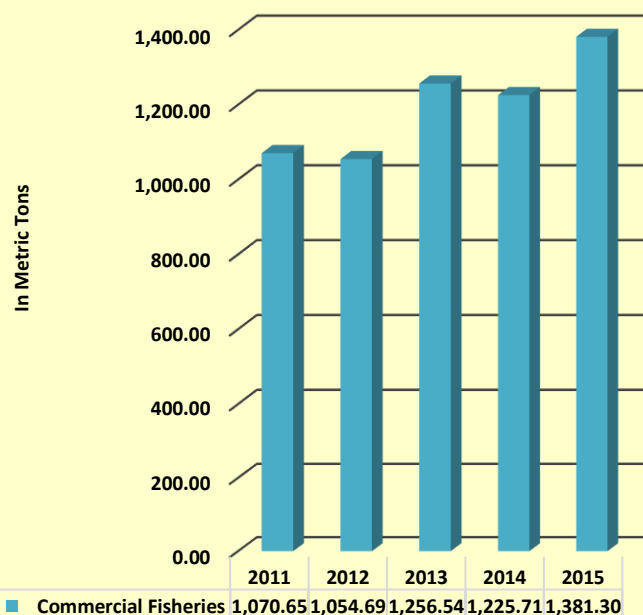
Source: PSA

These levels of fish production can be attributed to the seasonality of fishery resources and the weather which oftentimes create an unfavorable condition for fishing. Fisherfolks are also confronted with limited resources to upgrade their fishing gears and methods that could have facilitated the increase in their fish catch. There are only about 8,952 motorized fishing boats in the province compared to the 11,686 non-motorized fishing boats in coastal municipalities. Generally, fishing methods are still traditional which limits the volume of catch of poor fishermen.

• Commercial Fishing

Commercial fishing in the province has been observed to have an irregular trend of fish catch for the past 5 years (*Figure 32*). From a high commercial production in 2013, it decreased the following year and increased again to 1,381 metric tons in 2015. This can be attributed to the fishing restrictions in the waters of Bohol Sea and other fishing grounds for commercial fishers. Weather conditions and rough seas also affected this trend, resulting to lesser fishing activities undertaken within the appropriate commercial fishing areas of the province.

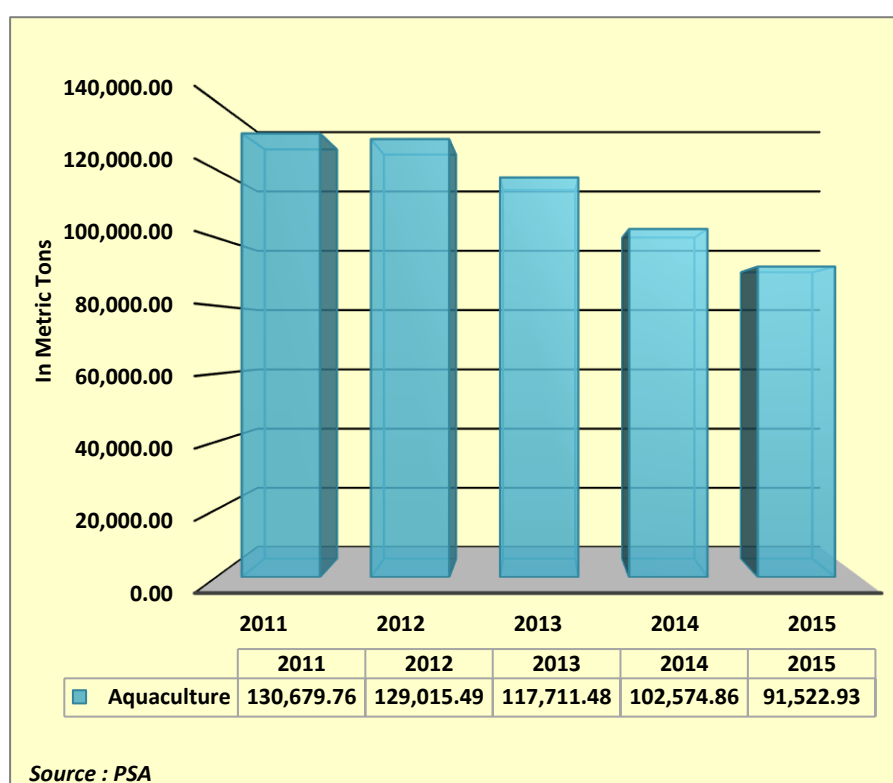
Bohol has a minimal number of registered commercial fishing boats, mostly owned and operated by few people - those that operate ice plants and distribution networks. These commercial fishers have been upgrading their fishing vessels as well as the technologies they use for fishing.

Figure 32. Commercial Fisheries Volume of Production Bohol, 2011-2015

- **Aquaculture**

In 2015, Bohol's aquaculture production has posted a decrease in output with a combined total of 91,523 metric tons, marking a decrease of 30% from the 2011 level (See [Table EC-3](#)). Seaweeds production accounts a significant share in the aquaculture industry in the province. In 2015, it accounted about 96% of the total aquaculture production.

Table EC-3. **Aquaculture Volume of Production, Bohol, 2011-2015**



	2011	2012	2013	2014	2015
BOHOL	130,679.75	129,015.47	117,711.48	102,574.86	91,522.93
Brakishwater Fishpond	3,345.66	3,463.43	3,128.17	1,896.86	2,411.68
Freshwater Fishpond	73.77	74.74	72.43	57.99	54.64
Marine Pen	112.93	125.18	138.79	138.98	101.53
Oyster	420.17	394.12	313.79	726.38	582.60
Seaweeds	126,715.88	124,947.92	114,046.65	99,752.95	88,372.48
Small Farm Reservoir	11.34	10.08	11.65	1.70	-

Source: CountryStat, Philippine Statistics Authority (PSA)

Figure EC-33. Aquaculture Volume of Production, Bohol, 2011-2015

Aquaculture production in 2015 decreased significantly over the past 5 years due to the 30% decrease in seaweeds production starting in 2011 ([Figure EC-33](#)). It was not able to recover from the effects of the natural calamities such as the 7.2 earthquake and followed by a strong typhoon later that year.

The same scenario is true in the region's seaweed production. Central Visayas volume of seaweed production decreased by 29% from 136,656 MT in 2011, to only 96,363 MT in 2015. Seaweed production in Bohol also decreased by 30% from 126,715 MT in 2011, to 88,372 MT in 2015 (*Figure EC-34*). Most of the seaweed production in the province is concentrated in the Danajon Bank of Bohol, covering the municipalities of Bien Unido, Talibon and Getafe. Hingotanan Island in Bien Unido, is a major producer of seaweeds. There are several seaweed processors buying Raw Dried Seaweeds (RDS) from the island.

Seaweeds is a global commodity well-suited to the Danajon Bank habitat because of the reef's shallow depth. The inner and outer reefs are divided by an inshore channel which is 28 meters deep at most. Seaweeds is not only economically significant for Bohol but also for Region VII. Ninety-two per cent (92%) of seaweeds production in Central Visayas comes from Bohol, and 97% of Bohol's seaweeds production is harvested from the Danajon Bank seaweed farms. Thus, it is expected that when Bohol's production decreases, production in Central Visayas also decreases. For example, in the recent series of calamities from 2012 to 2014, Bohol seaweeds production decreased, and so also the Region's production performance fell (*Figure EC-34*).

The province of Bohol has a very huge potential to expand its seaweed production areas. Bohol has 4,142 hectares of seaweed farms, which is mostly concentrated in the municipalities facing the Danajon Reef. But the province still has a potential for expansion of 4,673 hectares for shallow seaweed farming and 9,300 hectares for deep sea seaweed farming. Among the different municipalities of Bohol, Bien Unido is considered the top seaweed growing municipality in terms of existing and potential seaweed growing. Bien Unido has 7,600 hectares allocated as a mariculture zone. About 3,700 hectares or 47% is suitable for seaweed growing and it is the biggest potential area for seaweed growing in the entire Visayas.

Table EC-4. Existing and Potential Areas for Seaweed Farming in Bohol

Municipality	Areas in Hectares			
	Planted	Potential	Deep Sea Potential	Total
1. Bien Unido	2,282	1,733	2,000	6,015
2. Talibon	1,200	1,200	1,700	4,100
3. Inabanga	100	600	1,000	1,700
4. Getafe	400	400	1,500	2,300
5. CP Garcia	50	150	700	900
6. Ubay	20	80	300	400
7. Tubigon	30	170	700	900
8. Mabini	10	90	400	500
9. Buenavista	10	90	300	400
10. Clarin	10	90	300	400
11. Panglao	20	30	150	200
12. Candijay	10	40	250	300
TOTAL	4,142	4,63	9,300	18,115

Source: Seaweed VCA Report

FOOD SUPPLY AND DEMAND ANALYSIS

Population Growth

Based on the latest 2015 Census on Population, Bohol's population reached 1.313 million, showing a 0.87% average annual increase from the 2010 population count. Such annual growth rate is higher than the Central Visayas' growth rate of negative 2.25%. Bohol's population growth, however, is lower than that of the 1.70% national annual growth rate. With this growth, estimated population of the province in 2018 is pegged at 1.348 million and will further increase to 1.432 million in 2025.

Among the 48 localities, Tagbilaran City has the highest population with 105,051, followed by municipalities of Ubay, Talibon, Carmen, Tubigon, Inabanga, Dauis, Loon, Jagna, and Panglao. The municipality of Sikatuna is the least populated with only 6,726 population.

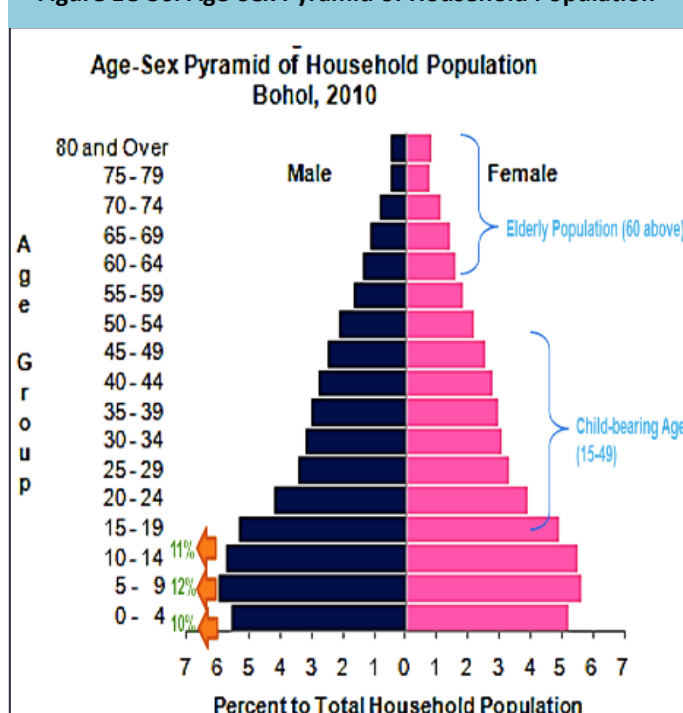
While population of Bohol has steadily increased, the pace of increase, however, slowed down from 1.85% average annual increase (1990-2000) to 0.97% (2000-2010), and further to 0.87% (2010-2015).

The municipality of Panglao has the highest growth rate in the Province (3.01%). Among the top 10 localities with high growth rates include Dauis, Jetafe, Sagbayan, Cortes, Trinidad, Baclayon, Corella, Talibon, and Tagbilaran City. The municipalities with negative growth rates include Dimiao, San Isidro, Mabini, Anda, Loboc, Valencia, Danao, and Catigbian.

Based on the 2010 Census, the population structure of Bohol shows bigger group of younger people (with 34% belonging to age group under 15 years old). Female reproductive Age (Child-bearing age) comprised 23%. Males outnumbered females in the 0-54 years old. Females outlived the males in the older age groups. Those aging 60 and over comprised 10% of Bohol's Population. During such Census, it was established that the median age is 23.7 or 24 years (meaning half of the population was younger than 24 years). This is higher than the median age of 22 years in year 2000.

Bohol's population density is 315 persons per sq. km. in 2015, which is higher compared to the 305 persons per sq. km. in 2010. In 1990, the province's population density was only 230 persons per sq. km. Most of the densely populated areas in the province are found along the coast, concentrated along the north to northeastern part of Bohol. Among the top 10 most densely populated areas in the province are the following: Tagbilaran City (3432/km²), Dauis (1065/km²), Tubigon, Panglao, Baclayon, Bien Unido, Loay, Pilar, Mabini and Calape. On the other hand, the least densely populated areas include Balilihan (119/km²), Bilar, Batuan, Sevilla, Antequera, Danao, Dimiao, Carmen, Loboc and Duero.

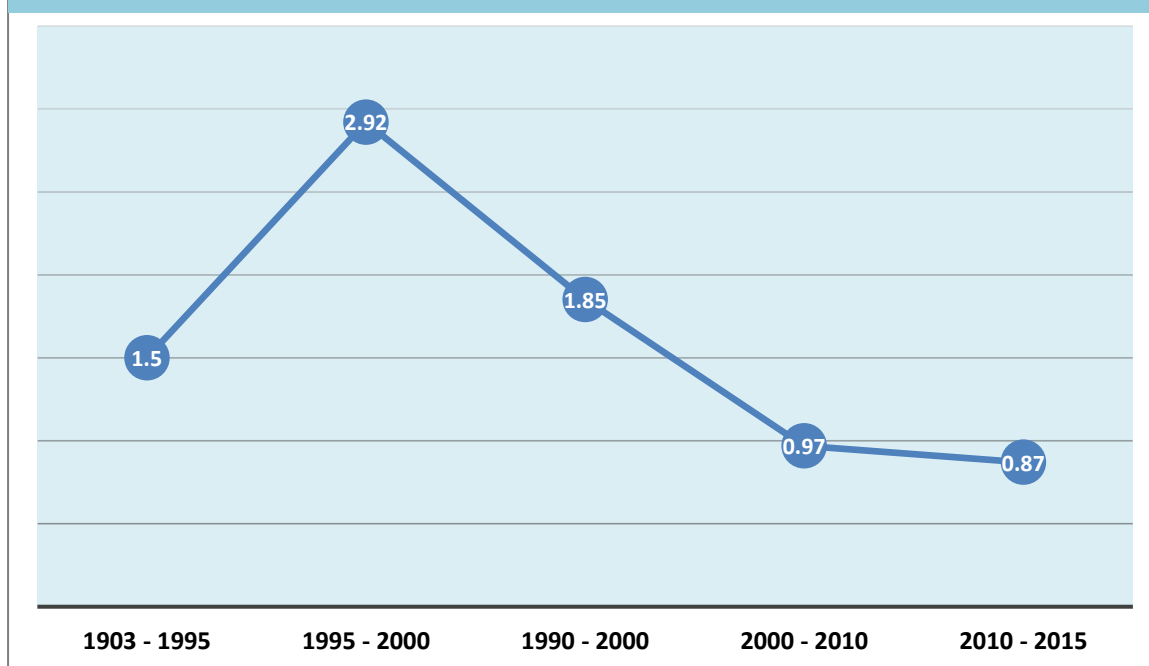
Figure EC-36. Age-Sex Pyramid of Household Population



• Population Growth

Bohol's population almost quadrupled since its first recorded population census in 1903, increasing by almost 90,000 annually. From 1903-1995, its population grew at an average rate of 1.5% per year ([Figure EC-37](#)). Five years thereafter, Bohol's population increased by 2.92% (1995-2000) annually, higher than the country's annual population growth rate of 2.36 percent and the regional growth rate of 2.79 percent. At this rate, Bohol's population is estimated to double in 24 years. However, as of the latest census (2015), the province average growth rate went down to 0.87% from 0.97% in 2010, lower than the national growth rate of 1.7 percent, but a way higher than the region's negative 2.25% average growth rate.

Figure EC-37. Annual Population Growth Rate of Bohol at Various Censuses, 1903-2015



The physical impact of population expansion upon the natural environment, as well as the need for an increase in production for the expected increase in consumption are critical an issue of concern. While there remains a range of estimates of what Bohol's population will be in the years to come, the raw figures are daunting especially when placed in historical perspective. Such population growth, if not addressed immediately, will have alarming impact on Bohol's resources and environment and, in turn, on its development.

In the 1903 Population Census,⁵ it took 24 years for Bohol to have a population of 269,223 ([Table EC-5](#)). In the next 45 years (1903-1948), Bohol's enlarged population was annually adding about 6,000 persons. In the 1960 to 1995 period, Bohol's population almost doubled, adding about 13,000 people annually. Only 4 years thereafter (1996-2000), Bohol's population was increasing by as much as 36,000 people annually. However, as of 2010-2015 censal year, the population increase per year decreased to 12,000 people annually.

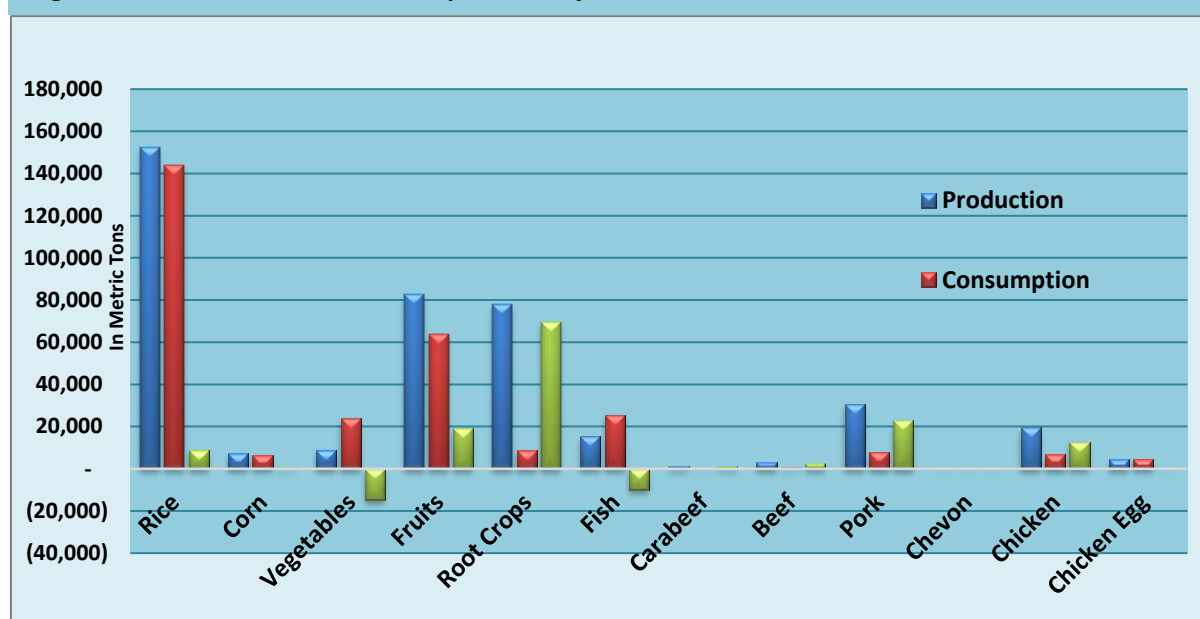
⁵

Sanger et al, United States Bureau of Census, 1905

Table EC-5. Population Increase per Year, Bohol Province, 1903-2015

Censal Year	Interval Years	Population Difference	Population Increase Per Year
1903 – 1948	45	284,184	6,315
1960 – 1995	35	441,033	12,601
1996 – 2000	4	142,828	35,707
2001 - 2007	6	90,980	15,163
2010 - 2015	5	58,432	11,686

Figure EC-38. Production and Consumption of Major Commodities, Bohol, 2015



• Food Situation

Comparing the production and consumption of major food commodities in the year 2015, the province of Bohol has surplus production for rice, corn, fruits, rootcrops and livestock, (i.e., carabeef, beef, pork, chevon, and chicken). While food commodities where the province have recorded a deficit in terms of production include vegetables, fish and eggs (*Figure EC-38*).

Although the province of Bohol is the rice granary of the region, its rice production is still not sufficient to meet the required food requirement of its populace in the past years. Since year 2000, the province has a deficit in rice production. However, for 2011 Bohol got a significant increase in its rice production due to a bountiful 21% increase in harvest resulting to a surplus of about 1,474 metric tons. This increased its rice sufficiency level to 101% from the 84% sufficiency level in 2010.

The collective efforts of various government agencies in the implementation of a rice enhancement program yielded positive results. Spearheaded by the Provincial Government of Bohol, agencies involved infused program interventions, increasing the number of farms planted to high quality seeds surpassing the expected sufficiency level into 108% by 2013 and maintaining a surplus until 2015.

The province has constantly experienced a deficit in vegetable production ([Table EC-6](#)). The supply for these commodities comes mostly from Cebu and Mindanao. For fruits and rootcrops, Bohol has been sufficient in its production with banana and mango as its main crop in terms of area and production levels. Ample supply of corn, cassava, camote and ubi which are considered as substitute staple food for Boholanos are in abundance and are more than enough to meet the food requirements of the Boholanos.

Table EC-6. Food Situation of Major Food Commodities, Bohol, 2010, 2013 and 2015

COMMODITY	SUPPLY (m.t.)			DEMAND (m.t.)			SURPLUS/ DEFICIT (m.t.)		
	2010	2013	2015	2010	2013	2015	2010	2013	2015
Rice	114,842	154,653	152,527	137,270	143,116	143,660	(22,428)	11,537	8,867
Corn	7,800	7,698	7,210	6,230	6,496	6,521	1,570	1,202	690
Vegetables	13,055	8,555	8,932	22,695	23,662	23,752	(9,640)	(15,107)	(14,820)
Fruits	99,915	101,057	82,854	60,861	63,453	63,695	39,054	37,604	19,159
Root Crops	124,518	66,422	77,962	8,301	8,655	8,688	116,217	57,767	69,274
Fish	16,558	17,956	15,585	24,394	25,433	25,530	(7,836)	(7,477)	(9,945)
Carabeef	1,122	1,288	1,385	343	199	200	779	1,089	1,185
Beef	2,975	3,105	3,100	1,508	717	720	1,467	2,388	2,380
Pork	28,799	28,583	30,750	9,114	7,809	7,838	19,685	20,774	22,912
Chevon	268	271	317	40	41	41	228	230	276
Chicken	10,198	16,028	19,484	5,071	6,778	6,804	5,127	9,250	12,680
Egg									
- Chicken Egg	2,955	3,365	4,449	3,152	4,680	4,698	(197)	(1,315)	(249)
- Duck Egg	48	53	74	137	143	143	(89)	(90)	(69)

As for the marine resources, the province of Bohol has been deficient in terms of fish production. While total fishery production may be high, 85% of this comes from seaweed production, which is mostly used for non-food products pulling the fish sufficiency down to only 61%. For livestock and poultry, the province has been consistently sufficient in the production of carabeef, beef, pork and goat meat and chicken. Majority of the cattle and poultry raisers are on a backyard scale, producing mainly for household consumption, which limits the increase in beef and poultry meat production. The production of chicken egg is in shortage for human consumption bringing the sufficiency level to 95% for chicken egg. Likewise, we have been largely importing eggs from other provinces for pastries and baking needs. The province has been consistently also short of duck eggs that is mainly salted eggs and balut.

• Projected Agricultural Production and Demand

The projected agricultural production is presented in [Table EC-7](#) serves as basis for determining whether Bohol can meet the food requirements of the population during the planning period. Referring to the actual PSA 2015 production data, the projected production is computed based on the estimated Bohol Agriculture Master Plan (BAMP) percentage of incremental production. Averting all risks that might arise during the planning period, the following commodities will still

continue to experience shortage in its production: vegetables, fish and duck eggs. However, these commodities are able to recover in year 2020 to meet the per capita food requirement of Boholanos.

Table EC-7. **Projected Production and Consumption (In Metric Tons)**
Bohol Province; Years 2009, 2011 and 2013

COMMODITY	SUPPLY (in m.t.)			DEMAND (in m.t.)			SURPLUS/ DEFICIT (m.t.)		
	2018	2023	2028	2018	2023	2028	2018	2023	2028
Rice	200,404	315,840	497,718	147,559	154,585	162,279	52,845	161,254	335,439
Corn	8,224	11,807	16,950	6,697	7,016	7,366	1,526	4,790	9,584
Vegetables	21,976	98,541	441,863	24,396	25,558	26,830	(2,420)	72,983	415,033
Fruits	154,180	434,065	1,222,025	65,423	68,538	71,950	88,757	365,526	1,150,075
Root Crops	94,174	129,027	176,778	8,924	9,349	9,814	85,250	119,678	166,964
Fish	21,895	38,587	68,004	26,223	27,471	28,838	(4,327)	11,116	39,165
Carabeef	1,535	1,822	2,163	205	215	226	1,330	1,607	1,937
Beef	3,553	4,459	5,597	740	775	813	2,813	3,685	4,784
Pork	55,536	148,749	398,412	8,051	8,434	8,854	47,485	140,314	389,558
Chevon	387	539	750	43	45	47	344	494	703
Chicken	38,055	116,134	354,412	6,988	7,321	7,686	31,066	108,812	346,726
Egg									
- Chicken Egg	7,450	17,593	41,543	4,825	5,055	5,307	2,625	12,538	36,237
- Duck Egg	124	293	691	147	154	162	(23)	138	529

IDENTIFIED KEY PRODUCTION AREAS OF MAJOR AGRICULTURAL PRODUCTS

Bohol's agricultural development is anchored on sound environmental principles which serve as the foundation and guiding mechanism for sustainable growth and development. This takes primary consideration on the need to produce more food for the growing population and market demands while simultaneously addressing the protection and management of the environment. To maximize and fully utilize the province's agricultural potentials, key production areas of major commodities are identified as basis for agriculture development. The identified key production areas for the following major agricultural commodities are:

Table EC-8. **Identified Key Production Areas of Major Agricultural Products**

COMMODITY	LOCATION
CROPS	
Rice	Pilar, Ubay, San Miguel, Trinidad, Alicia, Dagohoy, Antequera, Carmen, Batuan, Bilar, Loboc, Sevilla, Balilihan, Catigbian, Sagbayan, Danao, Inabanga, Getafe, Talibon, Bien Unido, Sierra Bullones, Candijay, Guindulman, Mabini, Duero, Jagna, Garcia Hernandez, Valencia, Dimiao, Lila, Loay, Maribojoc, Loon, Calape, Tubigon and Clarin
Corn	Sagbayan, Danao, Carmen, Valencia, Garcia Hernandez, Talibon, Ubay, Buenavista, Inabanga, Loon, Dauis, Sikatuna, Catigbian, Sevilla, Guindulman, Candijay, Anda, Mabini, Alicia, Sierra Bullones, Pilar, Dagohoy, San Miguel, Trinidad, Antequera, Balilihan, Bien Unido, Maribojoc

COMMODITY	LOCATION
Mango	Ubay, Buenavista, Getafe, Talibon, Trinidad, Alicia, San Miguel, Dagohoy, Bien Unido, Danao, Inabanga, Clarin, Tubigon, Calape, Sagbayan, Catigbian, armen, Mabini, Guindulman, Duero, Jagna, Valencia, Dimiao, Sevilla, Daus, Panglao, Pilar
Banana	Getafe, Talibon, Trinidad, Pres.CPG, Ubay, Cortes, Danao, Inabanga,Sagbayan, Carmen, Dagohoy, Alicia, Sierra Bullones, Mabini, Candijay, Guindulman, Duero, Loon, San Isidro, Catigbian, Batuan, Bilar, Sevilla, Clarin, Tubigon, Calape
Ube	Alburquerque, Daus, Baclayon, Corella, Cortes, Panglao, Sikatuna, Tagbilaran City, Garcia Hernandez, Loay, Lila, Ubay, Mabini
Vegetable Farming (Lowland)	Calape, Tubigon, Catigbian, Corella, Bilar, Carmen
Vegetable Farming (Highland)	Jagna, Duero, Sierra Bullones, Guindulman, Candijay
Coconut	Alburquerque, Antequera, Baclayon, Balilihan Calape, Catigbi-an, Corella, Cortes, Daus, Loon, Maribojoc, Panglao, Sikatuna, Tagbilaran City, Tubigon,Bien Unido, Buenavista, Clarin, Dagohoy, Danao, Inabanga, Getafe, Sagbayan, San Isidro, San Miguel, Talibon, Trinidad, Ubay, Alicia, Anda, Batuan, Vilar, Candijay, Carmen, Dimiao, Duero, Garcia Hernandez,Valencia Guindulman, Jagna, Lila, Loay, Loboc, Mabini, Pilar, Sevilla, Sierra Bullones
Oil Palm	Alicia, Bien Unido, Buenavista, Calape, Carmen, Dagohoy, Danao, Garcia Hernandez, Getafe, Inabanga, Jagna, Mabini, Pilar, Sagbayan, San Miguel, S-Bullones, Talibon, Trinidad, Ubay, Valencia
Fiber Crops - Mulberry - Salago - Maguey - Pineapple - Indigenous Crops	Bilar Balilihan, Sikatuna Dimiao,Lila Sierra Bullones, Carmen Loboc
LIVESTOCK	
Carabao	Alicia, Alburquerque, Carmen, Pilar, Bien Unido, Mabini, Anda, Clarin, Calape, San Miguel, Loon, tubigon, Sagbayan, Dimiao, Trinidad, Candijay, Duero, Valencia, Ubay
Cattle	Alicia, Bilar, Pilar, Carmen, San Miguel, Mabini, Anda, Clarin, Calape, Trinidad, Loon, Tubigon, Sagbayan, Dimiao, Ubay, Duero, Candijay, Valencia, Bien Unido
Goat	Bien Unido, Dagohoy, Pres CPG, Buenvista, Getafe, Inabanga, Talibon, Trinidad, Ubay, Alicia, Anda, Bilar, Calape, Carmen, Loon, Clarin, Pilar, Mabini, San Miguel
Chicken	Alburquerque, Antequera, Baclayon, Cortes, Corella, Daus, Maribojoc, Panglao, Sikatuna, Tagbilaran City, San Isidro, Loay, Garcia Hernandez, Lila, Loboc, Guindulman, Jagna, Sevilla, Balilihan, Bilar, Sikatuna, Corella, Catigbian
Hog	Calape, Antequera, Ubay, Carmen, Pilar, Jagna, Maribojoc, Duero, San Miguel, Batuan, Alburquerque, Bien Unido, Getafe, Inabnanga, Talibon, Trinidad, Candijay, Dimiao, Garcia Hernandez, Loon
FISHERIES	
Mariculture, Seaweeds	Talibon, Bien Unido, Getafe, Pres. Carlos P. Garcia, Buenavista, Candijay, Mabini, Tubigon, Calape

COMMODITY	LOCATION
Grouper	Talibon, Buenavista, Ubay, Pres. CPG, Bien Unido, Candijay
Tilapia (Brakishwater/ Freshwater)	Talibon, Bien Unido, Ubay, Trinidad, Inabanga, Garcia Hernandez, Batuan, Carmen, Loboc
Oyster	Buenavista, Talibon, Ubay, Trinidad, Inabanga, Bien Unido, Mabini, Candijay

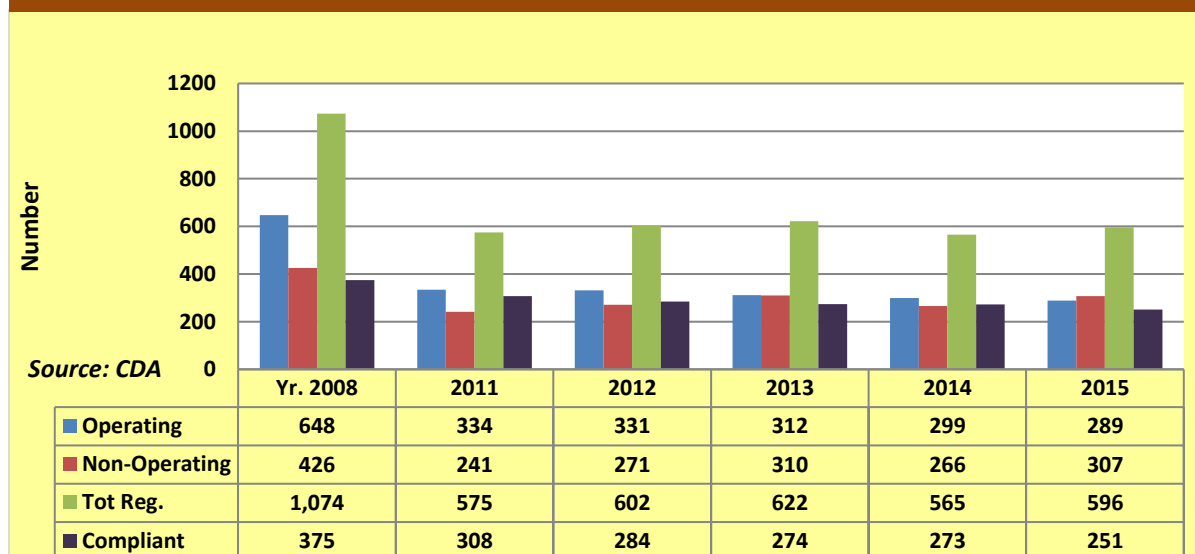
Source: Bohol Agriculture Master Plan (BAMP), 2006-2026

COOPERATIVE DEVELOPMENT

The year 2008 was the period when coop registration in Bohol was considered at its peak or momentum where more than 1,000 coops was the total registry in the entire province. This was the product of the initiative made by then Bohol Poverty Reduction Management Office (BPRMO) in coordination with the Cooperative Development Authority (CDA) – Bohol, where the main goal was to organize cooperatives per municipality and even per barangay as part of the poverty reduction program of the provincial government.

With the passage of RA 9520 which was signed into law last February 17, 2009, one important provisions which had been implemented by the Cooperative Development Authority (CDA) was Article 144 of said law requiring all registered and confirmed cooperatives under RA 6938 to re-apply and comply the documentary requirements for re-registration. Said coops which complied

Figure EC-39. Total Cooperative Registration and Classification, Bohol, 2008-2015



were issued with the new certificate of re-registration, so that a considerable number of existing cooperatives at that time failed to comply with the said provision of the law, resulting to a reduction in number in terms of total number of coops re-registered in the entire province.

As of 2015 total re-registered including newly registered cooperatives in the province of Bohol reached a total of 622, about 286 of these coops were operating/ compliant and were classified according to type as follows:

Table EC-9. Coop Classification According to Type as of December 31, 2015 – Bohol Province

Coop Classification	Number
Multi-Purpose	211
Credit	43
Service	9
Consumer	9
Producer	5
Marketing	21
Federation	2
Agrarian Reform Coop	4
Transport	1

Source: Cooperative Development Authority (CDA)

A total of 336 non-operating coops were also identified of which 87 were undergoing the process of dissolution, 172 were issued with show cause orders, 6 were dissolved and the remaining 71 are still to be recommended for the issuance of show cause orders as of 2015.

On the submission of mandatory reports by coops as required under Art. 53, of RA 9520, only 251 coops submitted their Coop Annual Progress Report (CAPR) together with the following attachments as of December 31, 2015:

1. Audited Financial Statements
2. Performance Audit Report
3. Mediation and Conciliation Report
4. Social Audit Report
5. List of Trainings undertaken by All Officers

Cooperatives which failed to submit the required reports to CDA were considered as non-operating for the year. Coops classified as non-operating for three (3) consecutive years shall be recommended for dissolution and eventually issued with the certificate of cancellation.

Based on the financial reports submitted by coops to CDA, total volume of business generated in the entire province amounted to **P1.8 Billion** as of December 31, 2015. Total assets of all compliant coops amounted to **P2.5 Billion**, with **P784 Million** paid-up capitalization or capital contributions from members. Net surplus of coops reached a total of **P143 Million** with more than **113,000** cooperative membership.

Table EC-10. Capitalization of Cooperatives, 2015

Capitalization of Coops	
Total Assets	Php 2,544,935,487.85
Volume of Businesses	Php 1,897,670,639.63
Paid-up Capital	Php 784,554,674.10
Net Surplus	Php 143,440,198.79
Total Membership	113,413

Source: Cooperative Development Authority (CDA)

Under the new CDA guidelines on categorization of cooperatives, table below shows Category of Coops as of December 31, 2015.

Table EC-11. Category of Cooperatives

Category	No. of Coops	Total Assets	Paid-Up Capital	Net Surplus
1. Large	5	1,083,998,294.00	246,496,571.73	62,590,484.70
2. Medium	32	1,016,912,205.87	357,177,721.55	49,820,868.83
3. Small	48	295,956,660.13	115,838,884.66	20,592,804.84
4. Micro	166	148,065,326.10	65,041,496.16	10,117,920.31

Source: Cooperative Development Authority (CDA)

Cooperatives with total paid-up capitalization of at least One million (1M) pesos are classified as millionaire cooperatives. Table below shows Top Ten Millionaire Coops based on Paid-Up Capitalization or capital Contributions generated by members as of December 31, 2015.

Table EC-12. Top Ten Millionaire Cooperatives

Name of Coop	Paid-Up Capital	Vol. of Business	Total Assets	No. of Members	Business Activities
1. Bohol Public Sch. Teachers and Emp. MPC	94,087,666.10	182,169,333.00	183,375,193.	7,116	Lending/ Pension House
2. Bohol Community MPC	67,365,970.00	168,369,540.16	241,851,248.47	11,432	Lending, Time and Savings Deposit
3. Med. Mission Group Hosp. and Health	57,136,396.00	7,715,963.00	162,896,194.00	2,208	Savings & Credit Health Plan, Drug Dist. Hospital Services, Canteen
4. Bohol Diocesan MPC	41,513,937.99	150,786,745.	168,205,964.97	6,426	Consumer Savings & Credit, Coop Funeral
5. Bohol Provincial Emp. MPC	39,924,310.10	88,045,562.30	96,837,254.00	868	Lending Time and Savings Deposit
6. Sta. Ana MPC	32,012,702.88	123,581,024.06	76,435,765.72	4,617	Savings & Credit ATM Service Function Room
7. Bol-anon MPC	25,271,261.67	29,511,833.00	47,614,791.22	2,965	Financial Intermediation Wholesale/Retail Trade
8. Bohol DAR Emp. MPC	19,934,469.85	30,615,973.20	86,391,744.66	711	Lending Pension House
9. Cooperative Bank of Bohol	19,505,000.00	187,772,739.00	425,124,112.00	115 coops	Coop Banking
10. BOHECO II Employees MP	16,677,998.15	27,123,907.00	51,446,946.65	234	Consumer Water Refilling Canteen Globe Bond

Source: Cooperative Development Authority (CDA)

AGRARIAN REFORM

As of 2015, a total of 39,943 hectares or 98% of the province's scope were already distributed to 31,537 Agrarian Reform Beneficiaries (ARBs). The balance of approximately 709 hectares is targeted for completion by the end of 2017. In addition, approximately 20,789 hectares were covered under the non-land transfer program.

There are 52 Agrarian Reform Communities (ARCs) in Bohol located in 33 municipalities covering 337 barangays. Within these ARCs are 106 Agrarian Reform Beneficiary Organizations (ARBO) supported by the Department of Agrarian Reform (DAR), 12 of which are already providing bank-like services (quasi-bank) which accepts savings deposits and lends out loans to its members. As of 2015, these 12 ARBOs were able to mobilize Capital Build-Up (CBU) amounting to P 81,934,624.00 and savings amounting to P 85,920,455.00.

Last year, DAR has successfully completed the implementation of the Agrarian Reform Infrastructure Support Project (ARISP) Phase III. Under this project, 24.74 kilometers of farm-to-market roads were constructed/concreted. In addition, five (5) communal irrigation systems with a service area of 218 hectares, one (1) Level II potable water system benefitting 300 households and five (5) Agrarian Information and Marketing Centers (AIM-C) were constructed and turned over to the beneficiaries.

Aside from the physical infrastructure, DAR also provided capability development trainings and technical assistance to Agrarian Reform Beneficiaries (ARBs) and Agrarian Reform Beneficiary Organizations (ARBOs) to make their farms and farm enterprises more productive and profitable, enable them to venture in income generating projects and actively participate in community governance and ensure sustainability of the turned-over projects.

Under the Agrarian Reform Community Connectivity Economic Support Services (ARCESS) project, a total of 63 Common Service Facilities, like 4-wheel tractors, hand tractors, floating tiller, power tiller, mechanical threshers, rice reaper, combined harvester, corn shellers, shredders, flat bed dryer, etc. were distributed to nine (9) ARBOs to enhance their agri-enterprise operations. ARCESS is a locally funded project which aims to organize the land preparation, planting, logistics and marketing to attain economies of scale. Aside from the common service facilities, technical assistance in the form of Agricultural Extension and Business Development Services were also provided to these ARBOs to enable them to maximize the productivity of the awarded lands and engage in agri-related enterprises.

DAR also spearheaded the organization of 20 primary cooperatives into a federation called Bohol Federation of Agrarian Reform Communities Cooperatives (BFARCCO). The federation will manage the Agrarian Information and Marketing Center (AIM-C) in Tagbilaran City which aims to provide marketing information of farm products, better quality farm inputs, agricultural extension and technical training services and financial intermediation services to its member cooperatives. As of 2015, BFARCCO has an asset amounting to P629,720.00 with a CBU of P570,981.00.

PRODUCTION SUPPORT FACILITIES

Irrigated area in Bohol has been increasing with the expansion of service area of irrigation facilities. The latest service area has increased to 24,778 hectares from 11,438 hectares in 2008. There are four (4) major Irrigation Systems (IS) in the Province. The Capayas Irrigation System (IS) in Ubay serves the municipality of Ubay; Bayongan IS in San Miguel serves San Miguel, Ubay and Trinidad; Malinao IS in Pilar serves the municipalities of Pilar, Dagohoy, Alicia, San Miguel and Ubay; and finally the Talibon SRIS serves the municipality of Talibon.

Table EC-13. Status of Irrigation Development in Region 7, 2015

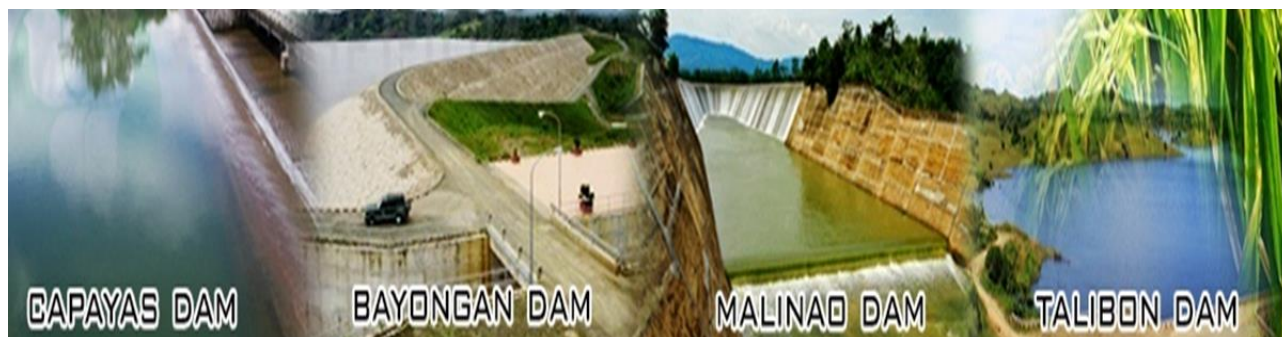
STATUS OF AREA DEVELOPMENT						
As of December 31, 2015						
PROVINCE	TOTAL LAND AREA	TOTAL ARABLE LAND AREA	POTENTIAL IRRIGABLE AREA	EXISTING SERVICE AREA	% DEV'T.	REMAINING AREA FOR DEV'T.
1. BOHOL	482,100	184,874	31,316	24,778	79.12%	6,538
2. CEBU	493,300	227,063	10,154	7,539	74.25%	2,615
3. NEGROS ORIENTAL	538,600	236,380	47,532	14,700	30.93%	32,832
4. SIKUJOR	34,350	17,129	1,015	685	67.49%	330
TOTAL	1,548,350	665,446	90,017	47,702	52.99%	42,315

The latest service area is only 79.12% of the potential irrigable area. There is still a remaining hectare of 6,538 for development. The irrigation facilities is one of the major factors that contributes in making Bohol as the rice granary in Region 7. We are supplying 75% of the needs of rice in the region.

As shown in [Table EC-13](#), Negros Oriental has the highest in potential irrigable area of 47,532 hectares that is 51% more of Bohol, of which is only 31,316 hectares. But it has only 14,700 hectares of existing service area, of which Bohol is 40.6% more. Negros Oriental has 32,832 hectares remaining area for development while Bohol has only 6,538 hectares. With these area, it is necessary to continue building irrigation facilities and expand their service area to provide the necessary opportunities to farmers. Ultimately this will improve palay production and maximize the use of their land. There is a proposal to elevate the Malinao Dam to accommodate more volume of water. This could improve the supply of water to irrigate the service area. Communal Projects for Small Reservoir Irrigation are also being undertaken which, if completed, can irrigate more ricefields. All these continuing programs and projects will eventually lead to the provision of water to irrigable area in the province, resulting to an increase in production and thereby ensuring rice sufficiency not only in Bohol but the whole region as well.

Map EC-7 shows the irrigation facilities for both national and communal irrigation systems. Of the total existing service area, the National Irrigation System (NIS) covers 12,135 hectares, Communal Irrigation System (CIS) covers 8,800 hectares, while the private irrigation system is 3,843 hectares.

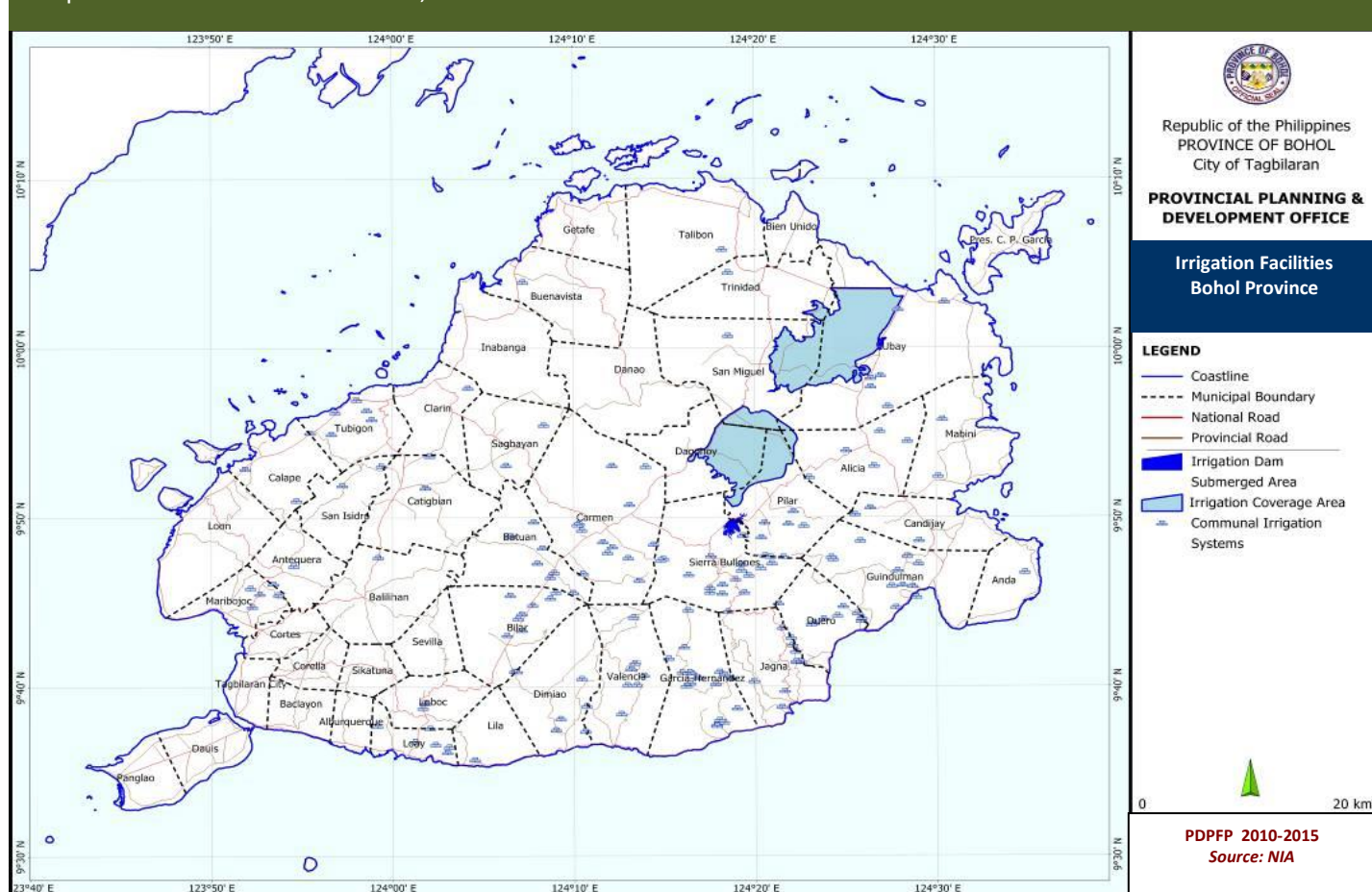
Total area covered with the different irrigation systems reached 24,778 hectares.



- **Support Facilities**

The **Bohol Experiment Station (BES)** in Gabi, Ubay now **Central Experiment Station (CES)**, has enough rice production areas on new rice varieties, from Registered to Certified Seed production, to cater the needed seed requirements of the seed growers and some farmers in the province. CES

Map EC-8. IRRIGATION FACILITIES, Bohol Province



is also producing seedlings on fruit trees and ornamentals as planting materials. Plant tissue laboratory is also operating in CES for the supply of tissue cultured banana and ubi.

Bohol Agricultural Promotion Center (BAPC) is conducting researches on different varieties of rice that are suitable to the province. Likewise, on-farm studies and technology demonstration in different sites within the province to promote package of technology like the Palay Check, Nutrient Management and Water-Saving Technology. BAPC likewise serves as the Provincial Agriculture and Technology Coordinating Office (PATCO) to implement the National Programs on agriculture. Through this, hybrid and certified seeds distribution with government subsidy was facilitated. Also, the availment of postharvest facilities like MPDP, flatbed dryers, shredding machines, farm to market roads, construction of water impounding and small farm reservoirs, repair and rehabilitation of irrigation facilities, fish ports, green houses for vegetables and bagsakan centers, hand tractor, corn sheller and corn mill funded by the Department of Agriculture Central Office was facilitated.

Bohol Organic Agriculture Technology (BOATech) in Gabi, Ubay is aimed to cater the needs for organic production technologies, Like Natural Farming System (NFS) and the production of organic fertilizer, like Bio-N and vermi-compost. Trichoderma and metarhizium laboratory are also available to help in the control of rice bug and other fungal infection on rice and corn.

Bohol Farmers Multipurpose Cooperative (BOFAMCO) in Pilar, Bohol, operates as marketing arm and rice seed trading. They cater the rice seed planting materials to the farmers all throughout the province. The facility also offers drying facility for rice produce like the mechanical flatbed dryer and the multipurpose drying pavement.

National Food Authority (NFA) secures the supply of rice grains requirement for the province with three (3) warehouses to include: GID Warehouse Tagbilaran City, FLGC III Warehouse Carmen and FSC Warehouse Ubay. NFA procures palay from individual farmers and farmers' cooperative/organizations at Php 17.00 per kilo with additional incentives to include drying fee, delivery fee and Cooperative Development Incentive Fee (CDIF) as government support. NFA fulfills its twin mandate of buffer stocking and price stabilization to ensure that there is enough buffer stock of rice (grain) in time of emergencies/calamities while also assuring the public of a stable supply of affordable yet quality rice being sold in all markets.

Establishment of farm and hatcheries by government and private institutions provided support in the fishery sector. Government institution like the Bureau of Fisheries and Aquatic Resources (BFAR) operated the *Clarín Freshwater Fish Farm* in Clarín, *Pangangan Multi-species Marine Fish Hatchery* and the *Calape Fishery Complex* in Calape, *Ubay Brackishwater Fish Farm* and *Ubay Tilapia Hatchery* in Ubay and *Mariculture Park* in Talibon.

Post production and marketing of fish and fishery products domestically and for export were mostly operated and managed by private institutions. Among the private institutions were; *Alturas Group of Companies* having prawn/bangus/tilapia farm in Calape and Loon and Frontier Hatchery for prawn and bangus fry in Lila, Akiat Family Prawn Hatchery in Dimiao.

- **Support Livestock Facilities**

Presence of livestock facility centers in the province provides services on animal health, upgrading and distribution of stocks. Facilities include the Ubay Stock Farm (USF), and Philippine Carabao Center (PCC) in Lomangog, Ubay and the Carmen Breeding Station.

Slaughterhouses and Dressing Plants

Out of the 47 municipalities and the City of Tagbilaran, only 31 areas have operational slaughterhouses:

District I	- 8 (Antequera, Balilihan, Calape, Catigbian, Loon, Maribojoc, Tubigon and Tagbilaran)
District II	- 8 (Clarin, Dagohoy, Inabanga, Sagbayan, San Miguel, Talibon, Trinidad, and Ubay)
District III	- 15 (Alicia, Batuan, Bilar, Candijay, Carmen, Dimiao, Duero, Guindulman, Jagna, Loboc, Mabini, Pilar, Sevilla, Sierra Bullones, Valencia)

From these 31 municipalities, there are 39 slaughterhouses which are operating under the management of MLGUs and 2 which are privately operated by Alturas and Bohol Quality. Three (3) dressing plants are also operating in Albur, Ubay and Tagbilaran City. Only the 2 privately-owned and managed slaughterhouses are duly accredited by the National Meat Inspection Services (NMIS).

There is a glaring condition that meat sold in local markets in the municipalities does not come from slaughterhouses duly accredited by the National Meat Inspection Services (NMIS). The construction and operation of municipal slaughterhouses according to the standards are not prioritized at the moment since this implies development and strong imposition of support policies and of course financial requirements.

The supervision over all municipal-operated slaughterhouses will soon be designated to the Provincial Veterinarian, thus, the formation of a Provincial Meat Inspection Service (PMIS) as a unit of the Office of the Provincial Veterinarian is deemed necessary and urgent.

Meat Inspection structure or set up in the municipalities also needs to be upgraded because of the following conditions: most Meat Inspectors (MI) are not graduate of any livestock-related courses; almost all MI although trained, are under the supervision of other offices instead of the Municipal Agriculture Office; and the need for capacity enhancement particularly on detection of pregnancy to save animals from accidental slaughter. Records revealed an increasing number of pregnant animals brought to the slaughterhouses from 11 heads cattle (year 2012) in 8 municipalities to 18 cattle in 11 municipalities (year 2013). These pregnant animals could still be saved if and when the Meat Inspectors will be trained on pregnancy diagnosis and a buy-back system to save breedable animals shall be developed and implemented.

Momentarily, to minimize the improper and unfitting practices observed in the slaughterhouses and to provide support to the MLGUs', initiatives were made by the Provincial Government through the Office of the Provincial Veterinarian by providing equipment like stainless steel tables, rubberized portable water tanks and electric hoist and capacity enhancement of Meat Inspectors and slaughterhouse personnel.

Pooling Areas for Small Animals

Pooling areas are places where livestock are displayed for sale and these are mostly small animals like pig, goat and chickens. It is most commonly situated in the open spaces inside or near markets. In the province, the very evident aspects needing government interventions are:

- Lack of housing facilities where animals and traders are provided comfort and protection during trading. In some municipalities, animals are left exposed to heat and rain
- Lack of water
- Improper livestock waste management
- Poor and mishandling of livestock by vendors that will affect the quality of meat
- Lack of weighing scale that will indicate the right weight of the animals for sale

DEVELOPMENT CHALLENGES***Livestock Auction “Oksyon” Market (LOM)***

The province of Bohol has only 2 LOMs located in Catigbian operating during Mondays and Sagbayan with Friday as its market day. The primary intention of LOMs is to provide a common area to sell livestock and to give fair or right market price to farmers for the livestock sold based on its actual live weight. Farmers in nearby municipalities bring their livestock to the LOM. But for those in the far flung communities, businessmen or livestock buyers come and buy on the so called “mata mata” system and dictates or dominate the price of livestock. This placed the farmer raiser at the disadvantage side; for one, most famers do not know where to sell their livestock.

Biogas Digester

Livestock is considered one of the contributors of greenhouse gases causing environmental pollution. Projects on waste utilization through vermi-composting have been undertaken in an attempt to reduce the harmful effects and utilizing wastes to recover soil fertility.

However, farmers are not fully aware that livestock wastes can be used as alternative/renewable source of energy, an efficient method of reducing if not eliminating pollution brought about by methane gases. One of the projects implemented to utilize these wastes, particularly manure, is biogas. The Provincial Government through the Office of the Provincial Veterinarian has forged partnership with the Bureau of Animal Industry (BAI) and was able to acquire 5 units digesters installed in the Municipal Agriculture Office of Antequera, Tagbilaran City Slaughterhouse, at a backyard raiser in barangay Quinoguitan, Loboc and 1 inside the BISU campus. All of these are HD digesters. One (1) concrete unit is also installed at the Provincial Livestock and Poultry Farm in Bilar.

Intensive campaign together with support policies is needed to persuade if not oblige commercial livestock raisers and livestock-related facilities like slaughterhouses, breeding and production centers and households to consider bio-digesters as component in their operation.

- **Low Agriculture and Fisheries Productivity**
 - Deficit in vegetables, fish and eggs
 - Underutilized agri-resources
 - Dwindling fish catch
 - Rising competition in use of agricultural lands
 - Low adoption rate of technologies

- **Climate Change**
 - Noted shift in tropical cycle occurrences with typhoons expected to enter the country through the Visayas area every year resulting to increased number of typhoons in the Visayas regions
 - Agriculture sector is highly vulnerable to climate variability and extreme events
 - Changing rainfall patterns, rising temperatures, increasing frequency and intensity of typhoons and dry spell cycles, and sea level rise are expected as a result of climate change
- **High Cost of Production Inputs**
 - Agricultural inputs (fertilizers and pesticides account to 20-30% of total production costs)
 - 70% production cost for livestock and poultry feeds
- **Inefficient Supply Chain and Logistics Systems**
 - Postharvest losses reduce the income of farmers
 - Lack of market linkages
- **Inadequate Provision of Agriculture Support Facilities**
 - Lack of freezer vans, slaughterhouses, agri-fishery terminals, etc.
 - Inadequate machine maintenance support system
 - Lack of financing support to farm machineries
- **Weak Agricultural Extension Service**
 - Ageing farmers (Average: 57 years old)
 - Shortfall of 2,371 Agriculture Extension Workers (AEW)
 - Changing government support intervention mechanisms
- **Limited Access to Formal Credit and Financing**
 - High cost of agri-loans
 - Many supporting requirements
- **Lack of Roadmap for the ASEAN Integration**
 - Farmers and fisherfolks not aware of the current needs and trends of the market (compliance to food safety and standards and impacts of ASEAN Economic Community)

Sector : ECONOMIC DEVELOPMENT

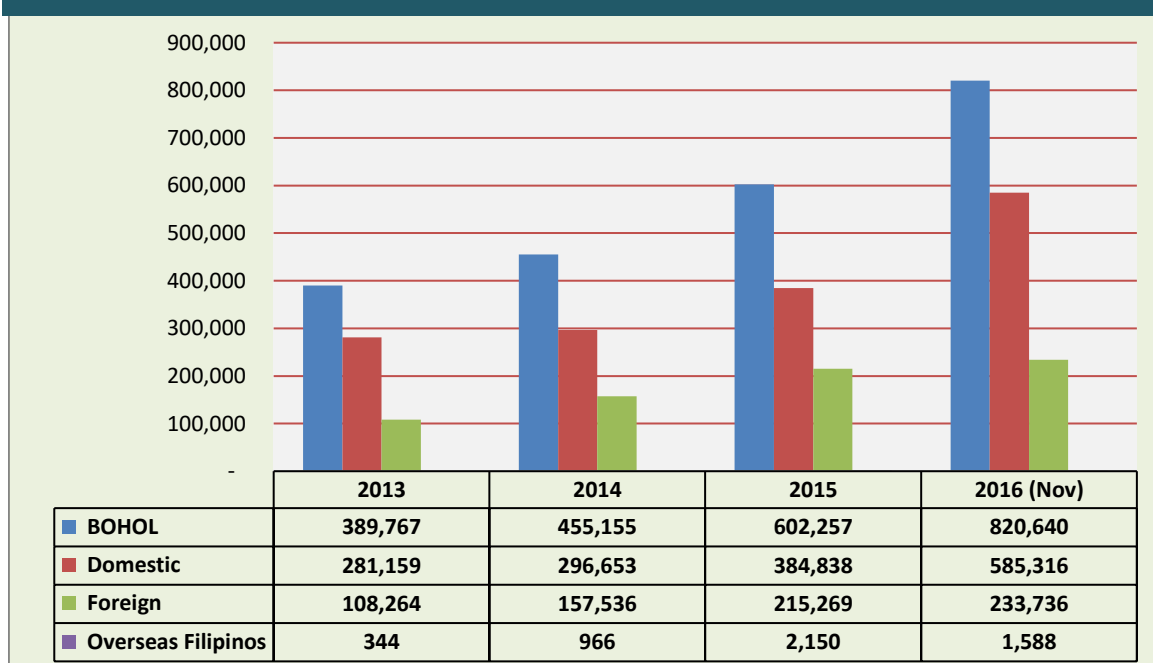
Sub-Sector : Tourism Development

SITUATIONER

1. Tourist Arrivals

Over the past four (4) years, Bohol has intensified in its progress as a prime eco-cultural tourist destination of the Philippines. Despite global economic and environmental challenges, the current flow of domestic and foreign tourists signifies stability and constant growth economically, as well as in the upcoming investments. Statistical figures of tourist arrivals from the Department of Tourism (DOT), Regional Office – VII (RO-VII) through the Bohol Tourism Office (BTO) serve as proof of this constant increase from 2013 to 2016, as shown in *Figure EC-1* below. Excluding excursionists who come only to Bohol for day-tours, a total of 820,640 arrivals have been reported as of November 2016, with a growth rate of 36.26% reckoned from the 602,257 arrivals in 2015. This latest figure of 820,640 is far greater than the 2013 tourist arrivals of only 389,767, demonstrating 110.55% increase in a span of three (3) years with an average yearly increase of 28.45%.

Figure EC-1. Comparative Graph on Domestic & Foreign Visitor Arrivals, Bohol, 2013-2016

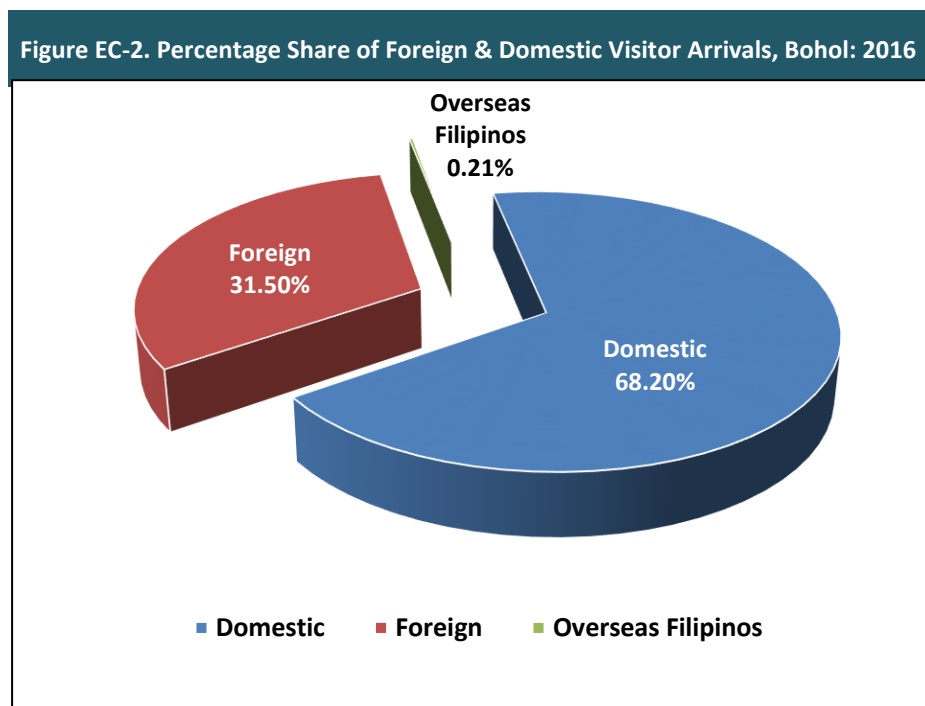


Source: Department of Tourism (DOT) - RO7

Although Bohol's tourist arrivals are dominated by the domestic market, data also shows that there is an increasing interest coming from the foreign market. In 2015, *Figure EC-1* immediately above shows that foreign tourists shared 35.74% of tourist arrivals in the province, higher than the 27.78% and 34.61% share in 2013 and 2014, respectively.

However, as of November 2016 foreign tourists shared 28.48% of tourist arrivals in contrast to the dominant domestic tourist arrivals with an all-time high of 71.32% share.

As can be seen from *Figure EC-1* above, domestic tourist arrivals show consistent growth from 2013 to 2016 with an average yearly increase of 29%. This yearly increases could have been the result of factors such as: the vibrant tourism marketing and promotions and recovery efforts of the Provincial and Local Government Units of Bohol coupled with the shared efforts and commitment of the business and private sector; domestic and foreign tourists may have since forgotten the series of debacles that occurred in Bohol in 2013 which entirely changed their travel plans and priorities; global economic environment may have improved since its meltdown in previous years; and others.













Source: Department of Tourism (DOT) – RO7

Figure EC-2 above shows that for the past three (4) years (2013-2016) on average, domestic tourists account for about two-thirds of the arrivals at 68.20% while foreign tourists is at 31.50%. Overseas Filipinos were also coming in on average at 0.21% for the last three (4) years.

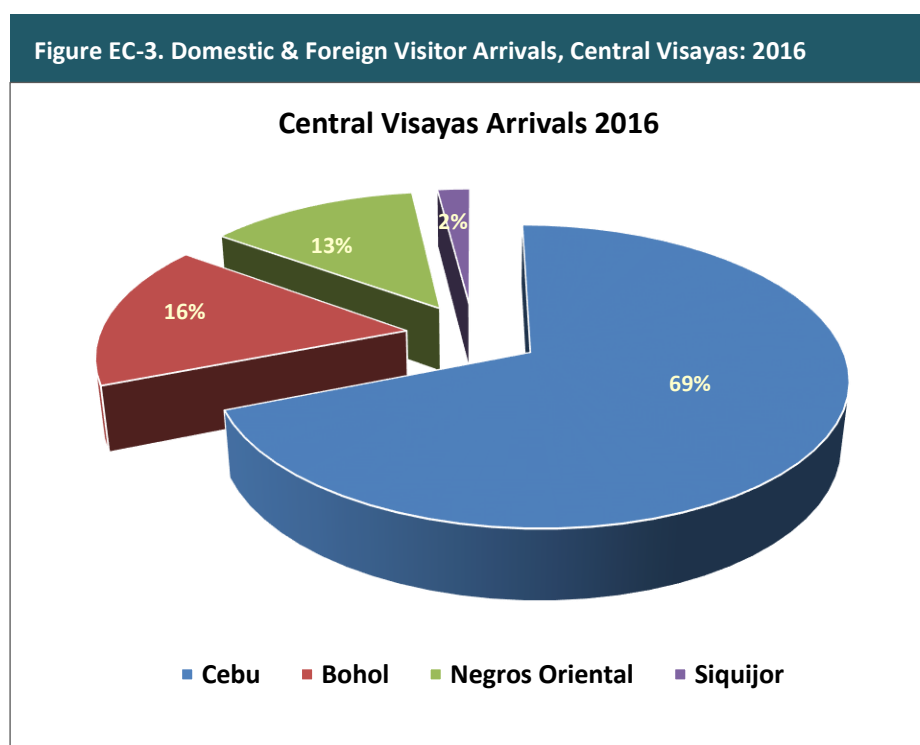
Bohol's 2016 foreign tourist arrivals show that China has the largest number of market share at 32.33% that translate to 59,289 visitors, having an increase of 46.25% from 2015; followed by Korea at 21.39%, USA at 11.08%, France at 6.37%, and Japan at 5.32% comprising the top five foreign tourists of the same year. *Table EC-1* below shows Bohol's top 10 foreign tourists.

Table EC-1. Top Ten (10) Foreign Travelers, Bohol: 2015-2016

Country		Market Share	2015	2016 (Nov)	Growth Rate
China		32.33%	40,539	59,289	46.25%
Korea		21.39%	48,777	39,229	-19.57%
USA		11.08%	17,177	20,317	18.28%
France		6.37%	8,836	11,690	32.30%
Japan		5.32%	8,709	9,747	11.92%
Germany		5.03%	7,393	9,231	24.86%
Taiwan		4.39%	3,101	8,042	159.34%
Australia		4.18%	5,758	7,662	33.07%
United Kingdom		3.49%	6,579	6,407	-2.61%
Canada		2.38%	4,132	4,372	5.81%
Others		4.03%	9,188	7,391	-19.56%

Source: Department of Tourism (DOT) - RO7

In the regional context, Bohol has consistently been one among the ideal destinations in Central Visayas that include Cebu, Negros Oriental and Siquijor as shown in *Figure EC-3* below. Recently, Bohol now comes next to Cebu as the region's most visited having a 16% share of both foreign and domestic markets in 2016.



Source: Consolidated Data by the BTO & DOT - RO7

Cebu being an international gateway, obviously receives a huge chunk of tourist arrivals - 69% domestic and foreign, Bohol comes in second with 16% , Negros Oriental with 13% , and lastly Siquijor with 2% share in these arrivals.

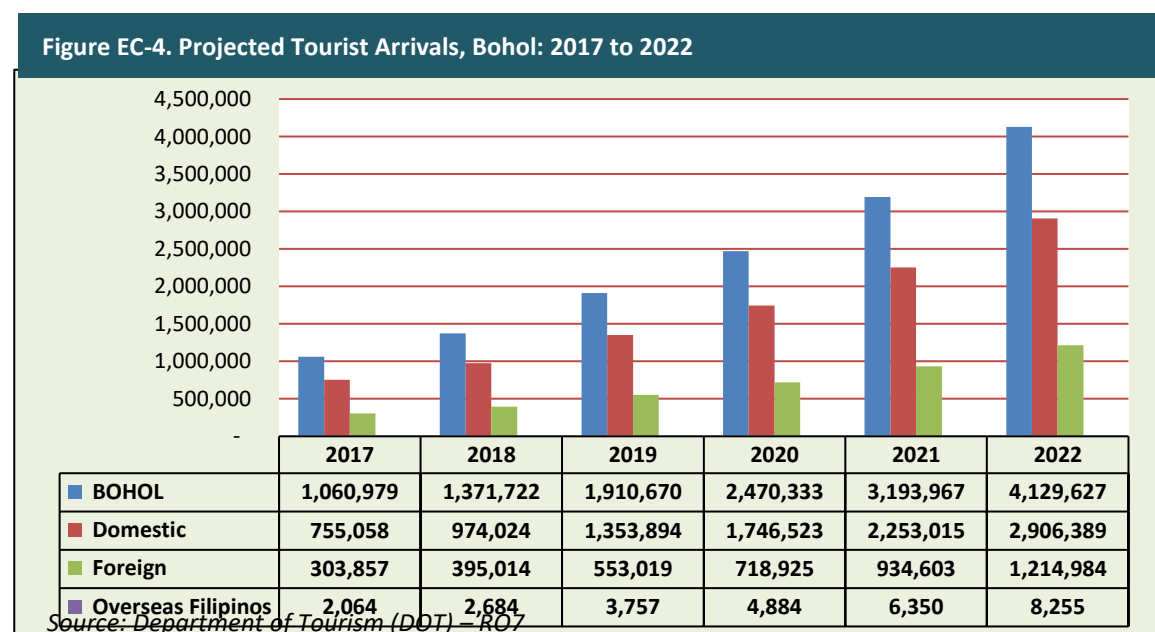
2. Tourism Support Facilities and Services

• Tourism Accommodation Establishments

As of December 2016 a total of 6,370 available rooms have been recorded all over the province. Thirty-two (32) LGU's have declared to have 360 registered accommodation establishments. These include hotels, resorts, tourist inns, apartels, pension houses and motorist hotels. Panglao remains to have the highest number of registered accommodation establishments (113), followed by Tagbilaran City (82), Anda (22), Dauis (21), and Baclayon (16).

Accommodation establishments have continued to sprout and expand in their services for the past years. These facilities vary from upscale family-sized accommodation with private toilet and bath (T&B) facilities with a small kitchen, to budget single occupant rooms with T&B facilities. The biggest in the city has around 112 rooms and in Panglao with 383 rooms. In other towns offering lesser accommodation facilities, these may vary from five (5) to ten (10) establishments with three (3) to ten (10) rooms. Establishments can cater from low-budget backpackers to high-end tourists.

Tourism investors and service providers have seen the industry's promising conditions and its potentials for further development. Projected average yearly increase of tourist arrivals from 2017 to 2019 is at 29% and when the New Panglao Bohol International Airport is expected to be operational in 2018, projected tourist arrivals will surge to an average of 39% (Figure EC-4).



Along with this projected rush of tourist influx in the province, it is also assumed that there will be shortage in the availability of rooms. *Table EC-2* shows the projected tourist arrivals and room demand by 2016 to 2022.

Table EC-2. Projected Tourist Arrivals and Room Demand, Bohol: 2016-2022

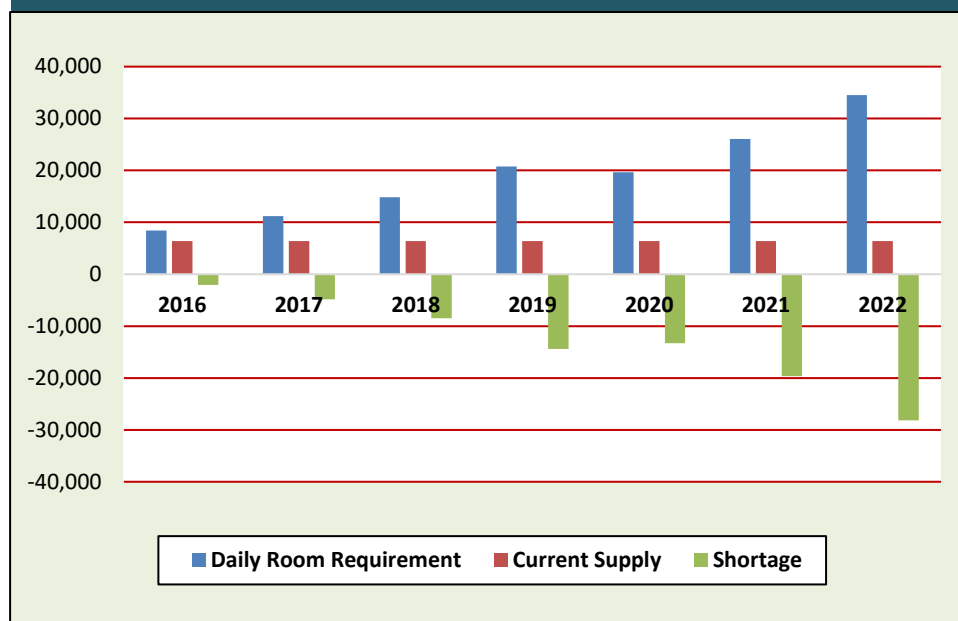
Year	Projected Tourists*	Daily Room Requirement**	Current Supply	Shortage
2016	820,640	8,442	6,370	-2,072
2017	1,060,979	11,188	6,370	-4,818
2018	1,371,722	14,828	6,370	-8,458
2019	1,910,670	20,759	6,370	-14,389
2020	2,470,333	19,652	6,370	-13,282
2021	3,193,967	26,044	6,370	-19,674
2022	4,129,627	34,516	6,370	-28,146

Note:

- * Tourist Arrivals in year 2016 are based on actual figures from DOT7; Tourist Arrivals from 2017 to 2018 and from 2020 to 2022 are projected to increase annually at an average of 29%;
- ** Tourist Arrivals in 2019 is projected to increase at an average of 39% upon operation of the New Panglao Bohol International Airport in the middle of 2018;
- ** Daily Room Requirement projections from 2016 to 2018 and from 2020 to 2022 are derived based on DOT7's Occupancy Rate of 32.53% in 2016; Daily Room Requirement in 2019 is projected to increase at an average of 40% upon operation of the New Panglao Bohol International Airport.

Based on *Table EC-2* immediately above, the current supply of rooms in 2017 is not able to meet the actual demand for rooms. With the 32.53% projected increase in room demand starting 2017, continuous increase in this shortage is anticipated, and even more when the New Panglao Bohol International Airport will be operational in 2018. By 2022, this shortage is expected to hit 28,146 rooms (*Figure EC-5 below*).

Figure EC-5. Projected Room Demand, Bohol, 2016-2022



Source: Bohol Tourism Office (BTO)

For prospective developers of accommodation facilities, the process of land acquisition, planning, construction and eventual operation will take at least two years, making the room shortage a dilemma even with pipeline projects to date. If the industry does not act accordingly, the demand for rooms becomes severe. This scenario has been a long-standing issue which must be addressed promptly. Failure to do so will alienate the market due to inability to supply the needed accommodation of tourists.

3. Tourist Arrivals and Demand for Rooms Economic Effects

With the available data of tourist arrivals and room demand, direct and indirect employment opportunities can also be projected. Worldwide, it has been shown that direct employment in accommodation establishments averages at 1.75 persons per room. These include administration staff, marketing, front office, catering and kitchen, housekeeping, maintenance, and security. It may also comprise restaurant and banquet service staff on a full and part-time basis, entertainers, and spa and sports management personnel. On the other hand, indirect employment generated by the industry averages at two (2) persons per room. These consist of jobs created in different sectors which provide goods and housekeeping supplies, laundry services, printing and related services, vehicle-for-hire services, tour operators, souvenir shops and suppliers, beauty and barber shops, flower shop supplies and personnel. The resulting picture for employment created as a direct result of additional rooms constructed and operated is shown in *Table EC-3* below as follows:

Table EC-3. Projected Room Demand and Jobs to be Generated, Bohol: 2016-2022

Year	Rooms Required	Current Supply	Room Demand	JOBS TO BE GENERATED		
				Direct Jobs (1.75)	Indirect Jobs (2.0)	Total
2016	8,442	6,370	2,072	3,626	4,144	7,770
2017	11,188	6,370	4,818	8,432	9,636	18,068
2018	14,828	6,370	8,458	14,802	16,916	31,718
2019	20,759	6,370	14,389	25,181	28,778	53,959
2020	19,652	6,370	13,282	23,244	26,564	49,808
2021	26,044	6,370	19,674	34,430	39,348	73,778
2022	34,516	6,370	28,146	49,256	56,292	105,548

Using the same factors and the additional rooms, tourism should be currently employing in 2016 over 3,626 persons directly in accommodation establishments and accounts for 4,144 indirect jobs. Total employment provided by the industry is 7,770 full-time persons. Opportunities created with this booming industry must be felt in the job market. In the moderate projections by the year 2022 another 105,548 jobs would be created bringing the industry total to over 100,000 persons employed by tourism and affiliated sectors. The optimistic view, which factors-in the various government responses to the industry needs, including the upcoming operation of the New Panglao Bohol International Airport - new employment is expected to soar.

The job generation of the industry includes several services which will necessarily sprout especially that micro and small medium enterprises (MSMEs) are the trend nowadays. Given this income opportunities, private sector investments are anticipated to be as brisk as those inclined and into the provision of rooms. A primary concern with the existing rooms however is the range of quality *i.e. some meet the criteria in terms of international standards for the Department of Tourism (DOT)*, while a lot fall below even to the standards of the DOT. To get all of these rooms under a provincial accreditation program that can successfully monitor quality, quantity and level of service, the evolution of separate sets of physical standards may need to be considered *i.e. cultural and international level of standards*. A system of promotions can then be set to allow operators to enhance from a lower to higher physical standard with the corresponding incentives. This will be possible with the implementation of the formulated Quality Standards for Sustainable Tourism in Bohol.

4. Accommodation Establishments in Bohol

Based on data provided by the DOT (*Table EC-4 below*), the number of accommodation facilities almost doubled from 232 in 2013 to 429 in 2016. Moreover, the number of rooms significantly increased from 3,912 in 2013 to 6,370 in 2016. In 2016, accommodation facilities are located in 32 municipalities and 1 city in the province of Bohol.

Table EC-4. **Accommodation Establishments**

Year	No. of Accommodation Facilities	No. of Rooms
2013	232	3,912
2014	284	4954
2015	360	5054
2016	429	6370

Source: Department of Tourism (DOT), RO7

5. Meetings, Incentives, Conventions, and Exhibitions (MICE) Facilities in Bohol

The term "MICE" in the context of travel is an acronym for Meetings, Incentives, Conferences and Exhibitions. It refers to a specialized niche of group tourism dedicated to planning, booking and facilitating conferences, seminars and other events. In terms of MICE tourism, Bohol have MICE facilities that can cater to groups of tourists, investors and businessmen alike. MICE facilities in Bohol can accommodate 11,681 individuals with facilities from Tagbilaran City comprising the bulk at 6,687 capacity followed by Tagbilaran City at 3,569, and other locations at 1,425 capacity (Table 5).

Table EC-5. **MICE Facilities in Bohol**

MICE Facilities in Bohol	Capacity
Panglao Island	3,569
Tagbilaran City	6,687
Baclayon	500
Bilar	40
Talibon	185
Tubigon	350
Valencia	350

Source: Department of Tourism (DOT) – RO7

6. Ancillary Tourism Facilities and Services

Owing to the increasing entry of tourists availing tour packages to different sites in the province, the number of tour operators as well as transport/vehicle-for-hire ventures has also increased. In 2015 to 2016 there has been a total of 15 DOT-accredited travel agencies, 34 tour guides, 44 accommodation establishments, 27 hotels and 25 resorts are members of the Bohol Association of Hotels, Resorts and Restaurants (BAHRR). Moreover, 30 DOT-accredited land tourist transport services operators are registered having 78 cars, 103 vans, two (2) coasters, and 16 buses.

Food services and restaurants have also become a viable and profitable business to enhance tourism development in the province. Excluding fast-food services, there are 24 restaurant members of BAHRR.

7. Tourism Infrastructure and Support Facilities

Major entry points to the province, like the airport and seaport in Tagbilaran City, also the seaports in Tubigon, Ubay, Talibon and Jagna, are key tourism infrastructures that connect Bohol to Manila, the Visayas and Mindanao. Shipcalls have increased by 15% based on the total figure of 27,447 in 2016 compared to previous figure of 23,849 in 2013; passenger traffic also increased by 27% based on the total figure of 5,129,869 in 2016 compared to the previous figure of 4,035,556 in 2013, as recorded by the Philippine Ports Authority (PPA).

In terms of incoming flights, 2016 had an increase of 15% based on the total figure of 3,501 in 2016 reckoned to the total figure of 3,037 in 2014; incoming passengers also had an increase of 43% based on the total figure of 429,914 in 2016 reckoned to the total figure of 300,815 in 2014, as recorded by the Civil Aviation Authority in the Philippines (CAAP).

Communication facilities are continually undergoing improvements in the province linking tourists to the world. At present, there are two (2) telephone companies and five (5) cellular networks in operations. Internet service providers also abound providing wi-fi broadband, cable internet and dial-up connections.

8. Bohol's Major Tourism Attractions

Tourism more than any industry, relies upon the integrity of a locale's natural and man-made environment, and cultural underpinnings, the sum total of which could be called a locale's heritage. In the Province of Bohol, its rich heritage consisting of beautiful landscapes, coastlines, diverse flora and fauna, religious/historic landmarks and archaeological artifacts are the very foundation of Bohol's eco-cultural tourism.

Bohol has a total of 546 sites declared by tourism officers from 29 LGUs. These attractions comprise nature, history and culture, customs and traditions, shopping, industrial tourism, sports and recreational facilities, and others as categorized by the Department of Tourism.


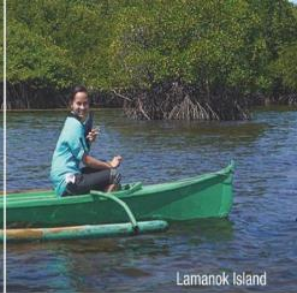




Together with JICA, the Bohol Tourism Office was able to create 12 surprise tour packages involving community and eco-tourism sites in the province. Bohol being marketed as an eco-cultural tourist destination supports this program in making eco-tourism the province's way of life. The project commits to the following:

- Value and preserve Bohol's nature, culture, food and livelihood
- Introduce local resources and way of life
- Empower local communities for sustainability

<ol style="list-style-type: none"> 1. Tubigon Loom Weaving (Tubigon) 2. Loon Coral Stairs (Loon) 3. Organic Farm and Lunch (Maribojoc) 4. SAVIMA Mangrove Adventure (Maribojoc) 5. Punta Cruz Watch Tower (Maribojoc) 	<p>Watch and learn “<i>Raffia</i>” loom weaving from local weavers in Tubigon town.</p> <p>See the ruins of Loon church and walk on the Inang-angan Stairs which was built from 1847-1849.</p> <p>Tour around the Organic Farm and have sumptuous lunch of their organic produce.</p> <p>Experience mangrove planting, catching “<i>Takla</i>” (a kind of crustacean) and “<i>Imbaw</i>” (a clam in the mangrove areas).</p> <p>Visit the Punta Cruz Watch Tower ruins and walk around the uplifted ridge.</p>	     
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Bohol Surprise Tour 1

Tour starts at 9:00am and ends at 5:00pm
Tour Price: Php3,200.
(Inclusion: Transportation; Entrance Fees; Lunch; Accredited DOT Tour Guide; Complimentary Bottled Water)

     	<ol style="list-style-type: none"> 1. Lamanoc Island (Anda) Go to Lamanoc Island on a “<i>Bangka</i>” (a wooden small boat) and enjoy its picturesque view. This island has full of history and mysticism. 2. Anda Beach and Lunch (Anda) Lunch of fresh seafoods on a very relaxing beautiful Anda beach. 3. Jagna Calamay Industry (Jagna) See how to prepare the famous “<i>Calamay</i>” and sample it with bread. 4. Clarin Ancestral House (Loay) A tour inside the Clarin Ancestral House, a glimpse of a Boholano vernacular architecture design.
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Bohol Surprise Tour 2

Tour starts at 8:00am and ends at 6:00pm
Tour Price: Php4,000.
(Inclusion: Transportation; Entrance Fees; Lunch; Accredited DOT Tour Guide; Complimentary Bottled Water)

<ol style="list-style-type: none"> 1. Albur Calamay Industry (Alburquerque) 2. Loay Ironsmith Workshop (Loay) 3. Balay sa Humay and Lunch (Batuan) 4. Bohol Biodiversity Complex (Bilar) 5. Clarin Ancestral House (Loay) 	<p>Experience how to prepare Bohol's Calamay and have a taste of this famous delicacy.</p> <p>See how local craftsmen make knife "Bolo" and Machete and participate in making one.</p> <p>Learn the process of how organic rice is produced, and have sumptuous lunch.</p> <p>Visit Bohol Biodiversity Complex where you will learn to identify different kinds of trees and do your share in making Bohol greener by planting your own tree.</p> <p>A tour inside the Clarin Ancestral House, a glimpse of a Boholano vernacular architecture design.</p>	     
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Bohol
Surprise
Tour 3

Tour starts at 9:00am and ends at 5:00pm
Tour Price: Php2,900.
 (Inclusion: Transportation; Entrance Fees; Lunch; Accredited DOT Tour Guide; Complimentary Bottled Water)

<ol style="list-style-type: none"> 1. Cabilao Island Nature and Community Life Adventure (Loon) 2. Lunch at Cabilao Island (Loon) 3. Antequera Farm and Crafts Village Tour (Antequera) 	<p>Aside from its world-class dive sites, Cabilao beckons with its island lakes, preserved culture and the creativity of its warm-hearted people.</p> <p>Enjoy seafood lunch in the island. Relish on the bounty of the sea and Cabilao's delectable delicacy.</p> <p>Farm and fish, ponds and paddies, ride and dive, caves and weaves in a day. Dinhi ra sa Antequera.</p>
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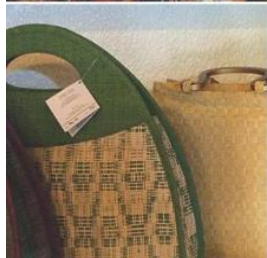
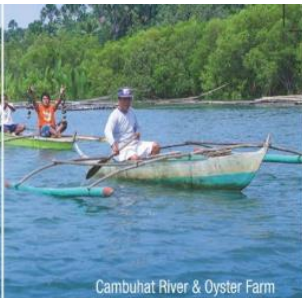

Bohol
Surprise
Tour 4

Tour starts at 8:00am and ends at 5:00pm
Tour Price: Php5,450.
 (Inclusion: Transportation; Entrance Fees; Lunch; Accredited DOT Tour Guide; Complimentary Bottled Water)

<ol style="list-style-type: none"> 1. Cabilao Island Nature and Community Life Adventure (Loon) 2. Lunch at Cabilao Island (Loon) 3. Kawasan Falls and it's Agri Farm Activities (Balilihan) 	<p>Aside from its world-class dive sites, Cabilao beckons with its island lakes, preserved culture and the creativity of its warm-hearted people.</p> <p>Enjoy seafood lunch in the island. Relish on the bounty of the sea and Cabilao's delectable delicacy.</p> <p>A piece of paradise where mother nature nurtures and heals the human spirit.</p>	   
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**Bohol
Surprise
Tour 5**

Tour starts at 8:00am and ends at 5:00pm
Tour Price: Php5,400.
 (Inclusion: Transportation; Entrance Fees; Lunch; Accredited DOT Tour Guide; Complimentary Bottled Water)

  	  	<ol style="list-style-type: none"> 1. Cambuhat River & Oyster Farm (Buenavista) 2. Lunch at Cambuhat Village (Buenavista) 3. Bohol Beads and Fiber (Inabanga) 4. Takla and Mud Crab Culture Community (Calape)
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**Bohol
Surprise
Tour 6**

Tour starts at 8:30am and ends at 6:00pm
Tour Price: Php4,500.
 (Inclusion: Transportation; Entrance Fees; Lunch; Accredited DOT Tour Guide; Complimentary Bottled Water)

1. Talibon Interpretive Center Learning Tour (Talibon)	Walk through a people's struggle to protect a rare resource, the Danahon double barrier reef.	
2. Lunch at Talibon (Talibon)	Enjoy seafood lunch in Talibon.	
3. Carabao Dairy Farm (Ubay)	Who says carabaos are just for tilling the farm? Milk one and take delight in the dairy fresh milk at the Carabao Dairy Farm.	
4. Horseback Riding in Ubay (Ubay)	Survey the fields on a steed. Gallop and have fun at the farm.	

Bohol
Surprise
Tour 7

Tour starts at 8:30am and ends at 7:00pm

Tour Price: Php4,450.



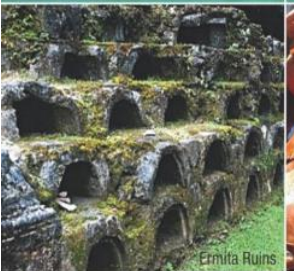



(Inclusion: Transportation; Entrance Fees; Lunch; Accredited DOT Tour Guide; Complimentary Bottled Water)



Milking in Carabao Dairy Farm



Horse Backriding

		1. Baybayon Fishing Village Tour (Mabini)	Ride a fishing boat and snorkel for giant clams or spread the picnic-mat on the low-tide sandbar. Then sail to gape at Naasug cliffs but resist the beckoning aquamarine dip.
		2. Lunch at Baybayon Fishport (Mabini)	Feast on fish, greencrabs, shells and prawns, the freshest catch from Baybayon.
		3. Ermita Ruins with Historical Mystery (Dimiao)	Under the shadow of an old stone-walled cemetery lie a crumbling secondary burial ground that hides the town's mysterious Spanish history.
		4. Music & Sound of Dimiao Rondalla (Dimiao)	They pick, pluck and strum. The music they make speaks of a culture best expressed by the children and the rondalla of Dimiao.

Ermita Ruins

Lunch at Baybayon

Dimiao Childrens Rondalla

Bohol
Surprise
Tour 8

Tour starts at 8:30am and ends at 5:00pm

Tour Price: Php4,400.

(Inclusion: Transportation; Entrance Fees; Lunch; Accredited DOT Tour Guide; Complimentary Bottled Water)

<ol style="list-style-type: none"> 1. Tribu Eskaya Learning Tour (Duero) 2. Lunch at Tribu Eskaya (Duero) 3. Strawberry Farm Tour (Duero) 4. Music and Sound of Dimiao Rondalla (Dimiao) 	<p>Learn a few words, write your name the Eskaya way and see how the tribe kept their tradition amidst creeping modernization.</p> <p>Organic produce for lunch prepared the Eskaya Tribe way.</p> <p>Nobody thought growing strawberries in Bohol highlands can be done. Visit small farms owned by locals in Taytay.</p> <p>They pick, pluck and strum. The music they make speaks of a culture best expressed only by the children and the rondalla of Dimiao.</p>	     
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**Bohol
Surprise
Tour 9**

Tour starts at 8:30am and ends at 5:00pm
Tour Price: Php4,000.
 (Inclusion: Transportation; Entrance Fees; Lunch; Accredited DOT Tour Guide; Complimentary Bottled Water)

<ol style="list-style-type: none"> 1. Caving at Danao Adventure Park (Danao) 2. Lunch at Danao Adventure Park (Danao) 3. Ang Paru-paro (Butterfly Garden) (Carmen) 3. Crunchy Kabkab Industry Tour (Sevilla) 	<p>Caving in Danao Adventure Park is one of the "must-do" activities when you're in Bohol. Explore an underground world & discover subterranean pools naturally decorated with magnificent stalactite and stalagmite formations.</p> <p>Feast on local cuisine prepared with freshly picked ingredients in surrounding farm.</p> <p>See life's parody unfold: an eeky caterpillar nibbles a leaf, creeps into a cocoon and comes out as nature's most adorable creature.</p> <p>Nibble on that crispy thrill of the kabkab, after crossing a swaying bamboo bridge that's a sure heart throb.</p>	     
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**Bohol
Surprise
Tour 10**

Tour starts at 8:30am and ends at 5:00pm
Tour Price: Php4,350.
 (Inclusion: Transportation; Entrance Fees; Lunch; Accredited DOT Tour Guide; Complimentary Bottled Water)

<ol style="list-style-type: none"> 1. Philippine Tarsier Sanctuary (Corella) Snake through the trails and catch a sleeping "Maomag", a nocturnal old mammal marooned in the age of man. 2. Lunch at Sikatuna Tree Park (Sikatuna) Take a cart ride and create fun memories and enjoy tranquility amidst a tree park and sanctuary. 3. Loboc Salabat Production Facility Tour (Loboc) Want some refreshing gingerade? This is worth tasting. 4. Stand-up Paddling Tour (Loboc) Stand up paddling is the fastest growing watersport because it is easy and very enjoyable. Loboc River offers the perfect location to learn this because of its calm environment. 	   
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Bohol
Surprise
Tour 11

Tour starts at 9:00am and ends at 5:00pm
Tour Price: Php4,000.
 (Inclusion: Transportation; Entrance Fees; Lunch; Accredited DOT Tour Guide; Complimentary Bottled Water)

<ol style="list-style-type: none"> 1. Holy Spirit School 2. Tricycle 3. St. Joseph Cathedral 4. Provincial Capitol 5. Painitang Bol-anon 6. President Carlos P. Garcia Heritage House 7. Casa Rocha and other Vintage Houses 	<p>A heritage walk to a school that began as a dormitory by German catholic missionaries in 1926.</p> <p>Hop on and engage in simple conversation with the tricycle driver.</p> <p>Experience an aspect of Boholano spirituality as expressed through the lighting of candles with reverent prayers.</p> <p>A stone building of typical Spanish design with arcs and columns built in 1860.</p> <p>Indulge in a gastronomic delight of an assortment of native delicacies.</p> <p>Visit the house of a former Philippine president.</p> <p>Delight in seeing beautiful residences built during the Spanish colonial era and American colonial era.</p>
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Bohol
Surprise
Tour 12

Tour Time: 8:30 AM or preferred time by appointment
Duration: 2 - 3 hours
Tour Price: Php800.
 (Inclusion: Tour Guide; Local Delicacies and Drinks
 Meeting Point: Human Nature)

9. Tourism Development Initiatives in the Province of Bohol

- **The Panglao Bay Premiere Flagship Tourism Enterprise Zone**

Republic Act 9593 (RA 9593) otherwise known as the Tourism Act of 2009 sealed government commitment and support in taking strategic directions for the planning and development of the tourism industry in the Philippines. Section 3q of RA 9593 also provides that the State shall support the establishment of Tourism Enterprise Zones (TEZs), which will provide the necessary vehicle to coordinate actions of the public and private sectors to address development barriers, attract and focus investment on specific geographic areas and upgrade product and service quality.

Hence, the Department of Tourism (DOT) and the Tourism Infrastructure and Enterprise Zone Authority (TIEZA) being the government instrumentalities delegated to perform its mandated functions in accordance with RA 9593, proactively seek out sites with viable tourism potential and pursue development planning through its Flagship TEZ Program. Moreover, Section 12a of RA 9593 provides that the DOT shall prepare a National Tourism Development Plan (NTDP) identifying geographic areas with potential tourism value and outlining approaches to developing such areas. Pursuant to this provision, the DOT together with TIEZA as its implementing arm prepares the NTDP.

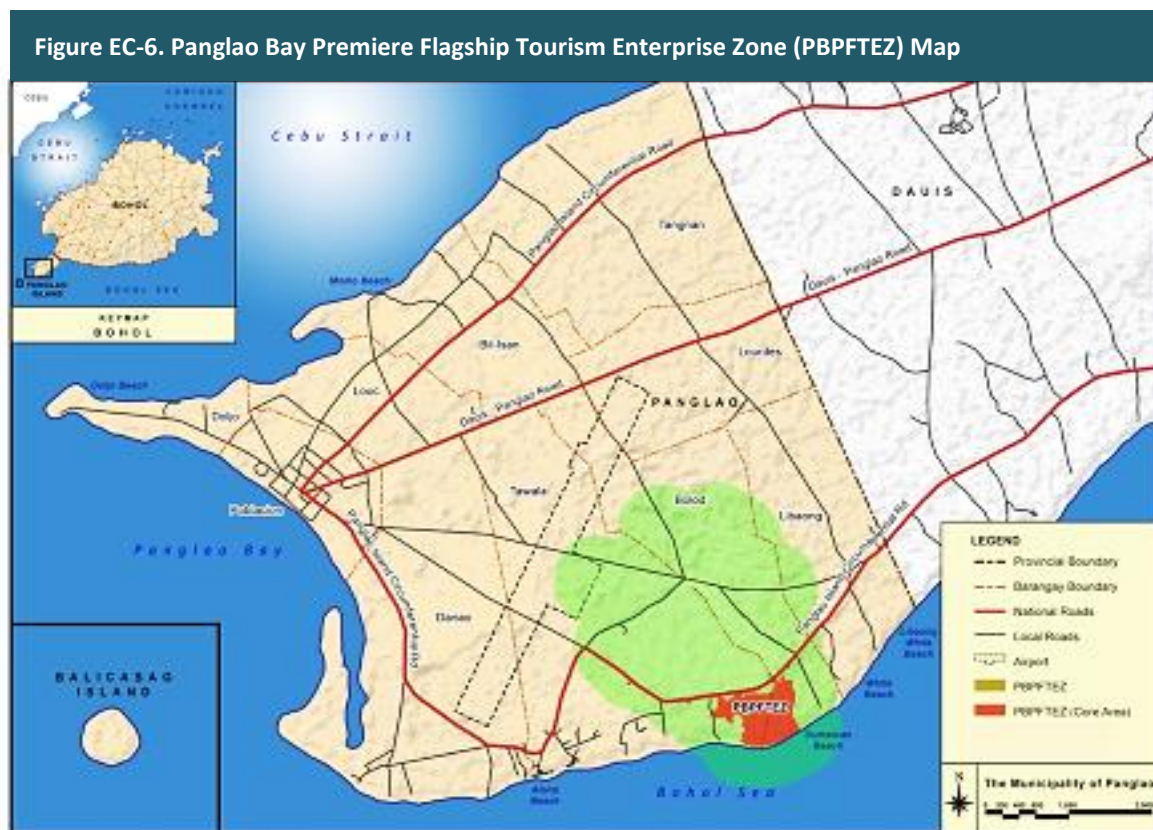
The underpinning provisions of RA 9593 as stated above served as the driving force that led to the formulation of the NTDP 2011-2016 which was developed and implemented to serve as a framework for the strategic development of the tourism sector focused on sustainable tourism and inclusive growth. One of the key recommendations of the plan was to energize strategically-located tourism development areas (TDAs) by designating TEZs. In an effort to accelerate the designation and operation of TEZs across the country, the DOT and the TIEZA jointly implemented the Flagship Tourism Enterprise Zone Program.

The NTDP has identified priority cluster destinations and related tourism development areas for development as Flagship TEZ. In evaluating the site, the characteristics required for the designation of TEZs under RA 9593, the criteria for the shortlisting of Flagship TEZ sites, and its strategic fit into the NTDP are considered.

TIEZA has already concluded its second batch of identified Flagship TEZs. Among the sites identified as Flagship TEZ for this batch are the Panglao Bay Premiere properties which are located in Barangay Bolod, Municipality of Panglao, in the Province of Bohol and cover an area of around 111 hectares. These properties include the 43-hectare South Palms Resort Panglao that is immediately west of Bohol Beach Club and has a 750-meter white sand beach frontage, said to be the longest for a beach resort in Panglao. It is situated along the Panglao Island Circumferential Highway, which cuts across the property essentially splitting it into two parts: (1) the core site located south of the highway facing the sea, and (2) the slightly elevated bits and pieces of land located north of the highway.

The core site includes the 50-hectare South Palms Resort Panglao (SPRP) owned and operated by the Panglao Bay Premiere Parks and Resorts Corporation (PBPPRC). Formerly

part of the old Bohol Beach Club (BBC), SPRP lies on the immediate west of the renovated half of the BBC and the immediate east of the Eskaya Resort and Spa. The 61-hectare remainder of the estate located north of the highway comprise bits and pieces of land, part of which are currently used to house support infrastructure for SPRP.



The identified Panglao Bay Premiere Flagship Tourism Enterprise Zone (PBPFTZ) is proximate to the soon to be operational New Panglao Bohol International Airport which is presently being developed and constructed. As such, the influx and volume of tourist arrivals from that gateway would be complemented and accommodated by integrated resort complex and M.I.C.E. (meetings, incentives, conventions, exhibitions) developments. The PBPFTZ is also strategically located at the heart of Panglao Island which makes it an ideal take-off point to the other tourist attractions such as the Balicasag Island Dive Resort, Alona Beach, Bohol Bee Farm, Hinagdanan Cave and the multitude of surrounding world class dive sites.

Based on a study conducted by Asia Pacific Projects, Inc. (APPI) in 2014, it was estimated that Panglao contributed Php 2.13 billion or 1.4% of total international receipts from tourism in year ending 2013. International tourists in Panglao were found to typically spend about Php 6,500 daily and stay an average of 3 to 4 days. While the daily spend is noted to be above 30% of national averages, length of stay of tourists is significantly shorter. The above-cited statistics indicate that Panglao tourism has grown steadily over the last five years.

The PBPFTZ is envisaged to serve as a benchmark for the development of the island into becoming the next “must-see” resort destination in Southeast Asia. It is positioned to be an integrated tourism and leisure resort community which will provide a mix of overnight and day visitor activities, facilities and services including holiday and retirement, residential, leisure shopping, food and beverage, and amusement and entertainment concepts.

- **Panglao Island Tourism Development Plan**

In 2010, the Provincial Government of Bohol (PGBh) has been able to come up with a Tourism Development Plan for the Island of Panglao comprising the Municipalities of Panglao and Dauis. The Plan was made possible through a memorandum of agreement between the PGBh and the Palafox Associates. The Palafox Associates is a consultancy firm whose main expertise lies in architecture, urban planning, town planning, site planning, interior design, and has since branched out to project development studies, site engineering, landscape architecture, and environmental graphics design.

The following are the main objectives of the Tourism Development Plan of Panglao Island:

1. Layout the overall development plan for Panglao Island with consideration of the proposed and now upcoming New Panglao International Airport;
2. Encourage the locals of Panglao Island to participate in the preparation of the report through comments, suggestions, and recommendations which ensures the sense of ownership of the local residents of Panglao Island; and
3. Strike a balance between the local plans of the PGBh and the proposed plans of Palafox Associates to achieve sustainable tourism development in Panglao Island.

Moreover, the Plan which is geared towards the sustainable tourism development of Panglao Island entailed the crafting of general policies. These general policies were then translated into specific detailed engineering designs where a sustainability approach was taken into full consideration. Over the course of the formulation of the Plan, public consultation meetings were conducted, particularly on community resource mapping that consequently yielded important data and aspects of Panglao and Dauis identified in the local level.

Analysis of Existing Situation. An analysis of the island’s existing situation was also undertaken with emphasis on the assessment of existing land uses and patterns, the waterworks, drainage, and sewerage infrastructure, including existing provincial and regional tourism development plans.

The main development agenda for Panglao Island is the construction of the Panglao-Bohol International Airport. It has been realized that there were strong supporters and opponents to its construction. Commonly stated, the presence of the airport will however catalyze the creation of jobs and intensification of businesses, as many residents and entrepreneurs relate thereto. On the other hand, environmental degradation and pollution were the main concerns also addressed by residents and business people alike.

Tourism operators were concerned as well because the environment and the natural pristine state of Panglao Island is what they depend in order to run their nature-based enterprises.

Tourism Industry Analysis. Tourism industry is arguably the most prominent socio-economic, and perhaps even the most impacting environmental force on the island. A majority of its residents have either direct or indirect linkages to the tourism industry, whether just contributing or being a major accessory to its operation. The tourism industry in Bohol as seen in the perspective of the demand, or visiting tourists, is constantly growing (*please see updated Figure 1. Comparative Graph on Domestic & Foreign Visitor Arrivals, Bohol, 2010-2015*). Hence, it can be easily correlated that tourism is constantly bringing more potential and opportunity in the area, especially in the popular white sand beaches of Panglao Island.

The growth of both foreign and local visitors to Bohol certainly has numerous impacts in Panglao Island, especially as the Panglao Airport will start its operations after the closure of the current Tagbilaran Airport. According to the Supplementary Report for the Environmental Impact Assessment of the Proposed Panglao Airport, conservative estimates of 70% to 80% of visitor arrivals in Bohol stay in Panglao. Thus in terms of arrival traffic, the airport will serve as a major player in the movement of people, both local passengers and tourists.

Statistics on the number of tourists to Panglao are only divided in two: as tourists staying in Panglao for more than 24 hours vis-à-vis excursionists, or tourists who visit Panglao without an overnight stay. It is apparent in the projections that the number of tourists in Panglao are expected to increase which would correspondingly increase the demand for rooms accommodation (*please see Table 2. Projected Tourist Arrivals and Room Demand, Bohol, 2016-2021*).

Projection of Future Scenarios. Because of the numerous impending physical developments in Panglao Island, the integrity and the sustainability of the natural environment becomes an utmost concern. It has been identified that the impacts of the future airport's presence and the continuous surge of tourism developments will only effect the damage to the environment should no preventive mitigating measures for the impacts be formulated and applied. In a more positive light, the proper and balanced development of communities within the island has numerous benefits and advantages to the local community and investors in the island.

Noticeable in both Panglao and Dauis is the development push outward to the island's edges. This "donut development", where high density developments are pushed in coastal areas and low density developments left in the central portion, is also typical in many tropical island developments in the Philippines such as in Boracay as illustrated below (*Figure EC-7*). Therefore, there is a need to balance spatial development and maximize the island's inner core and pull developments inward.

The impending increase in tourism arrivals once the Panglao Airport commences its operations will need to match the overall physical developments of the island to maintain a robust economy at the same time provide opportunities for appropriate physical development. It maybe plausible to assert that the Panglao Island Airport is the most extensive physical development of the island. Service roads and linkages will have to be built, and the runway and terminal be constructed. The airport's development becomes a catalyst to subsequent physical and infrastructural developments such as construction of additional roads, road widening, and the development of tourism establishments such as hotels and accommodation properties.

Figure EC-7. "Donut Development" in Boracay Island



Source: Palafox Associates' Eco-Tourism Development Plan for Panglao Island

Development Framework. Development Framework is the most important aspect of the Plan. It is realized that Panglao Island is linked by a national road spine with northern and southern circumferential provincial roads. These are the main linkages that connect barangays and sitios in the central and coastal portions of the island. Three (3) development frameworks have been selected as strategies that will serve as possible

Priority Areas for Development. The priority areas that were selected for development are Alona Beach, the Poblacions of Dauis and Panglao, as well as coastal areas, beaches, and dive sites. These are also the most prominent attractions of the island. And because almost every priority area is dependent on tourists, these were designed as such to ensure that their potential for tourism is maximized and would promote the trickle-down effect to benefit the local population. Policies that would control the development of built structures in Alona Beach as well as the implementation of setbacks were emphasized. Urban renewal and provision of commercial and mixed-use areas were the viable development strategies for the Poblacions of Dauis and Panglao, while environmental stewardship would be the primary directive on the development of coastal areas, beaches, and dive sites.

Tourism Development Guidelines. Specific guidelines which would embody the Panglao Island Tourism Development Guidelines were developed. Most significant in the guidelines is the proposed creation of an overall authority, the Panglao Island Development Authority (PIDA) that will become a centralized planning and implementation agency responsible for development matters of the island. Moreover, setbacks are also important issues that were developed in the guidelines, which took consideration of various factors such as for aesthetics, access, and even for the anticipation of the impacts of global warming and the rise of water levels.

The guidelines for tourism and its related developments in Panglao Island were created mindful of environmental, social, economic, and institutional considerations. These are guidelines that also serve as complementary and harmonizing to the existing local, provincial, national laws, ordinances, and executive orders related to Panglao Island. The guidelines act as guideposts for future developments, especially those related to tourism. Sustainability becomes the primary goal that the guidelines are to be mandated to achieve. However, there is a degree of flexibility regarding these guidelines as the data herein are subject to further studies, evaluation, public consultation, and approval of authorities.

Development Phasing Plan. Not all plans can be effectively implemented all at once immediately. Phasing plans were also developed to provide a phase-by-phase instruction and guide towards effective development. The phases for development were from the immediate 100-day term, the short term of zero to three years, the medium term of until six, and the 24-year long term.

- **Anda Peninsula Tourism Development**

A Municipality underpinned by its vision to become a well-known eco-cultural tourism destination where rich natural and cultural resources are sustainably managed by God-loving and empowered communities (*Anda Eco-Cultural Tourism Master Plan 2010-2015 Vision*). Anda is a rustic municipality located on a small peninsula at the eastern tip of Bohol fronting Mindanao which is 99 kilometers from Tagbilaran City. Anda is a 5th class municipality considered as an exotic tourism destination known for its beautiful, pristine and serene long stretch of fine white sandy beaches that include almost four (4) kilometers of unspoiled public beach particularly the Quinale Beach.



The Municipality of Anda has been consistently envisioned by the provincial leadership in consultation with development key players as an alternative tourism destination in the Province of Bohol. In contrast to Panglao Island which has now become the principal tourist destination in Bohol and gradually in the makings of a haven for mass tourism, Anda has remained unscathed in terms of its natural ecological and cultural assets. These unaltered states on its eco-cultural assets underpin Anda's potential as an eco-cultural tourism destination.

Anda is considered as an eco-cultural and heritage tourism site in the eastern peninsula. One can find there apart from the beautiful white beaches, the hanging coffins, relics of old Bohol, cave writings that dates back to antiquity. The province, by reason of its eco-cultural heritage endowments and agri-tourism potentials which includes the Anda Peninsula, has been projected as a major player in the development of the Central Philippines Super Region tourism industry.

Anda will be the next tourism destination to be developed, dubbed as the Anda Peninsula Tourism Development Project. The Local Government Unit in coordination with the PGBh and the DOT have been initiating and assisting projects supporting the poor communities in the form of tourism projects in Bohol. For Anda it includes the Lamanok Island Mystic Experience Tour, the adventure tour entails the construction of an interpretive center, boardwalk and site development in the island and Food Processing for products developed in support to the tourism enterprise.

Other numerous nice places in Anda are worth-exploring like beautiful diving spots and caves. Behind the beaches, the coast is formed from lime-stone rocks and cliffs, often overhanging the beach that added to its scenic view. Along some of the cliffs, one can find caves that once during the pre-hispanic times served as burial places for the local people. Further inland, one can find numerous impressive caves, cave pools and abundant freshwater swimming pools.

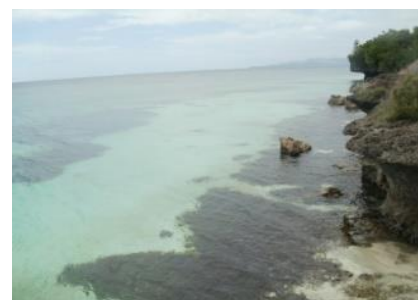


In the Poblacion, you can find the parish church, dedicated to Santo Niño, which was completed in 1926. Although this church looks plain from the outside, it boasts some excellent ceiling paintings by the well-known Cebuano artist Ray Francia, who decorated many of Bohol's churches, of which those in Anda are probably the best preserved.

Lamanoc Island. A little to the east of the town which is Barangay Badiang, one can find some impressive rock-formations that form the easternmost point of the Anda peninsula, locally known as the Lamanoc Point. This place is a community-based eco-tourism destination in Anda which is called the Lamanoc Island Tour where one can visit caves complemented with a re-enactment by Andahanon folks of bringing native chicken to offer to the spirits (Engkanto) during their rituals. Furthermore, stories of witchcraft and some haunting spirits on the island are told. Within the different caves one can spot some human relics, secondary burial coffins where diwatas and other spirits dwelled centuries back according to folklore. On these areas are also found hematite (red iron oxide) paintings on rock formations.



Accommodation Facilities and Touristic Activities. Anda, notwithstanding its being a small peninsula, houses about 19 accommodation facilities and beach resorts. Among them are the Anda White Beach Resort, Blue Star Dive Resort, Amun Ini Beach Resort and Spa, Island View Beachfront Resort, Casa Amihan, East Coast White Sand Resort, J&R Residence, Anda de Boracay in Bohol Hotel and Resort, Visayas Breeze Resort, R&S Seaside Unit Accommodation Bar and Restaurant, Coco White Beach Resort, Bohol Lahoy Dive Resort, Flower-Beach Resort, La Petra Beach Resort, Magic Ocean's Dive Resort, Bohol Paradise Hills Resort and Hotel, Jao Bay Resort, Anda Cove Beach Retreat and Kim's Garden. Moreover, touristic activities are offered and catered in Anda. Some of these activities include Cliff Jumping,



Scuba Diving, Trekking, Beach Volley, Caving, Kayaking, Fishing with Fisherman (not in Sanctuary area), and Snorkeling (Basdio Sanctuary, Lamanoc Sanctuary, Candabong Sanctuary, Quinale Sanctuary).

Underwater World. Numerous dive sites abound in Anda. These diving sites and their corresponding diving facilities include: Chameleon, Paradise Garden, Snappers Cave, Lumayak, Coco White, Wonder Wall, The Caverns, Panorama, Pogaling, Virgen East House Reef, Dap Dap, Neptune House, Bacong and Titanic Rocks. Dive sites which are also ideal for snorkeling are the different sanctuaries that include Basdio, Poblacion or Quinale, Lamanok and Candabong.



- **Tagbilaran Tourism Growth Areas**

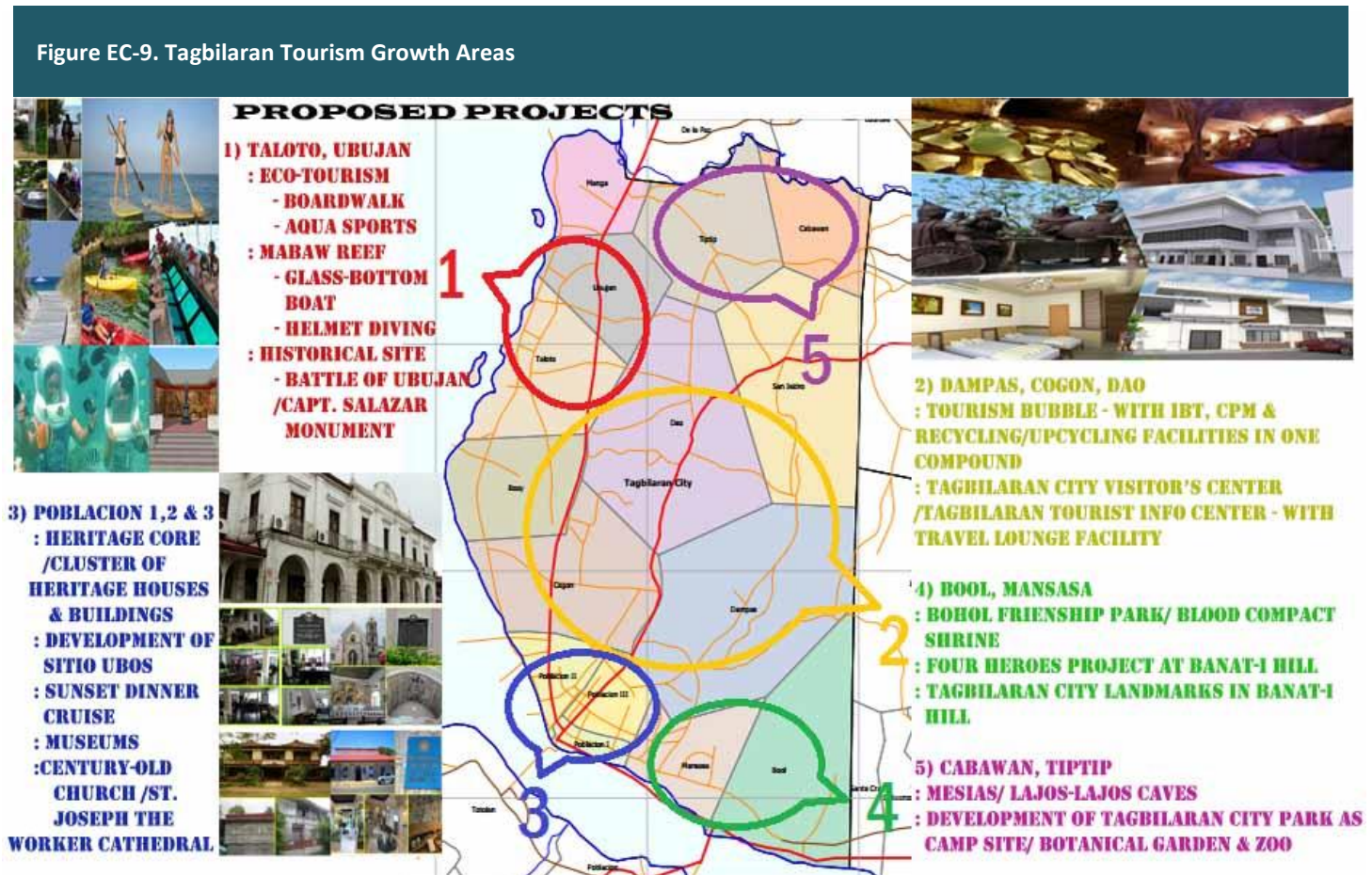
The City Government of Tagbilaran and the United States Agency for International Development (USAID) through its Cities Development Initiative (CDI) program are in partnership for proposed projects to be funded by the latter in the strategic areas of Tagbilaran City. The off-shoot of the partnership which was sealed in February 2015 caused the formulation of plans, most if not all, have already been completed while the other few are nearing completion. Different stakeholders in the city coming from the academe, business, non-governmental organizations, and people's associations attended the series of meetings and consultations that transpired during the initial stages of projects identification to discuss the different concepts (including logistics and funding) aimed at uplifting the City's tourism industry.

USAID is working to strengthen the economic competitiveness and resilience of second-tier cities outside of Metro Manila in the Philippines through the Cities Development Initiative (CDI). CDI seeks to advance the development of second-tier cities as engines of growth that is inclusive, environmentally sustainable and resilient. Depending on the most urgent needs of the city, in this case Tagbilaran City, USAID provided a range of technical assistance, drawing from resources in economic growth, energy, environment, and governance to assist the city achieve inclusive and resilient growth.

USAID-COMPETE (USAID's Philippines Projects implementing arm) brought the idea that for Tagbilaran City – it should not just be a gateway for Bohol's tourist destinations - but to be a potential destination in itself. USAID-COMPETE presented the idea of creating "tourism bubbles". Requisites of which were laid down to the City Council and different stakeholders, which means having existing clusters of tourist facilities such as hotels, restaurants, and shops possibly built around or near some feature like waterfront, riverfront, hill, monument, or historic buildings.

After series of exhaustive and comprehensive deliberations under a participatory platform, the City Government of Tagbilaran in partnership with USAID-CDI together with

the different stakeholders, finally came up with a project concept dubbed as **Tagbilaran Tourism Growth Areas**. The project concept serve as the rubric underpinned by proposed “tourism bubbles” projects. The different projects identified and proposed are spatially divided into five (5) project areas, to wit (*Figure EC-9* below):



Source: City Government of Tagbilaran

Tagbilaran Tourism Growth Area 1 (Barangays Ubujan and Taloto)

- a) Eco-tourism – Boardwalk and Aqua Sports projects
- b) Mabaw Reef – Glass-bottom Boat and Helmet Diving facilities
- c) Historical Site – Battle of Ubujan/Captain Salazar Monument

Tagbilaran Tourism Growth Area 2 (Barangays Dampas, Cogon and Dao)

- a) Tourism Bubble (Ecotourism Precinct) – Central Public Market, Integrated Bus Terminal, and Recycling/Upcycling Facilities in One Compound
- b) Tagbilaran City Visitor's Center/Tagbilaran Tourist Information Center – Travel Lounge Facility

Tagbilaran Tourism Growth Area 3 (Barangay Poblacions 1, 2 & 3)

Urban Heritage Conservation

- Heritage Core/Cluster of Heritage Houses and Buildings
- Development of Sitio Ubos
- Sunset Dinner Cruise
- Museums
- Century-old Church/St. Joseph the Worker Cathedral

Tagbilaran Tourism Growth Area 4 (Barangays Mansasa and Bool)

- a) Bohol Friendship Park/Blood Compact Shrine
- b) Four Heroes Project at Banat-I Hill
- c) Tagbilaran City Landmarks in Banat-I Hill

Tagbilaran Tourism Growth Area 5 (Barangays Tiptip and Cabawan)

- a) Mesias/Lajos-Lajos Caves
- b) Development of Tagbilaran City Park and Camp Site/Botanical Garden and Zoo

The forgoing tourism projects dubbed under the Tagbilaran Tourism Growth Areas have been conceptualized and crafted based on an agreement by the members of the City Council and various stakeholders that all plans should be within the bounds of environmental sustainability, comprehensive urban planning, and economic viability. As stated earlier, most if not all of the plans have already been completed and eventually be subjected for implementation while the remaining few are nearing its plan completion. Moreover, the Tagbilaran Tourism Growth Areas projects are geared towards Tagbilaran City having an identity that will set it apart from other municipalities of the province of Bohol.

10. Mainstreaming of DRRM-CCA to Tourism Development Planning

The value of tourism and its impact on economic growth and sustainable development has been proven globally. It provided millions of direct jobs worldwide, as well as countless more through its multiplier effects on related sectors such as trade, manufacturing, construction or agriculture. It is already one of the largest sectors in employment terms, providing employment opportunities for young people and women in both urban and rural communities.

In the province of Bohol over the past six (6) years, international and local tourist arrivals have grown significantly, from 333,932 in 2010 to 602,257 in 2015 or a significant increase of 80.35% (*Figure EC-1*). By 2021, this number is forecasted to go up to 1,631,546 (*Table EC-2*). Thus, tourism is becoming one of the most important economic activities in the province. Tourism is contributing to the voluntary redistribution of wealth, reduction of poverty and creation of employment in Bohol, as well as advocating and supporting the conservation of its environment and culture.

The tourism sector is regularly challenged by crises caused by natural, man-made or other often subjective risks globally, let alone Bohol. Natural disasters had occurred in the province and its contiguous neighbor regions that affected Bohol and the country in general. The calamities caused major losses to the sector and even to the national economy. Direct and indirect losses from disasters affected not only the tourism sector in the province, but national economies as a whole. To manage these challenges adequately, relevant structures and processes have to be designed in a robust but also flexible manner with clear understanding of the special needs and concerns of the tourism sector.

The 7.2 magnitude earthquake in Bohol last October 15, 2013 raises awareness regarding its impact in tourism. Being one of Bohol's economic drivers, the tourism industry is likely to experience temporarily slowdown as what happened during the aftermath of the earthquake or any type of disasters be it natural or manmade.

Mainstreaming DRRM-CCA in the tourism sector is accordingly driven by incidents such as natural and man-made calamities. Data indicates that those incidents that resulted in high losses in bookings and reservations at the global and national levels prompted government structures for risk to be specifically addressed accordingly in the tourism sector.

To use the development potential of tourism and taking into account that the tourism sector is continuously growing in importance, prevention is of utmost importance. Therefore, the mainstreaming of DRRM-CCA into the tourism sector's emergency structures and processes will contribute to building resilience and a higher capacity to deal with external shocks.

Drivers for mainstreaming DRRM-CCA into the tourism sector

Countries that are often severely affected by disaster and climate change are also often heavily dependent on the tourism sector for economic growth. Tourism infrastructure is often located in areas exposed to sudden-onset natural disasters, in particular beach and coastal areas, river, valleys and mountain regions. Often, the perception alone of risk and disruption can affect tourist decisions and movements. Increasing resilience of the tourism sector thus requires mainstreaming DRRM-CCA into the tourism sector.

While disaster and climate change concerns have different origins, they overlap in many aspects through common factors, especially weather and climate that affects the tourism sector in similar way. In addition, similar tools to monitor, analyze and address adverse consequences can be used in the sector. It therefore makes sense to consider implementing them in an integrated and systematic manner.

Some challenges foreseen in mainstreaming DRRM-CCA into the tourism sector

- Majority of the constituents, let alone the tourism industry players, lack awareness and understanding about natural hazards and climate change and the risks that are associated with these phenomena

- Political patronage or political indifference in instituting and implementing DRRM-CCA policies (e.g. DRRM-CCA infrastructure support and mitigating measures)
- Lack of coordination among existing institutions
- Even though national emergency structures and processes are continuously evolving within the Philippines, they are still undeveloped and under-funded and in some locations non-existent
- Lack of awareness on Green Building Design Standards
- A key issue for tourism is that national emergency management agencies have often been established to address a specific type of disaster (for example: Flood, Famine, Earthquake) and this has resulted in emergency planning being focused within a sector that has little or no prior connection with, or understanding of, wider issues such as tourism

Development recommendations on mainstreaming of DRRM-CCA in the tourism sector

- Disaster Risk management (DRM) and Climate Change Adaptation (CCA) measures need to be mainstreamed into the tourism sector (both at the local and national level)
- There is a need to develop and institute a National and Local Monitoring and Evaluation System coordinating body that will monitor/screen, assess and evaluate risks, as well as disaster risk management and climate change adaptation planning in the tourism sector
- It is of great importance to ensure community-level, tourists and other stakeholder's involvement as well as transparency and accountability, and inclusiveness of the system
- Focus on resilience building in the tourism sector instead of reactive crisis approaches
- Early warning system development
- Simulation and training exercises to not only look at the strengths and weaknesses, but to verify procedures and improving skills to identify further resources and strengthen coordination of all stakeholders
- There is a strong need for capacity-building and establishing preparedness in the tourism sector
- Since tourism is a multi-sectoral activity, there are several players within and outside the sector involved that can help address the crises
- The issue of roles and responsibilities is a key factor for effective risk management
- The need for clear coordination between the tourism sector and DRRM Offices at the national, provincial and municipal levels
- Coordination not only identifies what potential resources are available but also demands clear policy as to how those resources will be coordinated in an effective manner before, during and after a crisis

Benefits of mainstreaming DRRM-CCA into the tourism sector

- Tourism sector/industry players will better understand natural hazards and climate change and how these would likely alter the development path of tourism of respective localities.
- Understand risks posed by natural hazards and climate change on exposed tourists' areas by analyzing exposure, vulnerabilities, and adaptive capacities.
- Identify priority tourism decision areas and development challenges posed by climate change and natural hazards.
- Determine realistic projections on demand and supply of land for settlements including tourism areas, production, protection, and infrastructure development given the impacts of climate change and natural hazards, and existing risks and vulnerabilities.
- Incorporate spatial development goals, objectives and targets to reduce risk and vulnerabilities.
- Make informed decisions to effectively address risks and vulnerabilities by weighing alternative spatial strategies, land use allocation, and zoning regulations.
- Identify appropriate risk reduction and climate change adaptation and mitigation measures as inputs to the comprehensive development planning and investment programming.

DEVELOPMENT CHALLENGES

The booming tourism industry in the province of Bohol that spurred underpinning economic activities generated significant benefits to the Boholanos, in the form of employment and profit for investors and facility owners. However, growth of tourism industry in Bohol has some constraints that hamper its full development. Foremost, there is limited investment to high-end tourist infrastructures and facilities. This explicates the shortage of rooms during peak seasons and on large conventions and gatherings held in the province. Insufficient power and water supply, as well as adopting a comprehensive tourism master plan are primary concerns that have to be addressed by key players in the industry. There is also a need for continued investments for access facilities like roads, airports and seaports, which could improve travel efficiencies and capacities.

The quality of tourism services and facilities needs to be continually enhanced to focus more on client-satisfaction and welfare, without compromising culture, rather than economic returns only. With this, it is imperative to control and impose high-value standards to regulate the quality of tourism sites, products and services, which will eventually enhance tourist experience and promote patronage for Bohol.

An intensified and fitting marketing and promotions program is needed with the growing competition as well as the major rise of millennial travelers in the tourism global market.

To ensure proper disposal and management of waste brought by increasing tourism activities, it is necessary to advance sewerage and solid waste systems in key areas. There are also deficiencies in the development and promotion of new tourist products, which, if addressed, could augment the array of sites and further tourism in Bohol. Equally significant is to seriously consider the environmental effects of tourism, with the call of strictly enforcing the laws and regulations to protect and preserve natural resources. An advocacy for a destination free from sex tourism needs also to be addressed. All these mentioned and their general strategies are necessary aspects to consider and deal with to strengthen and sustain the foundation which puts Bohol in the limelight of the country's tourism map. It is, however, important to note that all of these are ultimately geared towards improving the lives of Boholanos, ensuring that economic benefits brought by tourism should trickle down, in equitable manner, to the poor.

❖ **Business Continuity Plan**

- Insufficient Power and Water Supply

❖ **Comprehensive Tourism Master Plan**

- Unimplemented Bohol Comprehensive Tourism Master Plan

❖ **Product Development**

- Need for integration of Boholano Vernacular Architecture (Interior/Exterior), Green and Barrier-Free Tourism principles to tourism structures (such as in ports of entry, AEs, etc.)
- Underdeveloped Eco-Cultural Tourism Sites
- Least exposure and appreciation of Boholano cultural entertainment
- Biased perception towards foreign entertainment
- Uncontrolled sprouting of tourism establishments beyond Carrying Capacity

❖ **Accessibility/(User-friendliness)**

- Need for seamless connectivity between Bohol-Cebu (vice-versa) ports of entries
- Call for online booking in ferries
- Congestion and inconvenience of passengers in ports of entry
- Hassle in time and effort encountered by passengers due to distance of ticket booths to passenger waiting area and non-incorporation of terminal fees and seat number in passenger's ticket
- Unworkable for big/luxury cruise ships to dock at port of Tagbilaran
- Expensive airline fares due to limited number of flights (due to limitations of the present airport – short runway; incapacity to accommodate 2 aircrafts at one time)

❖ **In-land Transportation**

- Recurring conflict among transportation service-providers
- Unregulated land transport service in tourist areas
- Gaps between land transport service-providers and accommodation establishments
- Scarcity of tourist-franchised transport vehicles

❖ **Standards and Services**

- The need for more tourist information desk at major locations
- Necessity for monitoring and discipline in port areas
- Rude and dishonest tourist-service providers
- Unscrupulous practices due to unregulated “commission system” of several transport service providers
- Violation of the standard fare rates
- Poor hygiene of several tourist service providers
- Unaccredited and ineffective tourist service-providers
- Low client satisfaction on Bohol due to perceived expensive accommodation rates and food
- No distinct Boholano menu/cuisine
- Stray animals in accommodation establishments
- Low quality health services
- Non-compliance and indifference to tourism data collection and surveys
- No permanent item for tourism officers

❖ **Marketing & Promotions**

- Growing competition in the global tourism market

❖ **Tourism Safety & Security**

- Threats to life and property in tourist areas, e.g. kidnappings, terrorism and bombings
- Improper waste disposal

❖ **Sex Tourism**

- Threat on proliferation of prostitution, child pornography and trafficking in tourist areas

Sector : ECONOMIC DEVELOPMENT

Sub-Sector : Trade and Industry

SITUATIONER

EMPLOYMENT

- **Employment and Labor Force Participation Rate**

The total population of Bohol as of 2015 is 1,313,560 based on Philippine Statistics Authority (PSA) data. About 95.6% individuals out of Bohol's labor force in 2015 are employed (Table EC-1 below). This employment rate is much higher by 2.0% at the regional level (Region 7) and 2.2% at national level (Philippines).

The average employment growth rate of Bohol from 2010 to 2014 is estimated to be at 94.5%. As can be seen from the Table 1 below, there is a slight decrease in Bohol's employment rate in 2013 compared to 2010 at -0.4%. This scenario on Bohol's employment could be the result of the brunt of the twin disasters (Bohol earthquake and typhoon Yolanda) that struck Bohol and parts of Central Visayas in 2013. During that bleak period, businesses as well as the tourism industry suffered a setback in terms of tourist arrivals and investors coming in to Bohol.

The period of distress in 2013 forced some of the industry players (business and tourism) to close-shop causing retrenchment and unemployment. However, in 2015 and 2016, the rate of employment for Bohol increased by 2.1% and 2.9%, respectively, compared to year 2013 higher than at the regional level (Table EC-1). This could be due to the bullish recovery efforts by the Provincial Leadership of Governor Chatto coupled with the aids from the National Government, the international community, and the resiliency of the Boholanos.

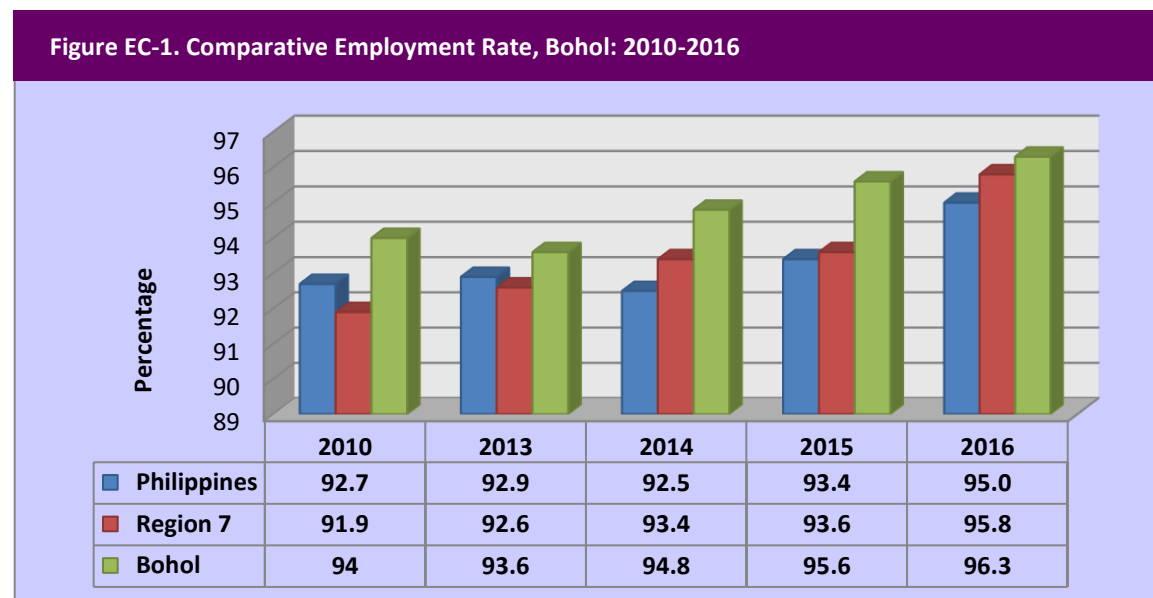
Table EC-1. **Employment and Labor Force Participation Rate: 2010-2016**

	2010	2013	2014	2015	2016
EMPLOYMENT RATE					
Philippines	92.7	92.9	92.5	93.4	95.0
Region 7	91.9	92.6	93.4	93.6	95.8
Bohol	94	93.6	94.8	95.6	96.3
LABOR FORCE PARTICIPATION RATE					
Philippines	64.5	64.1	63.8	63.7	68.8
Region 7	65	64.8	64.1	68.1	66.8
Bohol	63	58.2	60.2	66.3	65.8

Source: Philippine Statistics Authority (PSA), Labor Force Survey

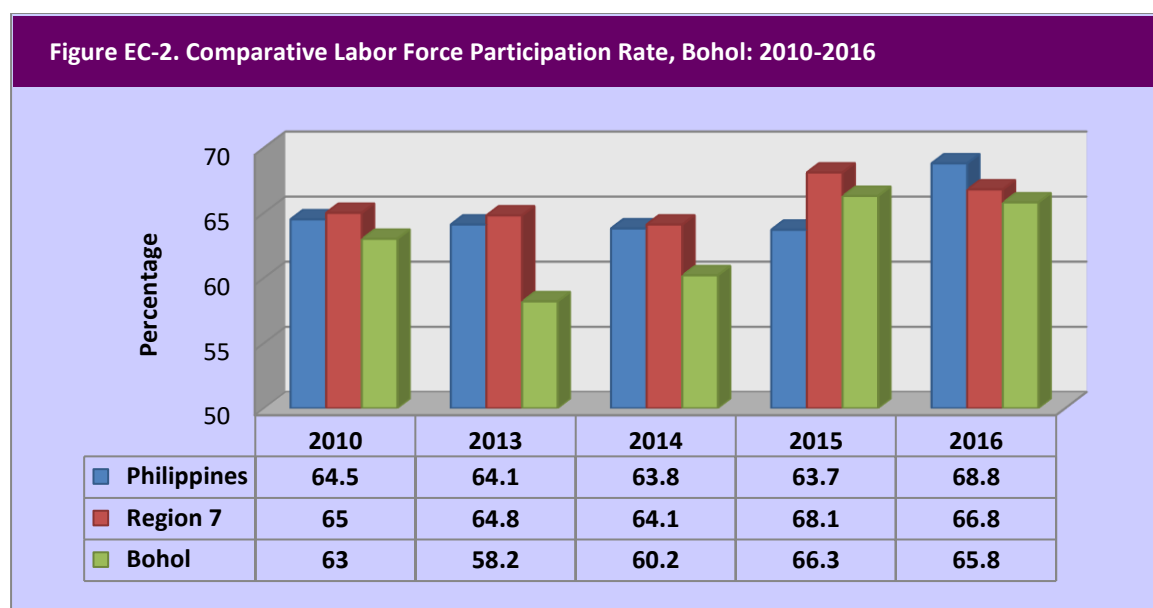
Based on PSA statistical data, Bohol's labor force participation rate (LFPR) from 2010 to 2016 is fluctuating. It is evident that LFPR of Bohol decreased by -7.6% in 2013 reckoned from 2010 but bounced back dramatically by 14% in 2015 (reckoned from the disaster

year of 2013) for the same reasons previously stated. Bohol's labor force participation rate is the percentage of the total number of persons in the labor force to its total population of 15-year olds and over in accordance with PSA's definition of LFPR. On the other hand, Bohol's labor force refers to its population of 15-year olds and over who are either employed or unemployed or simply put, the economically active; also in accordance with PSA's definition of labor force.



Source: Philippine Statistics Authority (PSA)

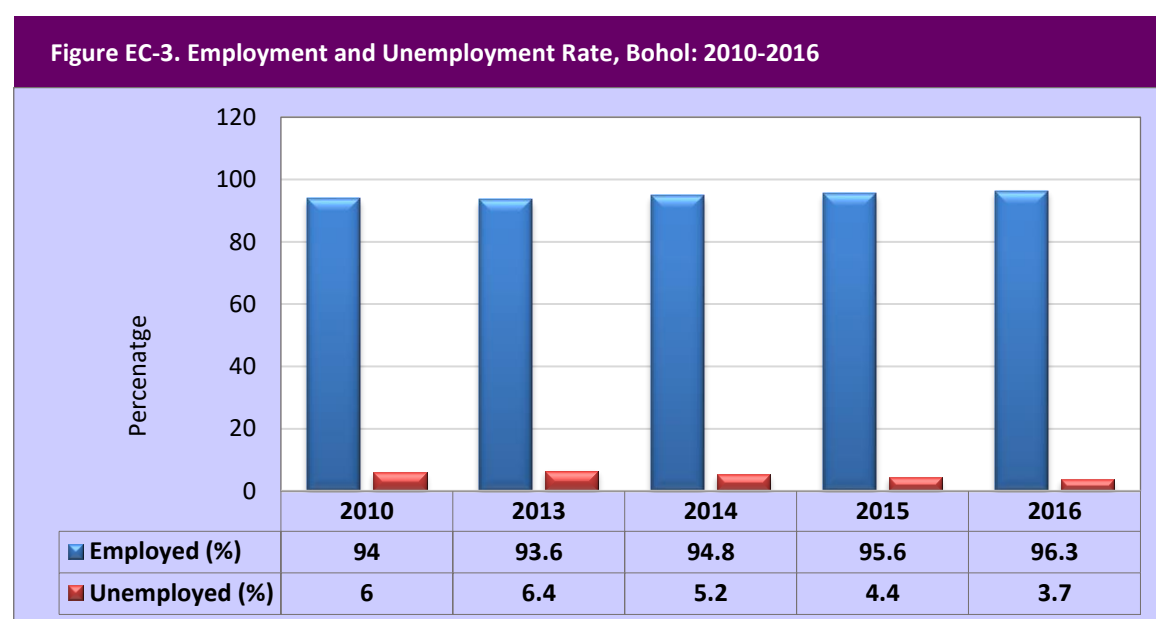
Figure EC-1 above is a graphical representation of the statistical data that compare the extent of employment rate at the national, regional and provincial level for Bohol. It is evident from the graph shown above that the employment trend in 2013 dipped slightly but dramatically bounced back in 2014 until 2016. As stated earlier, this fluctuating graphical trend could be attributed to natural calamities that struck Bohol in 2013 and the essential recovery efforts initiated by the provincial leadership.



Source: Philippine Statistics Authority (PSA)

Shown in *Figure EC-2* above is a graphical representation of the statistical data that compare the labor force participation rate (LFPR) at the national, regional and provincial level for Bohol. It is obvious from the graph as shown above that the trend in LFPR from 2010 to 2016 is fluctuating but dramatically increased in 2015. The 65.8% LFPR of Bohol in 2016 (Table EC-1) implies that an average of six (6) in ten (10) of the population aged 15 years and over are either employed or unemployed. In that same year 2016, the 65.8% LFPR of Bohol is slightly lower by 1.0% compared to Region 7's, and slightly lower at the national level by 3%. This lower turn-out comparison in LFRR is understandable considering the fact that the population of Bohol's 15 years old and over is much lower than Cebu and Negros Oriental, respectively.

- **Employment and Unemployment**

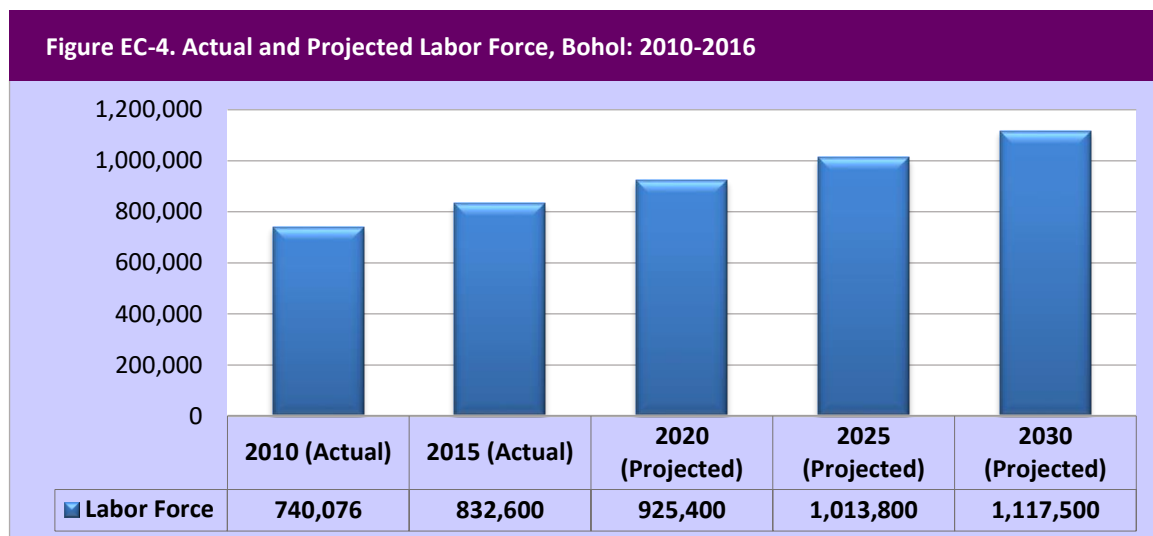


Source: Philippine Statistics Authority (PSA)

As can be seen from *Figure EC-3* immediately above, employment rate for 2015 is at 95.6% with a low corresponding unemployment rate of 4.4%. A decrease in the rate of employment can be observed in 2013 based on the 2010 figure of 94%. The decrease could be attributed to the natural calamities that struck Bohol on that year. However, rate of employment bounced back in 2014 at 94.8%.

On the other hand, the increase in unemployment at 6.4% in 2013 reckoned from 2010 at 6% was probably brought about by the chain reaction of the debacle which ranges from destruction of Bohol's famous tourism destinations to power supply shortages and rolling blackouts province-wide. However, due to the recovery efforts of the Provincial leadership coupled with the aids from the National Government, the international community, and the resiliency of the Boholanos, as stated earlier, contributed a lot in generating employment increases in 2014 and 2015.

- **Actual and Projected Labor Force**



Source: Philippine Statistics Authority (PSA)

It can be inferred, that an increase in annual population growth will automatically mean an increase in the labor force for Bohol (15-64 years old). Labor force, according to PSA definition, includes those individuals who are either employed or unemployed. Figure EC-4, shows the actual labor force figures for 2010 and 2015, respectively, and the projected labor force of Bohol for 2020-2030 per PSA data. From Figure EC-4, the year 2020 indicates a labor force figure of 925,400 or an 11.14% increase from 832,600 actual labor force count in 2015. This 2020 labor force figure is projected to further increase to 1,117,500 in 2030 two years beyond the end of 2028 planning period.

In *Figure EC-4*, the actual labor force figure in 2015 is 832,600 and in accordance with PSA data about 95.6% (*Figure EC-3*) of these are 795,965 individuals who are employed. The unemployed component of the actual labor force figure in 2015 is about 4.4% (*Figure EC-3*) or about 36,634 individuals. By 2030, the employed and unemployed variable components of the projected labor force will also both increase to 1,117,500. These increases would surely affect the economic situation of the province if left unheeded. Major infrastructure projects of the government and the business sector as well as those in the agriculture and tourism sectors funneled down to their respective value chains must be put in place to accommodate and offset the expected growth of the labor force at the end of the planning period in 2028 and beyond.

INCOME/ ECONOMIC WELL-BEING

- **Prices Indicators**

The Table on Prices Indicators (2011-2015) for Bohol provided below shows that the Inflation Rate from 2011 to 2015 is fluctuating based on its yearly incremental turnout. The years 2011 and 2014 both show identical inflation rates of 5.2%, respectively, which

were the highest during the five-year period. In year 2011, the high inflation rate of 5.2% may have been brought about by the increase in food prices caused by weather disturbances according to Bangko Sentral ng Pilipinas (BSP) report in 2011. The 2011 quarterly reports from the Bohol Agricultural Statistics/Philippine Statistics Authority (BAS/PSA) affirmed the BSP report that the weather conditions in Bohol was erratic or unpredictable during that period. Frequent rainfall occurred in 2011 that took its toll on the production of fruits, vegetables and industrial crops during flowering stage in the province. These weather disturbances were not only prevailing in Bohol but on a nationwide scale that caused increases in food prices due to supply constraints. Moreover, protracted tensions in the Middle East and North Africa in 2011 may also have contributed to mounting pressures on food and oil prices. Accordingly, this prime commodity increases caused a higher inflation in 2011 not only for the province of Bohol but also in most regions in the Philippines as well. Furthermore, from 2011 and at these present times, the prevalence of extreme weather conditions termed as “new normal” resulting from climate change is a growing issue in the regions, especially those that are heavily dependent on agriculture.

Table EC-2. **Prices Indicators, Province of Bohol: 2011 - 2015**

Price Indices (2006=100)	2015	2014	2013	2012	2011
Inflation Rate	1.5	5.2	4.9	4.70	5.2
Purchasing Power of Peso (2006-2011)	0.70	0.71	0.74	0.78	0.82
Consumer Price Index (CPI) (1994 = 100)	143.70	141.60	134.60	128.30	122.50

Source: Bohol QuickStat, Philippine Statistics Authority (PSA)

However, in 2012 inflation decelerated or decreased by 4.70%. Based on Table EC-2, Prices Indicators as shown above, as the inflation rate decreased from 5.2% in 2011 to 4.70% in 2012, the purchasing power of the peso consequently improved at 0.78% on that period. Based on figures from the PSA, it is observed that as the figures of the purchasing power of the peso on a particular year decreases, the price level of goods and services rises. Accordingly, the Prices Indicators Table (2011-2015) shows that as the trend on average Consumer Price Index (CPI) increased over the years, a corresponding growth of value in the purchasing power of the peso also results. The decreased inflation in 2012 for Bohol could be attributed to the abundant supplies at the wholesale markets of fresh farm products per 2010 BAS/PSA report.

In 2014, inflation rate for Bohol at 5.2% was substantially high compared to 2012 at 4.7%. This could be mainly attributed to the twin disasters (Great Bohol Earthquake and Typhoon Yolanda) that occurred in Bohol and in the Central Visayas in the later part of 2013 that reflected the high prices of commodities in the succeeding months of 2014. This left an adverse impact to Bohol’s economy. According to the BSP, the higher November 2013 inflation rate that trickled down to the succeeding months in 2014 in Central Visayas was traced to higher food, electricity, and domestic petroleum prices. Some tightness in domestic supply conditions - triggered by weather-related production disruptions during the period - led to higher prices of some food items, particularly rice, fish, and vegetables.

Similarly, in that same period, upward adjustment in electricity rates due to increase in generation, transmission, and systems-loss charges, as well as higher gasoline and LPG prices contributed to the increase in non-food inflation in that period.

In 2015, Bohol's economy bounced back with a significantly low inflation rate of 1.5%. This optimistic setting could be the result in the national government's securing of adequate fiscal space (Php162 billion or around 1.4% of GDP) in the 2013 and 2014 budgets to support the reconstruction phase for areas affected by Typhoon Yolanda, the Bohol Earthquake, and other smaller disasters per report from the World Bank (WB). Moreover, the recovery efforts of the Local Government Units (LGUs) in facilitating work and corresponding financial budgets which were geared toward Bohol's multi-sectoral recovery from the twin disasters contributed much to the province's economic recovery in 2015.

Furthermore, the downward price pressures in food, energy, and oil rates that restrained inflation to an all-time low of 1.7% in 2015 for the country may have caused a trickling effect to Bohol's low inflation rate at 1.5% of the same year per National Economic Development Authority - Region 7 (NEDA-7) report. The global oversupply and record stockpile levels of crude oil has been instrumental in the continuous downtrend of international crude oil prices, as reflected in lower domestic petrol prices. The current low inflation environment exhibited in the first eight months of 2015 has supported domestic demand, particularly household consumption. However, the earlier months of 2016 led to the higher inflation for food and power due to the devastating effects of El Niño.

- **Family Income and Expenditure**

According to the National Statistical Coordination Board/ Philippine Statistics Authority (NSCB/PSA), the level of average family income during a period of time is obtained by dividing the total income of families by the total number of individual families. Table EC-3 on Family Income and Expenditure shown below indicates an increasing trend in the average family income from 1994 to 2009 at Php38,187.00 to Php148,638.00. If one translates this increase in incremental periods between 1994 and 2009 in terms of percentage rate of increase by yearly comparison, one can observe varying increases from 1994 to 2009. Accordingly, there were years wherein increases were comparatively high or low percentage-wise although generally speaking these were continuing increases from 1994 to 2009. Moreover, annual average family expenditure shows an increasing trend from 1994 to 2009 at Php28,841.00 to Php129,881.00. Comparative increases vary from year to year percentage-wise.

Table EC-3. **Family Income and Expenditure (At Current Prices): 1994, 1997, 2000, 2006, 2009**
Province of Bohol

(in pesos P)	2009	2006	2000	1997	1994
Total Number of Families	250,153	238,088	210,182	202,806	186,580
Annual Average Family Income (P)	148,638	114,535	77,291	56,940	38,187
Annual Average Family Expenditure (P)	129,881	94,675	66,907	50,754	28,841

(in pesos P)	2009	2006	2000	1997	1994
Annual Average Family Saving (P)	18,757	19,860	10,384	6,186	9,346
Annual (Average) Per Capita Income (P)	31,882*	25,452*	16,478	12,853	8,533
Average Per Capita Expenditure (P)	27,871*	21,038*	14,364	11,410	6,444
<i>Source: Family Income and Expenditure Survey (FIES), NSO</i>					
<i>Note: *PPDO estimate based on Average Family Size</i>					

However, on the annual average saving characteristics of the Boholano family, one can observe a fluctuating trend from 1994 to 2009. Decreases in annual average family savings occurred in 2009 and 1997 at PhP18,757.00 and PhP6,186.00, respectively. These decreases which caused a fluctuating trend for the period 1994 to 2009 translate to - 5.55% and -33.81%, respectively. It is recognizable from the Table above that the figures from the annual average family savings are obtained by deducting the annual average family expenditure from the annual average family income or simply put, the difference between available income and current consumption expenditures.

It can be inferred that the decrease in family savings in 1997 and the later year in 2009 may have been caused by high consumption expenditures due to inflation. This inflation in 2009 could have been brought about by the global economic and financial crisis that occurred in 2008 that trickled down to the grassroots level.

The annual average per capita income for every Boholano was on an upward trend from 1994 to 2009. A dramatic increase from PhP16,478.00 in year 2000 to PhP25,452.00 in year 2006 occurred which translate to a 54% increase. The gradual increasing trend of the annual average per capita income of the Boholanos from 1994 to 2009 as shown from the Table above only goes to show that - in the context of economic well-being - every Boholano family with an average of five (5) members is economically stable and not severely impoverish. A contributing factor to this Boholano attribute is reflected on their annual average family savings which kept on increasing from 1994 to 2009 (as shown in the Table above), except for minor decreases in 1997 and 2009. This trend on family savings reflects the expenditure behavioral patterns of the Boholano families for 15 years. This could substantiate the Boholano trait of being frugal in their finances wherein they do not spend below their means, reflective of their being conscious of “saving for the rainy days”.

- **Minimum Wage Rates**

Table EC-4 below shows the summary of daily minimum wages rates based on wage order issuances by the National Wages and Productivity Commission (NWPC) and the Regional Tripartite Wages and Productivity Boards (RTWPB). The NWPC and the RTWPB were created thru RA 6727 as a mechanism for minimum wage determination and promotion of productivity improvement (particularly among MSMEs). The NWPC is an attached agency of the Department of Labor and Employment (DOLE). Based on Wage Order (WO) 19 (Table EC-4 below) which took effect on October 10, 2015, the minimum wage rate ranges from PhP308.00 to PhP353.00 across sectoral/industrial, provincial, regional and

national level Filipino workers. Furthermore, the minimum wage rates for workers kept increasing all throughout the years from 2008 to 2015 in accordance with wage order issuances. This supports NWPC and RTWPB's vision for a justly remunerated, protected and productive Filipino workforce in globally competitive enterprises.

Table EC-4. **Summary of Daily Minimum Wage Rates per Wage Order by Region (Non-Agriculture)**

Wage Order (WO) Issuances	Effectivity Date	Minimum Wage Rates (PhP)
WO 14	June 16, 2008	222.00 – 267.00
WO 15	September 1, 2010	240.00 – 285.00
WO 16	September 22, 2011	260.00 – 305.00
WO 17	December 7, 2012	282.00 – 327.00
WO 18-A	December 14, 2014	295.00 – 340.00
WO 19	October 10, 2015	308.00 – 353.00

Source: Department of Labor & Employment – National Wages & Productivity Commission

While the NWPC formulates policies and guidelines in determining the minimum wages in the Philippines, the RTWPB uses these policies and guidelines in determining the minimum wages in the respective regions (including Region VII). Past studies from the academe (University of the Philippines [UP]) and discipline experts indicated that the significant determinant of minimum wage is consumer price index (CPI). Previous wage adjustments were mainly based on changes in the CPI mainly because it is the one available on a monthly basis. However, in 2011, UP and PSA concluded that RTWPBs generally use CPI, Gross Regional Domestic Product (GRDP), and Regional April Employment in determining non-agriculture minimum wage.

Table EC-5. **Region VII – Central Visayas Minimum Wage Rates**

INDICATOR/ SECTOR	Class A	Class B	Class C	Class D
	Cities of Carcar, Cebu, Danao, Lapulapu, Mandaue, Talisay, & Muns. of Compostela, Consolacion, Cordova, Liloan, Minglanilla, San Fernando or Expanded Metro Cebu	Cities of Toledo, Bogu and the rest of Municipalities in Cebu Province except Bantayan and Camotes Islands	Tagbilaran City and all Municipalities in Bohol Province and Negros Oriental Province	Municipalities in Siquijor Province and Municipalities in Bantayan and Camotes Islands
Minimum Wage Rates (Under W.O. No. RBVII-19 Effective October 10, 2015)(PhP)				
Non-Agriculture	353.00	320.00	310.00	295.00
Agriculture				
Non-Sugar	335.00	305.00	290.00	275.00
Sugar	303.00	290.00	290.00	290.00

Source: Department of Labor & Employment – National Wages & Productivity Commission

As can be seen from Table EC-5 above, minimum wages of different provinces, cities and municipalities in Region VII are indicated and categorized into 4 classes (A, B, C & D). Corresponding minimum wages are also indicated with Tagbilaran City and all municipalities in Bohol falling within the Class C category minimum wage rate of PhP310.00 for non-agriculture. It is apparent from the Table above as indicated that the

more highly urbanized the provinces and cities are (as in Cebu), the higher the minimum wages rates. It can be inferred that disparities in cost of living and level of development among different regions as well as the provinces, cities and municipalities within Region VII are addressed by this regional wage fixing. This is so important for the fact that it will protect workers' welfare and promote their productivity as well as the enterprises that employ them. Regional wage determination would not have been possible if exhaustive social dialogue through consultations with stakeholders were not taken into consideration in the first place.

TRADE AND INDUSTRY

- **Manufacturing and Priority Sectors**

Bohol's manufacturing sector is composed of small-scale, home-based enterprises with assets below Php 3 Million. Majority of these businesses are involved in hand weaving and food processing. Bohol is well-known as the weaving capital of Central Visayas. A number of skilled craftsmen and artisans work as subcontractors of baskets and loomwovens for exporters who are based either in Manila or Cebu. Both the basketweaving and loomweaving sectors employ more than 5,000 workers in the province.

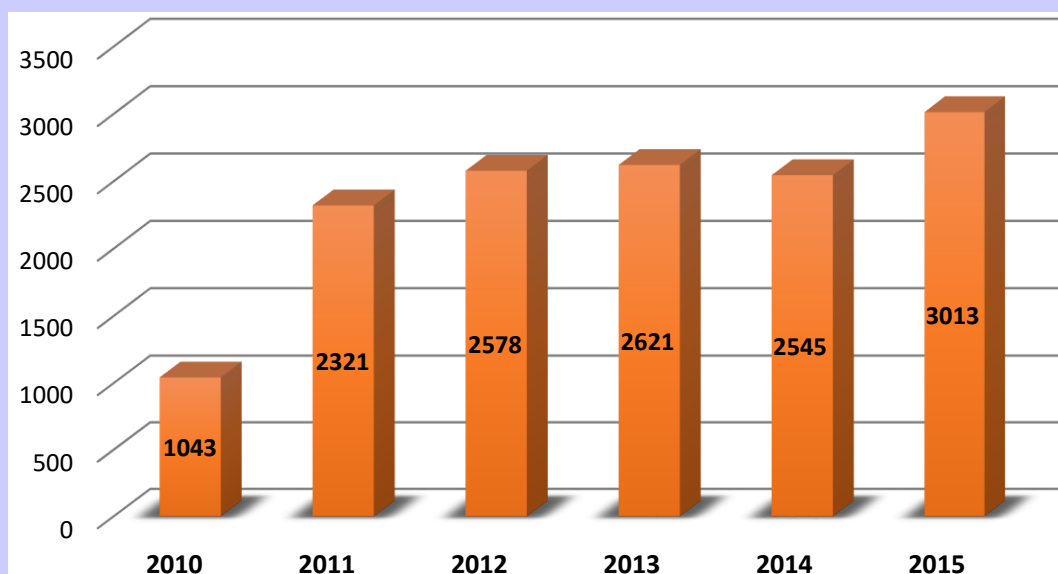
There are no large-scale factories operating in the province. The Philippine Mining Service Corporation in Garcia-Hernandez generates quarried limestone which is shipped to the PhiViDec Industrial Estate in Mindanao for sintering. Sintered ore is a major raw material in the iron industry.

In the area of food processing, there are quite a number of backyard food processors in the municipalities. Livelihood opportunities are provided by local and national government agencies and private sector organizations to assist housewives and out-of-school youth to engage in productive endeavors to help them increase their household incomes.

- **Micro, Small and Medium Enterprise (MSME) Development**

Comprising the bulk of enterprises in the province, the MSME sector is considered as a critical driver in the province's economic growth. Based on the Department of Trade and Industry's (DTI) business name registration listing from 2010 to 2015 (Figure 5), the number of new businesses was seen at an increasing annual average growth rate of 30.15%. A slight decrease was seen in 2014 due to the 7.2 magnitude earthquake in 2013 that affected a number of municipalities in the province. For the same period (2010-2015), MSMEs in the province have generated a total of 41,185 jobs or an average rate of increase of 11.50% per year.

Figure EC-5. Business Name Registration, Bohol: 2010-2015



In terms of investments, MSMEs have invested a total of PhP 6.5 Billion to the economy of the province from 2010 to 2015. Investments in the retail and services sector are the most prominent investment areas in the province and these are mainly due to the growing tourism industry in the province.

Meanwhile, with the strong economic fundamentals in the country and the opening of the new Bohol air gateway (New Bohol Airport), investments in the different sectors that support the tourism industry in the province are projected to increase. These developments are estimated to have a huge positive economic impact to the provincial economy.

Despite the strong performance and positive outlook of MSMEs in the province and with the recent economic integration among ASEAN countries, a number of concerns need to be addressed in order for these MSMEs to be more competitive. MSMEs are constrained by the various factors that prevent them from realizing their potentials and surviving and growing in a highly competitive environment. The key challenges that MSMEs often face are high cost of doing business, lack of access to finance and market information and low productivity and competitiveness. These concerns have been the focus of interventions and programs among the different national government agencies, local government units, private sector partners and other stakeholders in the province.

- **Product Development**

The province of Bohol is one of the country's top tourist destinations today, and this has resulted in a number of entrepreneurial activities in all aspects of the tourism trade. Because of this, municipalities have each identified the development and promotion of specific crafts, food and/or services as their priority sectors for development. While

tourism demand for souvenirs has enabled the growth of the local food and crafts sector, Boholano MSMEs are facing stiff competition from souvenirs and “pasalubong” food made from outside of the province (e.g. Cebu and China) which are cheaper, smaller and designed for the tourist in mind. Bohol MSMEs need support especially in the area of product development and capability building to come up with competitive food and craft souvenir products.

In addition, stronger competition among local players and the influx of imported products in the province have made product development a vital program among different stakeholders in the province. Product development initiatives and projects focused on developing new and innovative products and services that would support the growing tourism industry were implemented.

The first Fabrication Laboratory (Fablab) of the country was launched last May 2014 at the Bohol Island State University (BISU) in Tagbilaran City. A fabrication laboratory is a space for making, co-creating, innovating, learning and sharing knowledge. It shares an evolving inventory of core capabilities to make (almost) anything, allowing ideas, people and projects to be shared. In the province, the Bohol Fablab acts as the hub for product development, innovation and R&D in the Bohol MSME Ecosystem. It has digital fabrication equipment that enables prototyping, as well as a pool of in-house designers to assist MSMEs in product design, research and development, prototyping and skills upgrading. It is connected to the global fablab network that enables access to a global storehouse of knowledge, people and ideas that can be tapped for local existing and potential MSMEs.

MSMEs, women, men, young, old, rich, poor, skilled, unskilled, entrepreneurs, potential entrepreneurs, start-ups, innovation ideas, local, global, individual, groups, low-tech, high-tech, livelihood, life-saving and even frivolous products - these are the segments that Bohol Fablab has served since it started.

Product development initiatives were also implemented to promote the local foods and delicacies in the province. New variants or flavors were developed to provide more options to tourists. Packaging for food products that can serve as “pasalubong” were also improved to enhance its shelf life and to make these products more enticing to customers.

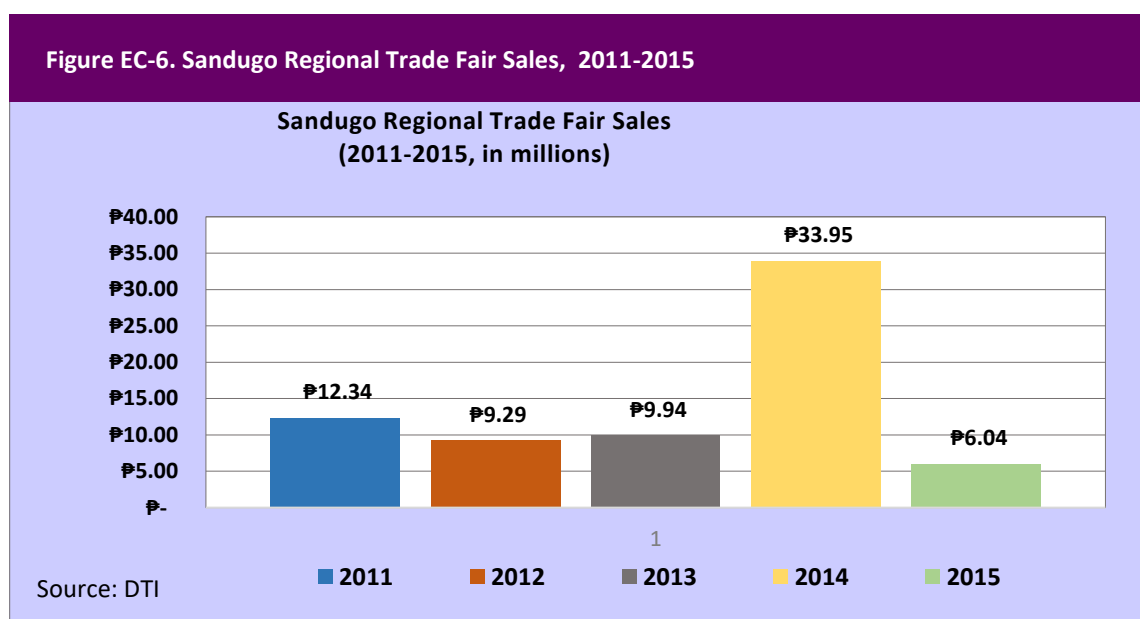
Known for its weaving industry, the province of Bohol also focused in improving the designs and development of new products. Consultants were hired to enhance the different product lines in the weaving sector. These endeavors were implemented to address the needs and requirements of the market and to widen market access of these woven products.

In these initiatives, local designers were also tapped by the different stakeholders. The presence of local designers and the young student industrial designers of BISU paved the way for the generation of new and innovative design ideas. These designs were executed into prototypes and are now available in the market.

- **Marketing**

Majority of MSMEs in the province maintained well their market locally, however, they are currently not ready for the international market. Although a few products from Bohol can be found sold outside the country, MSMEs are indirectly exporting their products abroad.

With the increasing tourism arrivals, Bohol products are slowly introduced to new domestic and international markets. Development partners from NGAs, LGUs and the private sector are collaborating and working strategically in order for our MSMEs to expand their domestic markets and be ready for exports.



Trade fairs are among the major activities that were implemented to improve the market access of MSMEs. Annually, the DTI is conducting the Sandugo Regional Trade Fair. This event is conducted to link suppliers (MSMEs) to new buyers within and outside the province. From 2011-2015, Bohol MSMEs generated a total of PhP 71.56 Million (Figure EC-6 above) sales from the event. Sales includes cash sales, booked and those that are under negotiation. Complementing this, the Provincial Government of Bohol (PGBh) through the Office of the Provincial Agriculturist (OPA) is also conducting its annual Agri-Fair. The activity serves as a display center for agriculture-related products in the province and a strategy to link local farmers to prospective buyers. Moreover, in showcasing the different cuisines that Bohol can offer to tourists, the Bohol Investment and Promotions Center (BIPC) first launched the Fusion Night activity in 2014.

- **Microfinancing**

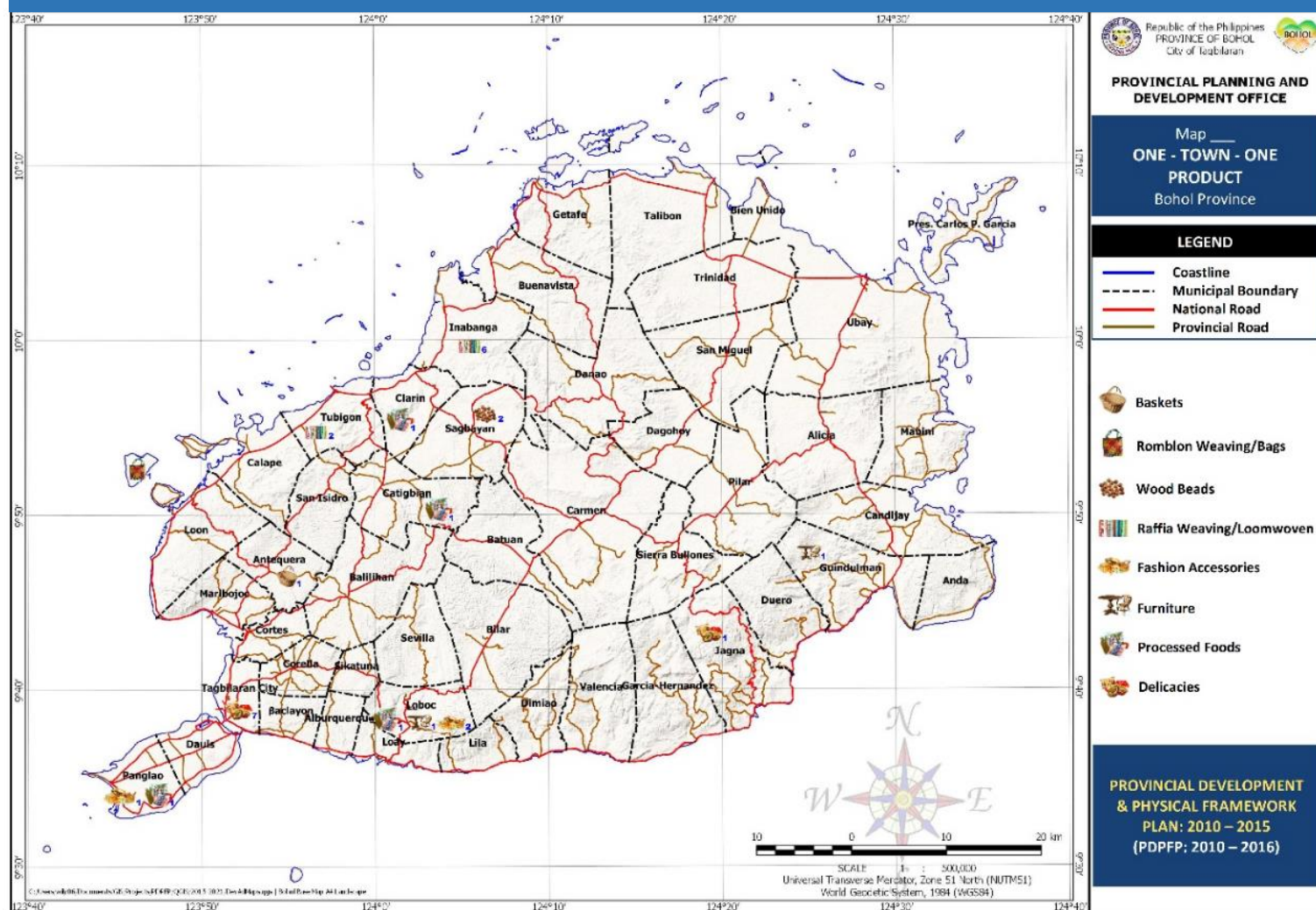
Majority of MSMEs are known to have limited resources. Thus, for those who aspire to expand their operations, they resorted to borrowings from formal and informal sources. Despite the number of lending and financial institutions in the country, MSMEs find it hard to avail loans from these institutions due to stringent requirements and MSMEs

bankability concerns such as lack of acceptable hard collaterals. On the other hand, the Bohol Coopreneurs Credit Surety Fund (BCCSF) was established to provide a credit enhancement support that would help them obtain loans from banks.

- **One-Town One-Product (OTOP)**

One of the priority programs of the national government is to promote entrepreneurship and create jobs. The One-Town-One-Product started out as a priority program of then President Gloria Macapagal-Arroyo (GMA) launched in 2004 that has since been carried out all through the years. Through the OTOP, local chief executives of each city and municipality take the lead in identifying, developing, and promoting a specific product or service, which has a competitive advantage. Although the LGUs primarily play a major role in the success of OTOP, the Department of Trade and Industry (DTI) by its assistance, enabled every town focus on specific products to champion notwithstanding the wide array of products in the province of Bohol. Moreover, OTOP supports micro, small, and medium enterprises (MSMEs) to manufacture, offer, and market distinctive products or services through the use of indigenous raw materials and local skills and talents. Map below shows the OTOP showcased in each municipality within the province of Bohol.

Map 1. One-Town-One-Product, Bohol



INVESTMENT AND PROMOTION

- **Reenergizing Bohol's Investment Climate through the Enhanced Bohol Investment Promotion Center (BIPC)**

The Bohol Investment Code of 2001 gave birth to the Bohol Investment Promotion Center (BIPC) as the lead agency in the Provincial Government of Bohol whose mission is to attract foreign and local investments to the province. Investment promotion agencies like the BIPC are potentially key institutions for delivering increased economic activities thereby elevating economic wellbeing of the province through the attraction and location of investments. To this end, the BIPC has exercised great efforts in aligning the economic agenda of the Provincial Government to that of the National Economic thrust and being able to compete in a globalized and highly competitive environment. Nevertheless, to promote investments to Bohol comes certain environmental considerations to contend with primarily because of Bohol's unique natural and geographical attributes, an island province, blessed with touristic natural resources, strong family values juxtaposed with rich cultural heritage.

For over a decade, the BIPC grew from an investment promotion office to a business one stop shop facility and a business start-up incubator hub. The Bohol Business One-Stop Shop in the BIPC is where under one roof, National Government Agencies involved in business registration processes and facilitations, and other services offered to clients. Among the agencies assisting investors and clienteles alike are the Department of Trade and Industry (DTI) for business name registrations, the Social Security System for information assistance, the PhilHealth Corporation on health insurance, the PAG-IBIG Fund for personal and housing loans, the Securities and Exchange Commission for corporation registrations, and the BIPC Help Desk as established in 2011.

- **The Bohol Investment Promotion Center Negosyo Center Bohol**

With the passage of the R.A 10644 or the Go Negosyo Act, the Provincial Government of Bohol was among the first batch in the Negosyo Center (NC) roll-outs and making the BIPC the first LGU NC in Bohol. The BIPC Negosyo Center Bohol apart from its being an investment promotion office and business registration assistance office, performs additional NC functions like the business advisory and business information advocacy among others. These services cater mostly to MSME development, the principal job of Negosyo Centers.

In terms of over-all performance and office productivity, the BIPC have had significant accomplishments since its operation. Investments generated from registered MSMEs and large enterprises so far have not gone below Php 1 Billion. Employment also increased and the most significant is the growing number of women and young entrepreneurs. Thanks to a booming tourism industry, Bohol continues to enjoy a steady albeit slow economic growth.

- **One Voice, One Destination**

But in the assessment of Bohol's local business community and stakeholders, the province has so much more room to grow economically if given the right approaches in harnessing its potential. However, to be able to achieve this goal, Investment Promotion (IP) strategies has to be aligned with Bohol's values and should reflect the province's strong commitment to the conservation and preservation of its environment and natural resources.

Strong partnership with key players in the province is needed in order to achieve a well-balanced investment promotion policies and investment facilitation to be able to present comprehensive, coherent, transparent and cohesive market policies to attract investors to Bohol. The concept of an Investment Promotion Agency (IPA) with clear and singular investment promotion strategies and branding which reflects the unique characteristics of Bohol as an island province is seen as a sure-way to propel the province as an ideal investment location with the right fit to any investors' niche market.

Private-led, government-funded IPAs is a common practice in several LGUs in the country. This scheme has worked relatively well in terms of project implementation, policy advocacy and B to B programs. As competition among LGUs for foreign and local investments intensifies, investment promotion strategies have become more complex that they are almost as complex as those adopted by private firms.

Towards this end, the tripartite of the Provincial Government of Bohol, the City Government of Tagbilaran and the Bohol Chamber of Commerce and Industry, assisted by the Strengthening Urban Resilience for Growth with Equity (SURGE) Project: a flagship project of the USAID's Cities and Development Initiatives (CDI), created the Enhanced Bohol Investment Promotion Program Technical Working Committee, to oversee the development planning and eventual establishment of a singular IPA and come up with a broad-based economic strategy and business environment for Bohol that will collectively promote investments and investment facilitation under "One Voice, One Destination" principle, an IP program anchored on the proposition that expresses the heart and soul of the Boholano people.

- **ICT in Bohol**

The Information and Communications Technology/Business Process Management (ICT/BPM) industry has been an attractive employment generator even among Boholanos. Job seekers are attracted to the high-paying job, good work environment and other perks offered by Business Processing Outsourcing (BPO) companies. They migrate to Cebu, Metro Manila and in central business districts where most BPOs thrive. Although one cannot fault local talent looking for better opportunities elsewhere, this has created concerns on the quality of available local labor pool, career options for graduates, and other development challenges in the province of Bohol.

It is said that seventy percent of talents in the BPO sector in Metro Manila come from outside Metro Manila. Over the years, with the identification of hubs outside Metro

Manila that will enable and support the industry, the industry has been tapping the talents of those in the regional areas by dispersing BPO sector growth in these areas, and encouraging more investments that spur inclusive growth.

The Provincial Government has been promoting Bohol as a BPO location. Since this goal was set, Bohol had overhauled its poor telecommunications infrastructure and is now connected to the national fiber optic highway thru the commitment, support and huge investments poured in by the two telco giants in the country. The Bohol Investment Promotion Center initiated efforts to make the ICT/BPO industry as a priority investment area and organized support activities toward this end. The Bohol ICT Council was organized way back in April 2008 and has since become an active member of the National Federation of ICT Councils of the Philippines (NICP). Bohol conducted ICT road shows, benchmarking mission, a provincial ICT summit, and investment forums that hosted BPO companies assessing the local ICT landscape in terms of talent, infrastructure, cost of doing business, and business enabling environment. Tagbilaran City was among the list of Emerging Locations in the Next Wave Cities in 2012, a category that placed it as a possible host of the BPO industry. In that same year, Bohol would have hosted the National ICT Summit in November, unfortunately, the 7.2 magnitude Bohol Earthquake happened in October, and then Typhoon Yolanda occurred in November, which greatly derailed the plans and the directions set. In 2016, Tagbilaran was delisted from the “Next Wave Cities.”

Despite this, major property consultants and outsourcing service providers, like Colliers, Leechiu and Jones Lang Lasalle made ocular visits and sat down in the investment forums conducted. To strengthen coordination and collaborative support action to seriously regain the industry’s interest in Tagbilaran City, put it back in the BPO radar, and prepare Bohol and Tagbilaran City as an attractive location, a quadripartite technical working group (TWG) has been organized. This TWG is composed of representatives from the business sector, the Bohol ICT Council, the Bohol Chamber of Commerce and Industry, the City Government of Tagbilaran and the Provincial Government of Bohol.

Among the main challenges to the local BPO industry, according to the property consultants, include the availability of a leasable and ready space in a building that is registered with the Philippine Economic Zone Authority (PEZA). A PEZA-registered building ensures the BPO locator of greater benefits, enjoying efficient and effective operations. Advantages include the availment of fiscal tax incentives through income tax holiday and other exemptions, and several non- fiscal incentives. The other challenge is the availability of reliable, stable and redundant power supply for the industry. For now, Bohol is basically dependent on the energy from the Leyte- Bohol Interconnection, sourcing from the Leyte Geothermal Power Plant. Other criteria that would make a location conducive for IT-BPO investments include the availability of human resources and the ecosystem in terms of security and safety and cost of doing business.

Investing heavily in education is one strategy that would definitely create positive repercussions on providing available quality talent pool. To improve competencies of tertiary education graduates, both the academic institutions, national, provincial and the city governments need concerted efforts to address the skills gap, and invest in making sure that our graduates and students are equipped with the proper competencies to get

employed. The recent identification of next wave cities and emerging destinations in the ICT/BPM industry, each particular city could have niche BPO jobs, depending on the number of graduates, to match skills with demand. A city that has many nurses could be ideal for health care information management, while a location with many accounting graduates would be ideal for BPOs in finance and accounting. In Bohol, many of our graduates come from business and related courses, IT- related courses, engineering, and medical and related courses, which could become attractive assets in terms of talent.

Opening of BPO companies in Bohol will spread out development by inducing local businesses to cater to the needs/wants of BPO workers like food, lodging and consumer goods given the size of their disposable income relative to the cost of living in the province. This basically implies that opening new employment opportunities in areas like Tagbilaran City would also help in the development of livelihood for other industries within its territory and may expand depending on the extent and reach through ripple effect especially in the tourism and allied sectors.

- **Manpower Skills**

Bohol continues to churn out graduates every year. Table EC-6 below shows the 2013-2014 breakdowns of graduates for Bohol Province as reported by the Commission of Higher Education, Regional Office VII.

Table EC-6. **Breakdown of Graduates, Province of Bohol: SY 2013-2014**

Discipline	Sex		Total Graduates
	M	F	
Architectural and Town Planning	33	16	49
Agricultural	41	38	79
Business and Related	403	945	1,348
Engineering	492	172	664
Fine and Applied Arts	4	1	5
Humanities	53	52	105
IT-related	301	445	746
Law and Jurisprudence	136	68	204
Maritime	95	1	96
Mass Communications	0	0	0
Mathematics	0	0	0
Medical and Allied	139	419	558
Natural Sciences	21	28	49
Religion and Theology	0	0	0
Service Trades	13	125	138
Social and Behavioral Sciences	10	106	116
Teacher Education	135	773	908
Total	1,876	3,189	5,065

Source: CHED Region 7

- **Connection Advantage**

Accessibility is a major advantage for Bohol, with seven direct flights daily from Manila to Tagbilaran and thirteen ferries from Cebu. Construction of the New Bohol Airport is currently underway that would surely boost passenger growth.

- **Growth Burst**

Accelerated growth in the past five (5) years has led Bohol to witness a growth in commercial establishments, financial institutions and businesses. The main thrust moving forward is centered on balancing rapid urbanization with ecological concerns and peace and safety to promote higher socio-economic productivity and economic progress. The establishment of the Business One-stop Shop to facilitate the processing of business registration and recently, the Negosyo Center for business advisory and counselling, both serve to improve the profile of the province as an attractive destination for investment. Specifically, the Negosyo Center is meant to provide services that promote and encourage the development of micro-small-medium enterprises (MSMEs) for a more inclusive growth in the country. For future growth, the provincial government is working on developing integrated business districts and assessing potential sites for special economic zones. Table EC-7 below shows small and medium enterprises in the province of Bohol.

Table EC-7. **Small and Medium IT Enterprises in Bohol (SMITES)**

SMITE	SERVICES
Auza.net Software Engineering Services & Trading	Internet connection, software development, web designing/ Call Center
ETC Solutions	Customer service contact center (voice)
Albridge Development Corporation	Customer service contact center (non-voice)
MLS Drafting	Drafting Services
The SCOTT Partnership Architecture	Drafting Services
Dissect Build IT Development	Software Development
Uplink Web Design & Marketing	Web Design
DN Web Designs & Works	Web Design
MelTech Software Development & Computer Service	Software Development
HCIERD Web & IT Solutions	Web Design & Development/ Internet Marketing

SMITE	SERVICES
Bohol Designer Media Web Solutions and Services	Web Design
Centauri Computer Supply Software Development and Cyber Café	Software Development
Interport Research and Development Office, Inc.	Research Development
Tagbilaran Web Design and Computer Services	Web Design, Programming
Sanosoft Computer Systems & Solutions	Business Systems Developer, Website Development
Taguihon Internet Research Services	Data Entry/ Research
Macroweb Internet Café & Website Development Services	Web Development
Bohol Binary Resource Software Development	Software Development
Launchpad Software Development	Software Development
NetProServ	Web Design & Development, Hosting, Graphic Design, SEO, Ecommerce
Pacman Affordable Web Hosting	Web Hosting
TOTAL = 21 SMITES	

Source: Bohol Investment and Promotion Center (BIPC)

- **Special Economic Zone/ Industrial Estates Development/ Tourism Enterprise Zone**

Foreseen as vital in the generation and promotion of investments in Bohol is the establishment of Special Economic/Industrial Zones in strategic areas. Possible areas of investments are in light manufacturing and agro-industries that support primary production and processing. Proximately close to Cebu's industrial center, it is but logical that this northwestern corridor of Bohol was identified as the zone for light industrial development comprising the municipalities of Loon, Calape and Tubigon.

Incidentally, the municipality of Loon is also eyed for the establishment of the Loon Tourism Enterprise Zone (TEZ) which includes the development of Sandingan and Cabilao Islands as the main TEZ Islands: Sandingan with an area of 610.7 hectares, Cabilao Island with 886.1 hectares and the portside with an area of 37.8 hectares. The TEZ is contiguous with the Philippine Ports Authority (PPA) Cruise Tourism Port, the Loon Tourism Corridor from Port Vicinity to Loon town proper, the Loon-TEZ Bohol Tourism Road Network and the expansion of eco-marine and coastal tourism.

Municipality of Loon is strategic as a TEZ owing to its strategic location to catalyze economic development to adjacent towns and to the entire province of Bohol. The Loon TEZ is being located as a transshipment channel to other ports particularly Argao and Cebu

for tourism logistics, with inter-regional links to Central Philippines Cruise Tourism Destinations. On the southwestern part of Bohol, specifically the municipality of Cortes will soon rise the pipelined Medical Tourism Park/Center.

Meanwhile on the northernmost and northeastern parts of Bohol, three municipalities, namely: Getafe and Talibon, and Ubay, respectively, have been identified to comprise the Bohol's agro-industrial zone. Moreover, ten municipalities of the third district of Bohol, namely: Jagna, Danao, Loboc, Balilihan, Antequera, Garcia Hernandez, Jagna, San Isidro, Duero and Ubay, have been identified to comprise the utilities enterprise economic zone.

- **Bohol Business Park**

The construction of the New Bohol Airport in Panglao Island which will replace the existing Tagbilaran City Airport to enhance aircraft operational safety and effective air transportation system, paved the way for the Provincial Government of Bohol (PGBh) in coming up with a state of the art project. This project proposal, the Bohol Business Park (BBP) is for the transformation of the soon-to-be vacated Tagbilaran City Airport into a developed high quality business area and IT park.

The proposed BBP project is conceptualized and envisioned to be environment-friendly light industrial complex in the province. The proposed BBP is located in part at Barangays Booy and Taloto in Tagbilaran City with land area of 24.2363 hectares. The existing area intended for the project is classified as industrial in accordance with Tagbilaran City's existing comprehensive land use plan wherein ownership of land is shared between the National and Provincial Government of Bohol.

A monorail system is conceptualized to be developed complementing the BBP. There will be installed stations at the BBP initially connecting to the New Bohol Airport and nearby municipalities of Albur, Corella and Maribojoc. The proposed monorail system is expected to improve connectivity within the area of coverage and directly supports the operation of the BBP and the New Bohol Airport. This monorail system scope of coverage can be expanded in the future.

The BBP will be a site for mixed but complementary prime area for commercial, business office spaces, tourism and high-technology uses. The BBP is envisioned to stimulate economic growth through investment placement, business development, job generation and employment thereby increasing government income from taxes and related revenues. Possible business and industry locators of the BBP include: Information Technology-based services such as call centers, software and product development, Business process outsourcing; Light and low-intensity industries; Tourism-based services; Commercial spaces for offices; Food and support services; and Retailing.

- **Land Industry Standards**

Agro-industrialization and ecotourism have since been identified as the basic development strategy for the Provincial Government of Bohol owing to the fact that agriculture and tourism are the province's primary economic drivers. Agro-

industrialization aims to increase value-added gains through the linkage of agricultural and industrial sectors. The Revised Bohol Investment Code of 2014 has recently identified light, medium and large-scale industries as preferred investment areas in tourism, agribusiness, services, and other areas of investments as may be determined. The industrialization thrust is to establish only those industries that are environment friendly, prohibiting those that are resource exploiting and pollutive.

The Housing and Land Use Regulatory Board (HLURB) sets the Industrial Land Intensity Standards for light, medium and heavy industries for Bohol's industrial area requirement per person in the following categories: 0.0008 hectare per person for light industries; 0.0025 hectare per person for medium industries; and 0.0040 hectare per person for heavy industries.

Based on population projections shown in the Table EC-8 below, the projected area requirements of the province for its industrial activities indicate the total area devoted for industrial use and as basis for determining total area required for expansion per industry category.

Table EC-8. **Current and Projected Industrial Area Requirement, Bohol, 2015-2018**

Year	Population	Area Requirements (Hectares)		
		Light	Medium	Heavy
2015	1,313,560	1,050.8	3,283.9	5,254.2
2016	1,325,302	1,060.2	3,313.3	5,301.2
2017	1,337,045	1,069.6	3,342.6	5,348.2
2018	1,349,212	1,079.4	3,373.0	5,396.8
2019	1,361,601	1,089.3	3,404.0	5,446.4
2020	1,374,214	1,099.4	3,435.5	5,496.9
2021	1,387,058	1,109.6	3,467.6	5,548.2
2022	1,400,137	1,120.1	3,500.3	5,600.5
2023	1,413,454	1,130.8	3,533.6	5,653.8
2024	1,427,016	1,141.6	3,567.5	5,708.1
2025	1,440,826	1,152.7	3,602.1	5,763.3
2026	1,454,891	1,163.9	3,637.2	5,819.6
2027	1,469,215	1,175.4	3,673.0	5,876.9
2028	1,483,803	1,187.0	3,709.5	5,935.2

Source: HLURB, PPDO

• Investment Opportunities in the Province

In accordance with Section 12 of the Revised Bohol Investment Code of 2014, the following shall be the Priority Investment Areas in the province of Bohol, with these overarching principles to guide their development:

- a) Conformity to the green growth strategies of development and consistent with the priorities of the Philippine Risk Reduction and Management Act of 2010 or Republic Act 10121;

- b) Boholano-inspired design and architecture of buildings and facilities consistent with Boholano culture and heritage;
- c) Integration of facilities compliant with the Disability Access Law, Gender and Development Code of Bohol Province, and similar laws; and,
- d) Observance of corporate social responsibility principles.

To push its economic development, the province has identified priority investment areas. The following sectors have been identified to be accorded primary growth focus” in terms of incentives, assistance and public investment support by the province:

I. Sustainable Tourism

- Airport Development
- Accommodation facilities
- Convention/ Event/ Meeting Centers
- Eco-cultural and Agri-tourism facilities, including nature and theme parks and mountain resorts
- Sports, training and recreation facilities
- Health and wellness facilities
- Retirement villages
- Malls/ Restaurants/ Food outlets
- Transportation services and facilities
- Other tourism-related services and facilities, including crafts centers

II. Sustainable Agriculture and Agri-Business

- High-value crops production
- Organic agriculture
- Aquaculture
- Post-harvest facilities
- Food and agri-processing
- Manufacturing of farm implements
- Tree farms
- Woodcrafts including furniture and furnishings using indigenous materials

III. Services

- Information and communications technology
- Media/ Advertising
- Financial/ Engineering/ Architectural service facilities
- Human resource development; i.e., training facilities, educational institutions Hospital and Medical/ Surgical/ Dental Services

IV. Energy

- Development of indigenous and off-grid power sources
- Power generation, transmission and other activities using environment-friendly technologies

V. Environment Management and Enhancement Projects

- Solid waste management facilities
- Waste water treatment facilities
- Disaster prevention, mitigation and recovery facilities

DEVELOPMENT CHALLENGES

It can be inferred based on demographic data from the Philippine Statistics Authority (PSA) that an increase in annual population growth will automatically mean an increase in the labor force for Bohol. Labor Force comprise the 15-64 years old individuals of the total population which are either employed or unemployed. As the labor force increases, demand for employment and means for livelihood to sustain life also increases which would in turn affect the economy of the province. Unemployment figures will rise in the next 10 years unless the government shall undertake measures to accommodate and offset the expected growth of the labor force at the end of the planning period in 2028 and beyond.

Meanwhile, the agribusiness sector, either in production and/or processing is still experiencing snail-paced incremental growth. Investments in manufacturing continue to remain slow-moving as evidenced by the nonexistence of large-scale factories operating in the province. Moreover, in the area of food processing, there are only quite a number of backyard food processors in the municipalities. The weak or sluggish promulgation and implementation of laws, rules and regulations in the area of business and investments may also have contributed to the above-stated scenarios.

Retail and service businesses continue to be only the primary economic activities throughout the province as Boholanos are timid to go into manufacturing and processing ventures. On the other hand, the high cost of doing business of venturing into MSMEs is prevalent in the province. Aggravating the scenario is the lack of access to financing windows and market information. Moreover, the lack of financial literacy among small business owners also limits them to go “bigtime”.

It can also be observed that there is a decrease of quality and competent labor pool in the Information and Communications Technology/Business Process Management (ICT/BPM) sector in the province. Although ICT/BPM has been an attractive employment generator, Boholano job seekers are attracted to the high- paying job, good work environment and other perks offered by Business Processing Outsourcing (BPO) companies outside Bohol. They migrate to Cebu, Metro Manila and in central business districts where most BPOs thrive. Although one cannot fault local talent looking for better opportunities elsewhere, this has created concerns on the quality of available local labor pool, career options for graduates, and other development challenges in the province of Bohol.

Among the main challenges to the local ICT/BPO industry, according to the property consultants in the province, include the availability of a leasable and ready space in a building that is registered with the Philippine Economic Zone Authority (PEZA). Furthermore, the other challenge is the availability of reliable, stable and redundant power supply for the industry. For now, Bohol is basically dependent on the energy from the Leyte- Bohol Interconnection, sourcing from the Leyte Geothermal Power Plant.

From 2011 and at these present times, the prevalence of extreme weather conditions termed as “new normal” resulting from climate change is a growing issue in the regions, especially those that are heavily dependent on agriculture that includes the province of Bohol. Not spared are the MSMEs (particularly Micro) with high vulnerability to climate change and climate-related disasters.

SECTOR: DEVELOPMENT ADMINISTRATION

List of Tables PDPFP 2016-2021

Table No.	Title
1-A	Estimated Revenues, 2011-2015
1-B	Actual Revenues, 2011-2015
2	Projected vs Actual Revenues, 2011-2015
3	Income Classifications of Municipalities in Bohol, 2008
4	Actual Utilization of Budget, 2011-2015
5	Actual Revenue, Expenditure and Surplus, Provincial Government of Bohol, 2011-2015
6	Income Classification of Each Municipality in Bohol, 2008
7	Status of Cadastral Survey and Tax Mapping of Each Municipality, Bohol, September 2015
8	Status of E-TRACS Implementation, Bohol, 2015
9	List of Local Special Bodies in the Provincial Government of Bohol, 2015
10	Number of HEAT-IT Caravans and Number of Beneficiaries
11	Assistance Provided through the Constituency Services Sector, 2015
12	Websites at the Provincial Government of Bohol, 2015
13	Provincial Codes Enacted by the Sangguniang Panlalawigan of Bohol
14	Civil Society Organizations Accredited by the Sangguniang Panlalawigan of Bohol, 2013-2015
15	Provincial Development/Strategic/Master Plans, 2010-2015
16	Official Development Assistance (ODA) Projects in Bohol, 2015
17	Locations of Libraries by Municipalities, 2015
18	Sports Facilities in Bohol, 2015
19	Physical Assets (Buildings and Facilities) of the Provincial Government of Bohol, 2015
20	Crime Volume Statistics, Province of Bohol (2011-2015)
21	Crime Volume by Municipalities, 2011-2015
22	Police Force and Facilities, Bohol, 2015
23	Comparative Fire Incidence Data, Bohol, 2010-2015

Table No.	Title
24	Fire-fighting Force and Facilities, as of December 1, 2015
25	Philippine Coast Guard Manpower and Facilities in Bohol
26	AFP Camps/Detachments/Reservations, Province of Bohol
27	Bohol Jail Force and Facilities, 2015
28	Profile of Probation and Parole Administration – 1
29	Profile of Probation and Parole Administration – 2
30	Profile of Probation and Parole Administration – Tagbilaran City
31	Tropical Cyclones that made Landfall in Bohol, 1949-2014
32	TARSIER 117: Emergency/Other Services, 2011-2015
33	Summary Matrix for Hazard Susceptibility in Bohol
34	Trial Courts in the Province of Bohol
35	Trial Courts in Bohol by Location, 2015

**List of Maps
PDPFP 2016-2021**

Map No.	Title
1	IRA-Dependency of LGUs in Bohol, 2015
2	Income Classification by Municipalities
3	Status of Cadastral Survey and Tax Mapping, Province of Bohol, as of September 2014
4	Location of Libraries and Library Hubs in Bohol, 2015
5	Crime Volume Statistics by Municipality, Province of Bohol, 2011-2015
6	Location of Fire Stations in Bohol, December 2015
7	Philippine Coast Guard Stations/Substations
8	Location of Military Camps/Detachments/Reservations in Bohol
9	Areas in Bohol with Rescue Units
10	Existing Hydrological Stations for Bohol Dews and Project Noah
11	PhilVolcS Equipment for Disaster Management Available in Bohol
12	Location of Trial Courts in the Province of Bohol

**List of Figures
PDPFP 2016-2021**

Figure No.	Name
1	Actual Revenues, 2011-2015
2	Actual Sources of Revenues, 2011-2015
3	IRA and Local Revenues, 2011-2015
4	Projected and Actual Sources of Revenues, 2011-2015
5	IRA Dependency of LGUs in Bohol, 2015
6	Annual Budget, 2011-2015
7	Annual Budget by Expense Class, 2011-2015
8	Provincial Government Personnel Profile, 2015
9	Tenurial Status of Provincial Government Personnel. 2015
10	Number of Personnel per Office
11	Classification of Provincial Government Employees by Age, 2015
12	Classification of Provincial Government Employees by Age, 2015
13	Classification of Provincial Government Employees by Age, 2015
14	Resolutions and Ordinances Passed by the Sangguniang Panlalawigan
15	Libraries and Reading Centers in Bohol, 2015
16	Index Crime Volume, 2011-2015
17	Common Origin of Fire, Bohol, 2010-2015
18	Common Causes of Fire in Bohol, 2010-2015
19	Congestion Rate Among Bohol Jails, 2015
20	Summary Matrix for Hazard Susceptibility in Bohol

Acronyms

PGBh	-	Provincial Government of Bohol
IRA	-	Internal Revenue Allotment
GRRPTA	-	General Revision of Real Property Tax Assessment
DevAD	-	Development Administration
DBM	-	Department of Budget and Management
PS	-	Personal Services
MOOE	-	Maintenance and Other Operating Expenses
DF	-	Development Fund
CA	-	Capital Outlay
NOE	-	Non-office Expenditures
MES	-	Monitoring and Evaluation Systems
PDPFP	-	Provincial Development and Physical Framework Plan
LFC	-	Local Finance Committee

E-NGAS	-	Electronic-New Government Accounting System
FITTSYS	-	Financial Transaction Tracking System
E-TRACS	-	Electronic Tax Revenue Assessment and Collection System
LGPMS	-	Local Governance Performance Management System
NGO	-	Non-Government Organizations
BANGON	-	Bohol Alliance of Non-Government Organizations
MET	-	Management Executive Team
OPES	-	Office Performance Evaluation System
PHO	-	Provincial Health Office
PGSO	-	Provincial General Services Office
PEO	-	Provincial Engineer's Office
BIPC	-	Bohol Investment Promotion Center
BTO	-	Bohol Tourism Office
BEPO	-	Bohol Employment and Placement Office
HRMDO	-	Human Resource Management and Development Office
PAHRDF	-	Philippines-Australia Human Resource Development Facility
IT	-	Information-Technology
BOPEL	-	Bohol Provincial Employees League
LTS	-	Legislative Tracking System
PDC	-	Provincial Development Council
IAD	-	Integrated Area Development
BIAD	-	Bohol Integrated Area Development
PDMS	-	Poverty Database Monitoring System
M&E	-	Monitoring and evaluation
RPMS	-	Regional Project Monitoring System
JICA	-	Japan International Cooperation Agency
AusAID	-	Australian Agency for International Development
USAID	-	United States Agency for International Development
GTZ	-	German Technical Cooperation
VSO	-	Volunteer Service Organization
EU	-	European Union
KOICA	-	Korean International Cooperation Agency
PNP	-	Philippine National Police
EOD	-	Explosive and Ordnance Disposal
PCG	-	Philippine Coast Guard
BJMP	-	Bureau of Jail Management and Penology
BDRC	-	Bohol Detention and Rehabilitation Center
PPPA	-	Provincial Parole and Probation Administration
SAR	-	Search and Rescue
PAGASA	-	Philippine Atmospheric, Geophysical and Astronomical Services Administration
PhilVolcS	-	Philippine Institute of Volcanology and Seismology
REDAS	-	Rapid Earthquake Damage Assessment System
RTC	-	Regional Trial Courts
MCTC	-	Municipal Circuit Trial Courts
MTCC	-	Municipal Trial Courts in Cities
PAO	-	Public Attorney's Office
PLO	-	Provincial Legal Office

SECTOR : DEVELOPMENT ADMINISTRATION
SUB-SECTOR : PUBLIC FINANCE

SITUATIONER

The adequacy of revenue is an important factor in the financial capacity of any local government unit. With enough funds to utilize, social and humanitarian services will be extended better and to the most number of constituents. Moreover, more quality services can be expected with fund reserves that are readily available.

The efficacy of fiscal management in local governance becomes tangible when there is a good balance between internally-generated income and external funds. In the best case situations, local government units that generates more income through the operations of its local financial institutions fare better in the provision of basic needs to its population than those who heavily relies on external funds that go to their coffers.

The Provincial Government of Bohol (PGBh) strives to reach this financial situation. From an Internal Revenue Allotment (IRA)-dependent province, it aims to have a better share of its revenue through the income of its own income-generating institutions and financial activities.

Income and Revenues

For the years 2011-2015, it is shown that there is a yearly unrealized generation of actual income against its yearly estimated revenues. The revenues coming from its Business Fees and Licenses is the category where the biggest shortfall is seen. Moreover, it is in year 2013 where the shortfall is big at 5.54%. But it should be noted that revenue for this year is affected by the big events that occurred during this year which is the Great Bohol earthquake of 2013 and Typhoon “Yolanda” that caused great interruption in the business and revenue generation activities within the province. Other than the IRA funds, the only local revenue category that exceeded that estimated revenue generation is the Services & Operations. Income from the province-run government hospitals have contributed greatly to the provincial coffers with big steady increases shown particularly in years 2013, 2014 and 2015.

ESTIMATED REVENUES 2011-2015, PROVINCE OF BOHOL					
(In Million Pesos)					
REVENUE ITEM	2011	2012	2013	2014	2015
Real Property Tax	34.7	39.0	42.0	46.49	42.49
Other Taxes	9.53	10.32	31.82	20.36	22.70
Business Fees & Licenses	54.25	67.00	76.27	111.20	129.5
Services & Operations	44.0	48.8	48.8	18.11	11.0
IRA	1,056.38	1,010.82	1,103.56	1,239.82	1,412.52
All Other Revenues	3.8	8.88	9.5	28.15	19.94
Total	1,202.66	1,182.82	1,311.96	1,464.14	1,638.15

Table DevAd 1-A - Estimated Revenues 2011-2015

ACTUAL REVENUES 2011-2015, PROVINCE OF BOHOL (In Million Pesos)					
REVENUE ITEM	2011	2012	2013	2014	2015
Real Property Tax	26.7	31.0	32.2	32.9	33.2
Other Taxes	8.9	8.4	7.7	14.6	16.6
Business Fees & Licenses	12.4	10.7	10.9	7.9	7.2
Services & Operations	50.4	61.6	76.1	111.7	134.8
IRA	1,060.3	1,010.8	1,106.2	1,246.5	1,412.5
All Other Revenues	4.2	44.4	5.8	17.2	17.7
Total	1,162.9	1,167.0	1,239.0	1,430.9	1,622.0

Table DevAd 1-B – Actual Revenues, 2011-2015

In the planning years' perspective, the Province of Bohol has seen a steady rise of its income. For the period 2011-2015, Bohol's income rose from P 1,162.9 M to P 1,622.0 M in 2015. This

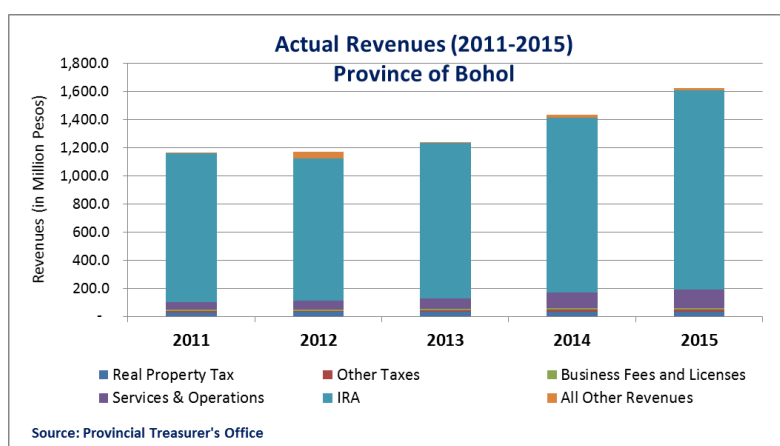


Figure DevAd 1 – Actual Revenue, 2011-2015

is an increase of 39.46% or an average exponential increase of 8.85% per year. However, this is slightly lower than the 9.9% average yearly increase for the planning years 2004-2008. The momentum of increasing revenues was slightly hampered after the Province experienced the great Bohol Earthquake in 2013 which resulted in a decline of its local funds or revenue to only (10.7%). While

funds were poured into Bohol in the aftermath of the calamitous event, these post-earthquake funds were placed into a Trust Fund thus should not be included in the available funds for that year.

Local Revenues rose to a whopping 104.2% from 2011 to 2015. This despite the problems caused after the earthquake. Revenues from Services and the Operation of Government Enterprises compose the 55.3% of the Local Revenues. This is followed by income from Real Property Tax (19.9%), All Other Revenue (11.4%), Other Taxes (7.2%) then Business Fees & Licenses (6.3%).

There is a steady increase in the Services and Operations income with a great upswing in 2014. It should be noted that

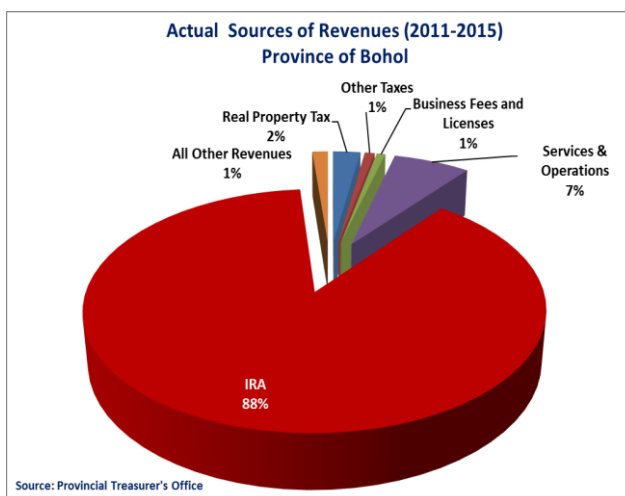


Figure DevAd 2. Actual Sources of Revenues, 2011-2015

operation of the province-run government hospitals were minimized or reduced after some hospitals experienced substantial damage during the earthquake. Erratic patterns are seen in the revenue sources of Real Property, Other Taxes and All Other Revenues. Collection generated from franchise tax, tax on delivery vans and the extraction fees on sand and gravel shows a progressive increase except in 2013 where there is a decline. However, there is a pattern of steady decline in the income of the Business Fees & Licenses (operation of the Provincial Capitol office spaces, Bohol Cultural Center, Carlos P. Garcia Sports Complex and other sports facilities).

For real property tax, the Provincial Government has continued to conduct real property tax campaign to inform and motivate land owners to pay their taxes. It has also enhanced the collection of tax arrears (prior years including penalties) from property owners. However, many factors still has affected its efficiency. One is the level of support provided by the local chief executives in the collection of taxes based on the new schedule of fair market values of real properties in their locality especially that the conduct of these tax campaigns are also considered by some, as costly, noting on the level overhead costs attached to these campaigns at the barangays. The campaign's effectiveness is also questioned with the significant number of delinquent taxpayers. From 2011 to 2015, real property tax collection had an average annual increase of 5.74% which is slightly higher than the 2.6% in the previous base years of (2004-2008). But this increase is affected by the big increase of 16% from 2011-2012. In the succeeding years, there is a significant reduction in its yearly increase which averages only 2.32%. The increase from 2014-2015 is only 0.88%.

On the other hand, the Provincial Government is also collecting other taxes such as franchise tax, taxes on delivery vans, sand & gravel extraction fees, amusement tax on admission, tax on transfer of real property ownership, tax on business of printing & publication, occupation/professional tax, environmental tax and sales on accountable forms. While there was a decrease from 2011-2013, great uptake was recorded starting in 2014 where an increase of 89.51% is seen. The income from the sales of Accountable Forms was recorded starting year 2014 which greatly contributed to it.

Business fees and licenses are collected by the Provincial Government from the operation of its Provincial Capitol Office spaces, the Bohol Cultural Center, the Carlos P. Garcia Sports Complex and other sports facilities. Fees are also collected from various services provided by the provincial government like rental of heavy equipment and its shares from the Chocolate Hills operations. These revenue sources, however, shows a steady decrease within the 5-year period.

The operation of the 10 devolved hospitals in the province also provided the Provincial Government with revenues under the Services and Operations category. For the past five (5) years, these revenues have been increasing with an average annual growth of 29.88%. The biggest increase of 48.32% was recorded from 2013-2014. Considering that the operation of these hospitals have played very important part in the social responsibility and service to the Boholanos, its income accounts for 7% of the total revenue of the province and more than half (55.3%) of the local revenues generated.

As earlier described, the IRA, for the five-year period, averaged 88.3% of the annual government revenue flows which is slightly higher to the 86.6% average for the 2004-2008 base-years.

Internal Revenue Allotment (IRA), as earlier described, still basically provides the major share of the total Provincial Government financial resources. For the five-year (2011-2015)

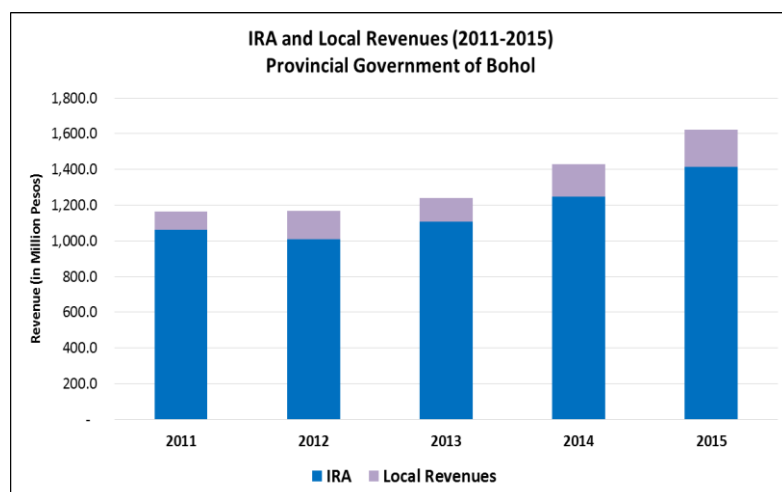


Figure DevAd 3 – IRA and Local Revenues, 2011-2015

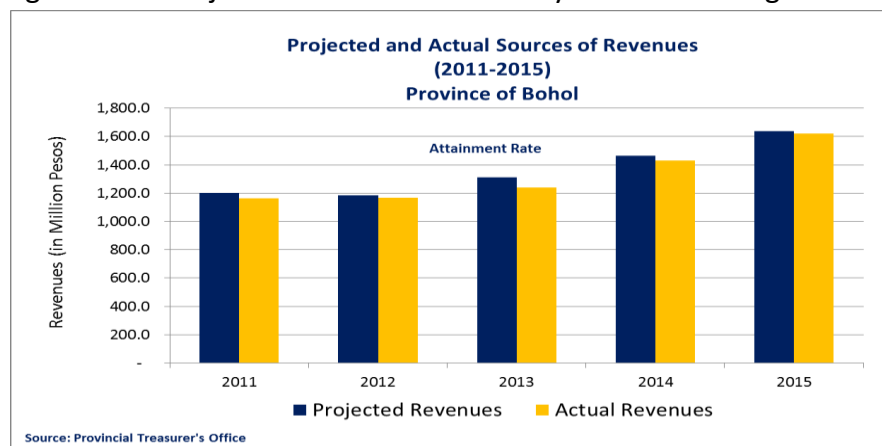
operations, 88.3% comes from the IRA funds while the remaining 11.9% is sourced from Local Revenues. This is a slight increase from the 2004-2008 base-years of 86.6%. It is only in year 2012 where the IRA Fund has a decline. Even after the 2013 earthquake, it still showed a steady increase. The IRA share was highest at 91.2% in the year 2011. However, against the Local Revenue funds, the IRA funds showed a decline from 91.2%

in 2011 to just 87.1% in 2015. But still, this situation, indeed, shows the high dependency of the Provincial Government's operation on the IRA. There is, therefore, a need to build and expand the revenue base of the Province, especially on locally-raised incomes.

PROJECTED VS ACTUAL REVENUES 2011-2015, PROVINCE OF BOHOL					
(In Million Pesos)	2011	2012	2013	2014	2015
Projected Revenues	1,202.7	1,182.8	1,312.0	1,464.1	1,638.2
Actual Revenues	1,162.9	1,167.0	1,239.0	1,430.9	1,622.0

Table DevAd 2 – Projected vs Actual Revenues, 2011-2015

From 2011-2015, actual revenue generation activities of the Provincial Government fell short against the Projected Revenues for each year. The average shortfall is 3% with the highest shortfall recorded in



Source: Provincial Treasurer's Office

Figure DevAd 4 – Projected and Actual Sources of Revenues, 2011-2015

2013 (6%). A closer look into the estimated and actual itemized local revenues would reveal that the Provincial Government falls short in meeting its revenue targets. Expected local revenue levels have not been met for the

past 5 years. This situation raises the issue on the reliability and attainability of the revenue estimates, as well as the efforts made to meet these revenue estimates. There is no single year from 2011-2015 that the estimated revenue was met. The level of attaining the estimated revenue coming from locally-generated incomes significantly affects the expenditure characteristics and cash back-up of the Provincial Government. As can be shown, the non-attainment of the estimated locally-generated income further deepen the dependence of the Provincial Government of Bohol from the IRA share to fund its developmental, social and economic expenditures.

There is no change in the Income Classification of municipalities/city in the Province of Bohol as of the last planning year in 2008. There are still three (3) municipalities that are classified as 1st Class, two (2) as 2nd Class, seven (7) as 3rd Class, 24 as 4th Class and 12 as 5th Class. Tagbilaran City is still classified as 3rd Class under the component city category.

Income Classification	Income Classification of Municipalities		
	Number	%	List of LGUs
1 st Class	3	6%	Talibon, Tubigon, Ubay
2 nd Class	2	4%	Carmen, Loon
3 rd Class	7	15%	Calape, Inabanga, Getafe, Jagna, Sierra Bullones, Trinidad Tagbilaran City (City Category)
4 th Class	24	50%	Alicia, Antequera, Baclayon, Balilihan, Bien Unido, Bilar, Buenavista, Candijay, Catigbian, Danao, Daus, Dimiao, Duero, Garcia Hernandez, Guindulman, Loboc, Mabini, Maribojoc, Panglao, Pilar, Pres. Carlos P. Garcia, Sagbayan, San Miguel, Valencia
5 th Class	12	25%	Alburquerque, Anda, Batuan, Clarin, Corella, Cortes, Dagohoy, Lila, Loay, San Isidro, Sevilla, Sikatuna

Source: PTO, BLGF Report (2008)

Table DevAd 3 – Income Classification of Municipalities, Province of Bohol, CY 2008

The Province of Bohol and the municipalities including its lone city is still dependent on the IRA share as major source of funds for their operations. Fourteen (14) LGUs (29%) are 90% and above IRA-dependent. This is followed by 19 LGUs (40%) that are 80% to 89% IRA-dependent; and 9 LGUs (19%) that are 70% to 79% IRA-dependent. The municipalities of Danao, Daus and Panglao are 60% to 69% IRA-dependent while the municipalities of Tubigon and Loboc are 50% to 60% IRA-dependent. It is only

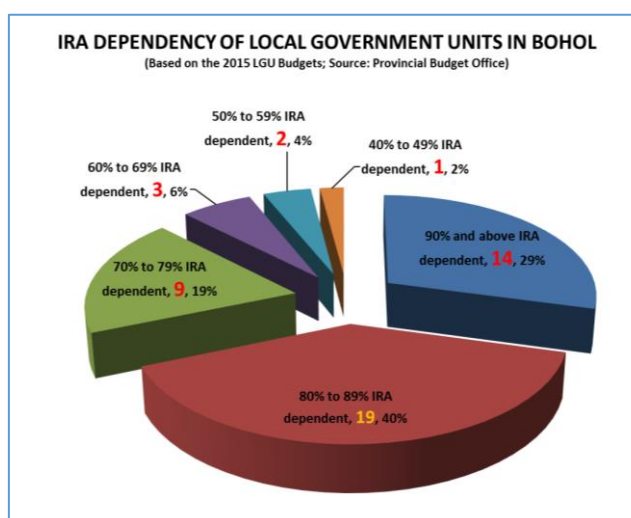
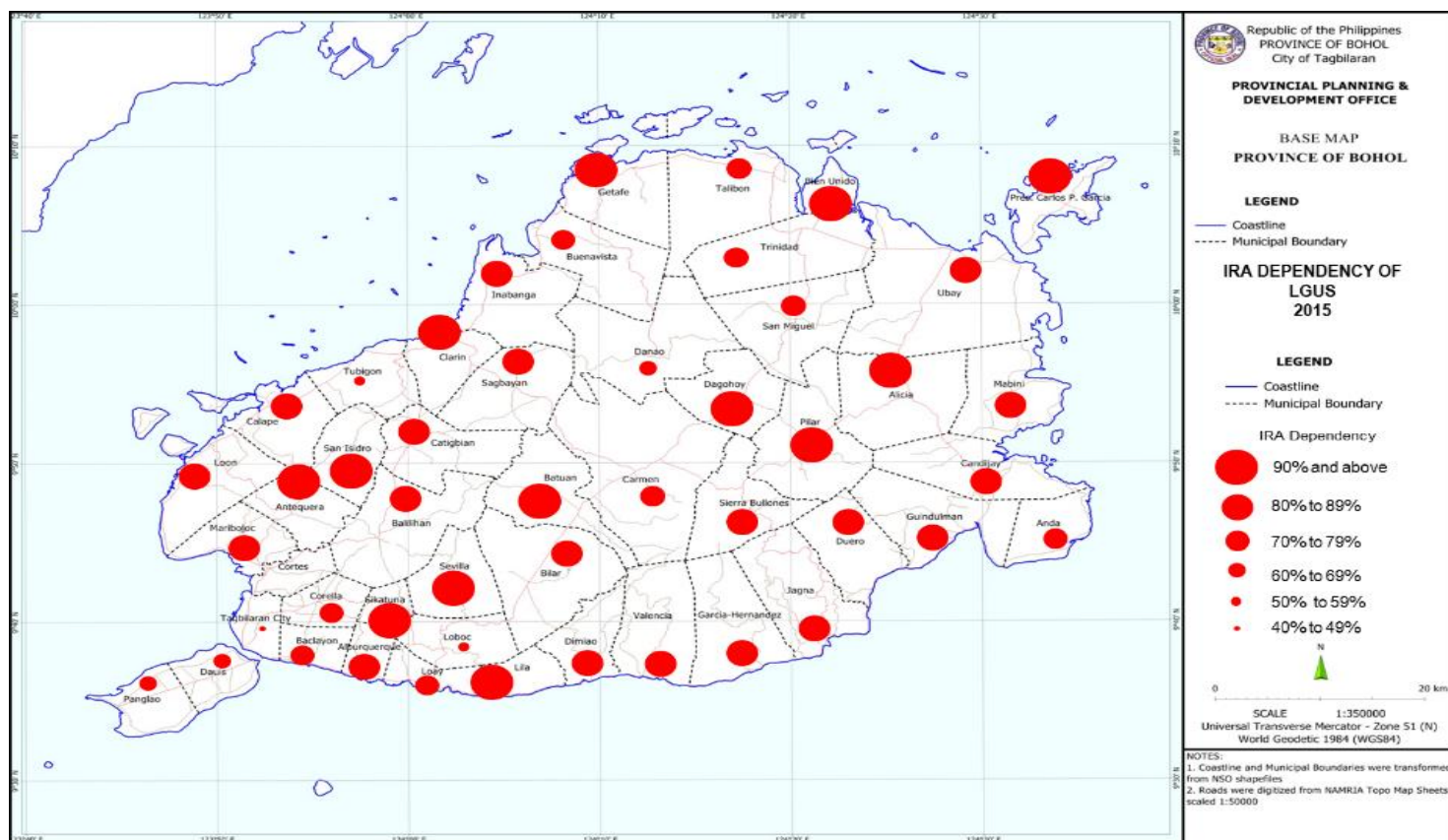


Figure DevAd. 5 – IRA Dependency of LGUS in Bohol,

the City of Tagbilaran that is less than 50% (40% to 49%) dependent on the IRA funds for its operation. The Province of Bohol is still 87% dependent on the IRA funds.



Expenditure Patterns

The annual budget of the Provincial Government of Bohol shows an uptrend from P 1,202 Million in 2011 to P 1,638 Million in 2015. This is an average yearly linear increase of 6.48%. However, it should be noted that there is a slight decrease in the 2013 budget which is due to the reduction of its revenue/other sources of funds.

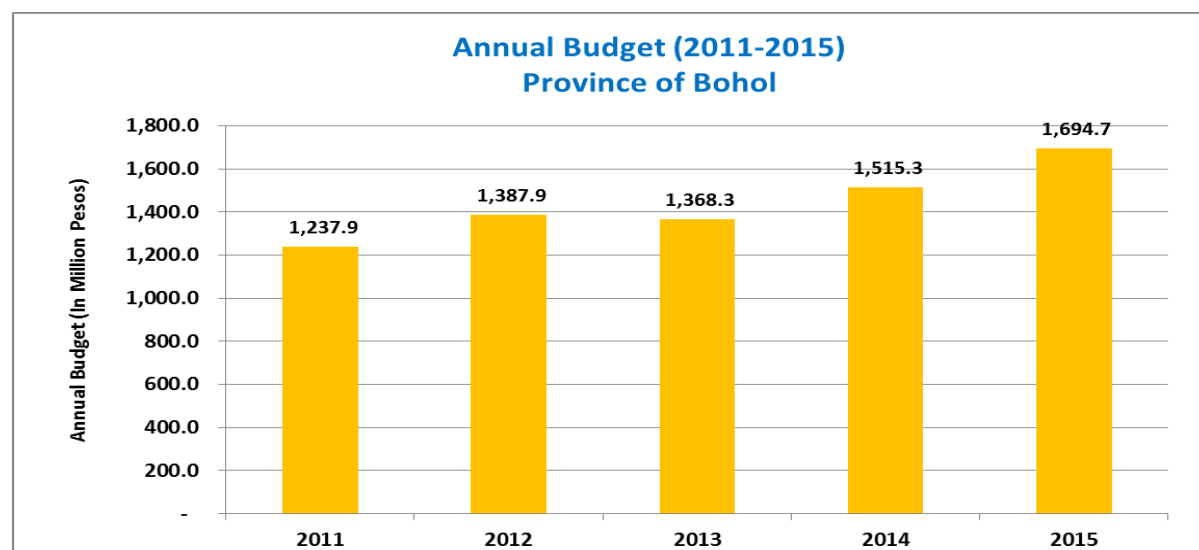


Figure DevAd 6 – Annual Budget, 2011-2015

For the years 2011-2015, Personnel Services is the number one major source of expenditures in the local budget, accounting for 35% of its total. This is within the Department of Budget and Management imposed limit of 45% and an improvement from the previous record of 48%. This is followed by allocations for Maintenance and Other Operating Expenses (MOOE) at 26% (increase from 25%); Non-Office Expenditure including those for Disaster Risk Reduction and Management (DRRM) Fund, inter-government aids, Aid to Barangay, and payment of loans at 22%. Fund allocations for the implementation of development programs and projects under the 20% Development Fund (DF) only accounts for 16% of the government spending.

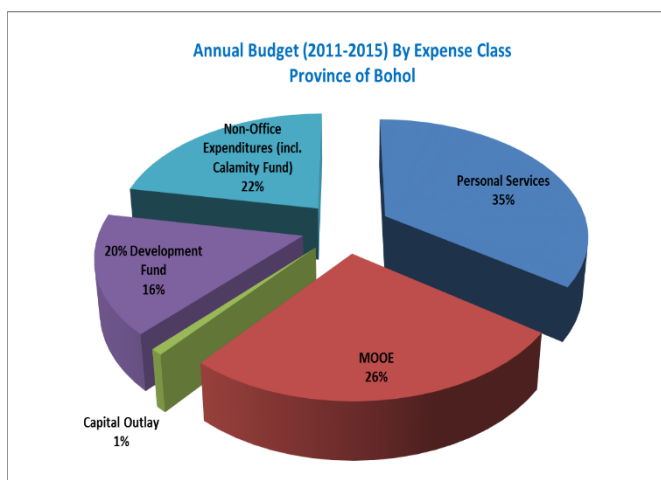


Figure DevAd 7 – Annual Budget by Expense Class, 2011-

ACTUAL UTILIZATION OF BUDGET										
	2011	%	2012	%	2013	%	2014	%	2015	%
Personal Services	419.06	38.2	448.77	36.4	489.11	43.0	486.63	41.4	480.88	37.3
MOOE	321.96	29.3	318.94	25.8	284.23	25.0	339.30	28.8	359.55	27.9
Capital Outlay	24.92	2.3	31.57	2.6	2.33	0.2	5.38	0.5	7.80	0.6
20% Development Fund	146.51	13.3	175.39	14.2	97.26	8.6	101.82	8.7	118.99	9.2
Non-Office Expenditures (incl. Calamity Fund)	185.14	16.9	259.29	21.0	264.57	23.3	243.22	20.7	320.39	24.9
TOTAL	1,097.59		1,233.96		1,137.50		1,176.35		1,287.62	

Table DevAd 4 – Actual Utilization of Budget, 2011-2015

Meanwhile, non-office expenditures accounted about 22% of the total Provincial Government of Bohol spending. These basically cover financial support and assistance to various local and national government institutions in the implementation of priority and common development initiatives.

On the other hand, MOOE levels had been increasing in the share of total expenditures of the Province. From 20% in 2008, it is 27.9% in 2015. This may be attributed to the increasing prices of overheads and operating expenses as well as the expanded operation of new Provincial Government units and offices. The Provincial Government, however, has continually employed austerity measures to control and manage such increasing trend, maximizing office appropriations to the optimum level. Withholding a certain level of MOOE appropriation is

also implemented, where necessary, to ensure the financial integrity and sufficiency of government coffers.

With the general intention and goal of improving government facilities and equipment, the Provincial Government spends an average of 1% of its total expenditures for capital outlay for the period 2011-2015 (an improvement from the previous 5%). On an annual basis, the Capital Outlay, however, shows a generally declining trend, from 2.3% in 2011 moving down to a measly 0.6% in 2015. This downward trend is attributed to the periodic but sustained upgrading of equipment and facilities of provincial government offices. Considering the limitation of financial resources, capital outlay requirements of offices have been addressed on a staggered basis. This strategy has been seen to be effective, allowing offices to prioritize their capital expenditures.

Looking into the 20% Development Fund expenditures, it can be observed that levels have been decreasing within the five-year period. It is only in year 2014 that this expenditure have increased. In the succeeding year, its share have decreased. This decrease could be attributed to the nationalization of most provincial roads in the province and the assistance extended by the national and international government to Bohol after it experience the Great Bohol earthquake of 2013. Furthermore, it can be observed that some projects remained continuing for two years, thus not fully using up the appropriation for the current year.

On the other hand, non-office expenditures have been increasing its share over the last 5-year period from a measly 9% in 2008 to 24.9% share in 2015. Non-office expenses cover all other expenditures such as calamity fund, financial aids to national agencies and bureaus, leagues and federations and other activities of the provincial government.

Considering the expenditure trends and the level of financial resources available, it is necessary to set priorities and policies that would ensure maximization and value for money for every government spending. The Provincial Government is moving towards this direction with the re-institutionalization of its Monitoring and Evaluation Systems and focusing more on outcomes and impacts of government operations and projects.

Income:

Comparing the actual revenue and financial resources and its actual expenditures, the Provincial Government of Bohol has gained net surplus for the past 5 years. The surplus, however, covers continuing appropriations, especially for development projects that normally cut across multiple years of implementation. The table below shows the actual revenues, actual/earmarked expenditures and surplus of the Provincial Government. However, it can be observed that there is a negative amount for the year 2012. This was attributed to the actual expenditures in 2012 from previous year's appropriation, thereby reflecting higher expenditures compared to the revenues.

Table DevAd 5 - Actual Revenues, Expenditures and Surplus, Bohol Provincial Government, 2011-2015 (in Million Pesos)

Year	Actual Revenues	Actual Expenditures	Surplus
2011	1,162.9	1,097.59	65.31
2012	1,167.0	1,233.96	(66.96)
2013	1,239.0	1,137.5	101.5
2014	1,430.9	1,176.35	254.55
2015	1,622.0	1,287.62	334.38
<i>Source: Provincial Budget Office</i>			

It should be stressed that the expenditure figures include allocations earmarked for expenditures that are incurred during the current year. With the level of unutilized resources, it would be necessary to come up with effective expenditure program that would fully utilize resources. Furthermore, the Provincial Government can also place its free resources to long-term and high-earning investments to maximize return opportunities.

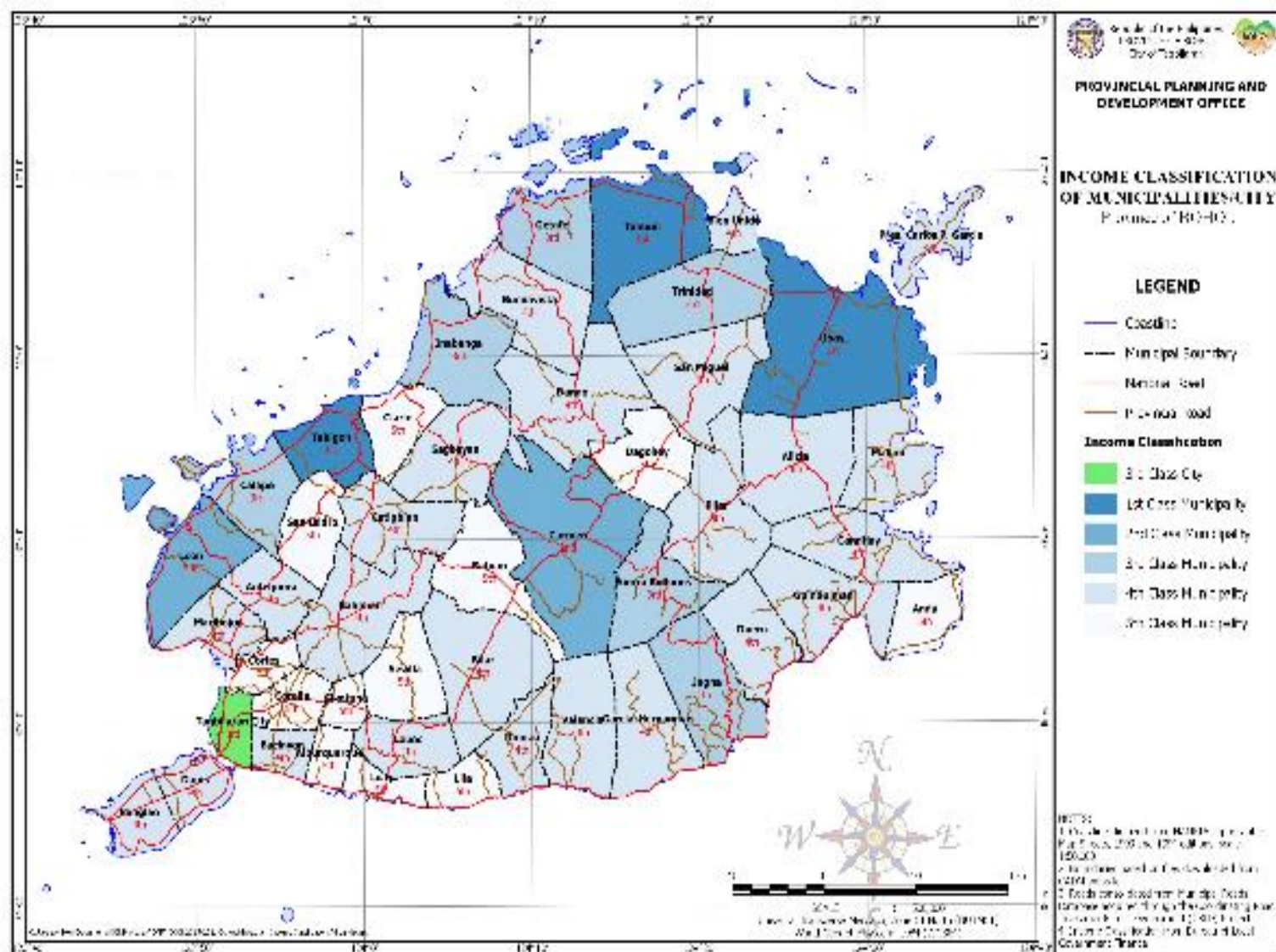
Provincial Government's Facilities with Potential for Revenue-Generation

The Provincial Government is operating a number of facilities that provide revenue flows to its coffers. Taking advantage of these facilities and real properties, the Provincial Government has been raising revenues from the operation of the Provincial Capitol Commercial Spaces, the Bohol Cultural Center and Sports Complex and other sports facilities. The Province also shares in the revenues derived from the operation of the Chocolate Hills Complex in partnership with the LGU of Carmen. Rentals from its heavy equipment are also being collected from LGUs and private entities that use these equipment for road development projects. Furthermore, operations of the 10 devolved hospitals also provided revenue flows to the Province.

Considering that the Provincial Government is embarking on massive projects aimed at increasing revenues from the operation of government enterprises, the full operation of the Public Economic Enterprise Management Unit (PEEMU) will institutionalize and pave the way the generation of revenues from local sources. The establishment of the Bohol Business Park and the Medical Tourism Zone will be big factors in weaning the province from dependency on the IRA share. But these needs technical as well as financial capacitation of personnel who are adept with running such big business enterprises. Other economic ventures to be created within the properties of the Provincial Government can also contribute to the provincial government's thrust of increasing its locally sourced income. In order to maximize this potential, it is suggested to utilize properties located not just within Tagbilaran City but in the municipalities where the Provincial Government has property holdings. One site, which is currently under development, is the Bohol Biodiversity Center in Bilar, where the Provincial Government has started to establish new facilities to attract and better serve more visitors. This facility is foreseen to be frequented by visitors as it promotes biodiversity conservation and environmental protection.

Provincial and Municipal Income Classification

The Province of Bohol maintains its classification under the First Class status in terms of income classification, with its level of revenues both from external and internal sources. As of 2015, there is no change in the annual classification of municipalities in terms of revenues. Twelve (25%) municipalities are classified as 5th Class, 24 (50%) are classified as 3rd Class, seven (15%) are 3rd Class, two (4%) are classified as 2nd Class, and three (6%) as First Class. o 2011-2015.



Map DevAd 2 – Income Classification by Municipalities, 2015

Table DevAd 6 – Income Classification by Municipalities, as of 2008

Income Class ¹	2008	
	No. of Mun./ City	%
1st Class	3	6%
2nd Class	2	4%
3rd Class	7	15%
4th Class	24	50%
5th Class	12	25%
Total	48	100%
Source: Bureau of Local Government Finance/ Provincial Treasurer's Office		

Resource levels of municipalities are highly dependent on their ability to raise locally-generated revenues. Basing on the current situation, municipalities still remain to be heavily dependent on the Internal Revenue Allotment (IRA) shares. Even the Provincial Government is also dependent on the IRA share to finance its various programs and projects.

In order for local government units to minimize dependency on the IRA share, they need to step up their efforts to increase revenues through efficient and graft-free local collections. Municipal government units have to strengthen their ability to establish, operate and manage economically viable economic enterprises. Furthermore, local governments need to broaden their revenue base that is beyond their traditional and usual tax-base sources. With the recent development thrust of the government, there is high potential for local governments to venture into tourism-related and agriculture-based industries that takes advantage of the Province's competitive edge.

Looking into the sustainability of the local government units' financial resource security, local revenue generation should become a priority. A common goal is to reduce IRA dependency, considering the unstable collection of national taxes and the effects of IRA sharing from the establishment of new cities and municipalities in the country.

¹ Income Classification

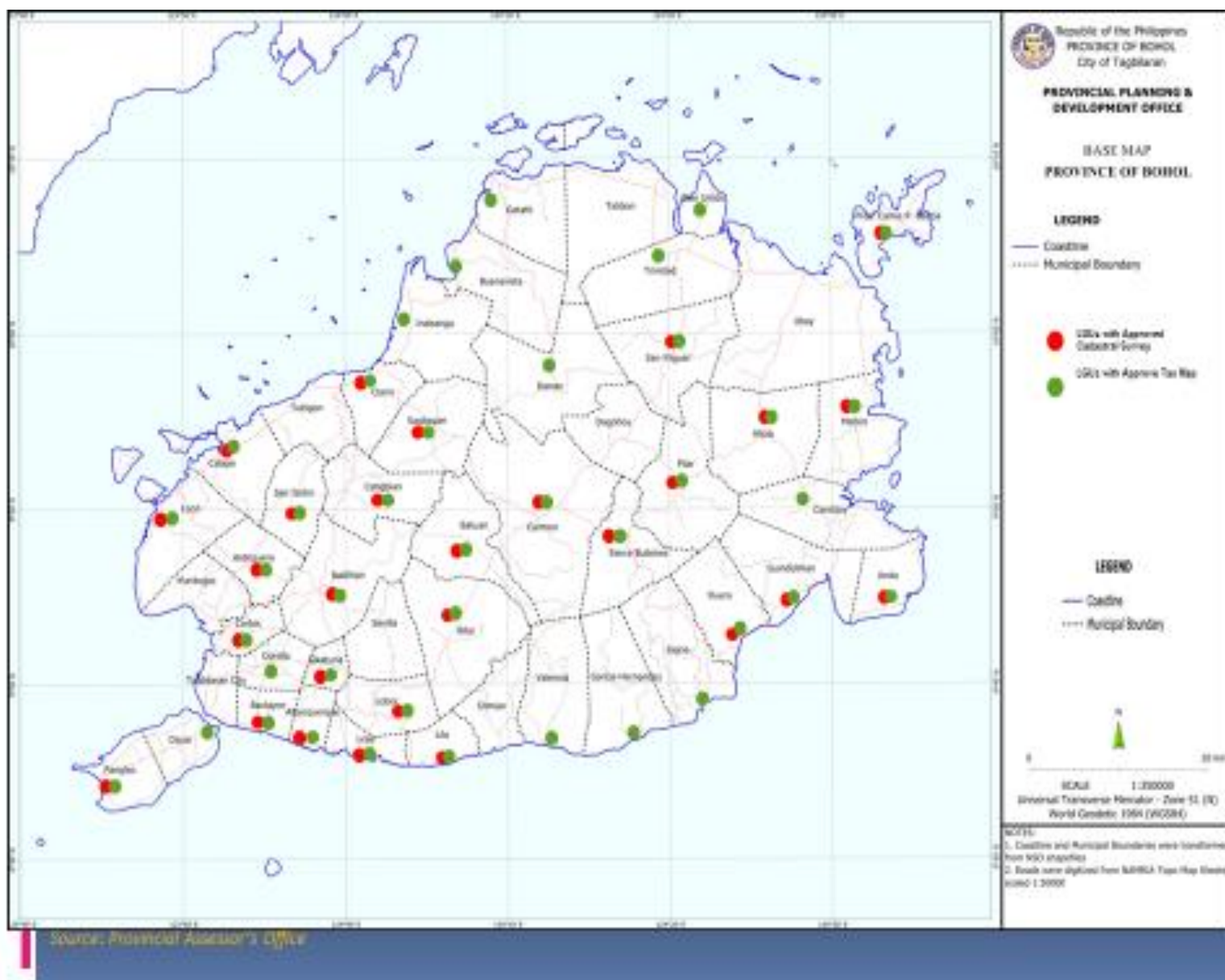
Municipalities:

2008: 1st Class: P55 Million or more; 2nd Class: P45 Million or more but less than P55 Million, 3rd Class: P35 Million or more but less than P45 Million; 4th Class: P25 Million or more but less than P35 Million; 5th Class: P15 Million or more but less than P25 Million; 6th Class: Below P15 Million

Cities:

2008: 1st Class: P400 Million or more; 2nd Class: P320 Million or more but less than P400 Million, 3rd Class: P240 Million or more but less than P320 Million; 4th Class: P160 Million or more but less than P240 Million; 5th Class: P80 Million or more but less than P160 Million; 6th Class: Below P80 Million

Real Property Tax Mapping, Assessment and Collection



Map DevAd 3 – Status of Cadastral Survey and Tax Mapping, Province of Bohol, September 2014

As of September 2014, except Tagbilaran City, all the municipalities of the province had already underwent cadastral survey. This is equivalent to about 963 barangay units with either an approved/completed/on-going/on-process cadastral survey. Including Tagbilaran City, the municipalities of Dagohoy, Dimiao, Maribojoc, Talibon and Tubigon still do not have tax mapping data. The absence of a tax mapping record will significantly affect the real property tax revenue generation efforts of the local government unit because the mapping data will be able to facilitate the appropriate value of the local property. However, about 955 barangays have approved/completed/on-going/on process tax map data.

MUNICIPALITY	STATUS OF CADASTRAL SURVEY		TAX MAPPING	
	Approved/ Completed/ On-Going/ On-process	Remarks (updated as of Sept. 2014)	Approved/ Completed/ On-Going/ On-Process	Remarks
Albuerquerque	11 brgy	completed	11 brgy	LDAP-RPTA
Alicia	15 "	completed	15 brgy	LDAP-RPTA
Anda	16 "	completed	16 brgy	LDAP-RPTA
Antequera	21 "	completed	21 brgy	LDAP-RPTA
Baclayon	17 "	completed	17 brgy	LDAP-RPTA
Balilihan	31 "	completed	31 brgy	LDAP-RPTA
Batuan	15 "	completed	15 brgy	LDAP-RPTA
Bien Unido	9 brgy aprvd	6 brgy ongoing verification	15 brgy	LogoFind Project
Bilar	19 brgy	completed	19 brgy	LDAP-RPTA
Buenavista	30 "	4 brgy ongoing verification	34 brgy	LDAP-RPTA
Calape	33 brgy	completed	33 brgy	LDAP-RPTA
Candjay	19 brgy	2 brgy ongoing verification	21 brgy	LDAP-PREMIUM
Carmen	29 brgy	completed	29 brgy	LDAP-RPTA
Clarín	24 brgy	completed	24 brgy	LDAP-RPTA
Coronilla	7 brgy	1 brgy ongoing verification	8 brgy	LDAP-RPTA
Cortes	14 brgy	completed	14 brgy	LDAP-RPTA
Dagohoy	14 brgy	1 brgy ongoing verification		
Danao	13 brgy	4 ongoing verification	17 brgy	Prov./Lgu Partnership
Daus	11 brgy	1 brgy ongoing verification	12 brgy	LDAP-RPTA
Dimiao	23 brgy	2 brgy ongoing verification		
Duero	21 brgy	completed	19 brgy	LDAP-RPTA
García Hernández	29 brgy	1 brgy ongoing verification	30 brgy	LDAP-RPTA
Getafe	19 brgy	1 brgy ongoing verification	24 brgy	LDAP-RPTA
Guindulman	19 brgy	completed	19 brgy	LDAP-RPTA
Inabanga	23 brgy	27 brgy for survey/verification	60 brgy	Prov./Lgu Partnership
Jagna	29 brgy	4 brgy for survey/verification	33 brgy	LDAP-RPTA
Lila	18 brgy	completed	18 brgy	LDAP-RPTA
Loay	24 brgy	completed	24 brgy	LDAP-RPTA
Loboc	26 brgy	completed	26 brgy	LDAP-RPTA
Leon	67 brgy	completed	67 brgy	LDAP-RPTA
Mabini	22 brgy	completed	22 brgy	LDAP-RPTA
Manbojoc	12 brgy	10 brgy for survey/verification		
Panglao	10 brgy	completed	10 brgy	LDAP-RPTA
Pilar	21 brgy	completed	21 brgy	LDAP-RPTA
Pres. García	23 brgy	completed	20 brgy	LogoFind Project
Sagbayan	24 brgy	completed	24 brgy	LDAP-RPTA
San Isidro	12 brgy	completed	12 brgy	LDAP-RPTA
San Miguel	18 brgy	completed	18 brgy	LDAP-RPTA
Sevilla	11 brgy	2 brgy ongoing verification	4 brgy aprvd /9 not implemented	LGU's fund exhausted
Sierra Bulonoes	22 brgy	completed	22 brgy	LogoFind Project
Sikatuna	10 brgy	completed	10 brgy	LDAP-RPTA
Tagbilaran City	15 brgy			
Talibon	12 brgy	13 brgy brgy for survey/verification		
Trinidad	15 brgy	5 brgy ongoing verification	20 brgy	LogoFind Project
Tubigon	8 brgy	27 brgy for survey/verification		
Ubay	42 brgy	2 brgy ongoing verification	27 brgy field operation completed	LGU's fund exhausted
Valencia	8 brgy	27 brgy for survey/verification	35 brgy completed	LogoFind Project

Table DevAd 7 – Status of Cadastral Survey and Tax Mapping, Province of Bohol, as of September 2014

Planning and Budgeting Linkages

Crucial to the Provincial Government's financial resource prioritization and utilization are its planning and budgeting systems. Plans are guided by the development agenda set for a particular planning period. From 2011-2015, Bohol has been using its Provincial Development and Physical Framework Plan (PDPFP) as the beacon for economic growth and poverty reduction. The Annual Development Plan (ADP) and the Annual Investment Plan (AIP) of the various offices/ units are culled out from the PDPFP and are often influenced by the priorities set by the provincial leadership based on current opportunities and problems of the province.

The plans are operationalized through proper procedures that link the planning and budgeting process streams. Through the implementation of the Joint Memorandum Circular No. 1 - 2007 of the Department of Budget and Management, Department of the Interior and Local Government, National Economic and Development Authority and the Department of Finance, the Bohol Provincial Government has continuously worked to improve its planning, budgeting and expenditure management through harmonization and synchronization of flows and schedules. The Provincial Development Council has been reconstituted, development agenda were set, planning – budgeting timetables were established, and the

participation of the Local Finance Committee (LFC) in the review and prioritization of development programs, projects and activities has been strengthened.

While the goal of effectively linking office plans to budget remains to be a challenge, the Province has made efforts to achieve this end through schedule synchronization in the preparation/ prioritization of Annual Investment Plans, Budgets and the Work, Financial and Implementation Plans of the various offices/ units.

Financial Control and Management and Accounting System

It has been an effort of the Provincial Government to improve its financial management systems through the use of Information-Technology-based processes. Consistent with the national directive, the Province is already implementing the Electronic-New Government Accounting System (E-NGAS) which, if fully functional, will facilitate the proper recording, updating and generation of financial reports. The E-NGAS is also expected to improve the recording of financial transactions related to the maintenance of properties and facilities of the Provincial Government. Necessary to this endeavor, however, is the augmentation of human resources for the Financial Offices who are technically capable to operate and run the systems. Future outlook of the E-NGAS implementation is the interfacing of financial data from the treasury, budget, accounting and the property management functions. Separate initiatives that can run parallel with the system are the Financial Transaction Tracking System (FITTSYS), Real Property tax Information System, Computerized Billing System and the Electronic Tax Revenue Assessment and Collection System (E-TRACS).

Status	Municipalities
Implemented	Albuquerque, Alicia, Anda, Antequera, Baclayan, Bailiuan, Batuan, Bien Unido, Bilar, Calape, Candijay, Catigbian, Clarin, Corella, Cortes, Dagohoy, Danao, Dausi, Dimiao, Duero, Garcia Hernandez, Getafe, Guindulman, Jagna, Lila, Loay, Loboc, Loon, Mabini, Maribojoc, Panglao, Pilar, Pres. Carlos P. Garcia, Sagbayan, San Isidro, San Miguel, Sevilla, Sierra Bullones, Sikatuna, Tagbilaran City, Talibon, Trinidad, Tubigon, Ubay, Valencia
Not Implemented	Buenavista, Carmen, and Inabanga

Source: Provincial Treasurer's Office



Table DevAd 8 – Status of E-TRACS Implementation in Bohol

On the other hand, the auditing system is currently operating under the generally accepted auditing procedures and ensures the appropriateness and propriety of all financial transactions. To enhance the system, initiatives are currently undertaken to set common and uniform auditing procedures and requirements for each financial transactions. In this manner, audit processing is facilitated for all offices concerned. The Provincial Government has also formally established the Provincial Internal Auditor's Office to effectively safeguard the funds used by the provincial government during its operations.

In line with the transparency initiative of the government, the Provincial Government has streamlined the procurement process. It has also institutionalized the Provincial Procurement Management Unit (PPMU) to make the procurement of goods and services in the Provincial government compliant to the provisions of the Republic Act 9184 (The Government

Procurement Reform Act). With transparency as its guiding principle, there is a significant change in the procurement processes with a shift to public bidding starting 2014 as the primary mode of acquiring goods and services in the provincial government. In this way, the public is assured that the finances of the government were judiciously and conscientiously used.

Method of Procurement	Number of Procurement Activities/ Contract				
	2011	2012	2013	2014	2015
Public Bidding	521	297	459	1,138	1,081
Alternative Mode:					
Negotiated Mode	1813	475	1304	879	667
Shopping	1846	1897	1403	62	149
Direct Contracting	155	158	121	192	147

Table DevAd 9 – Procurement Activities/Contracts in the Provincial Government of Bohol, 2011-2015

In related matter, the Local Finance Committee (LFC) has been actively operating to manage the financial operation of the Provincial Government and tackle/resolve issues with financial concern. With the expanded membership of the LFC, its effectiveness has been enhanced to encompass real property assessment, human resource development and legal parameters of the finance sector.

ISSUES AND CONCERNS OF THE SUB-SECTOR

- IRA-Dependent Provincial and Municipal Government Operation (PTO, PASSO)
 - Low-level locally – generated taxes and revenues, unrealized income estimates for local revenues
 - Some government real properties/ fixed assets remained underutilized for operational / economic and income-generating activities
 - No dedicated and separate office at the Provincial Government to handle the development and management of economic enterprises (PTO, PEMO)
 - Absence of local government economic enterprises or existing economic enterprises not maximized nor effectively operating as a stand-alone entity
- ETRACS province-wide connectivity not yet implemented (PTO, PassO, BICTU)
- Migration of RPTIS data for existing system to ETRACS still has to be resolved with some MLGUs
- Outdated schedule of market values
- Several municipalities have incomplete or unapproved cadastral surveys and tax maps
- Boundary disputes between LGUs affecting real property tax assessment and collection

- Issues on proper recording of assets for procurement transactions that involve transfer of assets from the Provincial Government to National Government Agencies (PAccO and offices concerned)
- Reconciliation of inventory of government properties, facilities and equipment not yet completed
- Increasing operational expenditures and budgetary requirements of government offices
- Resources and appropriations not fully utilized/ maximized during the budget year
- Timeliness of reconciliation and liquidation of cash advances in LGUs not fully complied
- Challenges in ensuring the readiness of LGUs to implement the new e-NGAS/PPSAS that require technical/ users training, hardware support, and reconciliation/ conversion of accounts
- Need to sustain the effectiveness of the LGU Accounting Systems (ex. FiTTSys and e-NGAS)
- PGBh Compliance Mechanism not fully understood by offices which affected the compliance to COA's and PIAO's audit findings and recommendations
- Lack of financial guidelines/ policies in the PGBh for some financial transactions
- Barangay LGUs/ NGOs/ POs lack the competency in making liquidation reports of projects and other financial processes that may result to delay/ non-release of future assistance
- There is disconnect between plans and budgets of some offices and outputs/results of assessment and planning activities are not made as bases in budget preparation
- Delay and long process of procurement at the PGBh
- Lack of Manpower in different financial offices
- Unmet office space requirements/ stock & records rooms of finance offices (Treasurer's Office, Assessor's Office, PPMU)

SECTOR : DEVELOPMENT ADMINISTRATION
SUB-SECTOR : LOCAL GOVERNANCE

SITUATIONER

Mandated by the provisions of the Local Government Code of 1991, the Provincial Government of Bohol (PGB) continues to perform its functions and responsibilities guided with the adherence of promoting the general welfare of the people. The years 2011-2015 were challenging years of the Province of Bohol. The Boholanos were tested with their ability to rise above the trials of natural and man-made calamities. The leadership skills of its officials were tried especially during the tumultuous year 2013. Through its departments, attached offices and hospitals, the PGB provided the overall supervision for the implementation of programs, projects and provision of basic services throughout the province's 47 municipalities and 1 component city.

With the close coordination and collaboration between the executive and legislative branches, the PGB has managed to push through its executive and legislative agenda and development priorities and managed initiatives for agriculture and tourism development, social welfare and health services enhancement, environmental protection and preservation, infrastructure facilities build-up, investment promotion and industrial development. Revenue generation measures and financial management practices are implemented to sufficiently support government operations. Furthermore, the PGB has continued to enhance the organization's human resources as well as its physical assets and facilities to correspondingly perform and address the growing and multifaceted needs and demands of the Boholano people.

Guided by its Government Development Framework of **InSPIRED** (Infrastructure, Social Well-being and Shelter, Peace and Order, Interconnectivity, Reform in Governance, Equitable Economic Growth with Environmental Sustainability, Disaster Risk Reduction & Management – Climate Change Adaption) **HEAT-IT** (Health & Sanitation, Education & Skills Development, Agriculture & Food Security, Tourism & Livelihood, Information Technology) **BOHOLano** Culture and Heritage Preservation towards the **BIG LEAP** (Bohol's Inclusive Growth Leads to Equitable and Accelerated Prosperity), which were crafted and adopted through months of consultation and collaboration with all sectors of society, the PGB continues to initiate efforts to fully attain its aspiration to become a prime eco-cultural tourism destination and an agro-industrial province. The PGB also works on making its organization as responsive and dynamic as possible to deliver quality and effective services.

PGBs Performance on Governance

True to its overarching development framework, the PGB manages all its businesses and operations within the province through sustained and coordinated efforts with the end view of maintaining high levels of participation among all stakeholders, steered by the principles of accountability, transparency and responsiveness.

Looking into the Local Governance Performance Management System (LGPMS) Report in the previous years, Bohol Province has attained considerably high performance ratings in upholding the appropriate fundamentals of governance. The primary factor for the sustainable progress in the various developments is the Provincial Government of Bohol's successful promotion of people participation in decision-making, planning, and consultative processes in government. The significant representation of the civil society and the marginalized groups in various special bodies and advisory councils is a concrete system of this participatory advocacy. As of year 2015, there were about 42 special bodies/ councils that were organized and actively operating in the province. The table below shows the list of these Councils.

Local Special Bodies	Local Special Bodies
<ul style="list-style-type: none"> Provincial Development Council Provincial Peace and Order Council Provincial Disaster Risk Reduction and Management Council Provincial Health Board Provincial School Board Provincial Nutrition Council Provincial Tourism Council Bohol Investment Board 	<ul style="list-style-type: none"> Provincial Anti-Drug Abuse Council (PADAC) Provincial Youth Development Council Loboc Watershed Management Council
<ul style="list-style-type: none"> Provincial Cooperative Development Council Local Finance Committee Bids and Awards Committee 	<ul style="list-style-type: none"> Abatan River Management & Development Council Wahig-Inabanga Watershed Management Council Carood Watershed Management Council Bohol Arts, Culture and Heritage (BACH) Council Provincial Coordinating Council on Agro-Fishery (PCCAF) Provincial HIV and Multi-Sectoral Council (PHAMC) Provincial Council Against Tuberculosis (ProCAT) Bohol Information and Communication Technology (B-ICT) Council Danajon Double Barrier Reef Management Council
<ul style="list-style-type: none"> Provincial Sub-committee for the Welfare of Children 	
<ul style="list-style-type: none"> Price Coordinating Council Road Sector Committee Human Resource Development Committee Joint Validation and Authentication Committee (JVAC) Provincial Auction Sale Committee (PASC) Provincial Land Use Committee Management Executive Board (MEB) Coastal Law Enforcement Council (CLEC) Bohol Integrated Water Resource Management Board Provincial Personnel Selection Board Provincial Census and Statistics Coordinating Board Provincial Early Childhood Care Development Committee 	<ul style="list-style-type: none"> Executive-Legislative Advisory Council Provincial Peace Forum Committee Provincial Executive-Judiciary Council Sikatuna Award Committee Provincial Appraisal Committee Provincial Senior Advisory Council
Source: Governor's Office	

Table DevAd 9 – List of Local Special Bodies in the Provincial Government of Bohol, CY 2015

The operation of these Councils has also allowed Non-Government Organizations (NGOs) to participate actively in the discussion/ planning systems that promote better and informed decision-making processes. Currently, there are about 40 Civil Society Organizations in Bohol that have been accredited by the Provincial Government to participate and be involved in all these councils. However, there are more NGOs that are operating in the province that have become instrumental in the implementation of various development programs and projects. NGOS, have also formed alliances, such as the Bohol Alliance of Non-Government Organizations (BANGON), to effectively initiate projects and give significant representation in various councils.

Greater stakeholder participation in governance increases community ownership of government initiatives and eventually will increase chances of success. The Provincial Government has also consistently involved civil society, women, and marginalized sectors for partnerships in implementing various social programs as well as for programs for poverty

reduction, tourism, investment promotion, cultural preservation and environmental management.

On Social Governance, Bohol continues to provide for appropriate support for health services, education, peace and security, and disaster risk management. It was, however, noted that there is a need to continue to support the development of socialized housing and mass dwellings to address the increasing demand of households, especially those who were affected by the devastation brought about by the Bohol Earthquake of 2013. While health care services are continually being enhanced in

Bohol through its 10 operated hospitals located in various municipalities throughout the province, it is important to improve further the quality of their services through the acquisition of equipment, capability enhancement of their personnel and the development of each hospital into specified areas of specialization. Furthermore, enrichment of the primary health care, maternal and child care services at the barangay level should be a priority program. The deployment of rural health nurses under the Nurse Deployment Program (NDP) is a good step towards better community health. However, the issue of capacitation should also be addressed considering that the health and sanitation issues of the local communities are always multi-dimensional.

Date	Municipality	No. of Barangay Benefited	No. of Beneficiaries served		
Aug. 10, 2010	Pres. CPG	23	8,807		
Oct. 19, 2010	Pilar	21	10,540		
Dec. 15, 2010	Balilihan, Catigbian, Sevilla, Batuan	23	13,307		
Feb. 21, 2011	San Isidro	12	11,578		
April 19, 2011	Mabini	22	11,795	No. of HEAT/ HEAT-IT Caravans since 2010	23
June 21, 2011	Alburquerque	11	8,695		
Sept. 2, 2011	Guindulman	19	11,488		
Nov. 8, 2011	Talibon	25	15,107		
Jan. 11, 2012	Antequera	21	9,797	Total no. of barangays benefitted	571
March 8, 2012	San Miguel	18	9,605		
April 24, 2012	Lila	18	11,175		
June 19, 2012	Sikatuna	10	6,047		
Oct. 25, 2012	Valencia	35	10,342	Total no. of beneficiaries served	264,824
Jan. 21, 2013	Clarín	24	9,842		
March 13, 2013	Trinidad	20	12,000		
Sept. 4, 2013	Ubay	44	25,000		
March 11, 2014	Anda	16	9,215		
June 18, 2014	Catigbian	22	10,500		
August 28, 2014	Carmen	29	15,230		
Nov. 28, 2014	Dauis	12	11,215		
March 4, 2015	Bilar	19	8,122		
June 17, 2015	Inabanga	50	16,502		
Nov. 26, 2015	Callape	33	8,915		
TOTAL		571	264,824		

Source: Governor's Office – Special Projects Section

Table DevAd 10 - Number of HEAT-IT Caravans and Number of Beneficiaries

Another program of the PGB that has brought the services of the local government directly to its constituents is its regular conduct of the HEAT-IT Caravans. This program has made the services of the provincial government more accessible by the public. The activity involves bringing assistance to the different barangays in Bohol by all the agencies of the provincial government, national line agencies, private sector and civic organizations.

Other notable programs of the Provincial Government of Bohol that bring governance and support directly to the public are being channeled through its Constituency Services Section. As of the end of 2015, the government has provided a total of 6,584 aid that include burial and programs that are classified as soft and financial assistance. Institutionalizing these programs will benefit especially the youth, agriculture workers and the children in the far-flung communities within the province. However, it should strictly follow the transparency and accountability thrust of the government sector.

YEAR	Burial	NUMBER OF BENEFICIARIES	
		FINANCIAL	
		SOFT (Foundation Day, Socio Cultural Activities, Volleyball & Basketball Tournament)	HARD (Construction, Rehabilitation, Repair of Farm to Market Road, Brgy. Hall, Day Care Center & other Infra Projects)
2011		843	513
2012	312	799	757
2013	168	416	423
2014	47	448	427
2015	315	770	346
TOTAL	842	3,276	2,466

Source: Governor's Office – Constituency Services Section

Table DevAd 11 – Assistance Provided through the Constituency Services Section

On the other hand, the need to increase awareness of people on disaster management has been identified by the PGB as crucial to ensure a safer province. Consequent to this, the PGB has coordinated with the Municipal LGUs to develop and operate their Disaster Risk Management Plans and revitalize their local Disaster Coordinating Councils. However, there is a need to continue to provide financial support for peace and order and public safety initiatives in Bohol. Local governments, while already stepping up their management plans, must hand in hand collaborate with each other to ensure readiness to manage disasters, coordinate relief operations, rehabilitation and other related services.

In terms of Economic Governance, the PGB continues to pour in its full support for the development of its key economic drivers – agriculture and tourism. For the agriculture sector, the Province has been significantly active in supporting for its growth and productivity and marketing. Services have been provided to shift and widen the perspective of the sector from family subsistence production to agri-based entrepreneurship. While much have been done, due focus should continue on research and development, technology-integration and marketing. On the other hand, the tourism industry in Bohol continues to flourish and growing up to its full potential. Policies and government facilitation has been crucial to this development to ensure a business-friendly environment, support for business promotion, provision of necessary support services such as the One-Stop Shop, business placement incentives, and private-government collaboration.

On Environmental Governance, Bohol has been successful in ensuring an effective management of forest, freshwater, coastal marine and urban ecosystems. This is brought about through the concerted efforts and collaboration between the provincial government, local municipal governments, the NGOs, and the general public. Initiatives have been undertaken for the protection, management, rehabilitation of Bohol's rich and unique environment. However, there is still a need to closely monitor and assess the over-all impact

of the growing urbanization of the province, especially in built-up areas. Environmental infrastructures need to be provided and developed to address concerns on pollution control, solid waste and waste water management.

In the area of public finance, the promotion of financial accountability has been pursued by the PGB through the operation of sound financial system and internal controls. Electronic-based systems have been installed in all of the financial offices performing budgeting, accounting and treasury functions. These initiatives can be improved further through the integration of these electronic-based systems for financial information consolidation and effective report generation to facilitate sound decision-making processes and promotion of fiscal transparency. Specific guidelines on financial transaction accounting, internal control and auditing as well as on procurement must continually be observed. Process flows and systems studies shall also be conducted to find ways to enhance and improve the current systems.

For policy-making and implementation, the PGB has employed participatory processes to ensure broader discussion on the rationale as well as the foreseen effects of initiatives. Policies should be responsive and aligned with the development fundamental of the province. There is, however, a need for inter-office coordination and stakeholder consultation in the implementation and enforcement of these policies for better and effective participation and support. Coordination is also necessary especially when the implementation of said policies will affect and involve several local governments, agencies and stakeholders.

Several noteworthy initiatives and systems have also been implemented in the Provincial Government that contributed to the effective management of its operations. The Management Executive Team (MET), to cite one, was created with the vision of increasing transparency at the top management level, improving inter-office collaboration and policy-decision-making. The MET is also an appropriate body to enhance coordination between the executive and legislative departments of the PGB. It is, however, important that the members of the MET discuss, on regular basis, policy implementation issues and concerns and provide the necessary mitigating strategies to improve PGB operations. Policy and systems review also needs to be undertaken by the team.

In accordance with the Anti-Red Tape Act of 2007, the PGB has also initiated the crafting of the Citizen's Charter that officially provides the general public the service standards of all frontline services of the Provincial Government. The Charter, which identifies the step-by-step procedures of availing specific services, is a management tool geared towards promoting transparency and preventing graft and corruption in government offices. Each PGB Office/Unit has prepared their individual charters and has posted the same in conspicuous area of their office for the guidance of the public. This strategy will also help in encouraging greater efficiency among government workers. Local governments throughout the province are also undertaking this initiative, appreciating the benefits of such charter for its constituents.

Correspondingly, the evaluation of performance of PGB offices and employees is enhanced through the introduction of the Strategic Performance Management System (SPMS) that provides a more logical and clearer evaluation tools to fully account for employee, section, division and office accomplishments. Standard performance ratings were developed and

approved as contained in the Implementing Rules and Regulations (IRR) of the SPSM, as crafted by the Performance Management Team (PMT). Also built-in to the said evaluation system are the incentive mechanisms that may help motivate government personnel to perform better.

With the end view of streamlining the PGB bureaucracy to effectively perform its mandated functions and respond effectively to the growing needs and evolving development priorities of Bohol, the Provincial Leadership, thru the Human Resource Management and Development Office (HRMDO) is pursuing the enhancement of PGBh structures. With this, sessions are undertaken to review PGBh offices' organizational, functional and personnel structures. Meanwhile, the Scrap and build strategy and Competency-based qualification standard are also being employed to address concerns on appropriate human resource needs of offices. Formulation of Competency Based Qualification Standards and implementation of Competency-Based Recruitment and Selection Processes are also given priority.

Human Resource and Personnel Development

The Provincial Government of Bohol's offices and satellite units are manned by about 1,270 regular employees. This number represents 85% of the total number of plantilla / career positions of the PGB. It is worthy to note that the human resource composition of the organization is gender-balanced with almost the same number of female and male employees. In 2015 there were 656 (52%) female employees and 614 (48%) male employees. Of the total filled career positions, 59% (737) are first level positions while 41% (508) are of second level positions. On the other hand, there were 123 personnel under

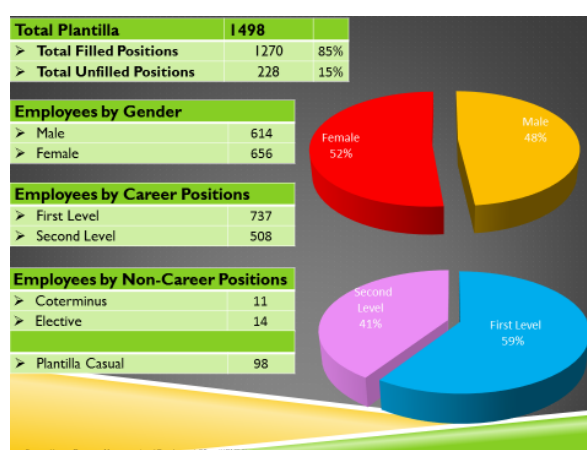


Figure DevAd 8 – Provincial Government Personnel Profile, 2015

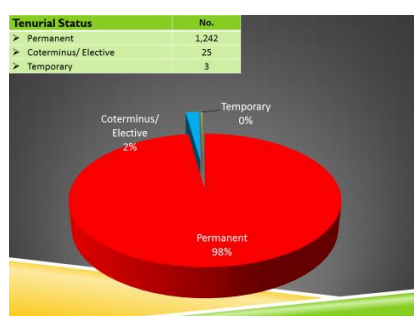
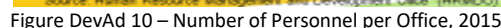


Figure DevAd 9 – Tenurial Status of Provincial Government Personnel, 2015

the non-career position category of the PGB. This group² of personnel is composed of elective/ cotermminus officials and plantilla casuales. The PGB has been hiring contractuales and job order casuales to perform specific specialized tasks for certain development projects and/or to augment personnel to address increasing workloads of offices and units. There are 1,242 (98%) employees on permanent status, 25 (2%) on cotermminus/elective status and 3 on temporary tenurial status.

² Job order casuales are not included in this category



Provincial Government Personnel Profile

Age Group

Age Group	No.
21-40	234
41-60	930
61-65	106

Figure DevAd 11 – Classification of Provincial Government Employees by Age, 2015

470

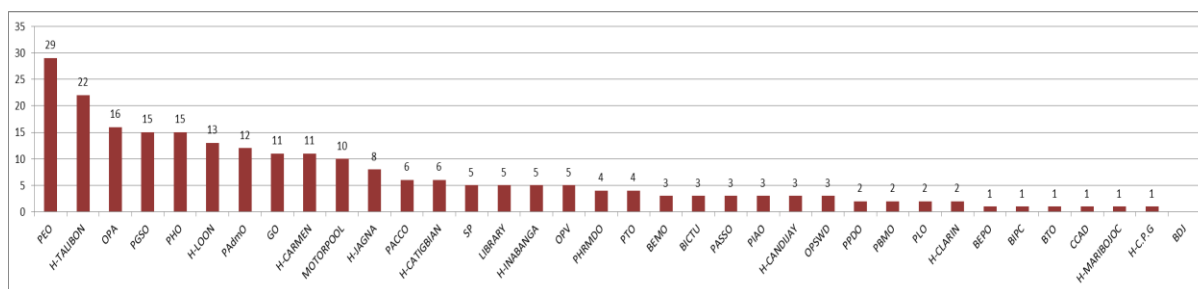


Figure DevAd 12 – Classification of Provincial Government Personnel by Age per Office, 2015

In the 41-60 age-bracket, the Provincial Health Office has the most number of personnel aging 41-60 years old with 105. This is followed by the Provincial Engineer's Office with 81 personnel. It should be noted that maternal, child and health programs of the government needs skills and knowledge for it to be fully imparted to the recipients. This is the best reason for the hiring of personnel this early so that these skills and knowledge are to be fully imbibed by these newly hired.

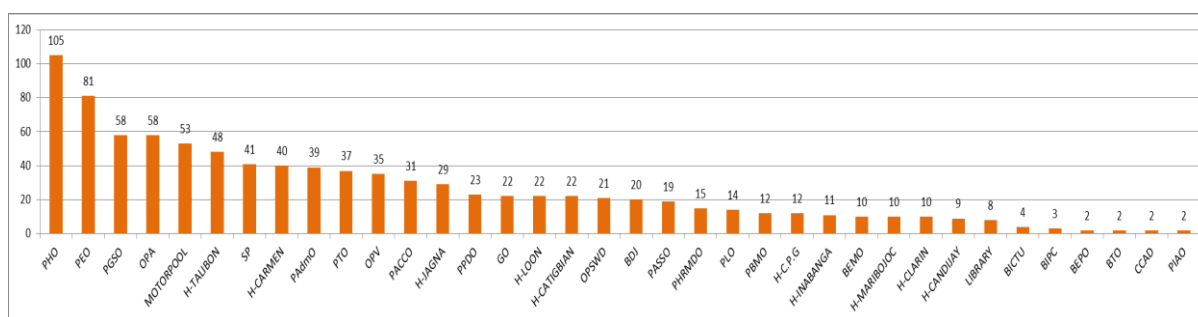


Figure DevAd 13 – Classification of Provincial Government Personnel by Age per Office, 2015

As to the retiring age bracket of 61-65 years old, the Provincial Engineer's Office has the most number of personnel with 12 persons. This is the same number of persons that belong to the Provincial General Services Office. Closely following these offices is the Sangguniang Panlalawigan with 8 retiring personnel. Within the provincial government, eight offices have no regular personnel that belong to this age bracket and include the GO, BEPO, BIPC, BTO, CCAD, BICTU, PIAO and Candijay Municipal Hospital.

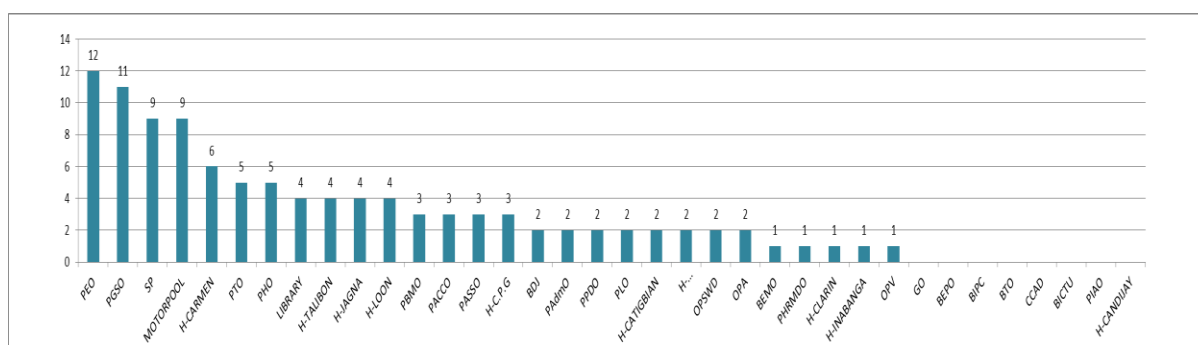


Figure DevAd 14 – Classification of Provincial Government Personnel by Age per Office, 2015

In terms of employee assignment on a per office basis, the Provincial Health Office (PHO) employs the highest number of employees accounting for 9.84% of the total number of filled career positions. This is closely followed by the Provincial Engineer's Office (PEO) at 9.61% to the total regular plantilla employees. On the other hand, the satellite units of the Governor's

Office such as the Bohol Employment and Placement Office (BEPO), Bohol Tourism Office (BTO) and the Center for Culture and Arts Development (CCAD) employed the least number of regular career personnel, each accounting only for 0.23% of all regular personnel. With these characteristics on employee deployment and assignment, it is necessary to review the appropriateness on the number of these personnel as well as their capacities to effectively perform the mandated functions of each office or unit.

Personnel capacity-building efforts of the PGB are continuing with the goal of enhancing employee competencies and skills to effectively provide government services. Through the Human Resource Management and Development Office (HRMDO), initiatives have been undertaken to assess the training needs of employees and mechanisms have been developed to properly address these needs with due consideration to the financial and technical resources of the PGB. Training programs, through the Training and Development Management System, have been implemented by each office as well as those sponsored by governments and funding agencies. Most notable is the assistance from the Philippines-Australia Human Resource Development Facility (PAHRDF) that provides short and long-term trainings and scholarships to qualified PGB employees. A system of monitoring these trainings is also installed and operated, requiring each beneficiary employee to implement their re-entry plans. Other forms of capacity-building strategies such as informal coaching and mentoring are also employed by the PGB. Furthermore, to maximize and tap internal human resources, a pool of PGB trainors has been formed to provide training programs to employees for a particular field of expertise.

To promote better welfare and help employees go through the prevailing economic crisis, the Provincial Government has implemented the salary standardization. Through the years, regular salary increases have been given to employees in accordance with appropriate national laws. Step increments on salaries were also afforded to employees based on their years of service. Furthermore, the employees' awards and incentives mechanism is already instituted and implemented.

The introduction of Information-Technology (IT) – based systems to promote better employee services and support mechanisms are also being undertaken by the PGB. Through the Bohol Information and Communications Technology Unit (BICTU), the electronic logging system to record an employee's daily time of work has been installed and operated. This will enable the system to produce electronically-generated daily time records. Also, the IT team has developed the Online Leave Administration System, which is envisioned to enhance and hasten the leave application and approval processes. Another system introduced is the Centralized Payroll System that is expected to speed-up the payroll preparation process. A new innovation to better service is the opening of the provincial

Name of Information System	Office where systems are being administered
Human Resource Information System (HRIS)	BICTU
Financial Management Information System (FMIS)	BICTU
eProcurement System	BICTU
Provincial Records Inventory System (PRIS)	BICTU
Human Resource Management System (HRMS)	BICTU
Financial Tracking System (Claims)	BICTU
Online Payroll for Job Order Workers & Contractual Employees	BICTU
Enhanced Tax Revenue Assessment & Collection System (ETRACS)	BICTU and Municipalities
Bohol Skills Registry System (BSRS)	BICTU
GeoServer	BICTU / PPDO-GIS
Provincial Environment Management Information System (PREMIS)	BICTU / BEMO
Provincial Monitoring and Evaluation Information System (PROMEIS)	BICTU / PPDO
Enhanced-New Government Accounting System (ENGAS)	BICTU / PAccO
eBudget	BICTU / PAccO
Financial Transaction Tracking System (FITTSys)	BICTU / PAccO
Real Property Information System (RPTIS)	PAasO
Enhanced Real Property Information System (RPTIS)	BICTU / PAasO
Bohol Provincial Website	DOST / BICTU
Tarsier Website	BICTU
PIAO Website	BICTU
BICTU Website	BICTU
EdCom Website	BICTU/EdCom
OPA Website	OPA/BICTU & OPA
OPV Website	BICTU / OPV
PBMO Website	BICTU
PAccO Live Website	BICTU / PAccO
OPSWD Website	BICTU
New Bohol Airport Project Website	BICTU
PPMU Website	BICTU
PPDO Website	PPDO

Table DevAd 12 – Websites at the Provincial Government of Bohol, 2015

government offices to the cyber world with the activation of official portal for each provincial office. While all of these new systems are already in place and are gradually implemented, continuing education and information campaign efforts should be undertaken. Assessment and consultation should also be made as feedback mechanisms to ensure the effectiveness and practicality of these systems and how well they are received by all PGB personnel.

On the other hand, the role of the employees' organization – Bohol Provincial Employees League (BOPEL) has become evidently important in ensuring that employees' welfare are promoted and protected. The League has been active and is representing the employees' interests in several management committees and bodies within the Provincial Government. However, further pro-active participation of the league is necessary to enhance employee productivity and to promote human resource efficiency. The need to lobby for the provision of other employee welfare facilities and services in the organization is also recognized as important.

Local Legislation

The cooperation among the Executive and Legislative branches of the Provincial Government of Bohol is seen as the underlying factor in the sustained development of the province through the years. The Sangguniang Panlalawigan has been pro-active in enacting relevant legislative measures to respond to various socio-economic issues and opportunities in Bohol. Though the years, the august body has passed relevant resolutions and ordinances, to include the Gender and Development Code, Bohol Organic Agriculture Code, Health and Sanitation Code and the Revised Bohol Investment Code.

CODES	YEAR ENACTED
Revenue Code	1997
Administrative Code	1998
Environment Code	1998
Children's Code	2000
Bohol Investment Code	2001
Bohol Arts Cultural Heritage Code	2001
Tourism Code (Null & Void)	2009
Gender and Development Code	2009
Bohol Organic Agriculture Code	2011
Health and Sanitation Code	2013
Revised Bohol Investment Code	2014

Table DevAd 13 – Provincial Codes Enacted by the Sangguniang Panlalawigan of Bohol

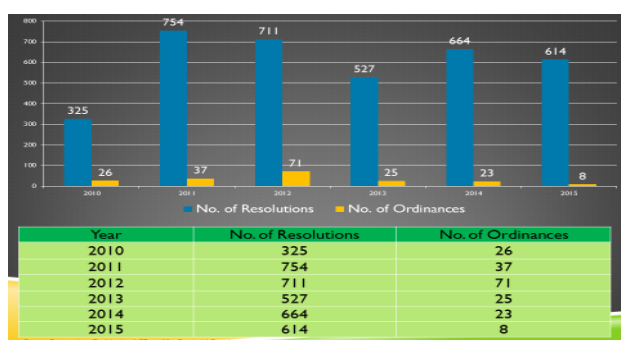


Figure DevAd 14 – Resolution and Ordinances Passed by the Sangguniang Panlalawigan,

The provincial legislative council had been adaptive to the various concerns of the constituents by passing relevant resolutions and ordinances, mindful that these would benefit the greatest number of Boholanos. Furthermore, the local legislature were able to conduct extensive inquiries and consultations, in aid to legislation, on pressing matters confounding the many issues in the governance and operation of the province and its people.

Vested through the Local Government Code, the Sangguniang Panlalawigan was able to accredit various civil society groups as partners in the development of the Province of Bohol. It could not be more emphasized that these civic organizations had been able partners of the local administration in the assessment, implementation, monitoring and evaluation of the social, cultural, economic and physical effects of the various plans and programs for the upliftment of the lives of the Boholanos.

Through Sangguniang Panlalawigan Resolution No. 2013-435

1. Bol-anon United Sectors Working for the Advancement of Community Concerns, Inc. (BUSWACC, Inc.)
2. Association of Writers and Radio Announcers Foundation, Inc. (AWRAFI)
3. Center for Local Governance - Holy Name University
4. Bohol Federation of Women Cooperatives (BFWC)
5. Bohol Association of Women in Government Service (BAWIGS)
6. Bohol Island Operators and Divers Multi-Purpose Cooperative
7. Community Awareness and Services for Ecological Concern, Inc. (CASEC)
8. Participatory Research, Organization and Communities and Education Towards Struggle for Self-reliance (PROCES) – Bohol Incorporated Community Resource Development Center
9. Bohol Integrated Development Foundation (BIDEF)
10. Totolan Multi-purpose Cooperative
11. University of Bohol Community Development Foundation, Incorporated (UBCDFI)
12. Soil and Water Conservation Foundation, Inc.
13. United Families for Transformational Development, Inc.
14. Women's Organization for Progress and Development, Incorporated
15. Bohol Island Tour Guides Association of the Philippines, Incorporated
16. FCB Foundation
17. Women's Development Center, Inc. (EDCI)
18. Bohol Provincial Employees Multi-Purpose Cooperative (BOPE-MPC)

Through Sangguniang Panlalawigan Resolution No. 2014-008

1. Bohol Federation of Disabled Persons, Inc.
2. Bohol Alliance of Non-Government Organizations (BANGON)
3. PADAYON Bohol Marine Triangle Management Council, Inc. (PADAYON BMTMCI)
4. Bohol Goodwill Volunteers, Inc.

Through Sangguniang Panlalawigan Resolution No. 2014-293

1. National Auxiliary Chaplaincy Philippines (NACPhil) Incorporated, Bohol Chapter

Through Sangguniang Panlalawigan Resolution No. 2014-324

1. The Federation of Senior Citizens Associations of the Philippines (FSCAP) – Bohol Chapter

Through Sangguniang Panlalawigan Resolution No. 2014-568

1. Bohol Association of Hotels, Resorts and Restaurants (BAHRR)

Through Sangguniang Panlalawigan Resolution No. 2014-572

1. World Vision Development Foundation

Through Sangguniang Panlalawigan Resolution No. 2015-057

1. Carmen Samahang Nayon Multi-Purpose Cooperative

Through Sangguniang Panlalawigan Resolution No. 2015-382

1. Bohol Association of Farmers and Fisherfolks (BAFF)
2. LIFE Philippines Foundation (Bohol), Inc.

Through Sangguniang Panlalawigan Resolution No. 2015-491

1. Small Water Impounding System Association Federation of Region VII (SWISA)
2. Integrated Midwives Association of the Philippines (IMAP), Inc.

Through Sangguniang Panlalawigan Resolution No. 2015-605

1. Carmen Multi-purpose Cooperative (CMPC)
2. Bohol Association of Natural Livestock Growers (BanaLiG)
3. Cogtong Aqua Venture Multi-Purpose Cooperative
4. International Care Ministries Foundation, Inc.

Through Sangguniang Panlalawigan Resolution No. 2016-007

1. Guio-ang Agrarian Reform Community Beneficiary Cooperative

Table DevAd 14 – Civil Society Organizations Accredited by the Sangguniang Panlalawigan, 2013-2015

Essential to the effective local legislation is the harmonization of the executive and legislative agenda which will ensure the execution, implementation or enforcement of applicable local laws and directives. With the multiplicity of local special bodies in Bohol, there is a need for continuing collaboration and coordination with the Sangguniang Panlalawigan, especially on matters relating to social health and welfare, public finance, peace and order, tourism and agriculture development, environmental protection and infrastructure development. Consultation processes should be heightened with the various stakeholders of society, which is essential in crafting legislative agenda.

The use of information technology is also being employed by the SP with the development and operation of their Legislative Tracking System (LTS). The system is being used as an effective tool for data banking, monitoring, tracking and retrieval of all SP resolutions and ordinances. However, there is still a need to improve the functionality of the LTS, allowing it to be more accessible by users.

Correspondingly, coordination with the different Sangguniang Bayans should also be improved especially on referrals of ordinances and other legislative requests. This will ensure the harmonization and synchronization of legislative measures local governments.

On the other hand, it is essential to continually uplift the human resource capacities of the legislative branch in order to enact quality legislation. This may be done through competency-building trainings, utilization of proper legislative tools and exposures on agenda development.

Planning Mechanisms and Strategies

The planning system and processes of the PGB are operating and following appropriate national directives and provisions of the Local Government Code. Current planning timeframes are derived from the Joint Memorandum Circular No. 1 – 2007 that sets the required schedules and processes to harmonize local plans to regional/national plans as well as synchronize planning initiatives with the local budgeting systems. Collaborative efforts of all offices, spearheaded by the Planning and Budget departments, have improved the planning and budgeting cycles of the PGB, leading to the on time preparation and approval of Annual Plans and Budgets. The PGB was able to formulate various development and strategic plans that became basis for the coordinated developments happening throughout the province. Furthermore, these prepared and approved plans, by the provincial Sanggunian and the Provincial Development Council (PDC), became the

Development / Strategic Plan	Planning Coverage
Provincial Development and Physical Framework Plan (PDPFP)	2010-2015
Bohol Integrated Water Supply Master Plan	2013-2035
Eco-Tourism Development Plan for Panglao Island	2010-2035
Water Supply, Sanitation and Sewerage Sector Master Plan for Bohol Province (W4SMP)	1998-2030
Bohol Agriculture Master Plan (BAMP)	2006-2026
Bohol Tourism Master Plan	2006-2025
Bohol Integrated Transport Plan Framework	2013-2020
Bohol Road Safety Action Plan	2014-2018
Strategic Financial Management Plan	2014-2018
Bohol Provincial Disaster Risk Reduction Management Plan (PDRRMP)	2014-2016
Bohol Information System Strategic Plan (BISSP)	2014-2016
Bohol Provincial Road Network Development Plan (PRDP)	2011-2015
Human Resource Management and Development Plan (HRMDP)	2011-2015
Provincial Commodity Investment Plan for Seaweeds	2016-2018

Table DevAd 15 – Provincial Development/Strategic/Master Plans, 2010-2016

foundations for other relevant plans and the development and strategic plans of the different Local Government Units (LGUs) in the province. However, strict observance of relevant provisions in the plans should be monitored by an existing Monitoring and Evaluation Team of the PGB.

The PGB, through the updated Bohol Provincial Development and Physical Framework Plan (PDPFP) for the period 2016-2028, sets its spatial and development priorities for Bohol for the next 12 years. This plan has become one of the bases for the preparation of each office's strategic plans, investment programs, operational plans and operating budgets. Development thrusts of Bohol has always gone through and approved by the Provincial Development Council (PDC) and the Sangguniang Panlalawigan. These avenues for discussions have allowed multi-stakeholder and gender-sensitive participation in the planning and decision-making processes. In recent years, Bohol's development path has been set through its "InSPIRED HEAT-IT BOHOL toward BIG-LEAP" Government Development Framework, which not only guided the priorities of the PGB but also the other local governments of the province. In the said agenda, priorities are set for poverty reduction, economic growth, tourism and agriculture development, environmental sustainability, social welfare development and good governance. As a means of promoting transparency and creating an environment with well-informed constituents, these development agenda are disseminated to the general stakeholders and partners for their information and support. These plans have become a beacon for success for the Provincial Government and correspondingly as guides for the Boholano people to determine whether the government has accomplished what it has vowed to performed. On the operational point of view, offices and units of the PGB has crafted and implemented their own Strategic Plans to plot their medium-term strategies. However, on the organizational perspective, the Provincial Government has yet to fully implement its corporate strategic plan and to ensure a shift of the mindset of its personnel towards this corporate behavior so as to ensure that the organization is moving towards the same direction and those activities/ projects of component offices/ units are complementing and supporting each other.

As a strategy to encourage inter-LGU collaboration and alliances, the PGB is advocating and pushing for the Integrated Area Development (IAD) approach to spur economic growth and address development concerns of the province. The Bohol Integrated Area Development (BIAD) clusters have been formed to encourage local governments to work together in pursuing their common development priorities, thereby promoting cost-counterparting arrangements and responsibility-sharing in the implementation of development interventions such as common service facilities. The IAD strategy can therefore be used to strengthen less progressive local governments as they collaborate with other more progressive municipalities. Along this line, the cluster itself can develop its own growth centers and urban areas that all the member municipalities can collectively benefit. Currently, the IAD approach has been used to developed infrastructure facilities in the province like sanitary landfill, bulk water supply, and waste water treatment facilities. It is important to fully institutionalize and formalize the alliances between the LGUs to pursue these projects. This will ensure a more sustainable and stable partnership among governments that goes beyond political administrations.

On another aspect of the planning system, the PGB has emphasized the importance of building a reliable and updated database system that allows clients, stakeholders and the general public to access the wide spectrum of Bohol's socio-economic information, poverty indicators and environmental and physical features. The presence of such database will enhance planning processes, facilitate the crafting of better quality project proposals and improve project evaluation and monitoring. Some of the database systems currently available include the Natural Resource Database System, Socio-Economic Profile Database System, Roads Database and database on Agriculture and Infrastructure. However, it can be noted that these databases are not yet integrated and not readily accessible. Users also have not fully maximized the use of these databases for research and planning purposes. It is therefore important that an integrated web-based database system be developed to increase the utility, effectiveness and accessibility of available information.

Equally important is the monitoring and evaluation (M&E) system of the PGB that facilitates the determination of a project's accomplishments, financial utilization and more essentially its effects to the socio-economic environment. It can be noted, however, that the M & E mechanisms of the PGB need to be continually enhanced. Under the Provincial Monitoring and Evaluation System (ProMES), a mechanism has been established to facilitate the regular and updated monitoring of programs and projects. The ProMES has been strengthened further with the development of the Provincial Monitoring and Evaluation Information System (ProMEIS) that facilitates for a better and efficient M&E processes among offices. Monitoring officers are also being designated in offices to directly handle monitoring activities and track projects. However, as with any new system, the ProMEIS development and operation is still a work-in-progress as bugs and system errors are being resolved and resolved by developers. If fully operational, the system will be able to generate accurate reports for management and oversight agencies' use, as bases for decision-making and better project implementation and management. Furthermore, the Provincial Government of Bohol is fully supportive to the activities of the Regional Project Monitoring Committee (RPMC) of the Regional Development Council, under the Regional Project Monitoring System (RPMS). In fact, Bohol Province has been awarded as the Outstanding LGU in the Central Visayas in initiating monitoring and evaluation activities.

Name of Project	ODA Funding Agency
• Provincial Roads Management Facility (PRMF)	AusAID
• Philippine Rural Development Project (PRDP)	World Bank - DA
• COMPETE Project: Bohol Water and Sanitation Program and Energy Development Project	USAID
• New Bohol Airport Construction and Sustainable Environment Protection Project (NBACSEPP)	JICA
• Coordinating Road Investments for Development (CRID)	AusAID
• Disaster Risk Reduction - Climate Change Adaptation (DRR-CCA) Project	World Bank - NEDA
• Asian Cities Climate Change Resiliency Network (ACCCRN) Project	ICLEI
• Disaster Risk Reduction - Climate Change Adaptation (DRR-CCA) Project	ANU-CCA-BISU-PGBh
• Local Governance Development Project (LGDP)	AusAID
• Land Administration Management Project (LAMP)	AusAID
• Local Governance Support Program for Local Economic Development (LGSP-LED)	CIDA
• Gender Responsive Economic Actions for the Transformation of Women (GREAT Women) Project	CIDA
• Bohol Integrated Area Development Cluster (BIAD 5 Cluster) Inter-LGU Alliance/ Cluster	CIDA
• Bohol Skills Registry System (BSRS) and Phil-Jobnet Registration	CIDA
• Malinao Dam Project	JICA
• Capayas Dam Project	JICA
• Bayongan Dam Project	JICA
• Bohol Circumferential Road Project	JICA
• Modern Rice Processing Center	KOICA
• Private Sector Mobilization for Family Health (PRISM), in partnership with the Integrated Midwives Association of the Phils. (IMAP)	USAID
• Fisheries for Improved Sustainable Harvest (FISH) project	USAID
• Tourism Infrastructure Action Plan	USAID
• EcoBudget Project	European Union (EU)
• Development of Resources and Access to Municipal Services (DREAMS) Project	European Union (EU)
• Bohol Water and Sanitation Program	German Cooperation (GTZ)
• Enhancing the Competitiveness of Businesses in the Province of Bohol: SME Development for Sustainable Employment Program ; Private Sector Promotion (PSP-SMEDSEP) Program	German Cooperation (GIZ)
• Tourism Value Chain to Greening the Tourism Value Chain	German Cooperation
• Promotion of Green Economic Development (ProGED)	German Cooperation
• Governance, Infrastructure, Food and Tourism (GIFT)	German Cooperation
• Community-based Sustainable Tourism Project	Spanish Government
• Promoting Democratic Values	Spanish Government

Table DevAd 16 – Official Development Assistance (ODA) Projects in Bohol, 2015

As to the human resource aspect of planning and development, there needs to be a continuing professional skills upgrading among practitioners. Planning officers in PGB offices as well as in municipal local governments need to be updated on the tools, processes and systems for physical and environmental planning, project packaging, fund-sourcing and monitoring and evaluation.

Partnerships and Cooperation with Local and International Organizations

Bohol's growth and development has been attributed to on-going partnerships and cooperation between the Provincial Government and municipal, national governments, foreign countries and international funding institutions. Alliances have been formed and strengthened with consistent successful implementation of development programs and projects by the Provincial Government of Bohol. With the PGB being able to deliver all the deliverables required of a local/ foreign funded project, the province has establish a name as a worthwhile and effective partner in pushing for various development agenda. Some of the notable foreign organizations that significantly assisted Bohol towards development are the Japan International Cooperation Agency (JICA), Australian Agency for International Development (AusAID), United States Agency for International Development (USAID), German Technical Cooperation (GTZ), EcoBudget Asia, Volunteer Service Organization (VSO), European Union (EU) and the Korean International Cooperation Agency (KOICA).

It is essential that the cooperation and partnerships with these institutions be maintained, as Bohol participates actively in pursuing for growth and sustainability and at the same time adopting the appropriate strategies being advocated by these international organizations.

Government Facilities

Local governments throughout the province have continued to improve their facilities with the goal of promoting the delivery of basic services to constituent. The seats of government, like the capitol and municipal/ city halls have been significantly improved, expanded and

Particulars	Number
Public Libraries	20
Reading Centers (Gabay sa Mamamayan Action Centers)	18
Library Hubs	7
Libraries in National High Schools	90
Libraries in Public High Schools	77
Libraries in Private High Schools	57
Libraries in Colleges and Universities	25

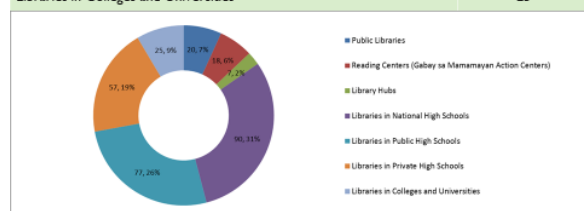
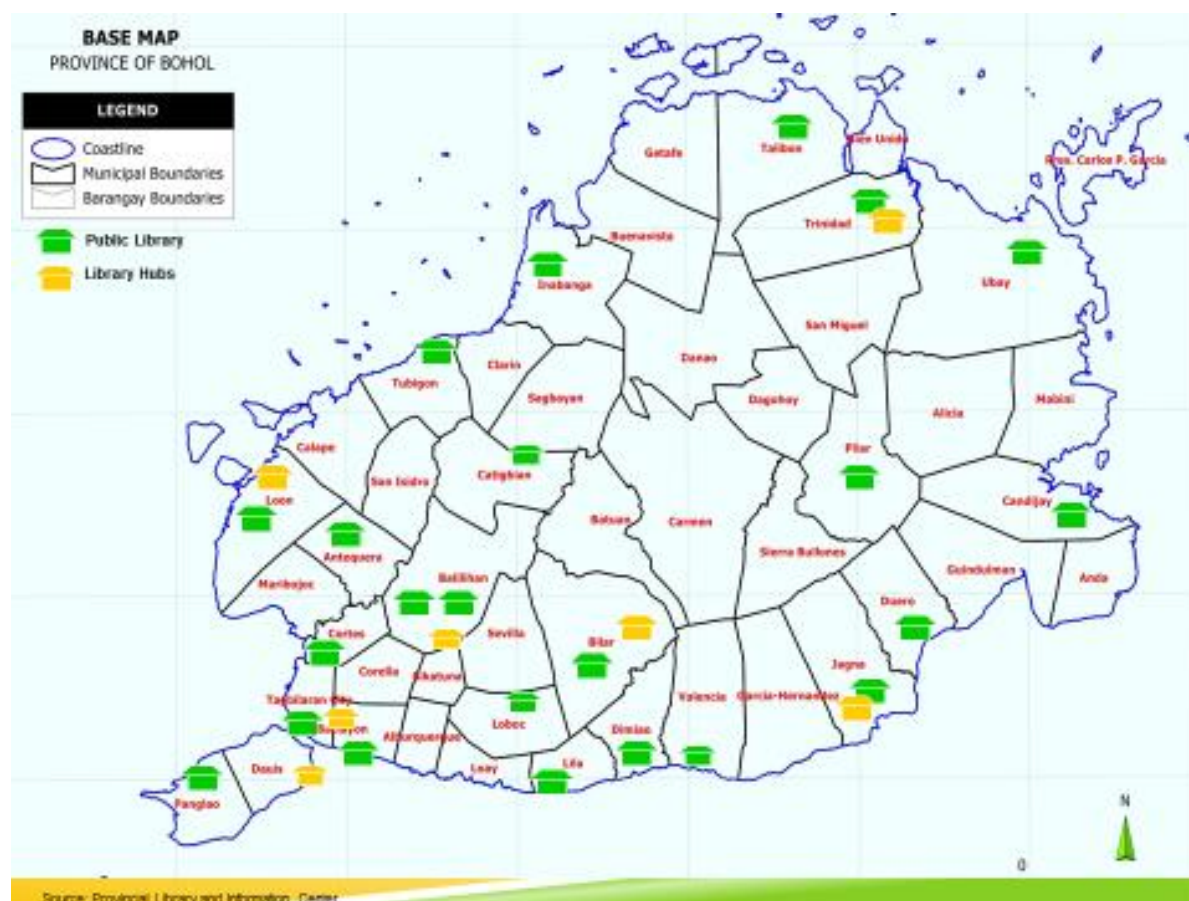


Figure DevAd 15 – Libraries and Reading Centers in Bohol, 2015

renovated not just for aesthetic purposes but most importantly to promote efficiency and functionality in government buildings particularly as disaster resilient and emergency reliant structures. Furthermore, through proper capital expenditure programs, equipment and support facilities have been upgraded to suit the growing demands of governance and in the delivery of social, economic, infrastructure services. Office equipment are continually being upgraded, promoting efficiency and productivity among government workers. Information technology-



Map DevAd 4. Location of Libraries and Library Hubs in Bohol, 2015

based facilities are also being ventured, making use of information systems and computerized processes to improve operational efficiency of governments as well as opening their access to national and global assistance. Local governments are also now investing on the procurement of heavy equipment to support their infrastructure and agriculture programs. Social services facilities like schools, barangay health centers and hospitals are also being improved. LGU-managed utilities like waterworks systems are continually upgraded and expanded to respond to the growing water demands in localities. All of these improvements, however, are made on piecemeal and phase-by-phase basis considering the financial capacity limitations of local governments. There are still significant facilities requirements of local governments that need to be addressed. At the Provincial Government, for example, the need for additional spaces for some offices has been an identified priority to address concerns on increasing volume of documents and personnel augmentation. Facilities for the promotion of employees' welfare like medical/ dental clinic, wellness center and cafeteria are also being sought. Improvement and upgrading of public access ways is also required to facilitate easy access for the impaired.

In related matters, some of Bohol's LGUs are maintaining public libraries and reading centers for the promotion of better learning among children, students, youths and adults. There are about 20 public libraries (a big improvement from the record in 2008), 18 reading centers, 7 library hubs, 90 libraries in national high school, 77 libraries in public high schools and 25 libraries in colleges and universities in the province. The Gabay sa Mamamayan Action Centers that are located in all of the barangays are also utilized as reading centers. Please see Map for details of location of the libraries. It is, however, evident that the province still lacks the ideal number of public libraries, which is supposedly 1 library per municipality. While LGUs may be strapped with financial difficulties, efforts must be made to establish libraries in each municipality to increase public access to information and knowledge-enriching materials.

Libraries	Location
1. Antequera Community Library	Antequera, Bohol
2. Bacayon Municipal Library	Bacayon, Bohol
3. Balilihan Municipal Library	Balilihan, Bohol
4. Balilihan Congressional Library	Balilihan, Bohol
5. Candijay Municipal Library	Candijay, Bohol
6. Cortes Municipal Library	Cortes, Bohol
7. Dimiao Municipal Library	Dimiao, Bohol
8. Duero Municipal Library	Duero, Bohol
9. Jagna Municipal Library	Jagna, Bohol
10. Loon Municipal Library	Loon, Bohol
11. Panglao Municipal Library	Panglao, Bohol
12. Pilar Municipal Library	Pilar, Bohol
13. Talibon Municipal Library	Talibon, Bohol
14. Trinidad Municipal Library	Trinidad, Bohol
15. Tubigon Municipal Library	Tubigon, Bohol
16. Ubay Municipal Library	Ubay, Bohol
17. Sevilla Municipal Library	Sevilla, Bohol
18. Clarin Municipal Library	Clarin, Bohol
19. Valencia Municipal Library	Valencia, Bohol
20. Provincial Library and Information Center	Tagbilaran City
Reading Centers	Location
1. Gabay sa Mamamayan Action Centers	
a. Trinidad, Bohol	19 Barangays have GMACs
b. Tubigon, Bohol	9 Barangays have GMACs
Library Hubs	Location
1. Loon Library Hub	Loon
2. Jagna Library Hub	Jagna
3. Trinidad Library Hub	Trinidad
4. Dausi Library Hub	Dausi
5. Tagbilaran Library Hub	Tagbilaran City
6. Balilihan Library Hub	Balilihan
7. Camaysan Nat'l High School Library Hub	

Table DevAd 17 – Locations of Municipal Libraries/Library Hubs/Reading Centers in Bohol, 2015

Sports Facilities	No.
Track and field (6 government; 3 private)	9
Basketball courts/Volleyball courts (17 Private; Govt. 1109)	1126
Covered courts	14
Swimming pools (private 62; Govt. 2)	64

Table DevAd 18 – Sports Facilities in Bohol, 2015

As of 2015, there are 9 track and field, 1126 basketball/volleyball courts, 14 covered courts and 64 swimming pools throughout the province. These facilities have been used as venues for sports events, health clinics, and other community activities. It is important that these facilities be upgraded and properly maintained to promote health, sports and the welfare of the youths and the general public. Moreover, the Province of Bohol needs to have an integrated sports complex with complete facilities for sports, recreation, entertainment and socio-cultural events. This arena should have provision for parking considering that this particular feature is the number limitation of the existing Pres. Carlos P. Garcia Sports Complex.

As to sports facilities, most of the local governments in Bohol have constructed and maintained a multi-use sports/ cultural center.

Provincial Government Buildings/Facilities	Location (Barangay/City/Municipality)
1. Provincial Capitol Complex	CPG North Avenue, Poblacion II, Tagbilaran City
2. Capitol Annex Building	Dao District, Tagbilaran City
3. Provincial Health Office	CPG Avenue, Tagbilaran City
4. Governor's Mansion	New Capitol Site, Tagbilaran City
5. Provincial Engineering Office	Tagbilaran City
6. Provincial Motorpool Office	Tambikot St., Tagbilaran City
7. PSWDO	Cabawan Dist., Tagb City
8. Bohol District Jail	
9. BCIC	Circumferential Road, Tagbilaran City
10. STAC	
11. PGSO Old Mini Motorpool	Tagbilaran City
12. CPG Sports Complex	Tagbilaran City
13. Plaza Rizal Park	Tagbilaran City
14. Garcia Memorial Provincial Hospital	Talibon, Bohol
15. Cong. Simeon G. Torbio Memorial Hosp.	Carmen, Bohol
16. Caligbisan District Hospital	Caligbisan, Bohol
17. Cong. Natalio P. Castillo Memorial Hosp.	Loon, Bohol
18. Clarin Community Hospital	Clarin, Bohol
19. F. Dagohoy Municipal Hospital	Isabanga, Bohol
20. Maribojoc Community Hospital	Maribojoc, Bohol
21. Teodoro B. Galagar District Hospital	Jagna, Bohol
22. Pres. CPG Municipal Hospital	Pres. Garcia, Bohol
23. Red Cross Building	J.A. Clarin Cor. Marapao St., Tagbilaran City
24. Children's Playground	Near St. Joseph's Cathedral
25. PEO Laboratory	New Capitol Site, Tagb City
26. CPG Sports Old DepED	Tagbilaran City
27. BMC	Dao Dist. Tagbilaran City
28. OPA	Gala, Ubay, Bohol
29. SWCF/BEMO/OPV	Bilar, Bohol
30. BEMO Nursery	Bilar, Bohol
31. OPA	Macas, Tubigon, Bohol

Table DevAd 19 – Physical Assets (Buildings and Facilities) of the Provincial Government of Bohol, 2015

ISSUES AND CONCERNS OF THE SUB-SECTOR

Governance

- Multiplicity of required local special bodies/ councils in LGUs to the point that they become non-functional , inactive or difficulty to convene
- Some Local Codes/ Ordinances need to be revisited/ revised (ex. Revenue, Organic Agriculture, Environment) or formulated (Tourism, Aggregates, Roads) to be more responsive to the current realities and socio-economic outlook)
- Comprehensive Land Use Plans (CLUP) of some LGUs are already outdated and needs updating
- Provincial Development and Physical Framework Plan (PDPFP) needs updating to mainstream DRRM-CCA
- Multiplicity of requirements from National Government Agencies (NGAs) especially in the implementation of NGA-ODA funded programs and projects
- Low absorptive capacity of LGUs in implementing projects of NGAs/ ODA
- Community-Based Monitoring System (CBMS) not yet completed/ implemented in all LGUs which should be the comprehensive database for planning and policy formulation

Human Resource Development and Welfare

- No succession planning and career pathing within PGBh offices to ensure effective and efficient operation of offices considering that majority (81%) of the personnel are aging 41-65 years old
- Partially- completed Competency Modelling/Profiling to sustain needed capacity development for PGBh personnel
- Lack of personnel in some offices to effectively perform mandates and workloads. Some offices remained as units with no appropriate plantilla positions
- Absence of necessary facilities for the promotion of employees' welfare (e.g. dental clinic, cafeteria, wellness center, breastfeeding room) and services/benefits (medical/health insurance, scholarships, hazard allowances for personnel handling hazardous jobs

Library Services

- Limited number of public libraries in the province, with some LGUs providing meager support for library operations
- Lack of librarians to effectively manage public libraries

IT Services

- Some of the developed information systems at the PGBh are not fully utilized and maximized by the office concerned (Ex. e-Procurement, LegTrack System)
- Different ICT system used in each Offices that handles Finance and Budgeting and Accounting services. Example: eBudget, NGAS, FMIS, Disbursement , Collection System ETRACS

- No Backup Servers for critically running ICT systems (HRIS, FMIS: eBudget, NGAS, ETRACS, Database Server, Geoserver)
- Absence of Generator set or no standby power backup for running Servers and ICT infra
- Non-existence of integrated database of all PGBh Offices implemented projects and data

Office spaces and facilities

- Unmet building, office space, and facilities of government offices and employees' groups; temporary office spaces are made of light materials which are prone to fire hazards
- Unmet office equipment requirements/ services of government offices (IT equipment, library mobile van, service vehicles, reliable and fast internet connection)

Youth and Sports

- Lack of sports facilities in the province with standard specifications for public use (ex. 50 meter standard swimming pool)
- Various problems of the youth involving substance abuse, teenage pregnancies and acquisition of STDs, unemployment and underemployment, domestic abuse and bullying, poverty
- Lack of youth involvement and participation in government decision making process affecting them and their community
- Limited support systems from the government for the youth for the resolution of their concerns

The Province of Bohol is proud of its being a friendly and peaceful province. Notwithstanding the economic growth it has been experiencing in the recent pasts and the continued growth of its population, Boholanos can proudly say that the province is still safe and secure place to live in. Its peace and order situation has been maintained and incidence of public disorder is generally kept at low levels through the concerted efforts of various law enforcement agencies, the provincial administration and the general public.

483

Looking into the Crime Statistics for years 2011 to 2015, crime volume in Bohol was decreasing from 2011-2012. However, a great spike (115%) was reported for year 2013. From 2013 onward, crime volume has been increasing up to year 2015. Be it of note that 2013 was the year when the Bohol earthquake occurred and the effects of Typhoon “Yolanda” was mostly felt by the Boholanos which happened at the last quarter of that year. Index crime still composes majority of the crime incidence in the province. The average monthly index crime rate for the past 3-year period is 36.1 or equivalent to more than 1 crime committed per day.

On the other hand, crime solution efficiency is seen to be erratic and fluctuating. Through the five-year period, index crime solution efficiency has an average of 26.53%. With such increasing incidence of criminality, it is therefore essential that law enforcement agencies heighten police visibility within the community, encourage the participation of the local residents and enhance the police force’s investigative capacities through proper human resource training, equipment upgrading and intensified intelligence networking.

	2011	2012	2013	2014	2015
Crime Volume	2,762	2,429	6,205	7,842	9,218
Increase (Decrease) in Crime Volume		-12%	155%	26%	18%
Vs. Persons	469	434	1,734	2,063	1,078
Vs. Properties	1,750	1,334	2,112	2,710	2,589
Index Crimes	2,219	1,768	3,846	4,773	3,667
Index Crime Solved	480	648	655	1,319	1,076
Non-Index Crimes	543	661	2,359	3,069	5,551
Average Monthly Index Crime Rate	15.14	12.28	37.93	47.94	22.42
Index Crime Solution Efficiency	22.00%	36.65%	17.03%	27.63%	29.34%

Source: Philippine National Police – Bohol Provincial Police Office
Source: Philippine National Police – Bohol Provincial Police Office

	2011	2012	2013	2014	2015
Murder	80	57	119	113	111
Homicide	79	80	126	101	35
Physical Injuries	270	261	1,422	1,754	825
Rape	40	36	67	95	107
Robbery	521	406	671	753	626
Theft	1,092	826	1,281	1,763	1,737
Carnapping		91	131	161	183
Cattle Rustling		11	29	33	43

Source: Philippine National Police – Bohol Provincial Police Office

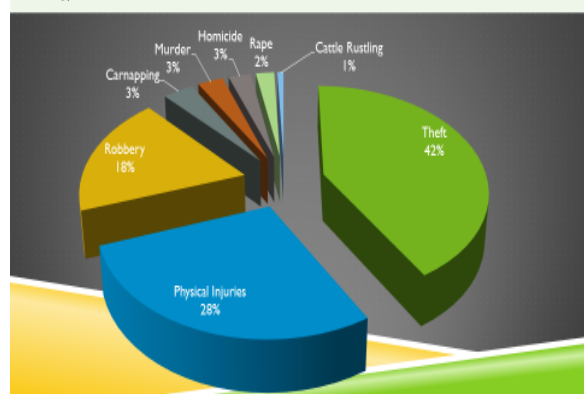


Figure DevAd 16 – Index Crime Volume, Bohol, 2011-2015

A closer look at the Index Crimes would reveal that Theft accounted most of this type of crimes during the same five-year period. On the average, incidence of theft was the primary crime in 2011, 2012, 2014 and 2015 at 42% of all crime. This is followed by physical injuries at 28% and robbery at 18%. Serious crimes against persons like murder and homicide accounted for 3% each. Rape incidence was posted at 3%. It can further be observed that on a yearly basis, the individual index crimes are also increasing yearly except in year 2012. Be it of note that it is only in 2013 that there are more incidence of physical injury crime than theft and that this is also the year when the Bohol earthquake occurred.

	City/ Municipality	Crime Volume		City/ Municipality	Crime Volume		City/ Municipality	Crime Volume
1	Tagbilaran City	6263	16	Inabanga	465	31	Pilar	330
2	Ubay	1766	17	Bilar	459	32	Calape	325
3	Carmen	1481	18	Trinidad	445	33	Loay	317
4	Dauis	1300	19	Sagbayan	442	34	Antequera	296
5	Talibon	984	20	Getafe	437	35	Corella	290
6	Tubigon	912	21	San Miguel	429	36	Mabini	289
7	Panglao	817	22	Duero	415	37	Balilihan	282
8	Jagna	785	23	Maribojoc	407	38	Dimiao	271
9	Guindulman	581	24	Valencia	400	39	Batuan	254
10	Clarín	555	25	Buanavista	394	40	Sierra-Bullones	249
11	Candijay	545	26	Alburquerque	376	41	Anda	248
12	Loon	541	27	Bien Unido	375	42	Garcia-Hernandez	231
13	Alicia	526	28	Cortes	363	43	Loboc	211
14	Catigbian	492	29	Lila	355	44	Dagohoy	204
15	Baclayon	470	30	Pres CP Garcia	339	45	Danao	181
				City/ Municipality	Crime Volume			
				46	Sikatuna	147		
				47	Sevilla	115		
				48	San Isidro	78		

Source: Philippine National Police – Bohol Provincial Police Office

Table DevAD 21 – Crime Volume by Municipality, Bohol, 2011-2015

As can be gleaned from the data on the location of crime incidents, there seemed to be a direct correlation between the occurrence of crime and population, wherein crime volume and rate are reported to be quite high in urbanized and high population areas. However, other factors may also contribute to the occurrence of crime such as the economic activities of an area, the degree of cooperation of the local residents and their officials, the proximity and adequacy of protective services as well as the socio-cultural fabric of a locality.

Over the 5-year period, majority (52.36%) of the total crime volume throughout Bohol occurred in areas where there is high business activities and human activities are vibrant. Criminality were reported to be high in the following areas: Tagbilaran City (22.0%), Ubay (6.2%), Carmen (5.2%), Dauis (4.6%), Talibon (3.5%), Tubigon (3.2%), Panglao (2.9%), Jagna (2.8%) and Guindulman (2.0%). Notable here is the non-inclusion of the Anda peninsula area where there is an uptake of more tourism activities in the recent years. With the additional influx of tourists and visitors, incidence of crime and other malevolent behavior would most likely occur, thus, should be proactively addresses by law enforcement agencies and the local government administration.



While there is still military presence in the province, programs are more focused on building infrastructures, providing social services and livelihoods and implementing an integrated territorial security system. This is part of the province's integrated approach to sustain development and internal security. Most notable activities in Bohol that involved multi-stakeholder participation include, among others, the INSPIRED HEAT-IT Caravans, Countryside Development Program – Purok Power Movement, and Medical Missions.

Police Services

The police force in Bohol is divided based on the areas of responsibilities and the nature of police operations. In 2015, there were a total of 1,654 police personnel in the province; 76% of which were assigned in the 47 municipalities while 6% were detailed at the Tagbilaran City Police Station. Meanwhile, the Bohol Provincial Police Office accounted for 6% of the police force, PPSC/SWAT represented 3% and the remaining 5% serving as Tourist Police

With the general population of Bohol at 1,313,650 (August 2015 Census), the standard police-population ratio of 1 policeman for every 1,000 population is already met. However, the authorized strength of 21 personnel and 4 officers for every police station is still not met in most of the police stations throughout the province.

Justice and Safety
Police Force and Facilities

Police Unit/ Station/ Location	No. of Personnel				Truck	Vehicle		
	PCOs	PNCOs	NUPs	TOTAL		PNP	LGU-Owned	MC
HQs	16	74	14	104	1	3		
PPSC/SWAT	4	118		122		2		
Tourist Police		85		85		3		2
Tagb. City PS	4	85	5	94		1	5	
Albunquerque PS	1	21	4	26		2		1
Alora PS	1	20	4	25		2		2
Anda PS	1	20	3	24		2		1
Antequera PS	1	20	4	25		2		1
Bachyon PS	1	21	4	26		2		1
Balilihan PS	1	20	4	25		3		
Batuan PS	1	19	4	24		2	1	
Bien Unido PS	1	21	4	26		3		1
Bitor PS	1	23	4	28		2		1
Buenavista PS	1	22	4	27		3		1
Calape PS	1	21	4	26		2		
Candilay PS	1	22	4	27		2	1	1
Carman PS	1	21	4	26		2	1	2
Catigbian PS	1	20	4	25		2		2
Clarín PS	1	20	4	25		2		
Corella PS	1	20	4	25		2		1
Correa PS	0	22	4	26		2		1
Dagohoy PS	1	22	4	27		2		1
Danao PS	1	22	4	27		2		1
Davao PS	1	22	4	27		2		1
Dimaas PS	1	21	4	26		2		1
Duero PS	1	17	3	21		2		2
El-Hernandez PS	1	18	4	23		2		1
Geraca PS	1	24	4	29		2		1
Guindulman PS	1	20	4	25		2		1
Inabanga PS	1	25	4	30		2		1
Jagna PS	1	21	4	26		2		1
Lila PS	1	19	4	24		2		2
Loay PS	1	19	4	24		2		2
Loboc PS	1	20	4	25		2		2
Loon PS	1	29	4	34		2		1
Mabini PS	1	20	4	25		2		1
Maribojoc PS	1	20	4	25		2		1
Panglao PS	1	20	4	25		2		1
Pilar PS	1	21	3	25		2		1
Pres Garcia PS	1	24	4	29		2		
Sagayan PS	1	24	4	29		2		1
San Isidro PS	1	19	4	24		2		1
San Miguel PS	1	19	4	24		2	1	
Silautan PS	1	21	4	26		2		
Sevilla PS	1	20	4	25		2		1
S-Bulones PS	1	20	4	25		2		1
Talibon PS	1	39	4	44		2		1
Trinidad PS	1	22	4	27		2		
Tubigon PS	1	26	4	31		2		1
Ubay PS	1	31	4	36		2		
Valencia PS	1	20	4	25		2		1
Total	70	1380	204	1654	1	106	9	47

Source: Philippine National Police – Bohol Provincial Police Office

Table DevAd 22- Police Force and Facilities, Bohol, 2015

While there is already an existing Explosive and Ordnance Disposal (EOD) Unit, a fully functional unit among clustered municipalities especially that within the Panglao Island municipalities and the Anda peninsula will effectively and expeditiously deal with any bomb threat. This is essential considering the growing economic activities, facilities build-up and influx of tourists in the province. A K-9 Unit also needs to be organized and supported to pre-empt and deter the entry and transport of explosives, drugs and other illegal paraphernalia in the province.

Furthermore, to intensify law enforcement operations, there is a need to acquire adequate or improve police facilities such as communication equipment, mobility resources and police station land/buildings. Sea assets are also required to boost maritime operations for illegal fishing, smuggling, search and rescue and the protection of marine resources. Intelligence and information gathering also needs to be improved through appropriate funding support and maintenance of proper network channels. Continuing professional education and assistance for law enforcement personnel also need to be sustained. There is also a need to further improve cooperation and collaboration between law enforcement groups, local governments and civil society organizations in the fight against crime and other forms of illegal activities.

Fire Incidence

For the past 5 years (2011-2015), the incidence of fire in the province is generally increasing. A total of 705 fire incidents have been recorded in the province with an estimated P138.517 Million cost of damage. Year 2015 had the most number of fires with 184 incidents costing P24.54 Million, while year 2011 had the least number of fires with 77 but a bigger damage cost of P40.707 Million.

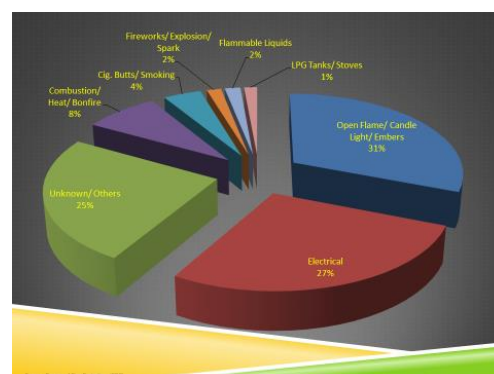


Figure DevAd. 17 – Common Origin of Fire, Bohol, 2010-2015

	2010	2011	2012	2013	2014	2015
Total Number of Fire Incidents	86	77	111	108	139	184
Total Cost of Damage	P13.869M	P40.707M	P27.042M	P19.188M	P13.171M	P24.540M
As to Origin						
Electrical	33	25	30	26	27	53
Combustion/ Heat/ Bonfire	10	0	2	8	5	32
Open Flame/ Candle Light/ Embers	22	14	33	45	41	63
Cig. Butts/ Smoking	7	2	3	4	4	9
Fireworks/ Explosion/ Spark	0	5	4	1		1
Flammable Liquids	0	0	2	1	5	4
LPG Tanks/ Stoves	0	1	0	1	4	4
Unknown/ Others	14	30	37	22	53	18
Total	86	77	111	108	139	184

Source: Bureau of Fire Protection (BFP)

Table DevAd 23 – Comparative Fire Incidence Data, Bohol, 2010-2015

Of the total fire incidents for the 5-year period, 82% of the fire cases involved structures, 5% for vehicles and 11% for grass/ forests. Another 2% of the fires affected other properties and assets. As to the cause and origin of fires in the province, it was known that electrical faults and open flame are the most common. Based on the average data for five years (2011-2015), open flame/candle light/embers accounted about 31% of all the causes of fire. This is followed by faulty electrical that contributed 27% of all the fires. Other common fire origins include improper disposal/ handling of cigarette butts, flammable liquids, combustions/ bonfire, fireworks and sparks, LGP tanks / stoves and other causes.

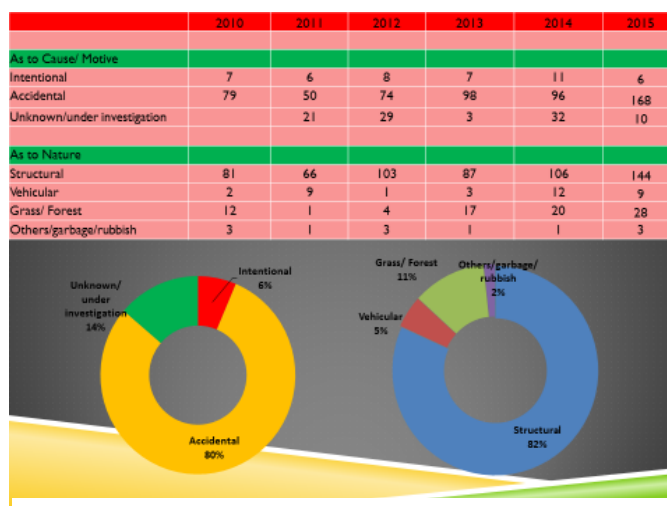


Figure DevAd 18 – Common Causes of Fire in Bohol, 2010-2015

In the process of determining the causes of fires, it was also known that 80% of all the cases are accidental and unintentional. Only About 10% of all the fires are determined to be intentional. However, there are 14% of the cases of which the causes are yet unknown.

Municipality/ City	Fire Incidents	Municipality/ City	Fire Incidents	Municipality/ City	Fire Incidents
1 Tagbilaran City	89	16 Candijay	17	31 Bien Unido	6
2 Panglao	43	17 Jagna	17	32 Danao	6
3 Inabanga	36	18 Balilihan	15	33 Guindulman	6
4 Maribojoc	35	19 Buenavista	15	34 San Isidro	6
5 Talibon	35	20 Clarin	15	35 Alicia	5
6 Ubay	30	21 Dimiao	14	36 Baclayon	5
7 Carmen	28	22 Batuan	11	37 Sagbayan	4
8 Calape	26	23 Pilar	10	38 Cortes	3
9 Loon	26	24 Bilal	9	39 Duero	3
10 Dausi	24	25 Catigbian	9	40 Getafe	3
11 Trinidad	20	26 San Miguel	9	41 Pres. C.P. Garcia	3
12 Mabini	19	27 Loay	8	42 Sikatuna	3
13 Tubigon	19	28 Sierra-Bullones	8	43 Anda	2
14 Hernandez	18	29 Antequera	7	44 Dagohoy	2
15 Valencia	18	30 Albuquerque	6	45 Lila	2

Municipality/ City	Fire Incidents
46 Loboc	2
47 Corella	1
48 Sevilla	1

Source: Bureau of Fire Protection (BFP)

Table DevAd 23A – Fire Incidents by Municipality

Looking into the fire incidence per location in Bohol, reports would show that incidence of fire is far greater in growing, economically active and populated areas. Over the 6-year period, majority (53%) of the total fire incidents in the province were attributed from the fires in the following: Tagbilaran City (13%), Panglao (6%), Inabanga (5%), Maribojoc (5%), Talibon (5%), Ubay (4%), Carmen (4%), Calape (4%), Loon (4%), Loon (4%) and Dausi (3%). Unlike in the previous planning years of 2004-2009, all the municipalities of the province have reported fire incidents this time.

Knowing the adverse effects of fires to property and livelihood, the Bureau of Fire Protection needs to continuously intensify its fire prevention campaigns on information dissemination, Fire Code enforcement and fire brigade organization and local government collaboration in fire prevention and suppression.

Fire-Fighting Force

Currently, there is an increase of the number of fire stations in the province to 29. These fire stations are located in Tagbilaran City and in 28 other municipalities throughout the province. There are also several sub-stations located in Tagbilaran City. A total number of 283 fire-fighting personnel and 40 fire trucks are currently available.

As of December 2015, the Tagbilaran City Fire Station has a total of seven (7) fire trucks, with water capacity ranging from 500 liters to 8,000 liters. The said station, with its sub-stations, is manned by a total of 63 personnel. On the other hand, the 28 fire stations in the different municipalities have a total of 229 personnel. They have 33 firetrucks at their disposal. Private entities in the province also provide support

Fire Station	Location (Barangay and Municipality / City)	Number of Personnel			Fire Truck (Type and capacity description)
		Male	Female	Total	
1. Office of the Provincial Fire Marshal	Upper Caliceta St. Cogan District, Tagbilaran City	3	6	9	None
2. Tagbilaran City Central FS	Upper Caliceta St. Cogan District, Tagbilaran City	48	6	54	Engine 1 - 1000 Liters Engine 2 - 8000 Liters Engine 3 - 7000 Liters Engine 4 - 500 Liters (unserviceable) Engine 5 - 8000 Liters Engine 6 (No water tank) Hino Boom Truck Aerial Platform Engine 7 - 8000 Liter Water Tanker (Isuzu VB) Engine 11 - 6000 Liters (Nissan Condor Firetruck)
3. Panglao FS	Poblacion, Panglao	16	2	18	Engine 1 - 1000 Liters (Isuzu NQR) Engine 2 - 4,546 Liters (International) Engine 3 - 4,546 Liters (Ford)
4. Loon FS	Moto Norte, Loon	6	1	7	Isuzu Morita - 4000 Liters
5. Calape FS	Poblacion, Calape	4	2	6	Hyundai - 4000 Liters
6. Tubigon FS	Putohan, Tubigon	6	1	7	Isuzu Morita - 4000 Liters
7. Balilihan FS	Del Carmen Weste, Balilihan	6	2	8	Hyundai HMC - 4000 Liters
8. Talibon FS	San Jose, Talibon	12	2	14	Engine 1 - Isuzu Morita - 4000 Liters Engine 2 - Isuzu Forward - 3500 Liters
9. Ubay FS	Poblacion, Ubay	9	1	10	Engine 1 - FMC Mitsubishi - 3000 Liters Engine 2 - Hyundai - 4000 Liters
10. Jagna FS	Poblacion, Jagna	7	2	9	DMC Isuzu - 8000 Liters Kia Ceres Anos - 1000 Liters
11. Valencia FS	Pob. Oro, Valencia	7	1	8	Hyundai - 4000 Liters
12. Loay FS	Las Salinas Sur, Loay	6	0	6	Kia Ceres Anos - 1000 Liters
13. Bilal FS	Poblacion, Bilal	6	1	7	Kia Ceres Anos - 1000 Liters
14. Carmen FS	Poblacion, Carmen	7	1	8	Isuzu Forward - 2500 Liters
15. Clarin FS	Poblacion, Clarin	6	1	7	Hyundai Firetruck - 4000 Liters
16. Inabanga FS	Poblacion, Inabanga	6	1	7	Anos Princess - 3000 Liters
17. Dimiao FS	Poblacion, Dimiao	6	1	7	Isuzu NQR - 3000 Liters
18. Trinidad FS	Poblacion, Trinidad	7	1	8	Isuzu NQR - 3000 Liters
19. Maribojoc FS	Poblacion, Maribojoc	6	4	10	Isuzu NQR - 3000 Liters
20. Candijay FS	Poblacion, Candijay	6	1	7	Kia Ceres - 1000 Liters
21. Baclayon FS	Poblacion, Baclayon	8	1	9	Isuzu Transporter - 1250 Liters
22. Pilar FS	Poblacion, Pilar	6	1	7	Isuzu Firetruck - 1500 Liters
23. Batuan FS	Poblacion, Batuan	7	1	8	Isuzu Firetruck - 3,500 Liters
24. Antequera FS	Poblacion, Antequera	6	2	8	Fuso Firetruck - 2,000 Liters
25. Buenavista FS	Poblacion, Buenavista	6	1	7	FUSO (Morita) - 2,000 Liters
26. Bien Unido FS	Poblacion, Bien Unido	6	1	7	ISUZU Elf - 1800 Liters
27. Dausi FS	Poblacion, Dausi	6	2	8	ISUZU Forward - 1,500 Liters
28. Mabini FS	Poblacion, Mabini	5	3	8	ISUZU Double Cab - 3000 Liters
29. Garcia Hernandez	Poblacion, Garcia Hernandez	5	2	7	ISUZU Morita - 4,000 Liters
30. Pres Carlos P. Garcia FS	Pitogo Pres Carlos P. Garcia	6	0	6	Fuso Double Cab - 4,000 Liters

Source: Bureau of Fire Protection (BFP)

Table DevAd 24 – Fire-fighting Force and Facilities, December 1, 2016

services with the use of their water tankers and fire trucks.



Map DevAd 6 – Location of Fire Stations in Bohol, December 2015

In spite of all these facilities, the fire-fighting capabilities of the province are still considered inadequate and in need of further upgrading to effectively suppress fires. Moreover, the uneven geographical distribution of fire stations affects the response time as well as effectiveness of fire fighters in combating fires. There is therefore a need to establish new fire stations in the municipalities to strategically support fire-fighting operations. Fire stations are proposed to be established in the municipalities of Alburquerque, Catigbian, Sagbayan, Anda, Sierra-Bullones, Sevilla and Sikatuna. It is also essential to organize fire brigades and volunteers, especially in urbanized, high-density areas in the city as well as in municipalities. The number of fire trucks can also be augmented, with the goal of having 1 fire truck for every municipality.

Fire-fighting personnel also need to be augmented, considering that most of the fire protection coordinators are handling two or more municipalities. Continuing trainings should also be provided not just to be proficient in fire-fighting but also in enforcing appropriate Fire and Building Codes. Support fire-fighting equipment such as helmets, boots, coats, communication facilities and medical equipment also needs to be acquired.

Marine Safety Services and Facilities



Map DevAd 7 – Location of Philippine Coast Guard Stations/Sub-stations

The Philippine Coast Guard (PCG) has only one (1) station at Poblacion II, Tagbilaran City. However, there are also (five) Coast Guard Sub-station while there are also nine (9) Coast Guard Mobile Team. The PCG's 56 personnel have been active in promoting safety of life and property at sea as well as safeguarding marine environment and resource in the province. It also has 5 aluminum boats and 2 rubber boats. The organization is also pushing for the enforcement of all applicable maritime laws. In times of disasters and natural calamities, the PCG is one of the forefront agencies that provides search and rescue operations.

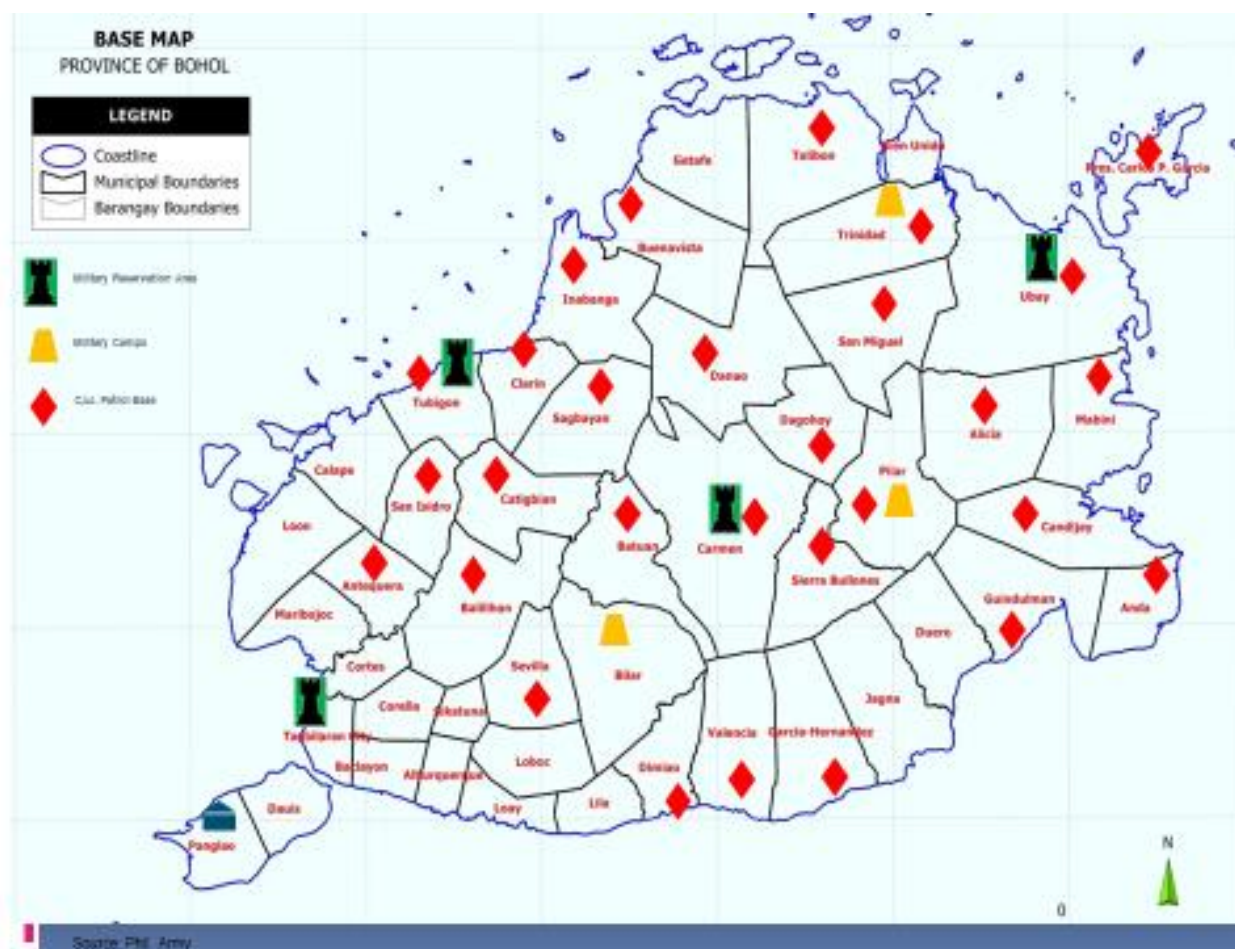
	Municipality / City	Male	Female	Total	Facilities/Vehicles/ Equipment
HEADQUARTERS CG STATION TAGBILARAN	POB. II OF C. DRIVE, TAGBILARAN CITY, BOHOL	25	2	27	1- RUBBER BOAT
CG SUB STATION PANGLAO CGMT BUKARAO, LOAY, LOAY	EASTERN LIM ST. TAMBILA PANGLAO, BOHOL	7	-	7	1- ALUMINUM BOAT 1- RUBBER BOAT
CG SUB STATION TURBON CGMT INABANGA, CLAREN	BRIY LOOC OCCIDENTAL TURBON, BOHOL	5	-	5	1- ALUMINUM BOAT
CG SUB STATION TALIBON CGMT DETAG	POBLACION TALIBON, BOHOL	7	-	7	1- ALUMINUM BOAT
CG SUB STATION UBAY CGMT PINDO, TAPAL	POBLACION UBAY BOHOL	6	-	6	1- ALUMINUM BOAT
CG SUB STATION JAGNA CGMT GARCIA HERNANDEZ	BRIY LOOC JAGNA BOHOL	4	-	4	1- ALUMINUM BOAT
TOTAL 1 STATION 5 SUB STATIONS 9 CGMT		54	2	56	5 ALUMINUM BOATS 2 RUBBER BOATS

Table DevAd 25 – Philippine Coast Guard Manpower and Facilities

With due consideration to Bohol's large coastal areas, the PCG requires additional facilities and equipment such as rubber boats and floating assets for search and rescue. Augmentation of personnel is also necessary. There is also a need for the completion and construction of additional stations and beacons in other identified areas in the Province especially those located in major tourist areas or where municipalities where

huge number of passenger, commercial and fishing boats dock.

Military Camps and Reservation Areas



Map DevAd8 – Military Camps/Detachments, Reservations in Bohol, 2015

There are currently thirty-seven (37) military installations located in Bohol. These include military camps, detachments, PBs and reservations. There are likewise Operation Control (OPCON) units co-located within these military camps. Stationed within these military installations are 31 Officers, 390 Enlisted Personnel and 793 Civilian Armed Auxiliary Force members. Military reserved areas are also provided in the province for special military use.

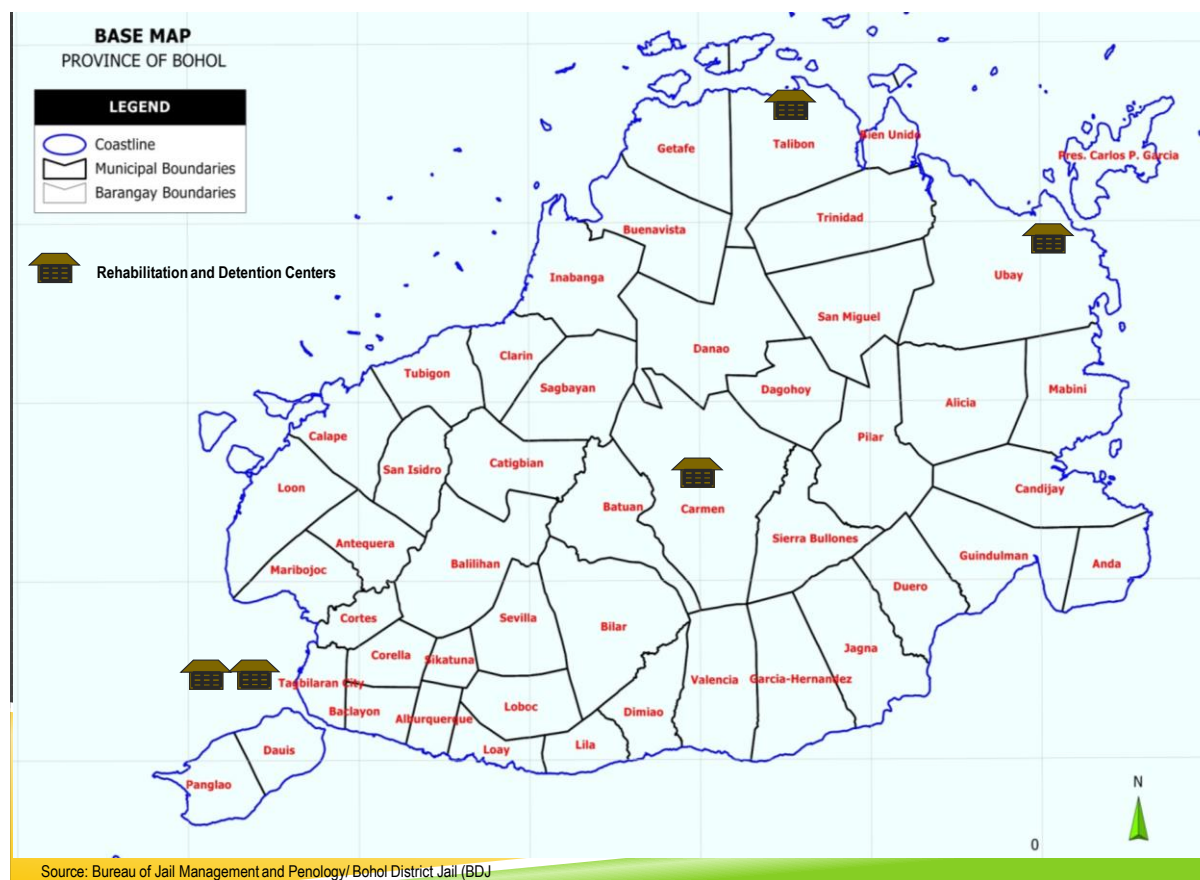
Bohol Provincial Development and Physical Framework Plan (PDPFP) 2016-2028

AFP INSTALLATION (Camps/Dets/PBs/ Reservations)	LOCATION	Approx. AREA (Hectare/m ²)	OPC R	EP	CAA	Military Communica- tion Facility/ Eqt	Military Barracks/ Other Structure s	Military Vehicles	Other Vital Gov't Installations Co- located inside Camp/ Reservation	Issues and Concerns
1. Cp Bernido Dagohoy Military Reservation (302 nd Bde Advance Command Post)	Brgy. Dao District, Tagbilaran City, Bohol	2,4611 Has	3	8		✓	✓	✓	Dep't of Agriculture (Bohol) 7020DO, 7RCOG, ARESCOM, PA	
2. Cp Rajah Sikatuna, Bicao Military Reservation (302 nd Bde Headquarters/ CAA Trng Base)	Brgy Bicao, Carmen, Bohol	47,1030 Has	6	39	26	✓	✓	✓	None	Two (2) Identified Settlers
3. Ubay Military Reservation	Brgy. Fatima, Ubay, Bohol	10 Has	None			None	None	None	None	Informal Settlers inside Reservation
4. Cp Lino Chatto, Tubigon Military Reservation (47IB Headquarters)	Brgy. Cabulhan, Tubigon, Bohol	5,2513 Has	14	137		✓	✓	✓	BOHECO 1	
5. Alpha Company Hqs, 47IB	Brgy. Bagumbay an, Pilar, Bohol	1,000 m ²	3	34		✓	✓	✓		
6. 32CMO Company Headquarters	Purok 7, Brgy San Vicente, Trinidad, Bohol	1,000 m2	1	17		✓	✓	None	None	Distant water source/ materials for additional barracks of personnel
7. 32RRC Company Headquarters	Brgy. Riverside, Bilat, Bohol	1,000 m2	2	69		✓	✓	✓	None	
8. Quinoguitan CAA Patrol Base	Brgy. Quinoguitan, Loboc, Bohol		2	28			✓	None		
9. Magsaysay CAA Patrol Base	Brgy. Magsaysay, Selvilla, Bohol		2	19			✓	None		
35. Canawa CAA Patrol Base	Brgy. Cana		2	20			✓	None		
36. Cagong- cagong CAA Patrol Base	Brgy Cagong- cagong, Alicia		2	25			✓	None		
37. Lundag CAA Patrol	Base Brgy Lundag, Pilar		2	23			✓	None		
			29	346	793					
OPCON UNITS CO-LOCATED IN MILITARY CAMPS										
32MICO			1	14						
702 nd CDC, 7 th RCOG, ARESCOM				5						
154d3 rd Pltn, 3 rd Coy K-9Bn, ISG, PA				7						
1 st LAP, 6 LACT (S), MID, PA with 2 Armored Vehicles				6						
Signal Platoon, 35Bn, ASR				5						
Medical Section, CPSH				6						
Dental Section, CPSH			1	1						
TOTAL FORCES			31	390	793					
22. Mahayag Norte CAA Patrol	Mahayag Norte, Cagbrian		2	30			✓	None		
23. Datag CAA Patrol Base	Brgy. Datag, Inabanga		2	28			✓	None		
24. Nueva Montaña CAA Patrol	Brgy Nueva Montaña, Buena Vista Cabatuan, Danao		2	30			✓	None		
25. Cabatuan CAA Patrol Base			2	15			✓	None		
26. Estaca CAA Patrol Base	Brgy. Estaca, Dagohoy		2	25			✓	None		
27. Camanaga CAA Patrol Base	Balimbing, Camanaga, San Miguel		2	31			✓	None		
28. Kauswagan CAA Patrol Base	Kauswagan, Ternidad		2	30			✓	None		
29. Sikatuna CAA Patrol Base	Sikatuna, Talibon		2	24			✓	None		
30. Imelda CAA Patrol Base	Imelda, Ubay		2	25			✓	None		
31. Yugas CAA Patrol Base	Tugas, CPG		2	25			✓	None		
32. San Roque CAA Patrol Base	San Roque, Mabini		2	25			✓	None		
33. Talisay CAA Patrol Base	Brgy Talisay, Anda		2	28			✓	None		
34. Mayuga CAA Patrol Base	Mayuga, Gunduman		2	26			✓	None		
11. Bantoliao CAA Patrol Base	Arilequia, Bohol		2	23			✓	None		
12. Cambansag CAA Patrol Base	Cambansag, San Isidro, Bohol		2	21			✓	None		
13. Libertad CAA Patrol Base	Libertad, Tubigon, Bohol		2	20			✓	None		
14. Danahaw CAA Patrol Base	Brgy. Danahaw, Clarin, Bohol		2	24			✓	None		
15. Libertad Sur CAA Patrol Base	Libertad Sur, Sagbayan, Bohol		2	24			✓	None		
16. Calatrava CAA Patrol Base	Brgy. Calatrava, Carmen		2	31			✓	None		
17. OAC CAA Patrol Base	Brgy. Oac, Dimiao		2	26			✓	None		
18. Marawis CAA Patrol Base	Brgy. Marawis, Valencia		2	28			✓	None		
19. Datag CAA Patrol Base	Brgy. Datag, Garcia Hernandez		2	30			✓	None		
20. Dusita CAA Patrol Base	Brgy. Dusita, Sierra Bulones		2	27			✓	None		
21. Rosariohan CAA Patrol Base	Brgy. Rosariohan, Bataan		2	30			✓	None		

Table DevAd 26 – AFP Camps/Detachments/Reservation in the Province of Bohol

The military operations in Bohol, although considered effective and helpful, require the needed support to improve further the performance of their official responsibilities of maintaining peace and order, developing infrastructure projects and providing social and health services. Assessment would show that the units operating in the province still require additional communication facilities, equipment, skills training and funding support for disaster preparedness operations and in the implementation of infrastructure projects.

Detention and Rehabilitation Services



Map DevAd9 – Location of Jails in Bohol, 2015

With the former Bohol Detention and Rehabilitation Center (BDRC) management already transferred from the Provincial Government, Bohol has now a total of five (5) District Jails operated and managed by the Bureau of Jail Management and Penology (BJMP). Two (2) of these BJMP-managed district jails are located in Tagbilaran City, one (1) in the Municipality of Carmen, one (1) in Ubay and one (1) in the Municipality of Talibon. Total number of personnel manning the district jails is 160 jail officers and guards, while the total number of cells available for the inmates is 56. It should be noted that the manpower of the districts have some who are paid by the Provincial Government.

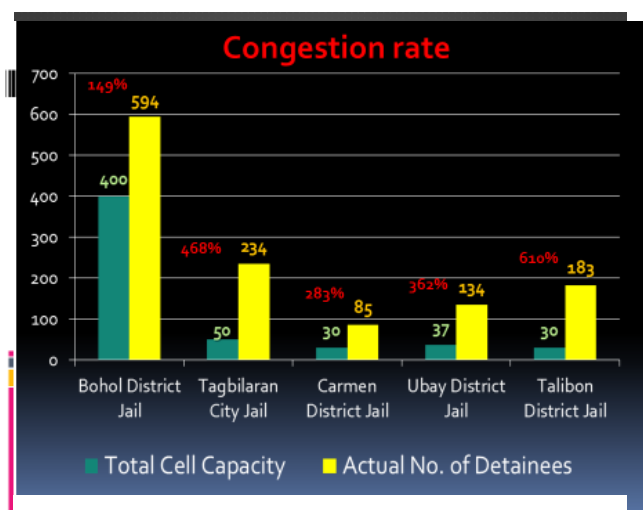


Table DevAd 27 – Bohol Jail Personnel and Facilities, 2015
Figure DevAd 19 – Congestion Rate among Bohol Jails, 2015

Looking into the capacity of these district jails, it can be observed that there is already a significant overcrowding in the cells of most of the jail. Overcrowding is most notable in the district jails located in the municipalities especially in Ubay and Talibon. With the number of prisoners being detained in these detention centers, it is necessary that these jails be expanded to increase its holding capacities. Facilities also need to be improved, particularly the visiting areas, dining halls and individual cells. Considering the risks of operating a detention center, it is also recommended

that these District Jails be located in an appropriate building separate from other government offices. Currently, the jails in Ubay and Carmen are still attached and located at the Municipal Hall building. With the increasing number of prisoners due to the enhanced anti-illegal drug campaign, continued arrests of suspected criminals, slow litigation of cases and the need for a more strategic location of jails in the province, it is therefore necessary to build and establish new detention centers in Bohol. Two of the proposed sites for consideration should be in the municipalities of Tubigon and Jagna to address the detention needs in the northern and eastern part of the province.

Furthermore, there is also a need to capacitate the personnel of these district jails to ensure that the best security and professional rehabilitation services are provided. Equally important to this is the parallel upgrading of equipment such as service vehicles, firearms and other required equipment.

Parole and Probation Services

In Bohol, the services required by legitimate parolees, probationers and pardonees are provided by the Provincial Parole and Probation Administration (PPPA). These services include the supervision of clients, conduct of investigation on applicants for parole and probation and implementation of initiatives such as the residential therapeutic community program.

Justice and Safety	
Profile of Probationers, Parolees and Pardonees (Bohol PPA No.1)	
• As to Number:	Probationers = 180; Parolees = 48; Pardonees = 1
• As to sex (All probationers/ parolees/ pardonees):	Male 212 (93%); Female 17 (7%)
• As to age (All probationers/ parolees/ pardonees):	
• Below 18 yrs old	= 0%
• 18-30 yrs old	= 26%
• 31-40 yrs old	= 29%
• 41-50 yrs old	= 24%
• 51 yrs up	= 21%
• As to education (All probationers/ parolees/ pardonees):	
• Elementary	= 46%
• High School	= 35%
• College	= 12%
• Vocational	= 2%
• Unschooled	= 4%
• As to Crimes Committed (All probationers/ parolees/ pardonees):	
• Against persons	= 46%
• Against property	= 17%
• Special laws	= 1%
• Drugs	= 1%
• Others	= 36%

Table DevAd 28 – Profile of Probationers, Parolees and Pardonees (Bohol PPA 1)

Justice and Safety

Profile of Probationers, Parolees and Pardonees (Bohol PPA No.2)

- **As to Number:** Probationers = 250; Parolees= 55; Pardonees = 2
- **As to sex:** (All probationers/ parolees/ pardonees): Male: 296 (96%); Female 11 (4%)
- **As to age:** (All probationers/ parolees/ pardonees):
 - Below 18 yrs old = 0.00%
 - 18-30 yrs old = 10%
 - 31-40 yrs old = 41%
 - 41-50 yrs old = 16%
 - 51 yrs up = 31%
- **As to education:** (All probationers/ parolees/ pardonees):
 - Elementary = 61%
 - High School = 28%
 - College = 3%
 - Vocational = 0%
 - Unschooled = 8%
- **As to Crimes Committed:** (All probationers/ parolees/ pardonees):
 - Against persons = 15%
 - Against property = 10%
 - Special laws = 71%
 - Drugs = 0%
 - Others = 5%

Table DevAd 29 – Profile of Probationers, Parolees and Pardonees (PPA 2)

A concern of the PPPA-Bohol is its limited number of personnel to provide the services to its clients. A strategy that may be employed is the provision of personnel detail to be provided by the Provincial Local Government. There is also a need for continuing inter-agency coordination and collaboration, especially with law enforcement agencies, legal services and jail management. In terms of operating budgets and financial requirements to support and sustain initiatives for clients, counter-parting agreements between concerned agencies and local government may be arranged.

In 2015, there were a total of 700 clients of the Parole and Probation Administration of Bohol. Out of this, 562 are probationers representing 80.28% of the total service clients of the PPPA. Parolees, on the other hand accounted for 19.14% (134) while pardonees only constituted 0.57% (4) among all the priority clients.

Justice and Safety

Profile of Probationers, Parolees and Pardonees (Tagbilaran City)

- **As to Number:** Probationers = 132; Parolees= 31; Pardonees = 1
- **As to sex:** (All probationers/ parolees/ pardonees): Male: 150 (92%); Female 13(8%)
- **As to age:** (All probationers/ parolees/ pardonees):
 - Below 19 yrs old = 5%
 - 20-29 yrs old = 23%
 - 30-39 yrs old = 28%
 - 40-49 yrs old = 21%
 - 50 yrs up = 23%
- **As to education:** (All probationers/ parolees/ pardonees):
 - Elementary = 24%
 - High School = 41%
 - College = 34%
 - Vocational = 0%
 - Unschooled = 0.6%
- **As to Crimes Committed:** (All probationers/ parolees/ pardonees):
 - Against persons = 40%
 - Against property = 20%
 - Special laws = 35%
 - Drugs = 2.4%
 - Others = 3.1%

Table DevAd 30 – Profile of Probationers, Parolees and Pardonees (PPA-Tagbilaran City)

Disaster Preparedness and Management

The years 2011-2015 may be considered as the period when Bohol Province was struck with horrible calamities. Year 2013 was a double whammy with the Great Bohol Earthquake in October and Typhoon “Yolanda” in November. Right up to this period, the aftershock of the earthquake in 2013 can still be occasionally felt within the province. In 2015, the El Nino

Month/ Year	Name	Month/ Year	Name
January 2014	TS Basyang	October 1971	TY Goying
November 2014	TS Queenie	November 1968	TY Reming
December 2014	TS Seniang	November 1967	TY Yayang
April 2008	TS Ambo	November 1962	TY Lucy
November 2008	TS Rolly	April 1960	TY Karen
March 2002	TD Caloy	May 1954	TY Elsie
November 1998	TS Miding	November 1949	TS4918
November 1998	TD Toyang	November 1949	TS Rena
December 1993	TY Puring		
September 1984	TY Nitang		
February 1980	TD Asiang		
March 1979	TS Karing		
December 1976	TD Kayang		
January 1975	TY Auring		
December 1972	TY Undang		

Source: PAGASA

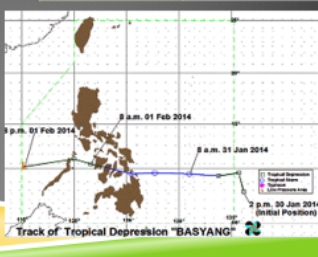
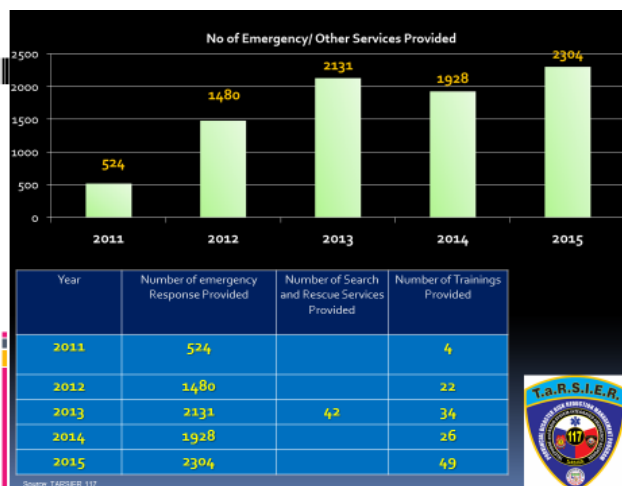
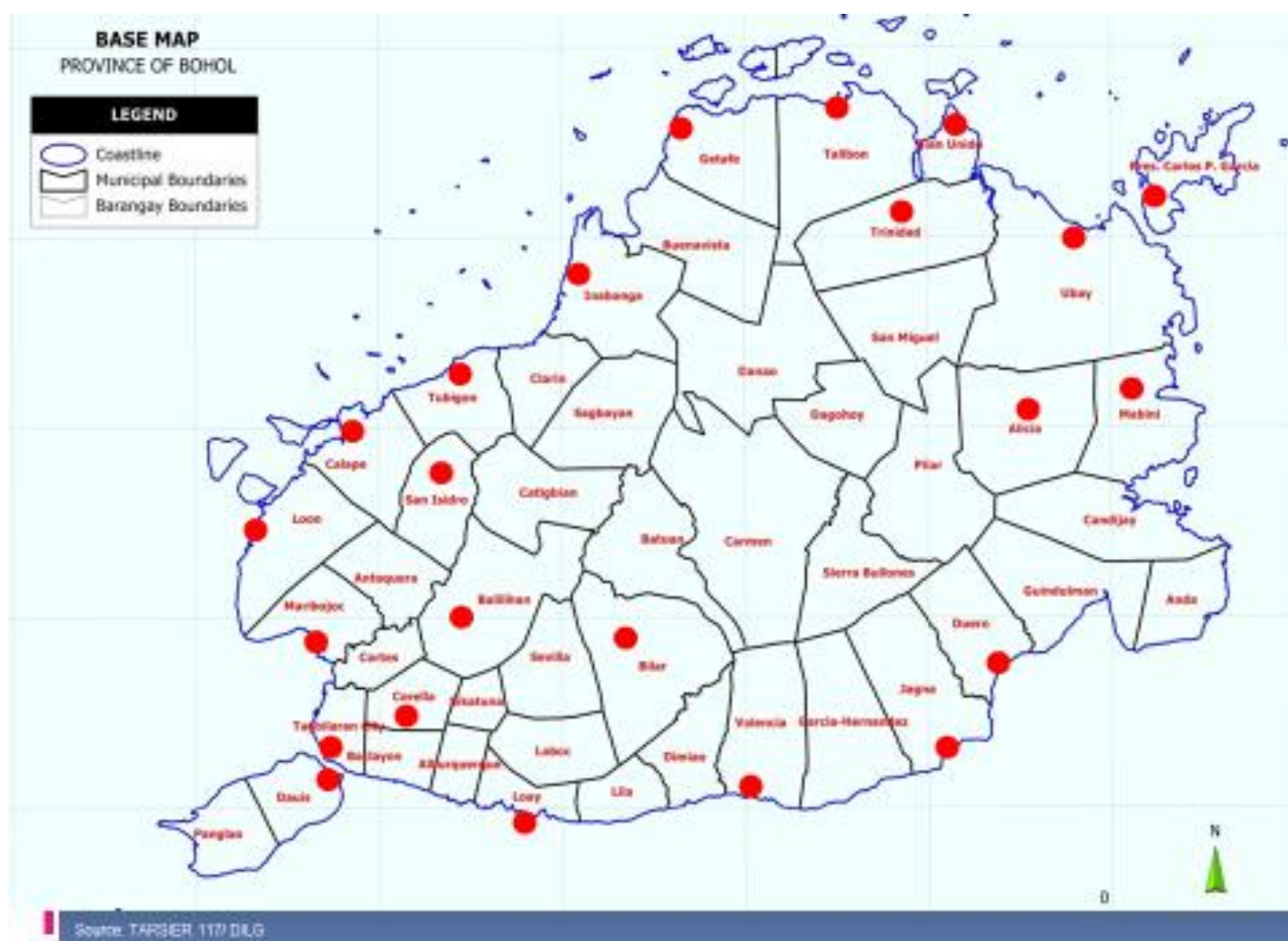


Table DevAD 31 – Tropical Cyclones that made Landfall in Bohol, 1949-2014

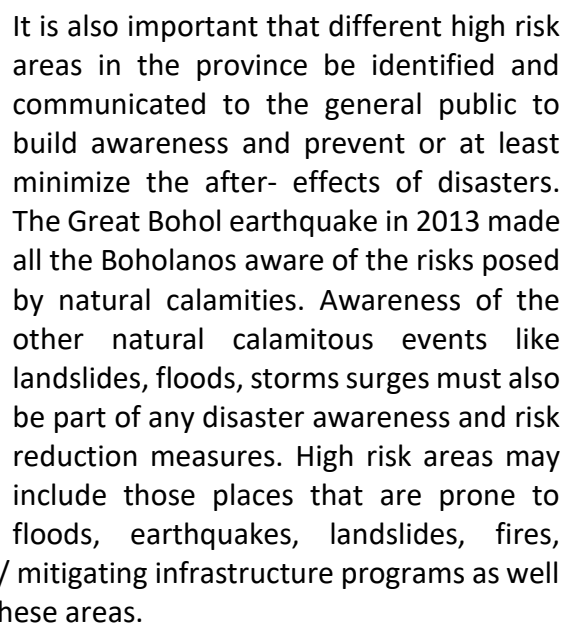
weather disturbance had its start. This condition has brought havoc to the planting and harvesting season of the farmland in the interior portion of the province. Agricultural production were affected that has resulted into less revenue for the people and the government. Flashfloods during typhoons and landslide along the areas mostly affected by the earthquake likewise occurred during this period. Man-made calamities were also recorded during the period ranging from fire incidents, diarrhea outbreak and sea mishaps.



disaster and rescue team of the province and the municipalities are trained and include the Search and Rescue (SAR) Unit, the Evacuation Unit, Emergency Response Operating Team, Relief Unit, Fire Suppression Team and the Transport teams. These teams are organized to be deployed and to respond to any types of emergencies throughout the province. It is noted



With the intention of promoting the safety and general welfare of the public, local government units have started to prepare their Disaster Preparedness Plan which sets the policies, strategies, programs and projects and operating procedures that all stakeholders should undertake to prevent, respond, minimize and mitigate the effects of natural and man-made disasters. This Preparedness Plan, however, should be prioritized and should form part in the development agenda of a local government and implemented through the provision of necessary funding support. Correspondingly, information/ education campaign (IEC) on disaster risk management as well as the strategies identified in the disaster preparedness plan should be undertaken by local governments through their respective Disaster Coordinating Councils. The Office of the Civil Defense is currently initiating the IEC on community-based disaster preparedness program. While the 23 municipal/city disaster response/rescue team units have been organized, some of these units are not yet fully functional to their maximum due to problems in the availability of equipment and vehicles and the capability of their response personnel.



497

Along these lines, the formal establishment of the Provincial Disaster Risk Reduction and Management Office, whose task is to coordinate all disaster preparedness programs and initiatives in the province, is the right mode to prepare the Boholanos especially its leader during times of calamities or disasters. The said office shall become the strategic operational arm of the Provincial Disaster Coordinating Council. Furthermore, Disaster Operation Centers at the municipal and barangay levels need to be strengthened through effective training programs for their personnel and improvement of collaborative linkages with other government agencies. Advocacies for volunteering services for emergency preparedness also need to be reinforced and conducted at the barangay level.



Map DevAd 10 – Existing Hydrological Stations for Bohol Dews and Project Noah

In related matter, it is essential to build a reliable data banking system that will contain information like high risk areas, inventory of disaster management resources and services available in each municipality. Hazard and disaster response facilities maps shall also be developed for easy guidance and reference. This database and the maps, if developed and completed, should be readily accessible by emergency/ disaster response services and the general public.

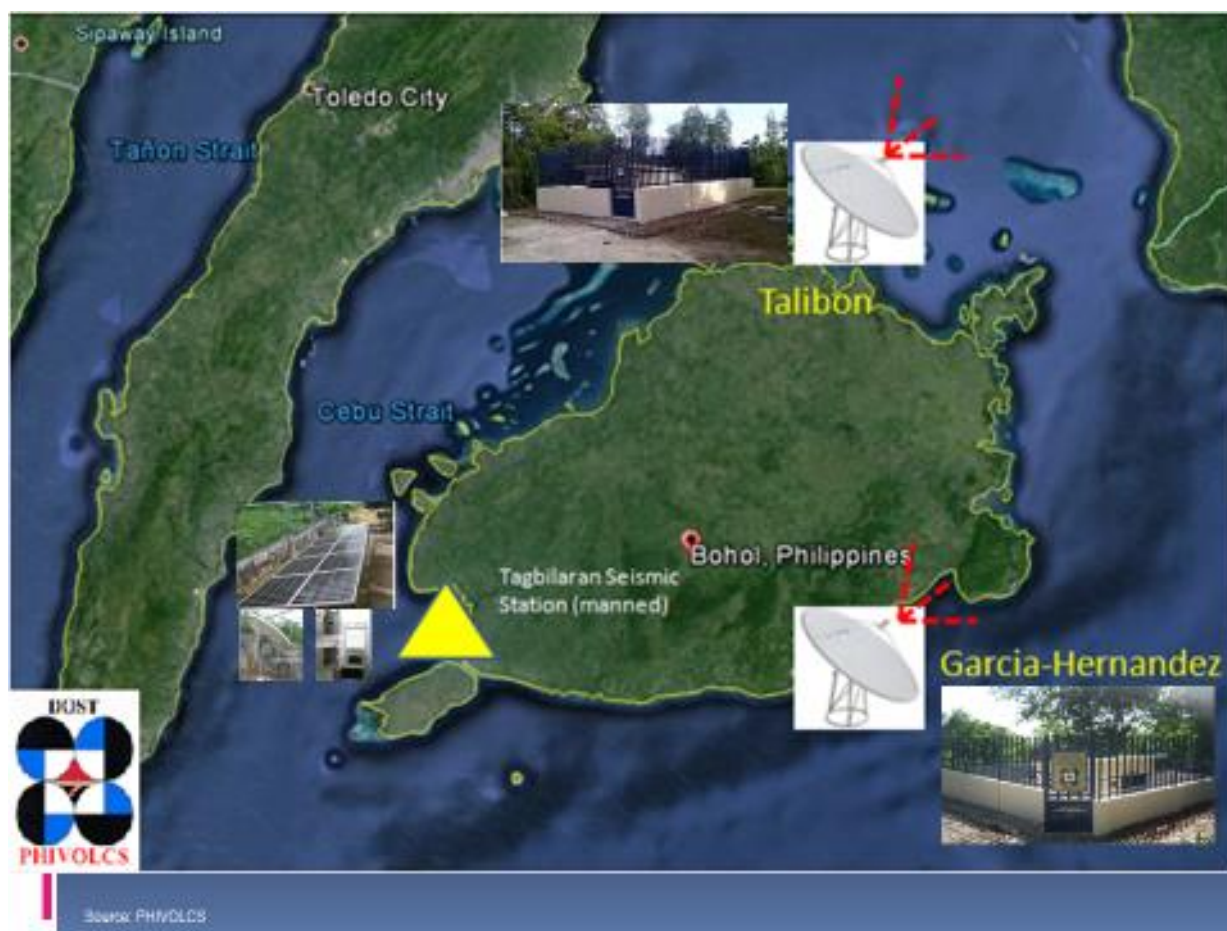


Table DevAd 11 – PhilVolCS Equipment for Disaster Management available in Bohol, 2015

On the other hand, the ability to pro-actively prepare and respond to eminent dangers of calamities is usually dependent on the availability of reliable and updated environmental and geophysical information and forecasts. In Bohol, the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) has been the main source of information on weather forecasts and climatological and atmospheric conditions that become the basis of decisions for the promotion of general safety and welfare of the public and economy. Seismic activities in Bohol are also being continually monitored by the Philippine Institute of Volcanology and Seismology (PhilVolCS) through their short period seismographs and broadband seismometer. With Bohol in proximity with three (3) active fault lines, especially after the earthquake of 2013, the importance of monitoring and observing seismic activities can never be discounted. Training sessions on Rapid Earthquake Damage Assessment System (REDAS) were also conducted for local government units in the province to build capability to simulate earthquake hazard scenarios as well as prepare multi-hazard maps and risks database. These components of the early warning mechanisms and initiatives in the province, however, need some level of improvement and support through personnel augmentation, equipment / facilities upgrading and continuous build-up of database.

Support Legislation and Policies

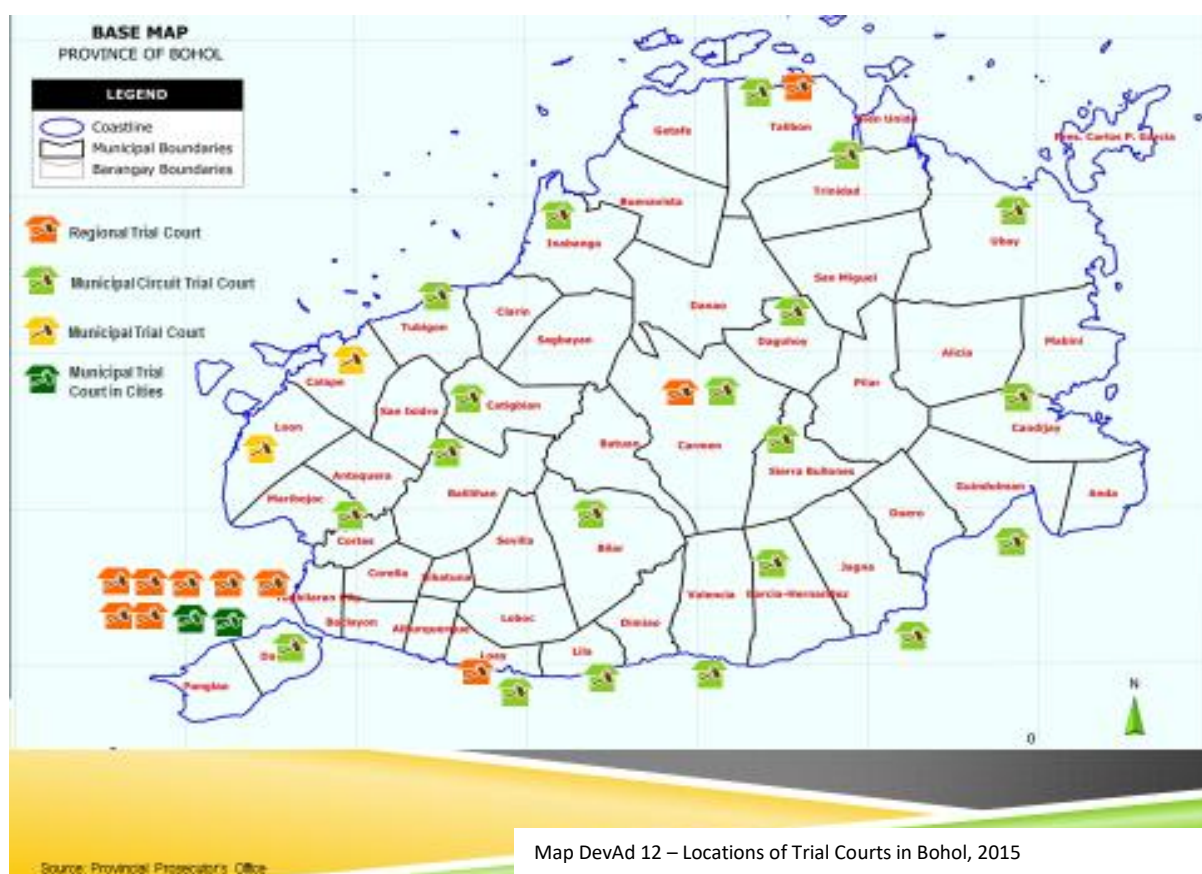
Legislative measures are very essential in ensuring sustainability and viability of initiatives for crime prevention, public safety and disaster preparedness. The Provincial Government, to cite one, has already enacted an ordinance for the establishment of an integrated fire alarm and other related emergency responders dispatching system, which will pave the way for the improvement of emergency services in the province. Legislative support are also necessary for the allocation of sufficient funding assistance for the personnel augmentation and upgrading of necessary equipment/ facilities for the maintenance of peace and order, enforcement of laws and provision of emergency services. Policies for the promotion of inter-agency coordination, information-sharing and resource complementation and augmentation can enhance effectiveness in the delivery of necessary services.

Judicial and Legal Services

Bohol currently has a total of 34 trial courts that are located in various parts of the province. There are ten (10) Regional Trial Courts (RTCs), seven of which are located in Tagbilaran City and three (3) are located in the Municipalities of Loay, Carmen and Talibon. There are also 20 Municipal Circuit Trial Courts (MCTC) located in various municipalities with multiple areas of jurisdiction. On the other

Inventory of Courts, Province of Bohol	
Regional Trial Court	10
Municipal Circuit Trial Court	20
Municipal Trial Court	2
Municipal Trial Court in Cities	2
Source: Provincial Prosecutor's Office, 2009	

Table DevAd 34 – Trial Courts in the Province of Bohol



hand, there are two (2) Municipal Trial Courts that are based in the Municipalities of Loon and Calape. Two (2) Municipal Trial Courts in Cities (MTCC) are located in Tagbilaran City.

With the intention of accelerating the litigation process of cases filed in courts, it is necessary to fill in all vacant positions of judges and court personnel in the Province. Studies should also be conducted on the possibility of establishing additional courts in Bohol that can strategically be located in municipalities to ease the travel of persons that have concerns in court.

On the other hand, legal assistance and services have been provided to indigents through the Pubic Attorney's Office (PAO). The PAO represents indigents in judicial and quasi-judicial cases as well as non-judicial services such as mediation, conciliation, counseling and legal outreach program. The Office also provides legal assistance thru custodial interrogation and inquest investigation, jail visitation, information dissemination campaign thru legal counseling to improve legal literacy.

(RTC, MCTC, MTC & MTCC)	Location	Branch No.	Areas of Jurisdiction
Regional Trial Courts (RTC)	Tagbilaran City	1, 2, 3, 4, 47, 48 & 49	Dauis, Panglao, Corella, Sikatuna, Cortes, Balilihan, Catigbian, Sagbayan, San Isidro, Antequera, Maribojoc, Loon, Calape, Tubigon, Clarin, Inabanga, Buenavista
	Loay	50	Baclayon, Alburquerque, Loay, Loboc, Lila, Dimiao, Valencia, Garcia Hernandez, Jagna, Duero, Guindulman
	Carmen	51	Sevilla, Bilar, Babuan, Pilar, Sierra Bullones, Alicia, Candijay, Mabini, Anda, Carmen
	Talibon	52	Getafe, Bien Unido, San Miguel, Dagohoy, Danao, Trinidad, Ubay, Pres. C. P. Garcia, Talibon
Municipal Circuit Trial Courts (MCTCs)	Cortes	1st MCTC	Cortes, Antequera, Maribojoc
	Tubigon	2nd MCTC	Tubigon, Clarin
	Inabanga	3rd MCTC	Inabanga, Buenavista
	Talibon	4th MCTC	Talibon, Getafe
	Trinidad	5th MCTC	Trinidad, San Miguel, Bien Unido
	Ubay	6th MCTC	Ubay, Pres. C.P. Garcia
	Alicia	7th MCTC	Alicia, Mabini
	Candijay	8th MCTC	Candijay, Anda
	Guindulman	9th MCTC	Guindulman, Duero
	Jagna	10th MCTC	Jagna, Garcia Hernandez
	Valencia	11th MCTC	Valencia, Dimiao
	Lila	12th MCTC	Lila, Loboc
Municipal Circuit Trial Courts (MCTCs)	Loay	13th MCTC	Loay, Alburquerque, Baclayon
	Dauis	14th MCTC	Dauis, Panglao
	Bilar	15th MCTC	Bilar, Sevilla
	Carmen	16th MCTC	Carmen, Babuan
	Sierra Bullones	17th MCTC	Sierra Bullones, Pilar
	Dagohoy	18th MCTC	Dagohoy, Danao
	Balilihan	19th MCTC	Balilihan, Sikatuna, Corella
	Catigbian	20th MCTC	Catigbian, San Isidro, Sagbayan
	Loon	MTC Loon	Loon
	Calape	MTC Calape	Calape
Municipal Trial Courts (MTCs)	Tagbilaran	MTCC Br 1	Tagbilaran City
Municipal Trial Courts in Cities (MTCCs)	Tagbilaran	MTCC Br 2	Tagbilaran City

Table DevAd 35 – Trial Courts in Bohol by Type and Location, 2015

Similarly, the Provincial Legal Office (PLO) of the Provincial Government of Bohol has provided legal services particularly rendering legal opinions on various resolutions and ordinances and legal questions indorsed by the Sangguniang Panlalawigan, Sangguniang Bayan, Sangguniang Pambarangay and other government officials in the province. These legal services are considered very essential in ensuring that government's local laws and policies are in accordance with national decrees/ laws and that programs, projects and activities are not in violation of any applicable guidelines and regulations. The PLO is also expanding its linkages with other stakeholders in society like the national government agencies and non-government organizations. It is also strengthening ties with the academe with its Law Student Apprenticeship Program.

In terms of public prosecution, the Prosecutors Office is responsible for the conduct of preliminary investigations and inquest of criminal cases filed in courts for prosecution. Considering the number of cases being handled by the office, it is necessary to augment the number of prosecutors in Bohol. It is also essential to enhance the coordination between the Prosecutor's Office and the Philippine National Police, especially in the conduct of investigation and other court-related activities. Similar with other public offices, the Prosecutor's Office needs sufficient office space and equipment to improve the performance of their functions. A more spacious, adequate, complete structure that will house all the offices in the province concerned with the judicial arm of the government can provide a better environment for the workers in the Judiciary and Judicial service, the litigants and the general public.

ISSUES AND CONCERNS OF THE SUB-SECTOR

Peace and Order

- Threat of crimes (crime volume in the Province is increasing with prevalence of theft and physical injuries)
- Drug related crimes (substance distribution and abuse) which most often lead to incidents of other crimes (murder, homicide, physical injuries, rape, theft and robbery)
- Problems on loose firearms and illegal gambling
- Non-participation of some communities in crime prevention/ enforcement efforts of the local police force
- Absence of an Explosives Ordnance Disposal (EOD) Team in the province (PNP, AFP)
- PNP stations in several municipalities still located in LGU buildings (need for lot donations)
- Frequent traffic related accidents (particularly involving undisciplined drivers/ minors on motorcycles)
- Threat of CPP-NPA-NDF (CNN) Recovery Efforts in the province
- No permanent Coastguard Station/ Sub-station/ Outpost Buildings in various parts of the Province

Jail Management

- Existing jail facilities in the Province are already congested (*actual number of prisoners exceeded jail capacities, with as high as 610% congestion rate*)
- Need to sustain rehabilitation/ livelihood/ health/ education programs for inmates
- Absence of after-care support for released inmates

Fire Protection and Prevention

- Increasing fire incidence for the last 3 years

- Violations of Fire and Building Codes/ regulations pertaining to occupational safety by owners of buildings and establishments
- Some municipalities still have no fire stations

Disaster Risk Reduction and Management

- Bohol is prone to multiple hazards (*Typhoon, Earthquake, Flooding, Tsunami, Storm Surge, Wind Wave, Landslide, Liquefaction, Drought*)
- Disaster Risk Reduction Management (DRRM) Plan/ Climate Change Adaption Plan (CCAP) and Vulnerability Risk Assessment Report/ Risk and Hazards in most LGUs are not updated
- Community-based / household-level disaster risk management still at the infancy stage in the Province of Bohol (in general)
- Contingency planning not yet practiced at the barangay level
- Some LGUs do not have permanent DRRM Officers
- Disaster –resilient evacuation centers in the Province especially in areas with high risk of hazards not yet established
- Mechanisms to involve the private sector and CSOs in disaster risk reduction management (in all pillars of PDRRM & not just in response) not yet formalized
- PDRRM-TARSIER 117 coverage for now is limited and cannot cover the entire province; there is a need for other LGUs to have their own emergency teams (first responders) and ambulances
- Absence of database on emergency response volunteers (SAR, WASAR, others) and DRRM structures/ profiles of LGUs)

Justice

- Slow litigation of cases
- Lack of lawyers/ manpower (high case load) at the Provincial Prosecutor's Office and Public Attorney's Office
- Hall of Justice is congested and lacks the needed space to house all the courts and other related offices
- Limited office spaces / archives / support facilities at the Provincial Prosecutor's Office, Public Attorney's Office , DOJ-Parole and Probation Office

Cross – Cutting/ Common Concerns

- Need to strengthen lateral coordination between law enforcement, justice and safety agencies
- Lack of manpower and sustainability concerns on capacity development for all justice and safety agencies
- Insufficient needed equipment support and facilities

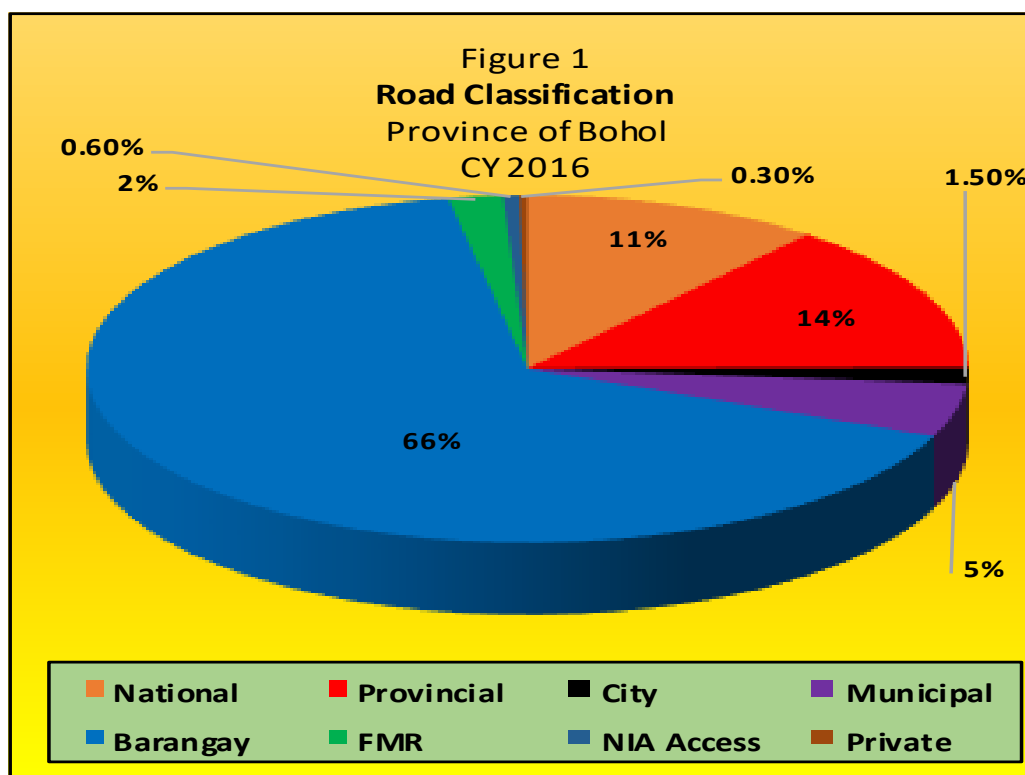
SECTOR: INFRASTRUCTURE DEVELOPMENT

INFRASTRUCTURE DEVELOPMENT

❖ Sub-sector: Transport and Access Development

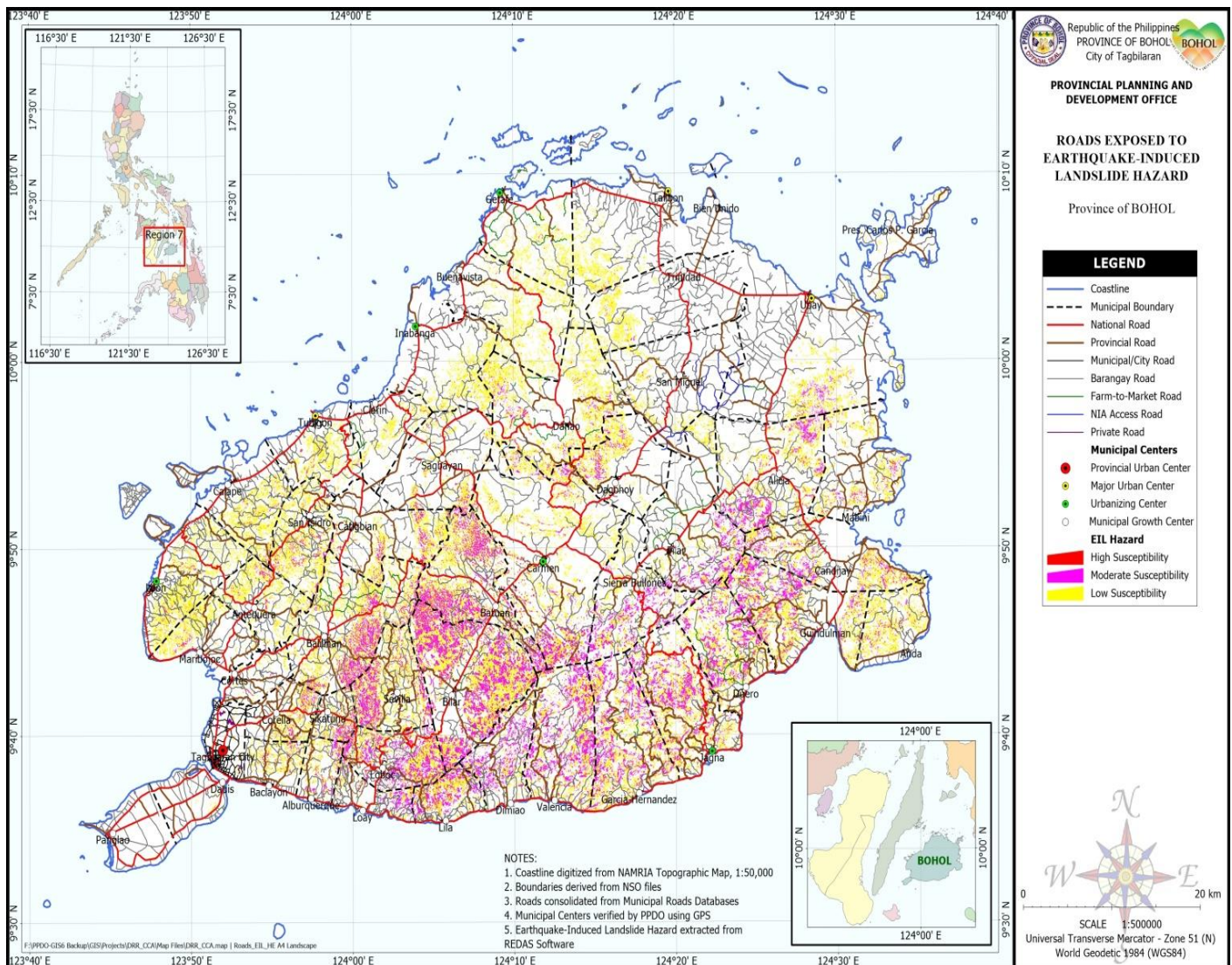
A. Land Transport

➤ A.1 Roads and Bridges:



In the year 2016, the road network in Bohol has a total road length of 6,131.725 kms of which 12% is classified as national road, 14% provincial roads, 1% city road, 5% municipal and 68% barangay roads.

• Road Exposure to Earthquake-Induced Landslide Hazard



On exposure to earthquake-induced landslide, a total of 0.981 km. is highly susceptible, 41.450 kms are moderately susceptible and 190.574 kms have low susceptibility. Only the national, provincial and barangay roads have high, moderate and low susceptibility to earthquake-induced landslide while both the municipal, city, farm-to-market, NIA access and private roads have no highly susceptible roads. The NIA access roads have no roads that are exposed to earthquake-induced landslide.

Table 1
Road Exposure to Earthquake-Induced to Landslide by Classification

Road Classification	Total Road Length (kms.)	High Susceptibility (kms.)	High Susceptibility (%)	Moderate Susceptibility (kms.)	Moderate Susceptibility (%)	Low Susceptibility (kms.)	Low Susceptibility (%)
National Road	692.114	0.014	0.002%	2.139	0.309%	12.064	1.743%
Provincial Road	832.603	0.191	0.023%	8.001	0.961%	33.712	4.049%
City Road	90.711	-		-		0.251	0.277%
Municipal Road	302.58	-		0.215	0.071%	2.581	0.853%
Barangay Road	4,033.51	0.776	0.019%	29.516	0.723%	135.915	3.344%
FMR	125.338	-		1.579	1.260%	6.002	4.789%
NIA Access Road	38.499	-		-		-	
Private Road	16.406	-		-		0.049	0.298%
TOTAL	6,131.725	0.981	0.016%	41.450	0.676%	190.574	3.108%

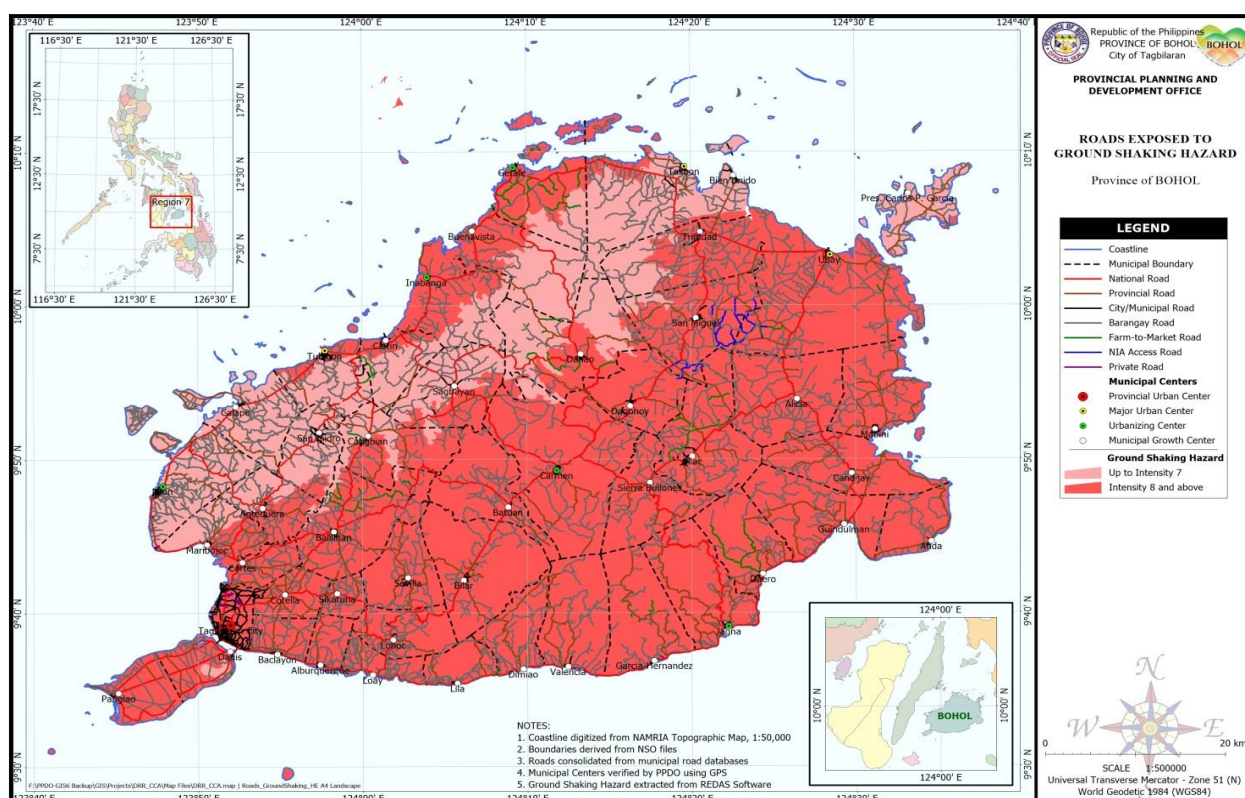
Table 2
Road Exposure to Earthquake-Induced to Landslide by Municipality

Road Classification	Total Road Length (kms.)	High Susceptibility (kms.)	High Susceptibility (%)	Moderate Susceptibility (kms.)	Moderate Susceptibility (%)	Low Susceptibility (kms.)	Low Susceptibility (%)
Albur	47.505			0.148	0.31%	1.318	2.78%
Alicia	115.650			1.587	1.37%	3.395	2.94%
Anda	80.954			0.019	0.02%	1.970	2.43%
Antequera	124.176			0.119	0.10%	4.038	3.25%
Baclayon	104.114			0.300	0.29%	4.574	4.39%
Balilihan	180.991			0.673	0.37%	8.163	4.51%
Batuan	95.450	0.041	0.04%	1.499	1.57%	8.266	8.66%
Bien Unido	30.355						
Bilar	108.818	0.034	0.03%	3.043	2.80%	9.267	8.52%
Buenavista	125.814			0.013	0.01%	1.198	0.95%
Calape	140.650			0.063	0.05%	3.834	2.73%
Candijay	145.211			1.019	0.70%	5.668	3.90%
Carmen	232.263	0.046	0.02%	1.607	0.69%	8.134	3.50%
Catigbian	118.447			0.250	0.21%	1.978	1.67%
Clarín	93.973					0.971	1.03%
Corella	87.770			0.650	0.74%	4.236	4.83%
Cortes	85.350			0.086	0.10%	0.682	0.80%
Dagohoy	110.940			0.141	0.13%	1.533	1.38%
Danao	92.720			0.249	0.27%	2.315	2.50%
Dauis	97.865					0.023	0.02%
Dimiao	121.009	0.010	0.01%	3.054	2.52%	3.227	2.67%
Duero	85.323	0.035	0.04%	2.255	2.64%	7.620	8.93%
Garcia-Hernandez	121.007	0.051	0.04%	1.872	1.55%	9.631	7.96%
Getafe	96.830			0.162	0.17%	1.257	1.30%
Guindulman	175.211			2.854	1.63%	9.833	5.61%
Inabanga	139.815			0.085	0.06%	1.388	0.99%
Jagna	146.212			1.325	0.91%	8.749	5.98%
Lila	66.498	0.640	0.96%	3.008	4.52%	4.169	6.27%
Loay	106.642	0.027	0.03%	2.804	2.63%	6.914	6.48%
Loboc	139.175	0.060	0.04%	5.961	4.28%	12.215	8.78%
Loon	422.568			0.249	0.06%	15.115	3.58%
Mabini	119.632					0.623	0.52%

Road Classification	Total Road Length (kms.)	High Susceptibility (kms.)	High Susceptibility (%)	Moderate Susceptibility (kms.)	Moderate Susceptibility (%)	Low Susceptibility (kms.)	Low Susceptibility (%)
Maribojoc	96.608			0.077	0.08%	1.836	1.90%
Panglao	106.081						
Pilar	176.452			0.988	0.56%	4.219	2.39%
Pres. Carlos P. Garcia	67.727					0.049	0.07%
Sagbayan	142.570			0.277	0.19%	1.863	1.31%
San Isidro	117.281			0.201	0.17%	4.895	4.17%
San Miguel	90.980			0.033	0.04%	0.823	0.91%
Sevilla	90.621			1.130	1.25%	8.866	9.78%
Sierra Bullones	132.439			1.494	1.13%	5.200	3.93%
Sikatuna	75.830			1.250	1.65%	6.827	9.00%
Tagbilaran	146.627					0.309	0.21%
Talibon	150.803					0.961	0.64%
Trinidad	219.895			0.009	0.00%	0.840	0.38%
Tubigon	114.689			0.045	0.04%	1.817	1.58%
Ubay	340.606			0.106	0.03%	1.860	0.55%
Valencia	103.578			2.366	2.28%	6.498	6.27%
Total	6,131.725	0.981	0.016%	41.450	0.676%	190.574	3.108%

Of the 47 municipalities, only Bien Unido and Panglao have no roads that are exposed to earthquake-induced landslide. Only nine municipalities - Batuan, Bilar, Carmen, Dimiao, Duero, Garcia Hernandez, Lila, Loay, Loboc have roads that are highly susceptible to earthquake-induced landslide. On the other hand, five municipalities and the City of Tagbilaran, Clarin, Daus, Mabini, Pres. Garcia and Talibon have low susceptibility to earthquake-induced landslide.

- **Road Exposure to Ground Shaking Hazard**



On ground shaking, 76.936% of Bohol's roads are susceptible to intensity 8 and above while the rest (22.671%) are susceptible to intensity 7 and below. Both the city and NIA roads have no roads that are susceptible to intensity 7 and below

Table 3
Road Exposure to Ground Shaking by Classification

Road Classification	Total Road Length (kms.)	Roads Susceptible to Intensity 8 and above (kms.)	Percentage of Roads Susceptible to Intensity 8 and above	Roads Susceptible to Up to Intensity 7 (kms.)	Percentage of Roads Susceptible to Up to Intensity 7
National Road	692.114	553.511	79.974%	129.958	18.777%
Provincial Road	832.603	679.446	81.605%	150.876	18.121%
Municipal Road	302.58	225.141	74.407%	74.181	24.516%
City Street	90.711	89.710	98.897%	-	-
Barangay Road	4,033.51	3,008.503	74.216%	1,016.216	25.571%
Farm-to-Market Road	125.338	107.062	85.419%	18.212	14.530%
NIA Access Road	38.499	38.499	100.000%	-	-
Private Road	16.406	15.627	95.252%	0.678	4.130%
Total	6,131.725	4,717.50	76.936%	1,390.12	22.671%

Table 4
Road Exposure to Ground Shaking by Municipality

Road Classification	Total Road Length (kms.)	Roads Susceptible to Intensity 8 and above (kms.)	Percentage of Roads Susceptible to Intensity 8 and above	Roads Susceptible to Up to Intensity 7 (kms.)	Percentage of Roads Susceptible to Up to Intensity 7
Albur	47.505	47.505	100.00%		
Alicia	115.650	115.65	100.00%		
Anda	80.954	80.954	100.00%		
Antequera	124.176	71.498	57.58%	52.678	42.42%
Baclayon	104.114	104.114	100.00%		
Balilihan	180.991	178.568	98.66%	2.423	1.339%
Batuan	95.450	95.45	100.00%		
Bien Unido	30.355			30.355	100.00%
Bilar	108.818	108.818	100.00%		
Buenavista	125.814	80.566	63.78%	45.248	35.96%
Calape	140.650			140.65	100.00%
Candijay	145.211	145.211	100.00%		
Carmen	232.263	231.232	99.56%	1.031	0.44%
Catigbian	118.447	75.254	63.53%	43.193	36.47%
Clarín	93.973	44.481	46.80%	49.492	52.67%

Road Classification	Total Road Length (kms.)	Roads Susceptible to Intensity 8 and above (kms.)	Percentage of Roads Susceptible to Intensity 8 and above	Roads Susceptible to Up to Intensity 7 (kms.)	Percentage of Roads Susceptible to Up to Intensity 7
Corella	87.770	87.77	100.00%		
Cortes	85.350	85.35	100.00%		
Dagohoy	110.940	110.735	99.815%	0.205	0.185%
Danao	92.720	42.501	40.45%	50.219	59.56%
Dauis	97.865	95.558	97.64%	2.307	2.357%
Dimiao	121.009	121.009	100.00%		
Duero	85.323	85.323	100.00%		
Garcia-Hernandez	121.007	121.007	100.00%		
Getafe	96.830	89.293	92.22%	7.537	7.78%
Guindulman	175.211	175.211	100.00%		
Inabanga	139.815	100.039	63.48%	39.776	35.60%
Jagna	146.212	146.212	100.00%		
Lila	66.498	66.498	100.00%		
Loay	106.642	106.642	100.00%		
Loboc	139.175	139.175	100.00%		
Loon	422.568			422.568	100.00%
Mabini	119.632	119.632	100.00%		
Maribojoc	96.608	61.443	57.14%	35.165	39.51%
Panglao	106.081	105.190	98.29%	0.891	0.84%
Pilar	176.452	176.452	100.00%		
Pres. Carlos P. Garcia	67.727	6.129	9.05%	61.598	90.95%
Sagbayan	142.570	51.927	36.42%	90.643	63.58%
San Isidro	117.281	6.161	5.25%	111.120	94.75%
San Miguel	90.980	87.038	95.67%	3.942	4.33%
Sevilla	90.621	90.621	100.00%		
Sierra Bullones	132.439	132.439	100.00%		
Sikatuna	75.830	75.83	100.00%		
Tagbilaran	146.627	146.627	100.00%		
Talibon	150.803	34.208	21.99%	116.595	77.32%
Trinidad	219.895	185.210	82.69%	34.685	17.31%
Tubigon	114.689	42.790	35.60%	71.899	62.69%
Ubay	340.606	340.606	100.00%		
Valencia	103.578	103.578	100.00%		
Total	6,131.725	4,717.50	76.936%	1,390.12	22.671%

A total of 4,717.50 kms. of roads are susceptible to intensity 8 and above while 1,390.12 kms. of roads are susceptible to intensity 7 and below. Only three municipalities - Bien Unido, Calape, Loon – are not susceptible to intensity 8 and above.

Table 5
Road Exposure to Liquefaction Hazard by Classification

Road Classification	Total Road Length (kms.)	Roads Exposed to High Susceptibility (kms.)	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility (kms.)	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility (kms.)	Percentage of Roads Exposed to Low Susceptibility
National Road	692.114	173.444	25.06%	33.789	4.88%	55.854	8.07%
Provincial Road	832.603	152.008	18.26%	13.546	1.63%	42.130	5.06%
Municipal Road	302.58	131.362	43.41%	7.906	2.61%	16.693	5.52%
City Street	90.711	26.025	28.69%	0.316	0.35%		
Barangay Road	4,033.51	530.606	13.50%	127.649	3.17%	191.612	4.72%
FMR	125.338	5.499	4.39%	0.529	0.42%	10.264	8.19%
NIA Access Road	38.499			4.447	11.55%	16.799	43.64%
Private Road	16.406	1.988	12.12%			0.582	3.55%
Total	6,131.725	1,020.932	16.65%	188.183	3.07%	333.934	5.45%

*Hazard vulnerability based on data extracted from the REDAS software

There are 1,020.932 kms. of roads that are highly susceptible to liquefaction while 188.183 kms. are moderately susceptible and 333.934 kms. are lowly susceptible.

Table 6
Road Exposure to Liquefaction Hazard by Municipality

Road Classification	Total Road Length (kms.)	Roads Exposed to High Susceptibility (kms.)	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility (kms.)	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility (kms.)	Percentage of Roads Exposed to Low Susceptibility
Albur	47.505	10.715	22.56%				
Alicia	115.65					26.700	23.09%
Anda	80.954	34.539	42.67%			0.365	0.45%
Antequera	124.176	0.903	0.73%				
Baclayon	104.114	19.674	18.90%				
Balilihan	180.991						
Batuan	95.45					31.803	33.32%
Bien Unido	30.355	30.126	99.25%				
Bilar	108.818					29.638	27.24%

Road Classification	Total Road Length (kms.)	Roads Exposed to High Susceptibility (kms.)	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility (kms.)	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility (kms.)	Percentage of Roads Exposed to Low Susceptibility
Buenavista	125.814	17.004	13.52%	10.348	8.23%		
Calape	140.65	63.845	45.39%	6.616	4.70%		
Candijay	145.211	55.497	38.22%	2.190	1.51%	0.139	0.10%
Carmen	232.263					20.857	8.98%
Catigbian	118.447						
Clarín	93.973	18.556	19.75%				
Corella	87.77						
Cortes	85.35	8.200	9.61%	3.722	4.36%		
Dagohoy	110.94					38.136	34.38%
Danao	92.72						
Dauis	97.865	6.714	6.86%	13.883	14.19%		
Dimiao	121.009	17.197	14.21%				
Duero	85.323	17.333	20.32%	3.724	4.37%	0.779	0.91%
Garcia-Hernandez	121.007	11.464	9.47%	6.032	4.99%	9.794	8.09%
Getafe	96.830	24.896	25.71%				
Guindulman	175.211	27.464	15.68%			15.634	8.92%
Inabanga	139.815	22.442	16.05%				
Jagna	146.212	25.419	17.39%	2.040	1.40%	2.983	2.04%
Lila	66.498	6.605	9.93%	6.675	10.04%		
Loay	106.642	34.297	32.16%	2.029	1.90%		
Loboc	139.175	24.104	17.32%				
Loon	422.568	76.975	18.22%	5.840	1.38%	0.068	0.02%
Mabini	119.632	43.753	36.57%				
Maribojoc	96.608	19.827	20.52%			0.948	0.98%
Panglao	106.081	51.201	48.27%	17.093	16.11%		
Pilar	176.452					38.555	21.85%
Pres. Carlos P. Garcia	67.727	59.509	87.87%				
Sagbayan	142.57						
San Isidro	117.281						
San Miguel	90.98			3.942	4.33%	16.871	18.54%
Sevilla	90.621						
Sierra Bullones	132.4389						
Sikatuna	75.83						

Road Classification	Total Road Length (kms.)	Roads Exposed to High Susceptibility (kms.)	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility (kms.)	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility (kms.)	Percentage of Roads Exposed to Low Susceptibility
Tagbilaran	146.627	41.369	28.21%	1.261	0.86%		
Talibon	150.803	42.484	28.17%	4.435	2.94%		
Trinidad	219.895	64.671	29.41%	22.300	10.14%		
Tubigon	114.689	44.135	38.48%	4.986	4.35%		
Ubay	340.606	87.774	25.77%	65.846	19.33%	74.460	21.86%
Valencia	103.578	13.409	12.95%	1.576	1.52%	0.694	0.67%
Total	6,131.72	1,020.93	16.65%	188.183	3.07%	333.934	5.45%

*Hazard vulnerability based on data extracted from the REDAS software

There are nine (9) municipalities, namely: Balilihan, Catigbian, Corella, Danao, Sagbayan, San Isidro, Sevilla, Sierra Bullones, Sikatuna, which are not exposed to liquefaction. Municipalities that are neither highly nor moderately but only with low susceptibility are the following: Alicia, Batuan, Bilar, Carmen, Dagohoy, and Pilar.

• Roads Exposure to Rain-Induced Landslide Hazard

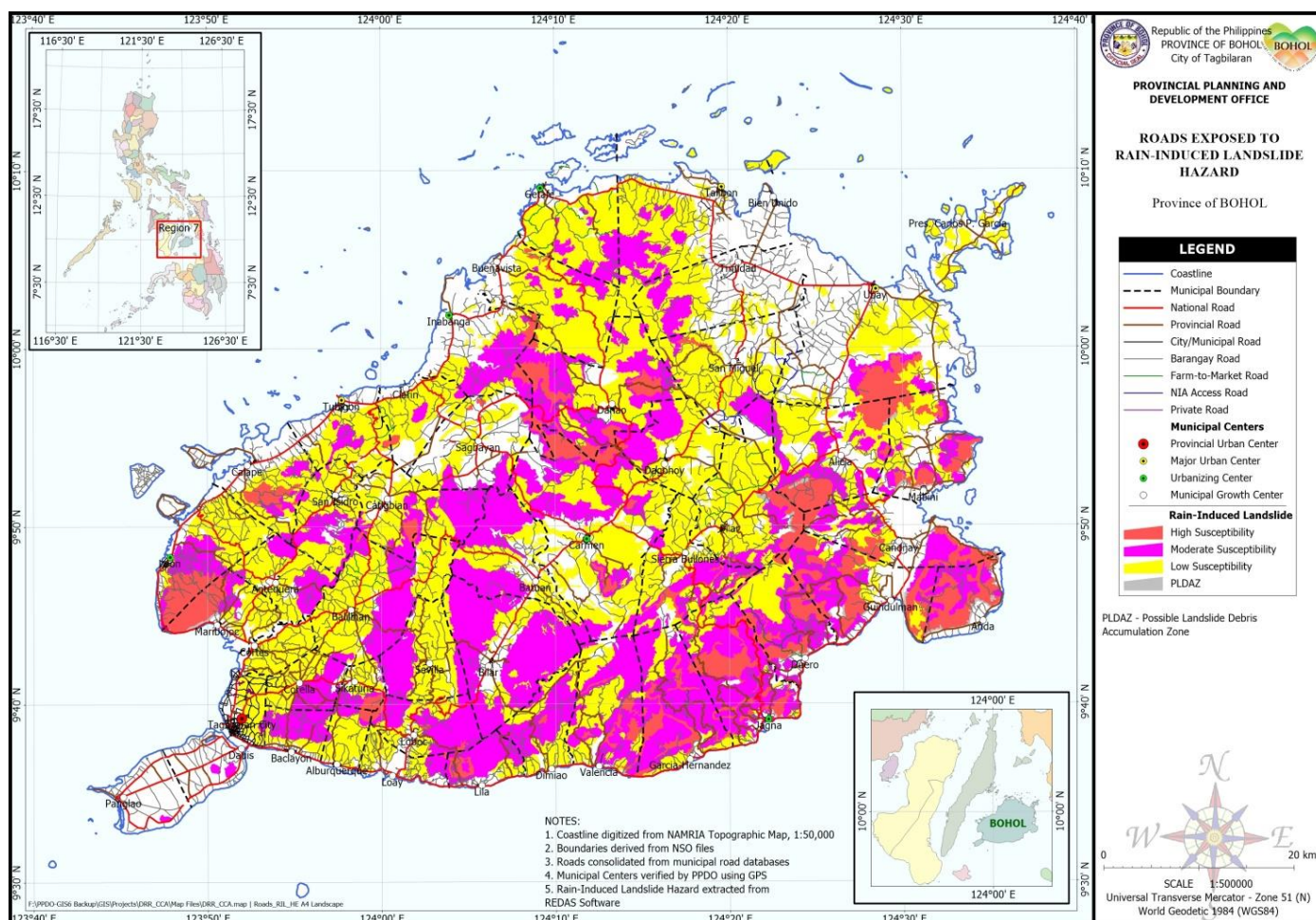


Table 7
Road Exposure to Rain-Induced Landslide Hazard by Classification

Road Classification	Total Road Length (kms.)	Roads Exposed to High Susceptibility (kms.)	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility (kms.)	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility (kms.)	Percentage of Roads Exposed to Low Susceptibility
National Road	692.114	11.226	1.622%	67.578	9.764%	229.284	33.128%
Provincial Road	832.603	43.462	5.220%	172.890	20.765%	319.553	38.380%
Municipal Road	302.58			2.826	0.934%	82.695	27.330%
City Street	90.711			0.948	1.045%	35.341	38.960%
Barangay Road	4,033.51	147.626	3.660%	696.708	17.273%	1813.829	44.969%
Farm-to-Market Road	125.338	5.623	4.486%	29.235	23.325%	65.725	52.438%
NIA Access Road	38.499			0.297	0.771%	14.226	36.951%
Private Road	16.406			0.291	1.776%	12.817	78.123%
Total	6,131.725	210.134	3.427%	979.420	15.973%	2,576.61	42.021%

*Hazard vulnerability based on data extracted from the REDAS software

There are 3.427% or 210.134 kms. of roads that are highly susceptible to rain-induced landslide, 979.420 kms. (15.973%) of moderately susceptible roads and 2,576.61 kms. (42.021%) of lowly susceptible roads. Only the municipal roads, NIA access roads and private roads are not highly susceptible to rain-induced landslide.

Table 8
Road Exposure to Rain-Induced Landslide Hazard by Municipality

Road Classification	Total Road Length (kms.)	Roads Exposed to High Susceptibility (kms.)	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility (kms.)	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility (kms.)	Percentage of Roads Exposed to Low Susceptibility
Albur	47.505	0.333	0.70%	5.069	10.67%	29.955	63.06%
Alicia	115.65	12.712	10.99%	27.810	24.05%	43.421	37.55%
Anda	80.954	22.543	27.85%	20.297	25.07%	1.328	1.64%
Antequera	124.176			25.075	20.19%	83.158	66.97%
Baclayon	104.114			44.817	43.05%	25.810	24.79%
Balilihan	180.991			24.662	13.63%	145.864	80.59%
Batuan	95.45			11.182	11.72%	48.350	50.66%
Bien Unido	30.355						

Bohol Provincial Development and Physical Framework Plan (PDPFP) 2016-2028

Road Classification	Total Road Length (kms.)	Roads Exposed to High Susceptibility (kms.)	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility (kms.)	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility (kms.)	Percentage of Roads Exposed to Low Susceptibility
Bilar	108.818			31.843	29.26%	34.389	31.60%
Buenavista	125.814	2.837	2.26%	7.617	6.05%	75.078	59.67%
Calape	140.65	10.788	7.67%	8.346	5.93%	43.973	31.26%
Candijay	145.211	10.230	7.05%	18.731	12.90%	40.451	27.86%
Carmen	232.263	8.092	3.48%	49.284	21.22%	89.760	38.65%
Catigbian	118.447	3.089	2.61%	19.734	16.66%	60.170	50.80%
Clarin	93.973			0.355	0.38%	56.716	60.35%
Corella	87.77			26.027	29.65%	61.191	69.72%
Cortes	85.35					73.110	85.66%
Dagohoy	110.94	5.535	4.99%	9.454	8.52%	84.566	76.23%
Danao	92.72	6.138	6.62%	25.211	27.19%	49.973	53.90%
Dauis	97.865			0.624	0.64%		
Dimiao	121.009	0.123	0.10%	40.200	33.22%	63.578	52.54%
Duero	85.323	9.304	10.91%	47.028	55.12%	2.879	3.37%
Garcia-Hernandez	121.007	8.720	7.21%	58.475	48.32%	24.765	20.47%
Getafe	96.83	0.687	0.71%	8.354	8.63%	49.513	51.13%
Guindulman	175.211	19.948	11.39%	63.188	36.06%	23.894	13.64%
Inabanga	139.815	1.152	0.82%	29.040	20.77%	32.163	23.00%
Jagna	146.212	15.781	10.79%	68.366	46.76%	26.195	17.92%
Lila	66.498	3.088	4.64%	25.799	38.80%	8.896	13.38%
Loay	106.642	1.644	1.54%	8.124	7.62%	47.551	44.59%
Loboc	139.175	4.770	3.43%	32.351	23.25%	74.949	53.85%
Loon	422.568	39.637	9.38%	84.459	19.99%	144.797	34.27%
Mabini	119.632	2.888	2.41%	23.250	19.44%	32.527	27.19%
Maribojoc	96.608	12.053	12.48%	16.061	16.63%	42.250	43.73%
Panglao	106.081			0.762	0.72%		
Pilar	176.452	4.630	2.62%	22.815	12.93%	130.788	74.12%
Pres. Carlos P. Garcia	67.727					26.890	39.70%
Sagbayan	142.57	1.841	1.29%	9.522	6.68%	29.871	20.95%
San Isidro	117.281	0.000		13.842	11.80%	79.076	67.42%
San Miguel	90.98	1.804	1.98%	7.965	8.76%	45.144	49.62%
Sevilla	90.621			5.704	6.29%	80.162	88.46%
Sierra Bullones	132.4389	4.490	3.39%	19.069	14.40%	90.937	68.66%
Sikatuna	75.83	1.862	2.46%	21.951	28.95%	37.912	50.00%
Tagbilaran	146.627			1.167	0.80%	61.834	42.17%

Road Classification	Total Road Length (kms.)	Roads Exposed to High Susceptibility (kms.)	Percentage of Roads Exposed to High Susceptibility	Roads Exposed to Moderate Susceptibility (kms.)	Percentage of Roads Exposed to Moderate Susceptibility	Roads Exposed to Low Susceptibility (kms.)	Percentage of Roads Exposed to Low Susceptibility
Talibon	150.803			7.646	5.07%	78.130	51.81%
Trinidad	219.895	0.178	0.08%	5.381	2.45%	69.359	31.54%
Tubigon	114.689	0.432	0.38%	7.877	6.87%	45.964	40.08%
Ubay	340.606	1.499	0.44%	8.801	2.58%	81.824	24.02%
Valencia	103.578	5.238	5.06%	28.050	27.08%	47.486	45.85%
Total	6,131.725	210.134	3.427%	979.420	15.973%	2,576.612	42.021%

*Roads lengths in kilometers; Hazard vulnerability based on data extracted from the REDAS software

Of the 47 municipalities, only Bien Unido is not susceptible to rain-induced landslide. Tagbilaran City and fifteen municipalities are not highly susceptible to rain-induced landslide, namely: Antequera, Baclayon, Balilihan, Batuan, Bien Unido, Bilar, Clarin, Corella, Cortes, Dauis, Panglao, Pres. Garcia, San Isidro, Sevilla and Talibon. Only Cortes and Pres. Garcia have low susceptibility to rain-induced landslide.

• Roads Exposure to Storm Surge Hazard

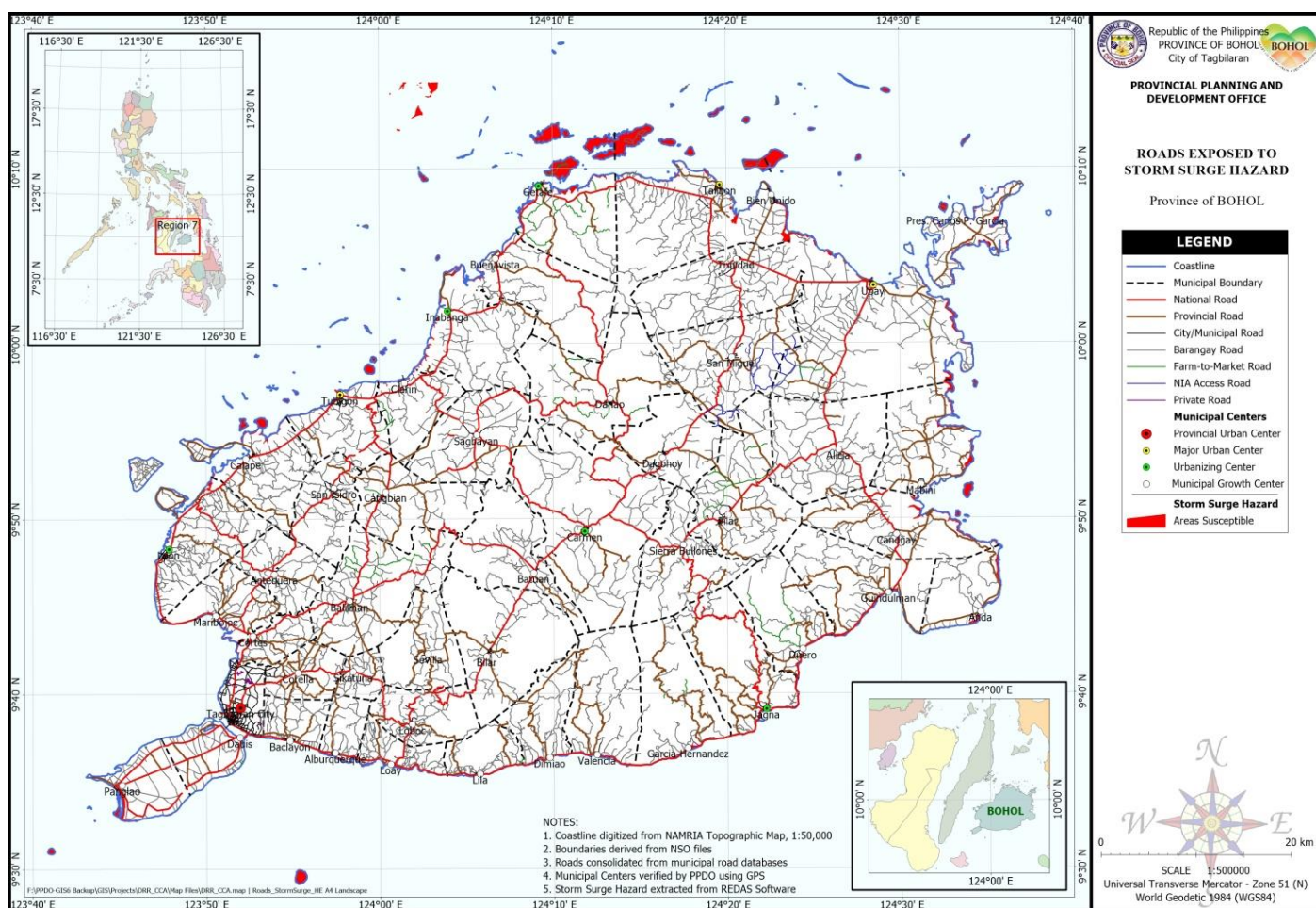


Table 9

Roads Exposure to Storm Surge Hazard by Classification

Road Classification	Total Road Length (kms.)	Roads Susceptible to up to 4 m. surges (kms.)	Percentage of Roads Susceptible to up to 4 m. surges	Roads Susceptible to 4 m. to 12 m. surges (kms.)	Percentage of Roads Susceptible to 4 m. to 12 m. surges
National Road	692.114	27.525	3.977%		
Provincial Road	832.603	4.804	0.577%	0.641	0.077%
Municipal Road	302.58	9.120	3.014%	0.327	0.108%
City Street	90.711	0.061	0.067%		
Barangay Road	4,033.51	36.584	0.907%	5.163	0.128%
Farm-to-Market Road	125.338	2.439	1.946%		
NIA Access Road	38.499				
Private Road	16.406	0.242	1.478%		
Total	6,131.725	80.448	1.312%	6.009	0.098%

*Hazard vulnerability based on data extracted from the REDAS software

Only 1.312% of the total road length or 80.448 kms. of roads are susceptible to surges that are up to 4 meters while there are 6.009 kms. (0.098%) of roads that are susceptible to surges reaching 4 meters up to 12 meters. Only NIA access roads are not exposed to storm surges.

Table 10

Roads Exposure to Storm Surge Hazard by Classification

Road Classification	Total Road Length (kms.)	Roads Susceptible to up to 4 m. surges (kms.)	Percentage of Roads Susceptible to up to 4 m. surges	Roads Susceptible to 4 m. to 12 m. surges (kms.)	Percentage of Roads Susceptible to 4 m. to 12 m. surges
Albur	47.505	0.826	1.738%		
Alicia	115.65				
Anda	80.954	1.265	1.562%		
Antequera	124.176				
Baclayon	104.114	3.760	3.611%		
Balilihan	180.991				
Batuan	95.45				
Bien Unido	30.355	0.574	1.892%	1.885	6.210%
Bilar	108.818				
Buenavista	125.814	0.619	0.492%		
Calape	140.65	0.955	0.679%		
Candijay	145.211	0.465	0.320%		
Carmen	232.263				
Catigbian	118.447				

Road Classification	Total Road Length (kms.)	Roads Susceptible to up to 4 m. surges (kms.)	Percentage of Roads Susceptible to up to 4 m. surges	Roads Susceptible to 4 m. to 12 m. surges (kms.)	Percentage of Roads Susceptible to 4 m. to 12 m. surges
Clarin	93.973	0.224	0.238%		
Corella	87.77				
Cortes	85.35				
Dagohoy	110.94				
Danao	92.72				
Dauis	97.865	0.097	0.099%		
Dimiao	121.009	5.693	4.705%		
Duero	85.323	3.125	3.662%		
Garcia-Hernandez	121.007	6.203	5.126%		
Getafe	96.83	5.912	6.106%		
Guindulman	175.211	2.304	1.315%		
Inabanga	139.815	3.557	2.544%		
Jagna	146.212	5.183	3.545%		
Lila	66.498	3.739	5.622%		
Loay	106.642	2.527	2.370%		
Loboc	139.175				
Loon	422.568	0.807	0.191%		
Mabini	119.632	0.242	0.202%	1.004	0.839%
Maribojoc	96.608	1.261	1.305%		
Panglao	106.081	0.942	0.888%		
Pilar	176.452				
Pres. Carlos P. Garcia	67.727	4.446	6.565%		
Sagbayan	142.57				
San Isidro	117.281				
San Miguel	90.98				
Sevilla	90.621				
Sierra Bullones	132.4389				
Sikatuna	75.83				
Tagbilaran	146.627	0.098	0.067%		
Talibon	150.803	12.271	8.137%		
Trinidad	219.895				
Tubigon	114.689	0.265	0.231%		
Ubay	340.606	4.499	1.321%	2.309	0.678%
Valencia	103.578	3.207	3.096%		

Road Classification	Total Road Length (kms.)	Roads Susceptible to up to 4 m. surges (kms.)	Percentage of Roads Susceptible to up to 4 m. surges	Roads Susceptible to 4 m. to 12 m. surges (kms.)	Percentage of Roads Susceptible to 4 m. to 12 m. surges
Total	6,131.725	80.448	1.312%	6.009	0.098%

*Hazard vulnerability based on data extracted from the REDAS software

Twenty (20) out of the 47 municipalities are not exposed to storm surges, namely: Alicia, Antequera, Balilihan, Batuan, Bilar, Carmen, Catigbian, Corella, Cortes, Dagohoy, Danao, Loboc, Pilar, Sagbayan, San Isidro, San Miguel, Sevilla, Sierra Bullones, Sikatuna, and Trinidad. Only Bien Unido, Mabini and Ubay are exposed to storm surges that reach both 4 meters and from 4 meters to 12 meters.

- Roads Exposure to Tsunami Hazard**

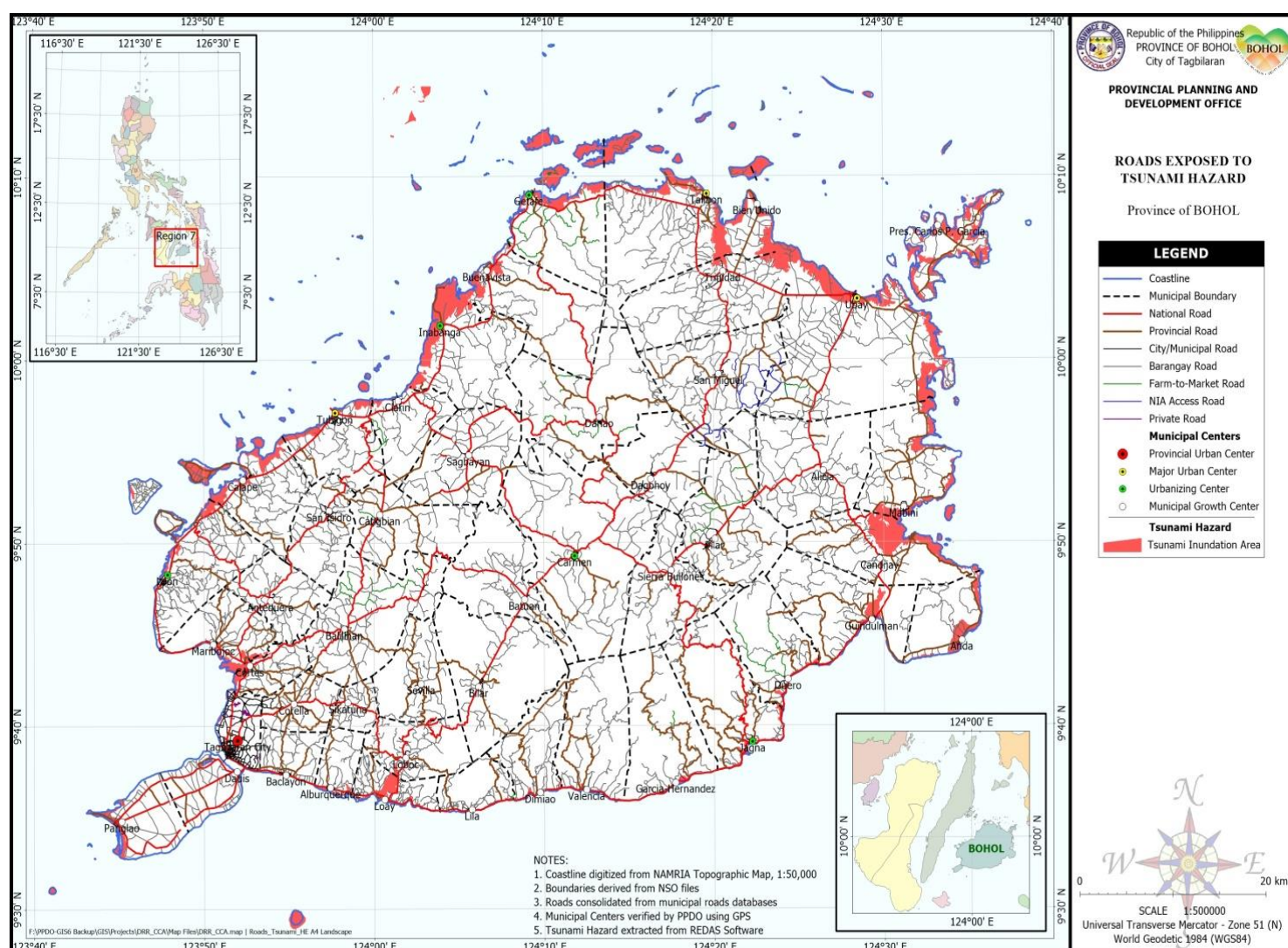


Table 11
Roads Exposure to Tsunami Hazard by Classification

Road Classification	Total Road Length (kms.)	Roads Exposed to Tsunami Hazard (kms.)	Percentage of Roads Exposed to Tsunami Hazard
National Road	692.114	58.082	8.392%
Provincial Road	832.603	51.996	6.245%
Municipal Road	302.58	48.265	15.951%
City Street	90.711	0.906	0.999%
Barangay Road	4,033.51	134.760	3.341%
Farm-to-Market Road	125.338	2.678	2.137%
NIA Access Road	38.499		
Private Road	16.406	1.125	6.856%
Total	6,131.725	290.950	4.745%

*Hazard vulnerability based on data extracted from the REDAS software

Except for the NIA access roads, all other road classification totaling 290.950 kms. (4.745%) are exposed to the tsunami hazard. The municipal roads have the highest percentage of exposure (15.951%), followed by national roads (8.392%), private roads (6.856%) and provincial roads (6.245%).

Table 12
Roads Exposure to Tsunami Hazard by Municipality

Road Classification	Total Road Length (kms.)	Roads Exposed to Tsunami Hazard (kms.)	Percentage of Roads Exposed to Tsunami Hazard
Albuquerque	47.505	2.089	4.398%
Alicia	115.65		
Anda	80.954	20.047	24.763%
Antequera	124.176		
Baclayon	104.114	4.102	3.940%
Balilihan	180.991		
Batuan	95.45		
Bien Unido	30.355	9.971	32.848%
Bilar	108.818		
Buenavista	125.814	5.614	4.462%
Calape	140.65	26.622	18.928%
Candijay	145.211	6.989	4.813%
Carmen	232.263		
Catigbian	118.447		
Clarín	93.973	1.024	1.090%
Corella	87.77		
Cortes	85.35	0.893	1.046%

Road Classification	Total Road Length (kms.)	Roads Exposed to Tsunami Hazard (kms.)	Percentage of Roads Exposed to Tsunami Hazard
Dagohoy	110.94		
Danao	92.72		
Dauis	97.865	4.357	4.452%
Dimiao	121.009	9.327	7.708%
Duero	85.323	9.723	11.396%
Garcia-Hernandez	121.007	12.314	10.176%
Getafe	96.83	6.560	6.775%
Guindulman	175.211	17.267	9.855%
Inabanga	139.815	13.945	9.974%
Jagna	146.212	16.826	11.508%
Lila	66.498	2.838	4.268%
Loay	106.642	8.416	7.892%
Loboc	139.175	1.614	1.160%
Loon	422.568	7.872	1.863%
Mabini	119.632	8.357	6.986%
Maribojoc	96.608	3.435	3.556%
Panglao	106.081	12.734	12.004%
Pilar	176.452		
Pres. Carlos P. Garcia	67.727	12.720	18.781%
Sagbayan	142.57		
San Isidro	117.281		
San Miguel	90.98		
Sevilla	90.621		
Sierra Bullones	132.4389		
Sikatuna	75.83		
Tagbilaran	146.627	2.013	1.373%
Talibon	150.803	18.538	12.293%
Trinidad	219.895	1.077	0.490%
Tubigon	114.689	7.375	6.430%
Ubay	340.606	26.557	7.797%
Valencia	103.578	5.458	5.269%
Total	6,131.725	290.950	4.745%

*Hazard vulnerability based on data extracted from the REDAS software

There are 17 municipalities that are not exposed to the tsunami hazard, namely: Alicia, Antequera, Balilihan, Batuan, Bilar, Carmen, Catigbian, Corella, Dagohoy, Danao, Pilar, Sagbayan, San Isidro, San Miguel, Sevilla, Sierra Bullones, Sikatuna.

While Anda, Bien Unido, Calape and Pres. Garcia are the top four municipalities with the highest percentage of exposure to the tsunami hazard.

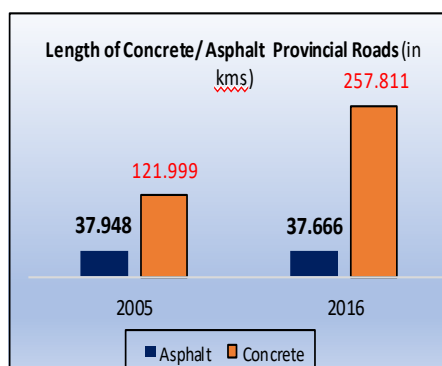
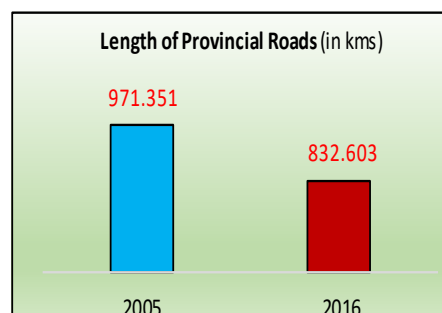
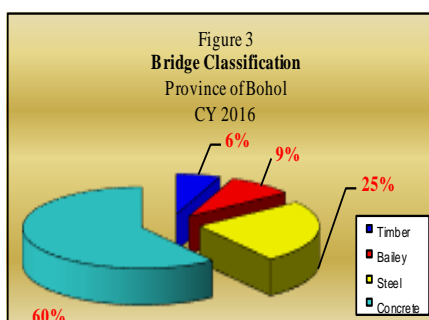
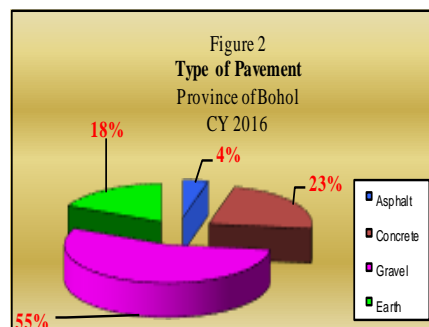
Entire road network is composed of 4% asphalt, 23% concrete, 55% gravel and 18% earth.

There are 8,199.35 linear meters of bridges within the road network in the province of which 60% are concrete, 25% are steel, 9% are bailey and 6% are timber bridges.

Temporary bridges such as bailey and timber comprises 14 percent which are already in bad condition and impassable to traffic due to poor maintenance. Some of the short span temporary bridges were converted to box culverts. There are also Box Culverts and Bailey bridges from the national which were also converted to RCDG. Eighty six (86) bridges or 1,633 linear meters are under the jurisdiction of Provincial Government through the Provincial Engineer's Office.

In 2005, the length of Provincial roads totaled to 971.351 kms. Due to nationalization of Provincial Roads converted to National Roads thru different Republic Acts (Chatto Laws) and Nationalized Road thru Administrative Approval by Secretary of DPWH, the Provincial roads now at 832.603 kms. There were four (4) provincial road sections converted into national roads in the total road length of 119.049 kms.

The length of concrete/asphalt in the Provincial Roads (in kms.) increased from 159.947 kms. in 2005 to 295.477 kms. in 2016.



➤ **A.2. The Provincial Government is fortunate to have many interventions on road governance reforms:**

1. PGBh – Department of Tourism – Department of Public Works and Highways Convergence for Provincial Roads/ Tourism Highways Development:




REPUBLIC ACT No. 9593
otherwise known as
Tourism Act of 2009
and

**Its Implementing
Rules and Regulations**



Section 34 of Republic Act 9593 or the National Tourism Act of 2009 otherwise known as the chattogordon law provides the legal basis for the convergence program between the Department of Public Works and Highways (DPWH) and Department of Tourism (DOT).

- Improvement of Tubigon–Carmen-Sierra Bullones–Jagna Road
- Improvement /Concreting of Jct. (LIR) Buenavista-Carmen- Danao-Getafe Road
- Conc. of Jct. (TER) Guindulman-Anda-Badiang-Cogtong Road, leading to beaches and resorts, Anda, Bohol
- Conc. of Candijay - Cogtong Road, leading to beaches and resorts, Anda, Bohol
- Jct. (TER) La Union-Mabini-Cabulao-Ubay Road (Leading to beach areas at Anda and Ubay), Mabini, Bohol
- Antequera–Balilihan via Dorol Road leading to Chocolate Hills via Balilihan - Hanopol–Batuan Road from Catagbacan
- Catigbian - Canmano Road leading to Sagbayan Peak, Chocolate Hills and Danao Adventure Park, Sagbayan
- Abatan-Agahay-Buasao-Toril-Aghao Road (Cabawan) leading to several tourism sites, Maribojoc, Bohol
- Antequera-Balilihan via Dorol Road leading to Mag-aso Falls, Batuan Adventure Park and Chocolate Hills
- Concreting of Jct. (TER) Albur – Sikatuna Road



- Antequera–Balilihan via Dorol Road leading to Chocolate Hills via Balilihan–Hanopol–Batuan Road from Catagbacan

2. Counterparting Farm to Market Road Projects under the Worldbank Philippine Rural Development Project (PRDP) thru the Department of Agriculture and Provincial Government of Bohol:

<u>Completed:</u>		
• SAGBAYAN - San Agustin-Canmaya Centro-Kagawasan-Canmaya Diot Road	5.9838 Km	P 48.19 M.
<u>On-going:</u>		
• LOBOC - Alegria-Cabadiangan-Candasag- Bugho Road	5.4631 Km.	P 56.12 M.
<u>Forthcoming:</u>		
• BALILIHAN - Del Carmen Weste via Tugbas Road	2.8400 km.	P 32.80 M.
• CATIGBIAN - Mahayag Norte-Bagtic-Baang Road	3.5287 km.	P 31.50 M.
• BILAR - Campagao-Cabacnitan Farm to Market Road	11.972 km.	P 95.78 M.
• CALAPE - Desamparados-Tabuan (Antequera) FMR	15.8235 km.	P 126.59 M.
• LOON - Pondol-Candaigan Farm to Market Road	4.770 km.	P 56.00 M.
• INABANGA - Dagnawan-Dagohoy Farm to Market Road	7.8575 km.	P 82.86 M.
Under PRDP, a total length of <u>40.42 kilometers</u> of road will be concreted.		

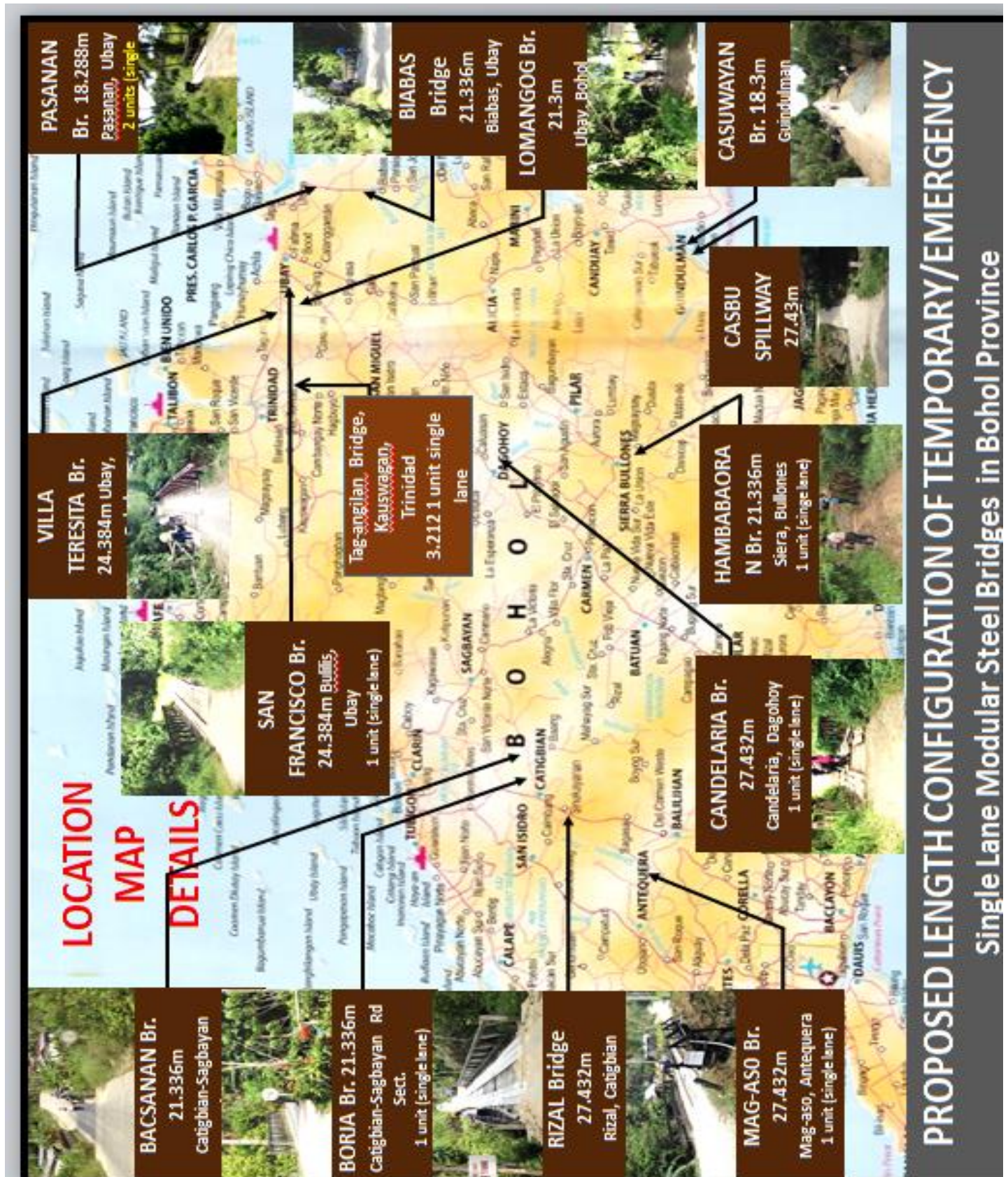
3. National and Provincial Government Convergence Thru the Conditional Matching Grant to Provinces (CMGP) (KALSADA Program):

<u>On-going:</u>
1. Concreting of Sikatuna – Balilihan via Badiang Road (Del Carmen Sur, Datag Sur & Norte, Balilihan - Badiang, Cambuac Norte and Poblacion, Sikatuna)
<u>For Implementation:</u>
1. Concreting of Alegria (Catigbian)–Baang–Jagbuaya–Hanopol Road
2. Concreting of Canmanico – Anonang Road (Valencia)
3. Concreting of Maribojoc-Pagnitoan-Candavid- Basak (Loon) Road
4. Concreting of Jct. (TER) Dimiao-Oac-Bilar Road



Total of 5 road sections proposed for funding in 2016 and 2017 and is expected to upgrade 37.990 kilometers of roads.

4. PGBh – Department of Agrarian Reform– Department of Public Works and Highways Bridge Project:



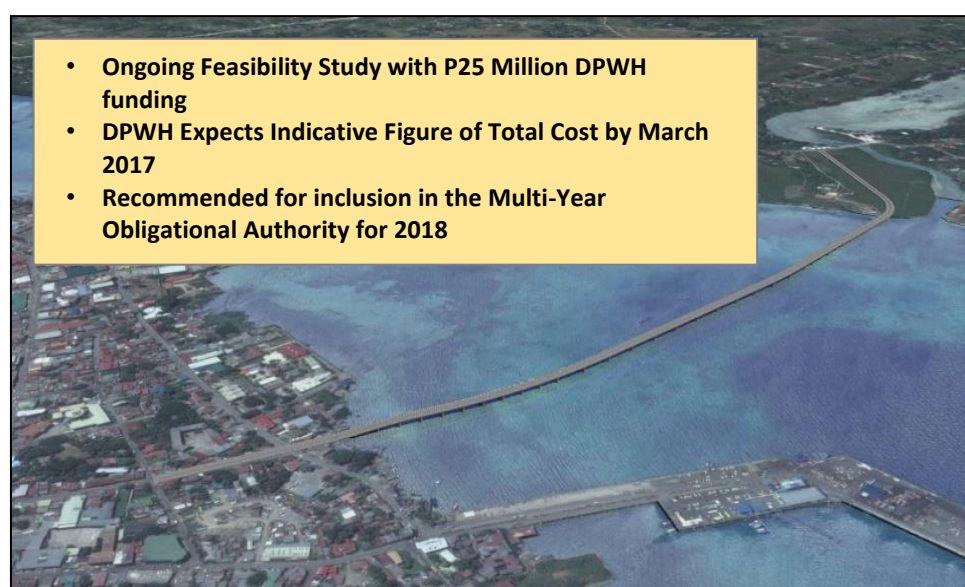
NO.	NAME OF THE BRIDGE	LOCATION	STATUS	REMARKS
1	BACSANAN	CATIGBIAN	80% COMPLETED	
2	BIABAS	UBAY	80% COMPLETED	
3	PASANAN	UBAY	50% COMPLETED	
4	CASBU	GUINDULMAN	95% COMPLETED	Final Grading and Riprap
5	CASUWAYAN	GUINDULMAN	95% COMPLETED	Final Grading and Riprap
6	SAN FRANCISCO	UBAY	NOT YET STARTED	
7	LOMANGOG	UBAY	TO BE STARTED	3rd week of February
8	VILLA TERESITA	UBAY	90% COMPLETED	Ongoing Grouted Riprap
9	TUMORAN	CANDIJAY	ON-GOING AT 80%	Embankment of approaches
10	TAG-ANGILAN	TRINIDAD	NOT YET STARTED	
11	DUAY	DUERO	95% COMPLETED	Final Grading and Riprap
12	HAMBABAORAN	SIERRA BULLONES	TO BE STARTED	2nd Week of February
13	CURIMO	DIMIAO	COMPLETED	
14	CANDELARIA	DAGOHOY	95% COMPLETED	Ongoing Grouted Riprap
15	LA ROCA	DUERO	90% COMPLETED	On going Grouted Riprap
16	BORJA	CATIGBIAN	95% COMPLETED	for Final Grading and Asphalt
17	MAG-ASO	ANTEQUERA	COMPLETED	
18	RIZAL	CATIGBIAN	COMPLETED	
18 bridges to be upgraded to steel bridges with a total <u>396.24 linear meters</u> in length				

5. Completion of Bohol Earthquake Assistance (BEA) Projects

- Under the Bohol Earthquake Assistance (BEA) Fund, the Provincial Engineer's Office (PEO) upgraded/rehabilitated 36 provincial and barangay bridges with total length of 433.08 linear meters.



6. Construction of Tagbilaran City – Panglao Island 3rd Bridge

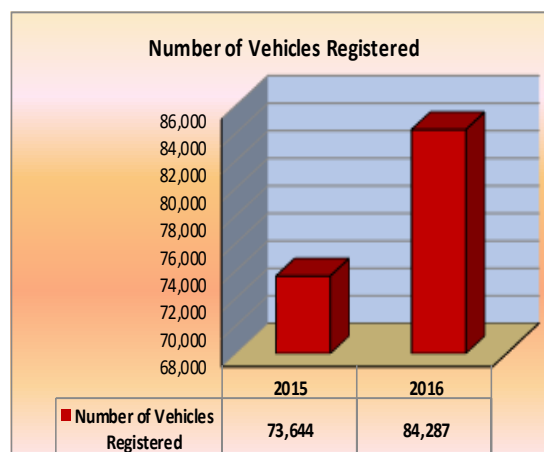


➤ A.3 Road Traffic

Based on the combined data from LTO-Tagbilaran, LTO-Jagna and LTO-Talibon, the province increased by 14.5% in vehicle registrations in 2015 to 2016.

Meanwhile, as to the type of vehicles registered in 2015 and 2016, it has been observed that motorcycles consistently topped the list for Bohol.

High registrations of motorcycles are indicative of people opting for motorcycles as means of transport than for four-wheeled vehicle because of its affordability and low maintenance costs. Moreover, more individuals now as compared a decade ago or so can now immediately purchase motorcycles because motorcycle dealers in Bohol now offer low down-payment schemes of payments.



Number of Vehicles Registered by Type

Type	2015				2016			
	LTO I (Tagbilaran)	LTO II (Jagna)	LTO III (Talibon)	TOTAL	LTO I (Tagbilaran)	LTO II (Jagna)	LTO III (Talibon)	TOTAL
Cars/Vans/UV	14,975	2,687	3,069	20,731	15,697	5,279	4,725	25,701
Buses	106	67	34	207	156	178	91	425
Truck	2,785	571	726	4,082	2,869	1,387	1,937	6,193
Tricycles	2,898	615	931	4,444	3,707	563	1,117	5,387
Motorcycles	24,390	8,390	11,010	43,790	24,939	8,901	12,611	46,451
Others:	341	14	35	390	8	94	28	130
Total	45,495	12,344	15,805	73,644	47,376	16,402	20,509	84,287

Source: LTO-Tagbilaran, LTO -Jagna, LTO-Talibon

➤ Flood Control and Drainage

Flood control and drainage structure facilities are needed to protect roads and bridges as well as the lives, crops and properties of the populace from damage caused by floods. Environmental factors such as soil type, slope, rainfall intensity and tidal fluctuations of bodies of water affects the degree of flooding hazards.

Based on the data generated by the MGB-7, the municipalities susceptible to high flooding are Jagna, Inabanga, Danao and Dagohoy with flood-prone areas that are more than 300 hectares. Municipalities susceptible to moderate flooding are Antequera, Carmen, Guindulman, Loay and Valencia while other municipalities susceptible to low flooding are Balilihan, Candijay, Cortes, Duero, Loboc, Maribojoc, Pilar, San Isidro and Sierra Bullones. In terms of the number of barangay susceptible to floods and flashfloods, Inabanga has the highest number of barangays (21 barangays). The total area prone to high flooding is 3,162.83 hectares or approximately eight (8) percent of the total area of Bohol. There are

112 barangays located in 18 municipalities in Bohol with a total area of 3,162.83 hectares or approximately 0.768 percent of total area of the province that are flood-prone. Tagbilaran City and 29 municipalities of Bohol are not susceptible to flood. Carmen and Sierra Bullones both have one barangay each which are prone to flood while Duero and Pilar have two flood-prone barangays each.

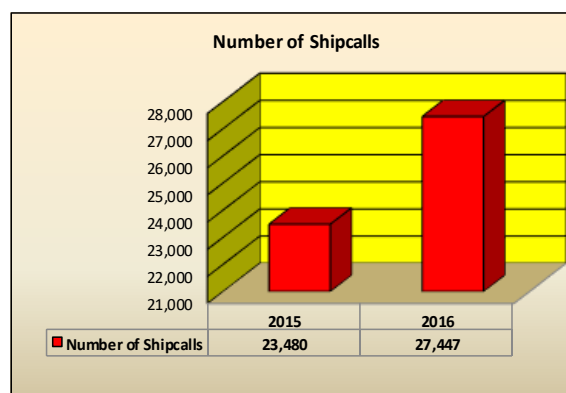
The municipality of Inabanga has the highest number of barangays, totalling 21, which are flood-prone, followed by Jagna with 13 barangays and Dagohoy and Danao with 11 barangays each. However, the municipality of Dagohoy has the biggest area prone to flood which is 709.32 hectares followed by Danao (525.61 has.), Inabanga (415.71 has.), Jagna (307.26 has.), Loay (222.16 has.) and Valencia (163.47 has.) Map for the Flood Control Map (see Annex Map) shows that the flood path is situated in Inabanga-Danao-Dagohoy area, San Isidro-Antequera area, Maribojoc, Loboc-Loay area, Valencia, Jagna, Duero, Guindulman, and Candijay. There are proposed flood control points in Sierra Bullones, Alicia, Guindulman, Duero, Jagna, Lila and Loboc.

Drainage has become a perennial problem especially in the streets of Tagbilaran. The absence or inefficient drainage system has been the cause of damage to streets where proper drainage is wanting. The city's central business district has the highest incidence of flooding due to the concentration of commercial areas and rapid construction of more structures. The overcrowding of commercial and residential buildings in the area has practically sealed off the characteristic of porous ground thus preventing the storm water to seep-in instead accumulate in the ground surface which causes flooding. Undersized drainage pipes that are mostly clogged with plastics and silts that blocks the free flow of storm water aggravates to flooding.

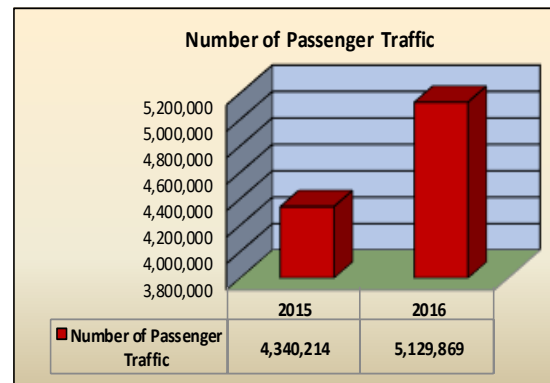
B. Seaport:

The province has 1 base port located in the Port of Tagbilaran, 4 terminal ports located in Tubigon, Talibon, Ubay and Jagna while 2 outports are distributed in strategic locations in Catagbacan, Loon and Getafe Port.

The total shipcalls have increased in 2015 to 2016 by 16.89%. While, the total number of passenger's traffic from the province's baseport, terminal ports and outports increased 2015 to 2016 by 18.19%.



The Port of Tagbilaran is considered a major port of entry. It serves not only passengers but freight and cargoes as well. In terms of cargo handling, the port caters to different types of cargoes whether in containers break bulk or transported in other forms. As of passengers, it caters to travellers to/from different locations around the country. Currently, it is the only port which caters to ships to and from Metro Manila. Also, there are available trips to other regional destinations primarily Cebu. In fact, for Tagbilaran to Cebu and vice versa route, passengers have an option of taking fast crafts or the more conventional vessels. There are available vans and tricycle which caters to travellers from the port. The tricycles cater mostly to those going to downtown Tagbilaran and to the bigger public transport terminals in the city. The vans, on the other hand, cater to those going to farther destinations.



The port attends to more or less 5,000 passengers daily coming from Cebu on board fast crafts and regular ferries coming from Cagayan de Oro, Iligan, Dipolog, Dumaguete, Cebu and Manila; not to mention cargo ships. It is now referred to as the “Tagbilaran City Tourist Pier”.

The Port of Tubigon, the busiest among the terminal ports, it is served by 6 conventional vessels and 2 modern fastcraft with a total of 20 trips daily to Cebu City. A roll-on/roll-off ferry is also operational making two trips daily.

The Port of Jagna in the southeast offers docking facilities for vessels from Cagayan, Nasipit, and Camiguin (with ro-ro) in Mindanao. The PPA acknowledges the importance of the Port of Jagna with regards to the mobility of people from Bohol to Mindanao. The Port of Jagna is strategically located especially to support the development of Anda Peninsula and other areas in the wetern areas of Bohol. Feeder modes such as buses, vans-for hire, and motorela are available at nearby public market. Their terminal is approximately 500 meters from the port.

The Port of Ubay is the primary entry point from Leyte. Motorized Bancas withwith an average capacity of 60 passengers leaves for Maasin, Leyte at half an hour intervals from 8:30 am to 11:00 am. There are also regular trips to Cebu with an approximate capacity of 300 passengers departs 10 am and 10 pm everyday. Bus service to Pasay and Cubao also enters and leaves Bohol via Port of Ubay. There are two available trips per day for the RoRoBus.

The Port of Talibon is being serviced by V.G. Shipping Lines with a Talibon-Cebu City route and vice versa. It also plays host to countless outrigger boats coming

from the 8 barangays namely: Busalian, Calituban, Cataban, Guindacpan, Mahanay, Nocnocan, Sag and Suba. Outrigger boats coming from neighboring towns of Getafe, Trinidad and Bien Unido also dock at the pier. The port is long with a 566 meters length, a width of 7 meters and the causeway having an area of 5,202 square meters. The causeway is directly connected to the main road of the town making it accessible to private and public vehicles. Cargo handling and checking is done by the Talibon Arrastre and Labor Company, Inc. (TALCI) while trucking and hauling is being serviced by Pengavitor Trucking. Mooring and unmooring services is done also by TALCI; bunkering is by Pilipinas Shell c/o Ngoboc Shell Station; and watering services by Pengavitor.

➤ **Improvement of Terminal and Base Ports in Tagbilaran, Ubay, Catagbacan, Tubigon, Jagna, Talibon & Getafe**



➤ **Port Development Projects:**

Improvement of Ubay Port

- Description: Ubay Port links to Maasin Port, S, Leyte
- Estimated Cost: P 55 Million
- Year of Implementation: 2015-2025

Tagbilaran Port Project

- Description: Improvement of Seaport Facilities
- Estimated Cost: P 750 Million
- Year of Implementation: 2015-2025

Tubigon Port Project

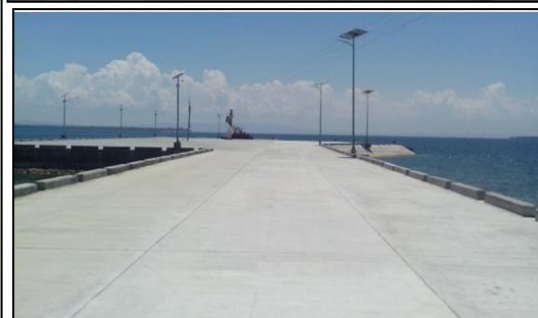
- Description: Improvement of Seaport Facilities
- Estimated Cost: P 250 Million
- Year of Implementation: 2015-2025

Ubay (Tapal) Seaport Project

- Description: Improvement of Ubay Seaport and its Facilities
- Estimated Cost: P 15 Million
- Year of Implementation: 2015-2025

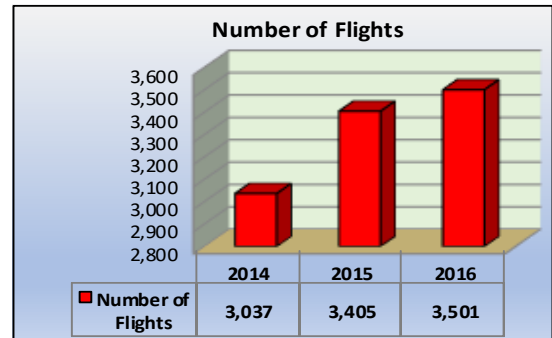
**Loon Port Development Project
(International Cruise Ship Port)**

- Location: Catagbacan Port, Loon, Bohol
- For implementation with initial investment of P200 Million from PPA

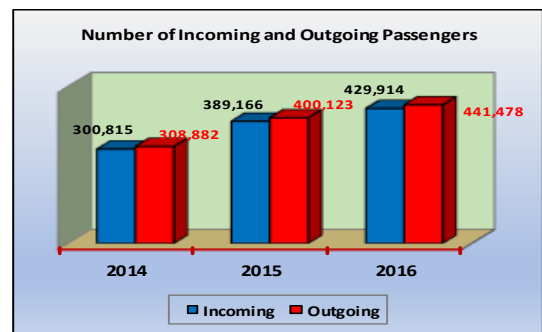


C. Airport

Bohol has two airports, the Tagbilaran Secondary Airport and the Ubay Feeder. Only the Tagbilaran City airport handles commercial and passenger traffic with direct flights to and from Manila through a number, making the province easily accessible to large numbers of tourists and investors.

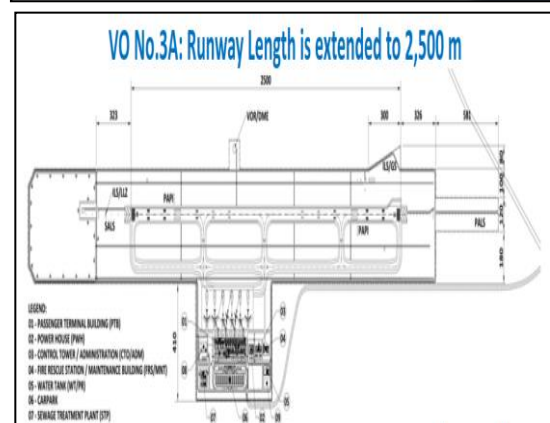


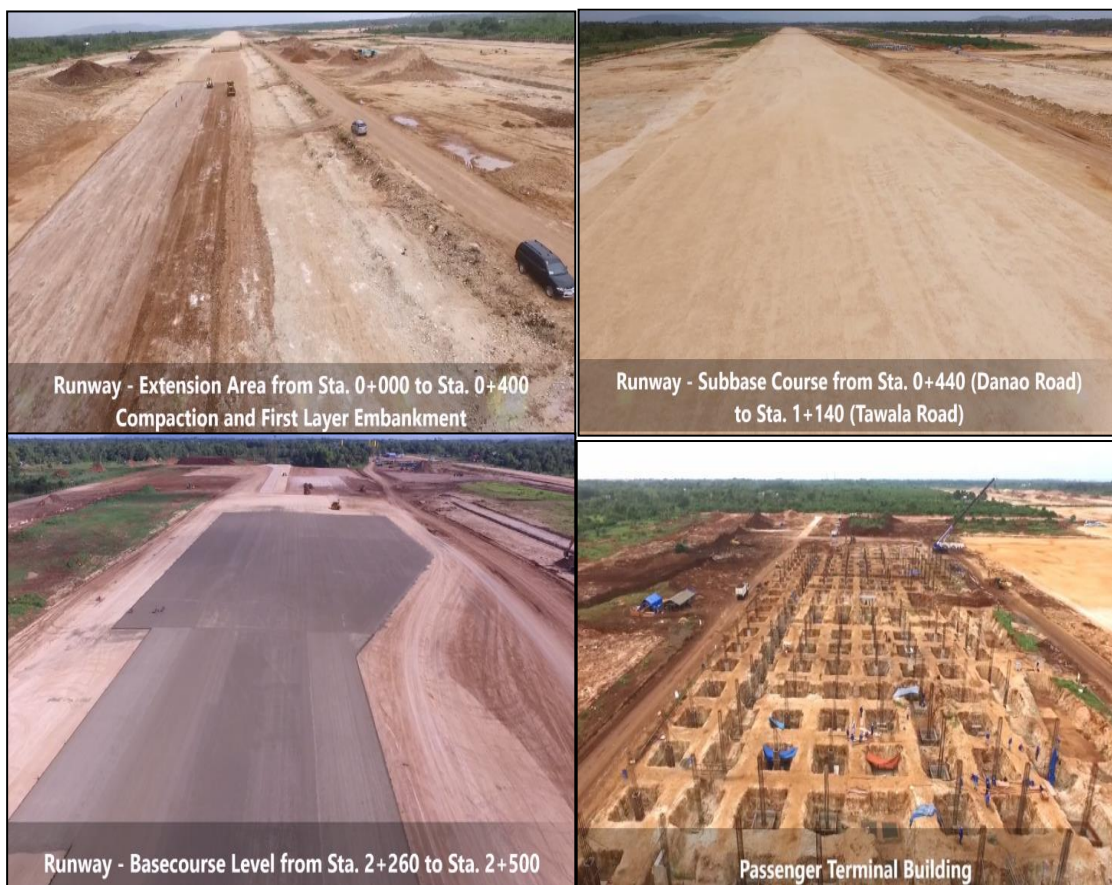
Tagbilaran City Airport was able to accommodate an annual average of 3,314 carrier flights including General Aviation and Military with an average annual increase of 15.27% in 2014 to 2016. While the number of incoming and outgoing passengers, there was a steady increase of passenger traffic at the City airport with an average annual increase of 20%.



➤ The construction of the New Bohol Airport Construction and Sustainable Environment Protection Project (NBACSEPP):

- Ongoing civil works is expected to be completed by the 1st quarter of 2018
- Modification Works:
 - a. Construction of Passenger Boarding Bridges (PBBs).
 - b. Extension of Runway by an additional length of 500 meters.
 - c. Funds for the additional works will be taken from the saving made during the competitive bidding and the recent depreciation of the Japanese currency value totaling an amount of about P439 Million.





➤ **Ubay Airport Development**

- Open for Public-Private Partnership
- For general aviation, training and flying school, and transport services for agri-business and tourism
- With initial investment of P56 Million from CAAP



D. Forthcoming Programs/Projects

➤ Construction of Inter-island Bridges and Roads through the Highlands of Bohol



► Bohol – Cebu Friendship Bridge

- Location: Getafe, Bohol–Cordova, Cebu
- Description: Construction of a bridge connecting the islands of Bohol and Cebu
- Estimated Cost: P47.5 Billion *
- Year of implementation: 2026-2035

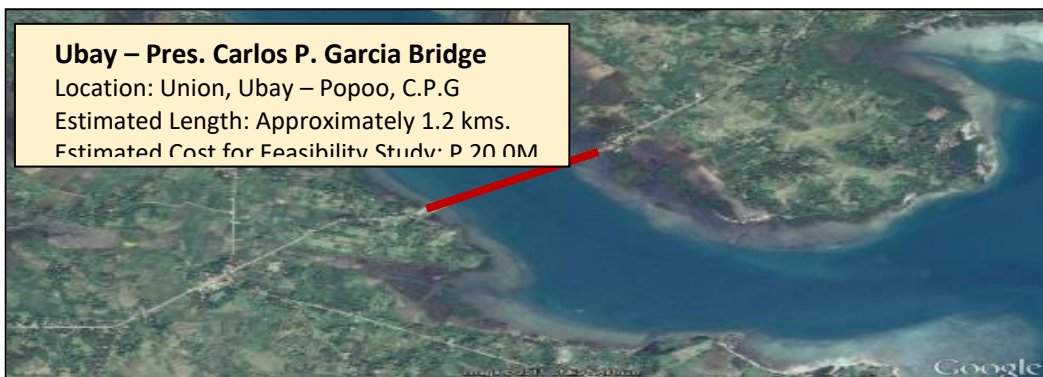
► Bohol (Ubay) – Leyte (Maasin) Bridge

- Location: Ubay, Bohol–Maasin, Southern, Leyte
- Description: Construction of a new bridge to connect Bohol and Leyte province
- Estimated Cost: P130.0 Billion *
- Year of implementation: 2026-2035

➤ Construction of Other Major Bridges

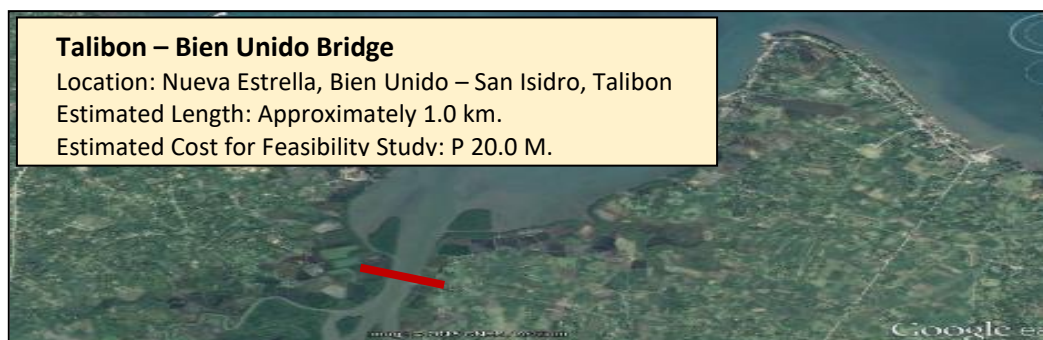
Ubay – Pres. Carlos P. Garcia Bridge

Location: Union, Ubay – Popoo, C.P.G
 Estimated Length: Approximately 1.2 kms.
 Estimated Cost for Feasibility Study: P 20.0M

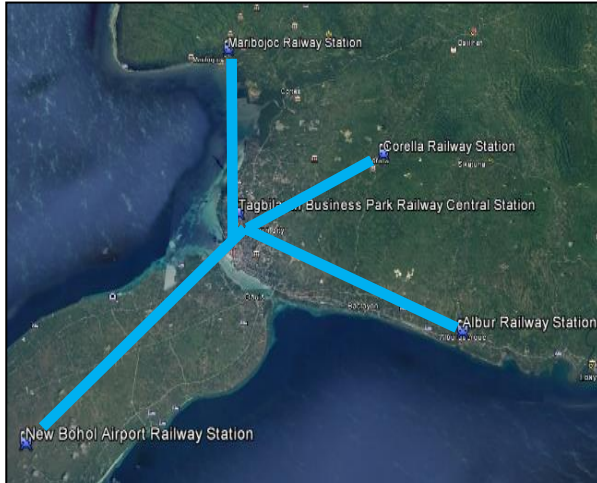


Talibon – Bien Unido Bridge

Location: Nueva Estrella, Bien Unido – San Isidro, Talibon
 Estimated Length: Approximately 1.0 km.
 Estimated Cost for Feasibility Study: P 20.0 M.



➤ **Monorail System Connecting Bohol Business Park to New Bohol Airport and Nearby Municipalities**



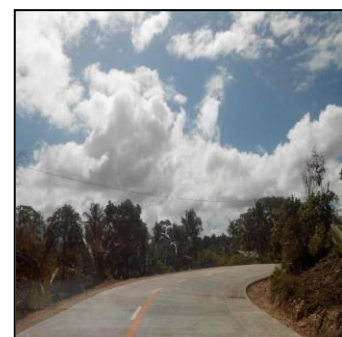
- Development of a monorail system with stations at the Bohol Business Park initially connecting selected locations:
 - ✓ New Bohol Airport
 - ✓ Municipalities of Albur, Corella and Maribojoc
 - ✓ Coverage can be expanded in the future
- Improves connectivity within the area of coverage and directly supports the operation of the business park and airport (to cater to the expected increase in tourists and travelers)
- Opens business opportunities, facilitates competition and reduces monopoly of business in localities
- Private-sector driven facility
- Monorail system: cost-effective, less land requirement for right of way, most efficient and economical

➤ **Construction of Footbridge/Overpass Near School Sites with Heavy Foot Traffic**

- **Bohol Wisdom School**
C.P.G. Avenue, Tagbilaran City
- **Bohol Island State University**
C.P.G. Avenue, Tagbilaran City
- **University of Bohol**
Maria Clara St., Tagbilaran City
- **Holy Name University**
J. Clarin St., Tagbilaran City
- **Bohol Quality Mall**
C.P.G. Avenue, Tagbilaran City



➤ **Road Leveraging Linkages to Investments and Trade (RoLL-IT) Project**



DEVELOPMENT CHALLENGES

1. Insufficient funds for the Improvement/Road Upgrading/Reconstruction of all local roads based on standards for FMR
2. Lack of road safety devices causing high rate of accidents both national and local roads
3. Need improvements for timber and bailey bridge into steel or concrete.
4. Need improvements of Drainage System of all National and Local Roads.
5. Poor pavement conditions of the roads due to inadequate and insufficient maintenance funds.
6. Scarcity of base and sub-base materials for road construction and improvement due to ECC compliance.
7. Need improvements for earth and gravel classification into asphalt or concrete.
8. Lack of coordination among agencies during widening of roads and construction of structures.
9. The absence or inefficient drainage system in the city streets of Tagbilaran.
10. No cutting of trees policy is still enforced, hence widening of road cannot be implemented.
11. Road Right of Way Problem (Building, Structures and Fences)
 - a) National/City Roads – minimum of 10.00 M. from the center of the road
 - b) Provincial Roads – minimum of 7.5 M. from the center of the road
 - c) Municipal Roads – Minimum of 5.0 M. from the center of the road
12. Encroachment of private properties such as residential houses, stores and concrete fences in the Road-Right-Of-Way.
13. No parcellary survey for RROW during road construction and improvement
14. Funds for acquisition of Road Right-of-Way (RROW) not available before start of project.
15. Lack of advocacy of RROW from LGU.
16. Building Permits were approved but the 10 meters distant from the center line of the national roads is not followed.
17. One Aircraft (Code 3C & above) policy at Tagbilaran Airport
18. No night landing capability at the airport
19. Limited space or no room for expansion in the Tagbilaran City Airport
20. Need improvements of Access Roads leading to Seaport
21. No port zone delineation in the Port of Tagbilaran

Rainwater is also a good source of water in the province with an average rainfall varying from 1,331 mm/yr. along the coastal areas to 2,006 mm/yr. in the mountainous part of Bohol.

The existing sources are comprised of wells (shallow/deep/dug) and springs. There are no reliable records of production from the sources in most municipalities. Water production quantity measurement should be undertaken to have an estimate of the groundwater abstraction. There are two municipal water systems utilizing surface water sources, namely Dagohoy (Mas-ing Creek) and Ubay (Calanggaman Catchment area) but both are experiencing water quality problems due to inadequate treatment process.

The municipalities in the southwestern part of the province like Garcia Hernandez, Valencia and Lila have abundant spring sources while municipalities in the north such as Getafe, Buenavista, Trinidad and San Miguel have very scarce water resource due to its geological formation being volcanic in nature.

Level III (individual house connection) systems at municipal level are usually established and operated by the LGUs and waterworks associations. Some LGUs also implement and operate Level III systems commonly at barangay level. There are 90 service providers for Level III systems in the province under different kinds of ownership.

The Bohol Water Utilities is the largest system in the province, covering 12 barangays in the City of Tagbilaran and part Baclayon and Dauis serving 13,006 connections. The Bohol Water Utilities covers about 90% of the urban barangays in the capital city. Water source of the Bohol Water Utilities is deep well. The remainder of the population in the capital city is served by Tagbilaran City WWS with a total of 4,826 connections.

Next to Bohol Water Utilities is the Loon LGU. This water system covers 10 urban and 8 rural barangays in the municipality of Loon with a total served population of 29,165. Water from this system mainly comes from spring and deep well water sources.

In the municipalities of Antequera, Batuan, Danao, Dimiao, G. Hernandez, Lila, Loon, San Isidro, Sevilla, and portions of Sikatuna, and Valencia, the Level III systems are managed by the LGU.

There are only two water districts (WD) in the province, the Talibon Water District and the Clarin Water District. These systems are under the technical and financial assistance of LWUA.

The existing water supplies available in the province have a Level III (individual house connections) system which is being operated by the LGUs. Most of the rural areas like barangays outside the Poblacion are being served by Level I (point source facility) and Level II system (communal faucet system).

Groundwater is the main source of water for the Province, which are then distributed by municipal waterworks and private entities.

➤ **IMPACT OF CLIMATE CHANGE ON HEALTH AND WATER SUPPLY**

Climate change creates a negative impact on the health of Boholanos, particularly of vulnerable groups. Vulnerable groups in Bohol include women in especially difficult circumstances; children in need of social protection; disadvantaged/out of school youth; persons with disabilities; older persons; rebel returnees; indigenous peoples and upland settlers; dysfunctional families; victims of disasters and calamities; persons adversely affected by socio-economic risks and shocks, as well as natural and climate change-associated hazards and calamities.

Water supply is likewise affected by climate change. Water sources that are located in flood-prone areas are susceptible to contamination due to flooding. Contaminated water will result to disease outbreak.

➤ **INITIATIVES TO ADDRESS CLIMATE CHANGE CONCERNS**

Several strategies were formulated by the Provincial Government of Bohol to reduce water-borne diseases and to provide adequate and safe drinking water with the goal of providing safe and clean water on a regular basis. Such strategies are proper siting of reservoir, encouraging a Public-Private Partnership to develop water supply system. Retrofitting of water supply system for resiliency, and flood-proofing of water source through the construction of reservoir. Some projects and activities were identified such as the implementation of the Bohol Water and Sanitation Master Plan, rehabilitation of the water system facilities managed by local water districts in the municipalities, development of new water sources, and expanding the coverage of Level 3 water system.

Other initiatives done to address climate change concerns on income, employment, service access and poverty are presented in the tables herein below.

• **For Climate Change Adaptation and Mitigation Strategies**

A) Water and Sanitation Sector		
Key Impacts of CC on Agriculture	Adaptation, Mitigation and Disaster Risk Reduction Strategies	Prioritized Strategies
<ul style="list-style-type: none"> • Degradation of Water Quality • Salt water intrusion • Decreasing water supply • High incidence of WATSAN related diseases • Increase in OPEX and CAPEX for WATSAN • Unregulated water extraction • Poor service delivery 	<ul style="list-style-type: none"> • Strict enforcement of environmental laws and ordinances <ul style="list-style-type: none"> ◦ (PD 856) Code on Sanitation ◦ (RA 9003) Ecological Solid Waste Management Act of 2000 ◦ (RA 9275) Philippine Clean Water Act of 2004 • Surface water development to increase water supply • Institutionalization of NWRB Division on Monitoring and Managing water permits • Watershed rehabilitation and improvement • Rainwater harvesting • Improve groundwater recharging system • Local monitoring of groundwater extraction 	<ul style="list-style-type: none"> • Establishment of water treatment facilities • Creation of water quality surveillance team • Regular water sampling on water sources • ECC provision requiring establishment for a watershed trust fund and distribution of seedlings • Rehabilitation of mangrove areas

• **PROGRAM AND POLICY ACTION AGENDA PER SECTOR STRATEGY**

A) Water and Sanitation			
Prioritized Strategies	Project/Programs / Activities (PPAs)	Policy Support Needed	Funding Requirement/ Sources
Strategy 1 Rain Water Harvesting	<ul style="list-style-type: none"> • Information Drive on rainwater Collector • Identification of Beneficiaries/ location • Technical/ Specification • Construction and Operation 	<ul style="list-style-type: none"> • Resolution adopting establishment of Rain water collector • Formulation of Procedure & Usage or Rain Collector • Creation of Monitoring & Evaluation 	<ul style="list-style-type: none"> • 1,500.00 per IEC (Local funds, CDF per brgy) • P60,000.00 per IEC materials and others • P50,000/ unit
Strategy 2 Local Monitoring of Groundwater Extraction	<ul style="list-style-type: none"> • Creation of a Local ground Water Regulatory Committee • Conduct of Ocular 	Enactment of Local ordinance regulating groundwater utilization	LOCAL FUNDS: <ul style="list-style-type: none"> ▪ P50,000.00 per year/ LGU- Transportation Expenses

A) Water and Sanitation			
Prioritized Strategies	Project/Programs / Activities (PPAs)	Policy Support Needed	Funding Requirement/ Sources
	Inspection of existing ground water sources • Data Base Establishment • Periodic Monitoring on Water Quality and Quantity		■ P60,000.00- IT Support ■ P20,000.00 Public Consultation & IEC Expenses
Strategy 3 Advocacy on efficient and economical use of water	• Designing of IEC Module • Production of Water Consumer's Manual • IEC through Brgy. Assemblies in coordination with local WSPs • Monitor and ensure implementation of all water tariff collection that is intended for watershed management	• Executive Order from the Governor to Mayors and Barangay Captains • Creation of Monitoring Team per LGU	• P20,000.00/ barangay (LGU Funds) • P30,000.00 per Brgy/WSP fund

➤ **BOHOL INTEGRATED WATER SUPPLY SYSTEM MASTER PLAN (BIWSSMP)**

The Bohol Integrated Water Supply System Master Plan guides the development of water resources for safe domestic, commercial and industrial use in order to improve the health of the community, while increasing opportunities for local economic development and protecting the depleting groundwater systems. The ultimate goal is to protect Bohol's water resources, while providing for the needs of economy, community and environment.

Water demand analysis through survey of beneficiary municipalities was undertaken to determine water demand characteristics. Local waterworks were also surveyed to determine the adequacy of water service. The projected population of Bohol and the projected population to be served under the Master plan up to 2035 is presented below.

Projected Service Coverage for Urban and Rural Population at Five Year Interval Population Period

Year	Projected Population	Target Service Coverage		Source of Supply			
				Bulk Supply and Current Level III Sources		Other Sources	
		(%)	Population	(%)	Projected Population to be Served	(%)	Projected Population to be Served
2010	1,362,900	62	840,590	38	519,490	24	321,100
2015	1,480,700	90	1,327,568	58	864,638	31	462,930
2020	1,597,100	94	1,496,431	64	1,017,012	30	479,419
2025	1,707,600	94	1,600,192	66	1,126,300	28	473,892
2030	1,811,100	94	1,697,423	68	1,227,369	26	470,054
2035	1,908,200	94	1,788,683	68	1,298,559	26	490,124

Summary of Water Demand Projections for the Whole Province of Bohol

Demand Category	Demand (cumd)					
	2010	2015	2020	2025	2030	2035
Domestic	59,985	94,789	112,526	131,073	143,411	152,195
Commercial/Industrial	4,007	6,000	13,158	15,480	16,543	17,273
Institutional	2,996	3,272	3,965	5,490	5,790	6,024
Tourism	1,954	3,387	3,675	5,249	5,249	5,249
Industrial Estate	-	11,985	21,420	21,420	21,420	22,270
Total Water Demand	68,942	119,433	154,744	178,712	192,413	203,011
Non-Revenue Water	37,122	29,858	38,686	44,678	48,103	50,753
Average Daily Demand	106,064	149,291	193,430	223,390	240,516	253,764
Maximum Day Demand	134,499	188,924	244,840	281,637	303,223	319,906
Yearly Demand (mcm/yr)	38.71	54.49	70.60	81.54	87.79	92.62

RECOMMENDED PLAN

The recommended water supply master plan is envisioned to serve all the 47 municipalities and one city in Bohol. The identified potential sources are the six (6) river basins namely; Abatan, Loboc, Manaba, Carood, Ipil and Wahig-Inabanga. The municipalities and city are clustered under its river basin depending on the available flow that may be diverted from the river against the demand requirement, proximity of municipalities with respect to the river basin, hydraulic consideration, and geomorphology of the area. When completed, it will provide a total average daily production 208,353 cumd benefiting a population of about 1,078,000 in the Province of Bohol.

➤ **Bohol Bulk Water Supply and Sanitation Project**

● **The Project is divided into two phases:**

1. Phase I – Bulk Water Supply
2. Phase II - Water Distribution and Sewerage/Sanitation Systems

● **Municipalities covered:**

- 18 towns comprising of 1 City and 17 Municipalities make up the Service Area:

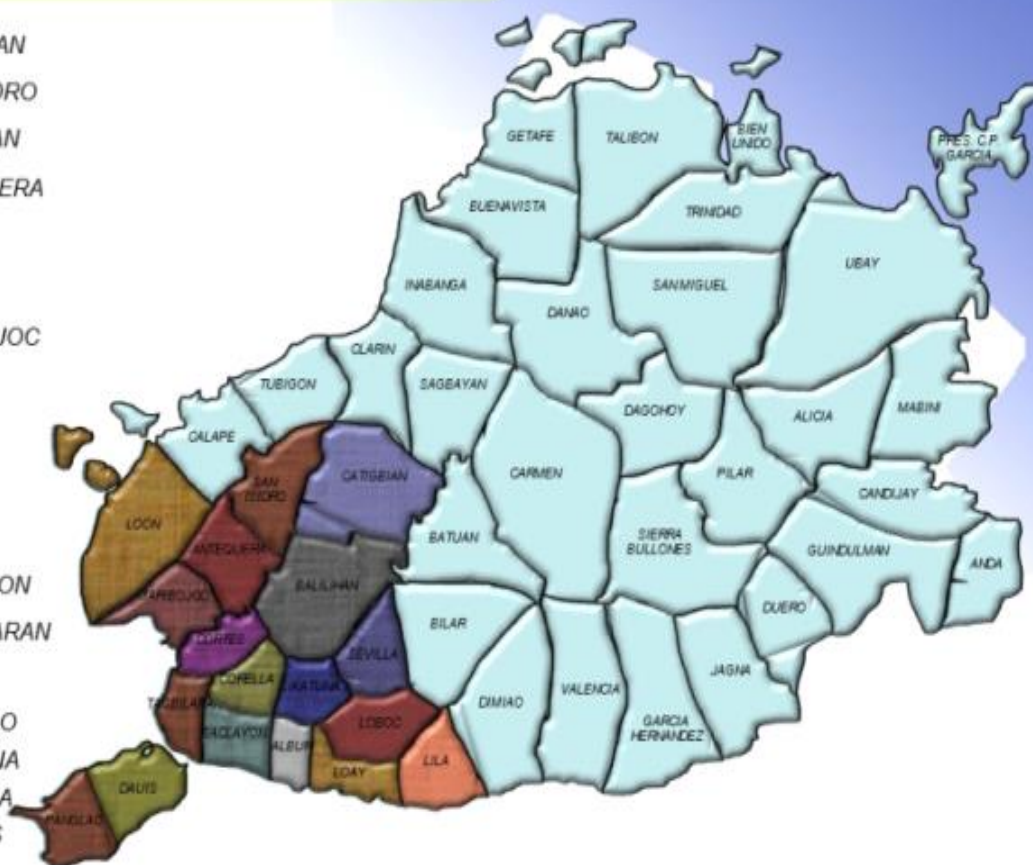
(Tagbilaran City, Alburquerque, Antequera, Baclayon, Balilihan, Catigbian, Daus, Lila, Loay, Loboc, Loon, Maribojoc, Panglao, San Isidro, Sevilla, Cortes, Corella and Sikatuna)

● **Three (3) water sources were initially identified for Development:**

1. Abatan River, Antequera
2. Loboc River, Loboc
3. Bugwak Spring, Balilihan

THE SERVICE AREA

- CATIGBIAN
- SAN ISIDRO
- BALILIHAN
- ANTEQUERA
- SEVILLA
- LOON
- MARIBOJOC
- LOBOC
- LILA
- LOAY
- ALBUR
- BACLAYON
- TAGBILARAN
- DAUIS
- PANGLAO
- SIKATUNA
- CORELLA
- CORTES



Status: For bidding process for the development of bulk water supply under appropriate PPP modalities

➤ **Proposed Clustering for Bohol Bulk Water Supply:**

<p>► The proposed recluster of municipalities takes into account the 2 studies conducted:</p> <ul style="list-style-type: none"> ✓ <i>Feasibility Study for Bulk Water Supply under the Bohol Water and Sanitation Project of USAID COMPETE</i> ✓ <i>Bohol Integrated Water Supply System Master Plan under the LGDP of AusAID</i> <p>► Reclustering is necessary to:</p> <ul style="list-style-type: none"> ✓ <i>Fast track the implementation of the Bulk water supply throughout the Province especially in areas where water is very much needed to support socio- economic development</i> ✓ <i>Reduce investment cost for development of facilities</i> ✓ <i>Lessen water cost for consumers</i> 	<p>GENERAL PARAMETERS</p> <ul style="list-style-type: none"> ► Source of water must be surface water (rivers, falls, spring) ► Ground water sources are discouraged to avoid salt water intrusion/ maintained reserved groundwater and other environmental reasons ► Surface water will be tapped because: <ul style="list-style-type: none"> ✓ Abundant, Reliable, Economically viable for potential investors ✓ Potential investors are limited only to the supply of Bulk Water (tapping, development and supply) ► LGUs and Water Districts will maintain as the water distributor to consumers ► Provincial Government will manage the procurement and clustering based on available studies and to ensure that water sources are available, sufficient and affordable for these clusters, setting the parameters and terms of reference for management and procurement with the participation of technical consultants ► Setting of water rates for consumer's remains in the responsibility of LGUs/ Water Districts, subject to the technical viability of the water source to include transmission, water treatment costs. ► LGUs/ Water Districts are encouraged to improve their water distribution system
<p>CLUSTER 1</p> <p>► Areas covered: <i>Cortes, Maribojoc, Tagbilaran, Dauis, Panglao, Corella, Baclayon, Antequera, Loon</i></p> <p>► Water Sources: <i>Abatan River, Loboc River, Bugwak Spring and other Potential Surface water sources within the Cluster</i></p>	
<p>CLUSTER 2</p> <p>► Areas covered: <i>Trinidad, Talibon, Bien Unido, Ubay, Pres. Carlos P. Garcia, Alicia, Candijay, Mabini, Anda, San Miguel, Dagohoy, and Pilar</i></p> <p>► Water Sources: <i>Ipil River and other surface water sources within the Cluster.</i></p>	
<p>CLUSTER 3</p> <p>► Areas Covered: <i>Inabanga, Getafe, Buenavista, Danao, Clarin, Tubigon, and Calape</i></p> <p>► Water Sources: <i>Inabanga River and other surface water sources within the Cluster.</i></p>	
<p>CLUSTER 4</p> <p>► Areas Covered: <i>Sierra Bullones, Carmen, Batuan, Sagbayan, and Bilar</i></p> <p>► Water Sources: <i>Water sources in Bilar and other surface water sources within the Cluster.</i></p>	<p>CLUSTER 5</p> <p>► Areas Covered: <i>Balilihan, Sevilla, Sikatuna, Catigbian and San Isidro</i></p> <p>► Water Sources: <i>Water sources in Balilihan, Sevilla and other surface water sources within the Cluster.</i></p>
<p>CLUSTER 6</p> <p>► Areas Covered: <i>Guindulman, Duero, Jagna, Garcia- Hernandez,</i></p> <p>► Water Sources: <i>Manaba River and other surface water sources within the Cluster.</i></p>	<p>CLUSTER 7</p> <p>► Areas Covered: <i>Loboc, Valencia, Dimiao, Lila, Loay, Albuquerque</i></p> <p>► Water Sources: <i>Loboc River and other surface water sources within the cluster.</i></p>

2. Irrigation

Bohol province has a total land area of about 411,730 hectares. It has a new potential irrigable area of 44,076.00 hectares. At present, the status of irrigation development is 56.90%. This includes the three (3) national irrigation systems namely, Bohol Irrigation System-Stage 1 (Malinao Dam), Capayas Irrigation System and Bohol Irrigation System-Stage 2 (Bayongan Dam), and communal irrigation systems including constructed/assisted by the government and privately-owned scattered in the different municipalities. Actually, there is still much to be desired in order to fully meet the need of the irrigation sector in the province and, ultimately, to be able to achieve success as the food basket in the Central Visayas region.



IRRIGATION DEVELOPMENT STATUS AS of December 31, 2016

Status	Area (has.)
Total Land Area (ha.)	411,730.00
New Potential Irrigable Area (ha.)	44,076.00
Existing Service Area (ha.)	25,081.00
NIS	<i>12,135.00</i>
CIS	<i>9,094.00</i>
Private	<i>2,980.00</i>
OGA	<i>872.00</i>
Remaining Area for Development (ha.)	18,995.00
% of Developed Area	56.90%

Source: NIA

➤ Enhancement of Malinao Dam and other Irrigation Facilities:

➤ Upgrading of Malinao Dam

Location: Pilar, Bohol

Upgrade and raise up of 2 meter

Total Project Cost: PhP 653 Million

Project Components:

- ✓ Civil Works :
 - a. Malinao Dam Improvement
 - b. Irrigation Area Improvement
- ✓ Institutional Development Program
- ✓ Land Acquisition and Compensation
- ✓ Consulting Services

Fund Released:

CY 2015 – P 10.00 Million

CY 2016 – P200.00 Million

CY 2017 - P100.00 Million

Status: For finalization of Design Scheme



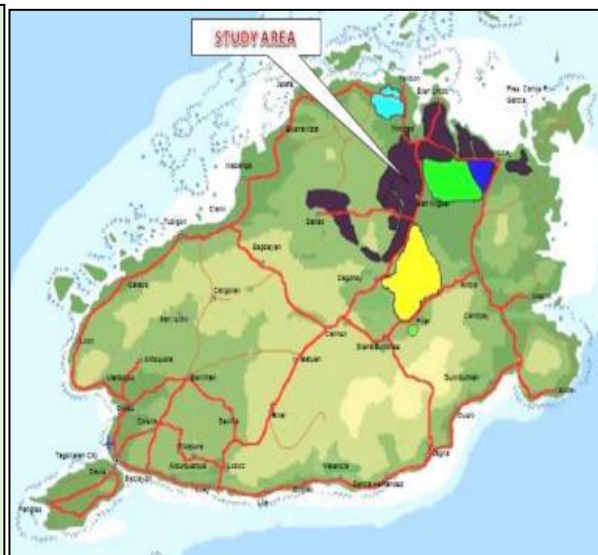
➤ **Small Reservoir Impounding and Irrigation Projects (SRIP)**

▪ Construction of Benliw SRIP, Ubay	- 400 Million	- 2015-2025 (ongoing)
▪ Construction of Bonotbonot SRIP, Buenavista	- 400 Million	- 2015-2025 (ongoing)
▪ Construction of Mabini-Cayacay SRIP, Mabini	- 450 Million	- 2015-2025 (ongoing)
▪ Construction of Hibale SRIP, Danao, Bohol	- 350 Million	- 2015-2025 (ongoing)
▪ Construction of Calunasan SRIP, Calape, Bohol	- 300 Million	- 2016-2018 (ongoing)
▪ Construction of Liloan SRIP, Inabanga, Bohol	- 400 Million	- 2015-2025 (ongoing)
▪ Construction of Cabulihan SRIP, Tubigon, Bohol	- 400 Million	- 2015-2025 (ongoing)
▪ Construction of gabayan SRIP, Candijay, Bohol	- 450 Million	- 2015-2025 (ongoing)



➤ **Bohol Northeast Basin Multi-Purpose Dam Project**

LOCATION	: DANAOS, BOHOL
SERVICE AREA	: 12,500 HAS.
MUNICIPALITIES COVERED	: Danao, San Miguel, Trinidad, Dagohoy, Bien Unido and Ubay
SOURCE OF WATER	: WAHIG RIVER
PROJECT OBJECTIVES:	
a. Irrigation System	
b. 10-MW Hydro Power	
Project Fund:	
• 2014 – 11,320,000.00 – FSDE	
• 2015 – 12,110,000.00 – FSDE	
• 2017 – 10,000,000.00 – FSDE	



DEVELOPMENT CHALLENGES:

- **Water Supply:**
 1. Increasing water demand in the service areas
 2. The need of proper coordination with different WSPs & contractors so as not to interfere existing underground facilities; Lack of funds in transferring water pipes during widening of roads

3. Unregulated water use: no water permits in extraction of groundwater
4. Deteriorating water quality of underground and surface waters due to: salt water intrusions, e-coli contamination, improper waste water disposals, harmful farming practices, proliferation of shanties along river banks which may also cause water pollution affecting aquatic life.
5. Lack of facilities for testing water quality
6. Poor management of water systems (not yet a priority of LGUs)
7. Fragmented inter-agency “work” on water related issues; irregular meetings of PAMBs or other water regulating bodies; no appropriate data base or water information management system
8. Conflicting implementation of water related projects; local development projects do not include water related planning
9. Soil erosion in upland areas and river banks, forest denudation, siltation of river banks
10. RROW problems to water sources and water facilities
11. Scarcity of water supply to some areas
12. Using the same color of pipes for water use and electrical conduits which may cause danger
13. Lack of sanitation program on water body protection

- **Irrigation:**

1. Generation of more potential irrigable areas into irrigated areas in Bohol province.
2. Siltation of Malinao reservoir area that caused to have been less water storage capacity.
3. Silted existing irrigation earth canals.
4. Forest denudation, soil erosion in upland and watershed areas of reservoir.
5. Poor management of irrigation water system.
6. No appropriate database for water irrigation management information system.
7. Harmful farming practices

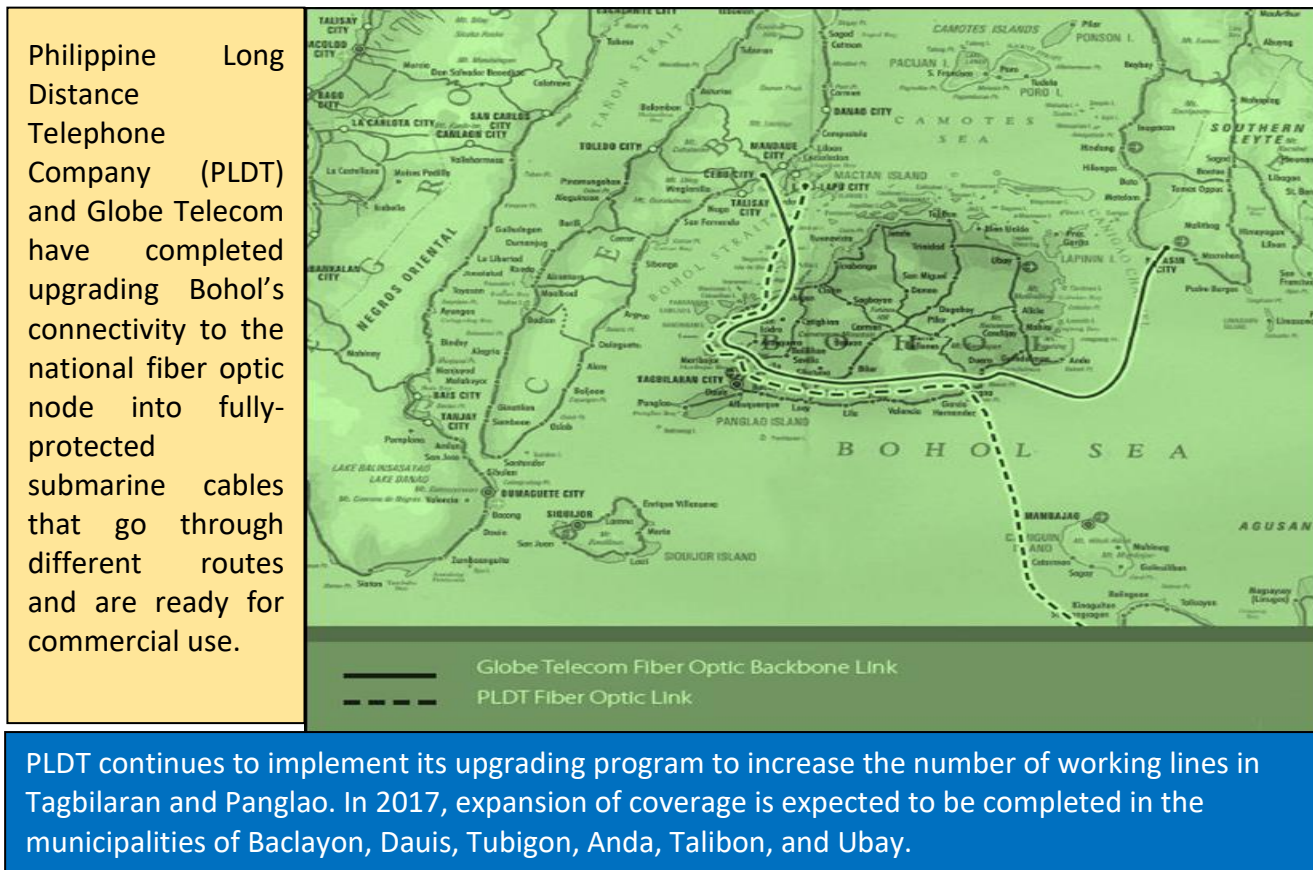
❖ Sub-Sector : Communications Development

SITUATIONER

1. Telephone Services

The province of Bohol is wired with the rest of the world through the state of the art telephone facilities that provide domestic and international linkages through three (3) service providers, namely PLDT/SMART, CRUZTELCO and Globelines where the public calling stations scattered throughout the province. CRUZTELCO concentrates their telephone services in Tagbilaran City, Jagna, Calape and Tubigon. PLDT and CRUZTELCO also provide payphones capable of international direct dialing. The Digital Telephone Exchange funded of the DOTC operates in the municipality of Tubigon, Talibon and Ubay.

● On-going Development of Fiber Optic Network Facility in Bohol



1. Mobile Phones

Smart, Sun Cellular and Globe Communications Incorporated have operated its cell sites in the entire province. With this mobile phone equipment, the connections can already avail of the efficient and convenient cellular telephone facilities. There are 192 units of cell sites such as 84 for Globelines, 65 for Smart and 43 for Suns Cellular located in some areas in the province. The people can make use of the regular services of the system such as domestic and international calls, text messaging, voice messaging.

2. Radio Services

Radio using transceivers is still a widely used mode of communication in the province. It provides back-up system, to telephone service. The Bohol Law Enforcement Communications Systems (BLECS) plays a consistent role in assisting both public and private individual needs of communication. All local, provincial and national government offices have operational radios. The PNP/Military and civilian sector assist them especially during emergency cases like insurgency related incidents, commission of crimes and occurrences of natural calamities such as earthquake, typhoon, fire and flood and among others.

3. Broadcast and Cable TV

There are four (4) broadcast media stations in Bohol namely: DYRD, DYTR, DYZD in Ubay and DYJP in Jagna. Two (2) FM stations (DYTR and DYRD) that are all operating and providing information and entertainment. The coverage for station DYRD is limited up to Clarin and Jagna with 5,000 watts capacity and DYTR has 10,000 watts capacity, has the widest coverage area equivalent to 80% provincewide. There is one relaying station based in Ubay, the station DYZD and one local station DYJP in Jagna, Bohol.

In the year 2016, Bohol has eleven (11) cable TV stations. The Bohol Community Cable Television (BCCTV) situated in Tagbilaran City, the Mantle Cable Station in Talibon, Alcyber Cable System which is located in the municipality of Loay, the Real Speed Cable TV Inc. in Calape, Southseas Vision in Tubigon, San Miguel Cable System in Jagna, Duero and Garcia Hernandez, Niña Cable TV System in Maribojoc, Zafra Cable in Panglao, Sto. Niño Cable TV System in Valencia and Dimiao, CCTN Cable System in Inabanga and DTV in Ubay.

4. Messengerial/Cargo Services

There are messengerial and cargo services in the city, namely the LBC, 2GO, Air 21, Fast Cargo, Pambato Cargo Forwarders, AP Cargo, LIBCAP Super Express, JRS and DHL that handle package forwarding. Most of these offices are located in Tagbilaran City with branches in some major urban centers of the province.

5. Internet Access

With the presence of facsimile machines and the internet, the patronage of telegram services has obviously decreased. There are three hundred ninety (390) internet café providers operating in the province.

DEVELOPMENT CHALLENGES:

1. Insufficient communication facilities both landline and wireless
2. Recovery of unused telephone drop wires in Tagbilaran City
3. Dangling cables and wires in Tagbilaran City
4. The growing number of unlocated addresses which would result to delayed delivery
5. Lack of personnel due to rationalization
6. Inadequate advocacy on the proper use of the ZIP code
7. Most pressing concern confronting postal offices is how to reverse their dwindling income due to strong competition provided by electronic mail and private couriers.

❖ **Sub-Sector : Power & Energy**

SITUATIONER

Bohol is supplied primarily by power plants located in Leyte and Cebu, with more than 50% for Bohol Electric Cooperative I (BOHECO-I), 100% for Bohol Light Company, Inc. (BLCI) and BOHECO-II. The province has indigenous Hydro Power resources, as evidenced by the existing 7.5 MW hydro power plant (about 11% of current total demand of the island). The Visayas Wholesale Electric Spot Market (WESM) supplies up to 29% of energy mix for BOHECO-I.

On the transmission system, Bohol is quite vulnerable owing to a single Bohol transmission interconnection with Leyte. There is also the problem of line congestion because the National Grid Corporation (NGCP) implements Manual Load Dropping (MLD).

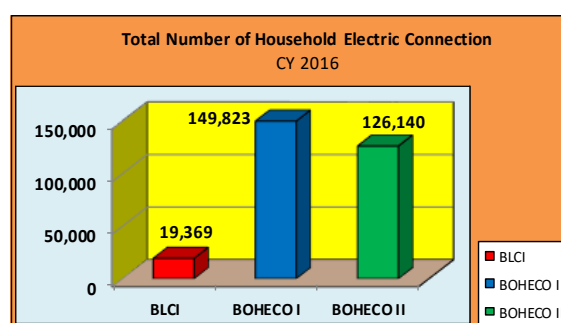
In the Calendar Year 2016, the Dependable Capability Profile for Bohol is 100.10 MW, forecasted demand of 70 MW and net reserve of 40.7 MW.

**BOHOL PLANTS CAPABILITY/DEMAND PROFILE
CY 2016**

BOHOL PLANTS	INSTALLED CAPACITY (MW)	CAPABILITY (MW)
SIPC <i>(Formerly BDPP) Dampas, Tagbilaran City</i>	22.0	16.2
Santa Clara Corporation <i>(Formerly LHEP) Tontonan, Loboc, Bohol</i>	1.2	0.9
BOHECO I-Sevilla Mini-Hydro Corp. <i>(BSMHC) Ewon, Sevilla, Bohol</i>	2.5	1.2
Janopol Hydroelectric Plant (JHEP) <i>Janopol, Balilihan, Bohol</i>	5.0	1.8
Sub-Total	30.7	20.1
Leyte-Bohol Interconnection (LBI)	80	80
TOTAL	110.7	100.1
Forecasted Demand	70	
Net Reserved	40.70	

Source: SIPC, Santa Clara Corp., BOHECO I and NGCP

- All municipalities in the province are already provided with electricity.
- 100% of all barangays in the province are also energized as covered by BLCI, BOHECO I and II.

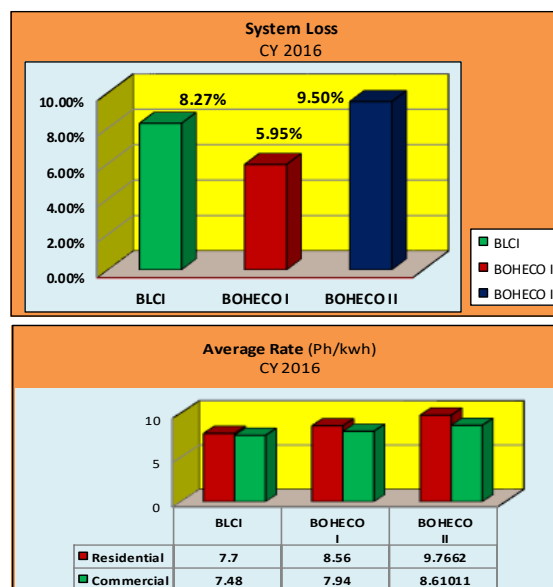


- The household connection for BOHECO I & II and BLCI increased every year for the period 2014 – 2016

- BOHECO I has the highest number of household electric connections.

- The BOHECO I & II and the BLCI have an average system loss of 9.38% per year which is 5.95% for BOHECO I, 9.50% for BOHECO II and 8.27% for BLCI.

- The BOHECO II has the highest average power rate both for residential and commercial followed by BOHECO I and then BLCI.



- **USAID-funded COMPETE Project:
Bohol Island Power Development Plan (BIPDP)**

- E.O. No. 13 s. 2014 - Creation of Bohol Energy Development Advisory Group (BEDAG)
- BEDAG shall become the high-level and principal advisory body to the Provincial Government on any and all matters related to energy development in Bohol Province.



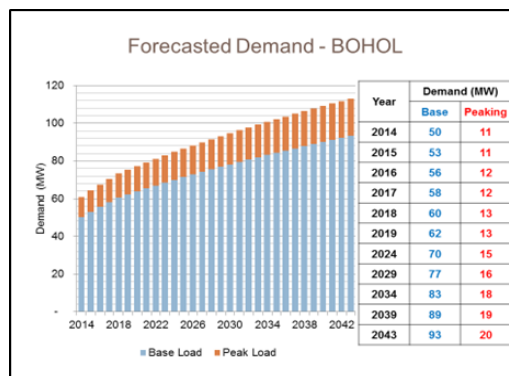
- **The Bohol Island Power Development Plan shall consist the following:**
 - Power Supply Plan (Generation Plan);
 - Transmission Development Plan (TDP);
 - Distribution Development Plan/s (DDP); and
 - Electrification Plan
- **Elements of the Bohol Island Power Supply Plan:**

In order to come up with a credible Power Supply Plan, the BEDAG-TWG prepared Load (Demand) Forecasts and determined the *Least-cost Power Supply Mix* for the coming years. Both sets of information will enable decision-makers to identify the right/optimal power supply investments needed given the projected demand forecasts. Achieving a least-cost power supply mix would lead to attaining a reasonable electricity tariff.

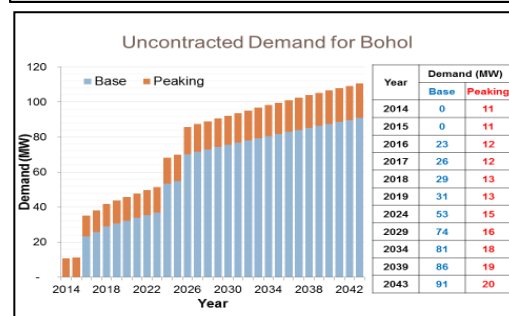
➤ Load Forecast/Demand

The BEDAG-TWG was able to come up with the following future demand forecasts:

The conservative forecast shows that the Province of Bohol will have a demand of 61 MW (50MW Base and 11MW Peaking) to 113 MW (93 MW for Base and 20 MW for Peaking) from 2014 to 2043. Below is a graph showing the future demand of the island:



By 2016, the Province of Bohol will have a shortage of 35 MW. Below is a graph of the un-contracted demand of the Province of Bohol based on the data provided by the three (3) Distribution Utilities:



Forecasted Demand and Contracted Supply of BLCI

Electric Distribution Utility	Forecasted Demand in Megawatts							
	2016	2017	2018	2019	2020	2021	2022	2023
Bohol Light Company, Inc. (BLCI)	22.36	23.18	23.92	24.66	25.32	26.11	26.79	27.41
	Contracted Supply in Megawatts							
	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00
WESM	5.36	6.18	6.92	7.66	8.32	9.11	9.79	10.41

Source: Bohol Light Company, Inc. (BLCI)

The City of Tagbilaran is served by BLCI covering 15 Barangays that include Bool, Booy, Cabawan, Cogon, Dampas, Dao, Manga, Mansasa, Poblacion 1, Poblacion 2, Poblacion 3, San Isidro, Taloto, Tiptip and Ubujan. As can be seen from the Table above, power demand for BLCI's coverage area in 2016 is forecasted to be 22.36 megawatts which would increase to 27.41 in 2023. On the other hand, contracted supply from Gencos is constant at 17 megawatts all throughout the eight-year timeframe from 2016 to 2023. The contracted supply as shown in the Table above should not be confused by anyone as supply deficit; the difference between yearly forecasted demand and contracted supply will be taken care of and filled in by the Wholesale Electricity Spot Market (WESM). Power that is being supplied by WESM to BLCI

is payable by the DU itself. This arrangement is done to compensate for the supply deficiency while BLCI is still awaiting the approval of its Power Supply Agreement (PSA) with a winning Genco by the Energy Regulatory Commission (ERC).

Forecasted Demand and Contracted Supply of BOHECO I

Electric Distribution Utility	Forecasted Demand in Megawatts							
	2016	2017	2018	2019	2020	2021	2022	2023
Bohol Electric Cooperative I (BOHECO I)	29.78	31.39	33.01	34.62	36.23	37.82	39.39	40.95
	Contracted Supply in Megawatts							
	22.70	22.70	21.50	21.50	21.50	21.50	21.50	21.50
WESM	7.08	8.69	11.51	13.12	14.73	16.32	17.89	19.45

Source: Bohol Electric Cooperative I (BOHECO I)

The coverage area served by Boheco I includes the municipalities of Albur, Antequera, Baclayon, Balilihan, Batuan, Bilar, Calape, Carmen, Catigbian, Clarin, Corella, Cortes, Dausi, Dimiao, Inabanga, Lila, Loay, Loboc, Loon, Maribjoc, Panglao, Sagbayan, San Isidro, Sevilla, Sikatuna and Tubigon. These 26 municipalities are located either in the interior or coastal areas of the province. As can be seen from the Table above, power demand for Boheco I's coverage area in 2016 is forecasted to be 29.78 megawatts which would increase to 40.95 megawatts by 2023. On the other hand, contracted supply from Gencos is the same at 22.70 megawatts for 2016 and 2017 to 21.50 megawatts constant from 2018 to 2023. Again as stated earlier, this should not be confused by anyone as supply deficit; the difference between yearly forecasted demand and contracted supply will be taken care of and to be filled in by the WESM. Power that is being supplied by WESM to Boheco I is payable by the DU itself. This arrangement is done to compensate for the supply deficiency while Boheco I is still awaiting the approval of its PSA with a winning Genco by the ERC.

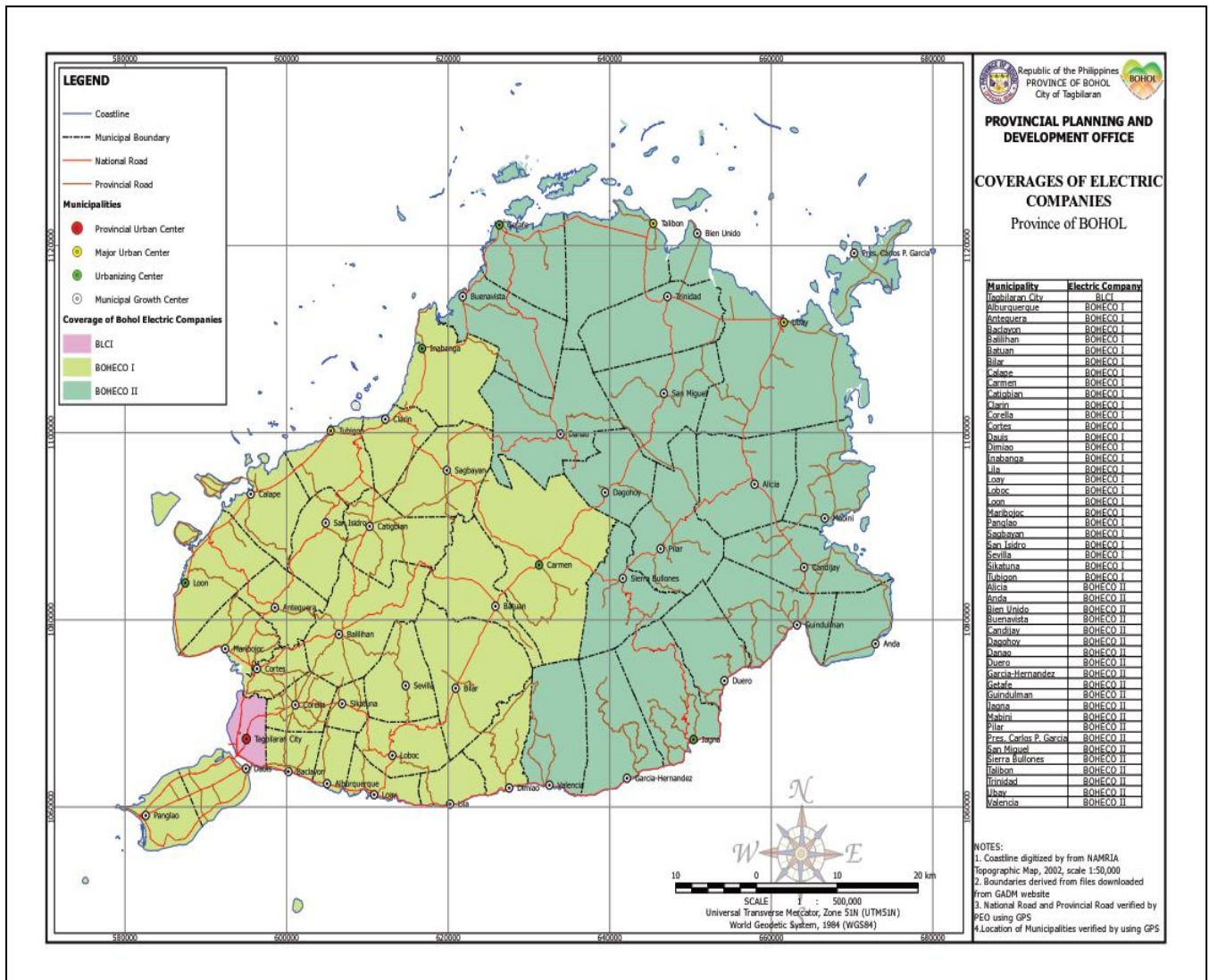
Forecasted Demand and Contracted Supply of BOHECO II

Electric Distribution Utility	Forecasted Demand in Megawatts							
	2016	2017	2018	2019	2020	2021	2022	2023
Bohol Electric Cooperative II (BOHECO II)	19.18	20.23	21.27	22.32	23.36	24.41	25.45	26.49
	Contracted Supply in Megawatts							
	10	10	10	10	10	10	10	10
WESM	9.18	10.23	11.27	12.32	13.36	14.41	15.45	16.49

Source: Bohol Electric Cooperative II (BOHECO II)

The coverage area served by BOHECO II includes the municipalities of Alicia, Anda, Bien-Unido, Buenavista, Candijay, Dagohoy, Danao, Duero, Garcia-Hernandez, Getafe, Guindulman, Jagna, Mabini, Pilar, Pres. Garcia, San Miguel, Sierra-Bullones, Talibon, Trinidad, Ubay and Valencia. These 21 municipalities are located either in the interior or coastal areas of the province. As can be seen from the Table above, power demand for BOHECO II coverage area in 2016 is forecasted to be 19.18 megawatts which would increase to 26.49 megawatts by 2023. On the other hand, contracted supply from Gencos is constant at 10 megawatts from 2016 to 2023. Again as stated earlier, this should not be confused by anyone as supply deficit; the difference between yearly forecasted demand and contracted supply will be taken care of and to be filled in partly by the WESM and Gencos whose respective PSAs with the DU are awaiting approval by the Energy Regulatory Commission. Power that is being supplied by WESM to BOHECO II is payable by the DU itself. This arrangement is done to compensate for the supply deficiency while BOHECO II is still awaiting the approval of its respective PSAs with winning Gencos by the ERC.

Coverages of Bohol Electric Companies



Shown above is a map of the Province of Bohol indicating geographical locations of coverage areas of the three (3) electric companies or distribution utilities, namely: BLCI, BOHECO I and II. BLCI coverage area consists of fifteen (15) Barangays of Tagbilaran City. BOHECO I coverage area consists of twenty-six (26) municipalities. And BOHECO II coverage area consists of twenty-one (21) municipalities.

➤ **Optimal Supply Mix**

Using the load profile of Bohol and relevant power plant and cost data from representative baseload and peaking power plants, the BEDAG-TWG was able to come up with an optimal power supply mix that, when implemented, will ensure the least-cost power supply. For the combined requirements of the whole island of Bohol, the optimal power supply demand (in MW) should consist of 82% baseload and 18% peaking power plants. Practically all of its energy requirements (99.5%) shall be supplied from Baseload plants and only 0.5% shall be supplied from Peaking power plants. From these results, it can be concluded that contracting for baseload plants should be a priority. On the other hand, since the proportion of energy to be derived from peaking supply is very small, it may be sourced from WESM.

Optimal Power Supply Mix				
Utility		Baseload	Peaking	Total
BLCI	Demand	87%	13%	100%
	Energy	99.5%	0.5%	100%
BOHECO-I	Demand	72%	28%	100%
	Energy	99.4%	0.6%	100%
BOHECO-II	Demand	75%	25%	100%
	Energy	99.4%	0.6%	100%
BOHOL	Demand	82%	18%	100%
	Energy	99.5%	0.5%	100%

➤ **Power Supply Requirements**

Using the results of the load forecasts and the optimal power supply mix, together with data on existing power supply contracts of the three Distribution Utilities, the BEDAG-TWG projected the total power requirements of Bohol up to CY 2043.

➤ **Power Supply Strategy**

In order to address the impending power supply requirements, the BEDAG has approved and endorsed the immediate contracting of short-term baseload power supply for the years 2016-2018 and long-term baseload power supply for 2019-2039 through a competitive procurement process similar and in conjunction with the transparent and competitive joint procurement process being done by the Electric Cooperatives in R1+CAR and Region 8 respectively.

Concurrent with bilateral contracting of baseload power supply, the BEDAG will also undergo local resource assessment to identify possible natural resources that can be utilized for power generation. Increasing the power

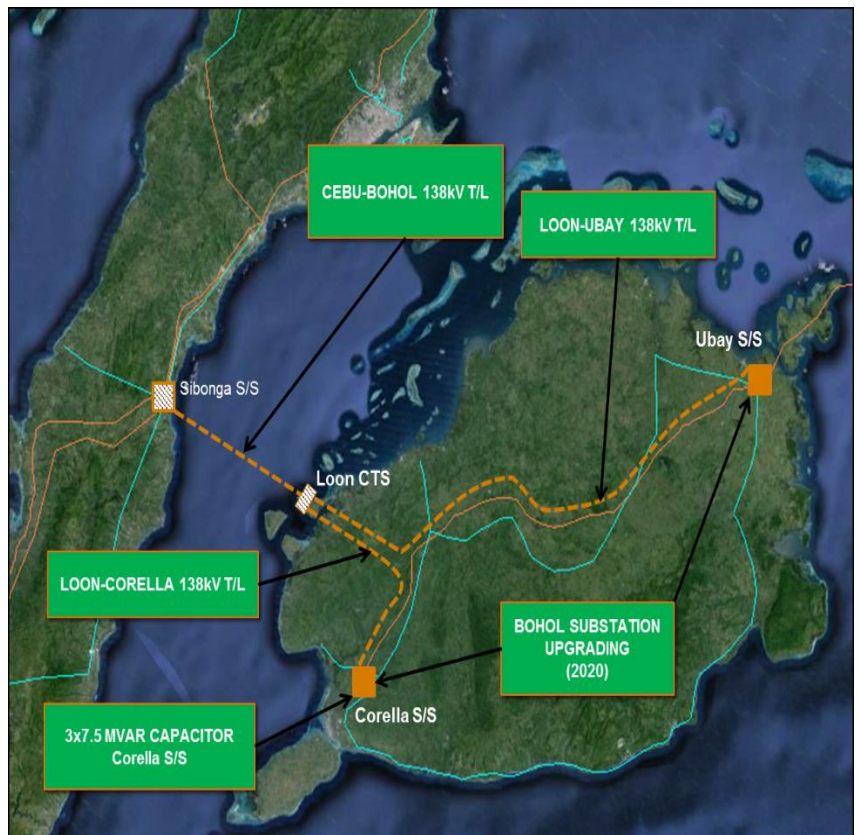
supply sourced from within Bohol shall contribute to self-sufficiency and climate resiliency of Bohol's power supply. The BEDAG has also endorsed the transmission plan presented by NGCP where an alternate Cebu-Bohol transmission link shall be provided to ensure connectivity of Bohol to the main Visayas Grid. This alternate transmission link will also allow export of excess power from Bohol if more generating resources are developed within the island.

The BEDAG has also resolved that all investments in power shall be subjected to scientific study and evaluation to ensure that they will be beneficial to the consumers of Bohol and are consistent with the goals, objectives and plans set out in the Bohol Island Power Development Plan (BIPDP).

- **Upgrading of Transmission Lines and Development of New Power Sources**

➤ **Transmission Development NGCP):**

1. Cebu-Bohol Interconnection Project (CY 2020)
 - a. Cebu-Bohol 138 kv Transmsion Line (T/L)
 - b. Loon-Ubay 138 KV T/L
 - c. Loon-Corella 138 kv T/L
2. Bohol Substation Upgrading at Ubay and Corella SS (CY 2020)
3. Visayas Voltage Improvement Project 3X7.5 MVAR
4. Capacitor in Corella (CY 2019)
5. Tagbilaran 69 KV Substation (CY 2020)



c. Proposed Cebu – Bohol 138 KV Interconnection Project



The project will provide the connecting link between the power system of the island of Cebu and Bohol. The 30 kilometer, 200 MW Submarine Cable to be laid from Sibonga, Cebu Substation of 2x50 MVA to Loon Cable Terminal Substation (CTS) and connected through a 17 kilometer, 2x180 MW to Corella substation.

d. Project Status

Activity	Timeline	Remarks
Application for Provisional Authority	2 nd Quarter of 2017	On-going preparation of ERC documents for PA application
Pre-construction Activities	July 2017	Pre-construction activities will be started even without ERC approval
Project Completion	December 2020	

e. Challenges in the Project Implementation

1. **Results of Hydrographic Survey.** *The result of survey will determine if there are no problems in the proposed submarine cable route from Sibonga, Cebu to Loon, Bohol.*
2. **Acquisition Landing Site.** *The identified sites for Loon CTS is habitat for mangroves requiring permits from Department of Environment and Natural Resources (DENR) of Bohol.*
3. **Over Head Lines Route.** *There are expected Right of Way (RoW) difficulties in the overhead line routes from Loon to Corella SS.*

➤ **One Bohol Power (1 BP) Aggregation**

➤ One Bohol Power (1BP) Aggregation with the signing of the short and medium-term power supply agreements		
ACTIVITY	SCHEDULE (Tentative)	REMARKS
Publication of Invitation for Public Bidding	1 st Quarter, 2017 and the week after 1 st Publication	Status: Proceed with the selection process for the long-term power supply agreement for the distribution utilities of Bohol.
Deadline of Submission of Letter of Intent (LOI) and Payment of Participation Fee	15 days after second Publication	
1 st Transaction Conference	30 days after LOI Deadline	
2 nd Transaction Conference	30 days after 1 st Transaction	
3 rd Transaction Conference	30 days after 2 nd Transaction	
Submission of Bids	9 months after last transaction conference	
Opening and Evaluation of Financial Proposals	Same day	
Post-Qualification, Verification of Value Added Services and Evaluation of Technical Proposal of Proponent with Lowest Calculated Long-Term Levelized Price (LCP)	Within 30 days after opening of Bids	
Declaration of Winning Proponent /s	30 days after Bid Opening	
Notice of Award to Winning Proponent/s	Same day	
Acknowledgement/Acceptance of Notice of Award	15 days after Notice of award	
Negotiations and Finalization of Power Supply Agreement	Within 3 months after Acknowledgement	
Signing of Power Supply Agreement	15 day after final Negotiation	
ERC Filing	ASAP	

➤ **Proposed Long-Term Power Supply Procurement for Bohol from 2024 to 2043**

The province of Bohol through its power and businesses sectors have foreseen the need for a long-term power supply that will add new generating capacity. This indispensable need envisage the construction of a land-based power plant in Bohol that will serve its future power requirements. **According to the BEDAG-TWG based on its forecast computations - by year 2024 the combined power load demand for the 3 DUs in Bohol shall be at an average of 100 megawatts.** The 100 megawatt-threshold is the minimum requirement that Gencos require to enter into exclusive contracts with interested DUs according to the USAID Compete Team of UP consultants. This scenario is substantiated by the 1BP aggregation within the purview of its experience and expertise in the field of power supply distribution to electric consumers.

However, this undertaking is easier said than done; it could not be done overnight. There are basic important issues and concerns that need to be addressed first. One of the paramount concerns is the need to scout potential sites or locations for a proposed onsite power plant which would be strategically identified or designated as a priority investment area. But before this is done, the formulation of a policy framework should be put in place to set things in order. This policy framework will serve as a mechanism that will support and facilitate site identification, incentives grant offers and institutional processes in the form of assistance to potential power bidders in order to attract them. The concept of a power economic zone (power ecozone) is most likely appropriate and expected to address the abovementioned concerns. Furthermore, the proposed power ecozone is envisioned to be a key enabler for attracting power supply companies that would locate their facilities in Bohol. The idea of power ecozone in Bohol has been conceptualized through the collaborative efforts of the Bohol Power Investments Coordination Committee (BPICC), the BEDAG-TWG and the 1BP with technical assistance of the USAid Compete Team and facilitative support by the PPDO.

The proposed Power EcoZone has its overall goal of ensuring power supply availability, security, reliability and affordability. It will entice and facilitate the entry of power generating companies (Gencos) including renewable energy-based power plants which shall be entitled to special incentives allowed under the Bohol Investment Code and other types of support or assistance to be identified by the prospective LGU where the future power plant shall be located. If this scenario will materialize, these GenCos shall undergo competitive selection process (CSP) that would facilitate the establishment of the power plant in a timely and effective manner.

➤ **Power Generation Projects Using Appropriate Technologies in Suitable Areas of the Province.**

<ul style="list-style-type: none"> • Formulation of a long-term Bohol Island Power Development Plan (BIPDP), which ensures: <ul style="list-style-type: none"> ✓ security of supply – available when needed; ✓ reliability and resiliency (climate-proof) of supply; ✓ affordability (least-cost) • The Province welcomes private sector investments for power facilities that are: <ul style="list-style-type: none"> ✓ intended to install new capacity for meeting the baseload requirement of distribution localities starting in 2019; ✓ primarily for the purpose of selling to the grid; and ✓ intended to serve the requirements of off-grid or other specific users in the island province • Potential Sites for Power Supply Development <ul style="list-style-type: none"> ✓ Danao (Cantakoy Hydro Power) ✓ Loboc (Loboc Hydro Power) ✓ Balilihan (Janopol Hydro) ✓ Antequera (Inambacan) ✓ Garcia Hernandez (Upper and Lower Manaba) ✓ Jagna (Balili and Odiong) ✓ San Isidro (Caimbang) ✓ Duero (Alijawan) ✓ Ubay (Gabi and Asinan) 	
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➤ **Renewable Energy Sources as ancillary support for existing power requirements**

Based on the information extracted from the Coordinating Roads and Infrastructure Investments for Development (CRID), a joint program facilitated by the Bohol Chamber of Commerce and Industry (BCCI) and the Provincial Government of Bohol (PGBh) – there are three (3) proposals from three (3) Gencos to build renewable energy (RE) power plants in Bohol. These proposals correspond to three (3) identified areas in Bohol, namely: Ubay for solar, Jagna for wind, and Alicia also for solar. These proposed RE power plants cost Php 50,000,000.00 each. All these project proposals have been endorsed by the Regional Development Council (RDC) to the National Economic Development Authority-Investments Coordinating Committees (NEDA-ICC) for possible funding by the concerned and appropriate agencies.

In 2015, the Provincial Government of Bohol (PGBh) through the BEDAG conducted three (3) Power Investment Forums in Bohol. The first, second and third investment forums were held in Bohol on February 10, 2015, March 16, 2015, and June 16, 2016, respectively. A total of sixteen (16) private power generation/technology companies have presented their credentials and concepts on power investments for Bohol. Notwithstanding coal, the aforementioned power companies also offered to build renewable energy-driven power plants such as hydro, solar, wind and biomass.

DEVELOPMENT CHALLENGES:

1. No funds in transferring electric post in the widening of roads.
2. Lack of coordination of implementing agency in transferring of post.
3. Construction of any new building/structures and planting of trees inside the Road Right of Way (RROW) that would affect our main distribution line.
4. A number of households still do not have access to electricity.
5. There are still some barangays that need further expansion and sitios to be lighted (BOHECO II).
6. There is still a need for other barangays to be rehabilitated due to over-extended and substandard lines
7. Some of the households in the Province are located in the hinterland and remote areas where power demands are low
8. High electric power rates
9. Long distribution lines (BOHECO II)
10. Overloaded transformer at San Miguel sub-station.
11. Old electric meter
12. Hazardous service conductor (BOHECO I)
13. Access to Feeder C line in Tagbilaran (BOHECO I)
14. Bohol is still experiencing brownouts, especially when faults occur in the transmission lines on the Leyte side.
- 15.

DEVELOPMENT PLAN FRAMEWORK

VISION:

ADEQUATE, QUALITY, RELIABLE AND AFFORDABLE POWER SUPPLY IN THE PROVINCE OF BOHOL AT COMPETITIVE RATES GIVING DUE CONCERN TO CUSTOMERS SATISFACTION, SOCIETY AND THE ENVIRONMENT

GOALS:

1. Adequate generation capacity during Bohol islanding operation
2. Reliability Standards complied
3. Met Forecasted demand especially in Panglao Island

4. Fully rehabilitated lines
5. System Reliability and Power Quality

OBJECTIVES:

1. To build land-based power plant
2. To interconnect Negros-Bohol or Cebu-Bohol
3. To install 138 KV transmission lines from Ubay to Corella
4. To install 10 MVA substation solely for Panglao Island
5. To upgrade medium voltage distribution lines
6. To allocate budget and transfer poles affected by road widening
7. To rehabilitate the overextended and sub-standard lines
8. To energize all households in the franchise area
9. To build new power substation at Jagna
10. To replace existing power transformer from 2.5 MVA to 5MVA at San Miguel Substation
11. To replace new kwhr meter to old consumers (2 yrs and above)

STRATEGIES:

1. System improvement
2. Full government intervention through tax incentives and measures to entice private sector to invest capital projects in order to improve the system
3. Environmental awareness and compliance
4. Fostering of community development and enhancement of social responsiveness
5. Educational information on electricity consumer's rights and obligations.
6. Full support of DOE thru National Intensified Household Electrification.
7. Coordinate with the LGUs and other agencies.
8. Enabling PPP for power investments

Plans, Programs/Activities: (2016 – 2021)

NGCP :

1. Ormoc-Maasin 138 KV Transmission Line 2 Project - 113.97 km T/L (2016)
2. Visayas Voltage Improvement Project 3 X 5 MVAE Capacitor (2019)
3. Tagbilaran 69 KV Substation (2020)
4. Cebu – Bohol Interconnection Project (2020)
5. Transmission Line Maintenance Program:
 - a. Pole Replacement – 7 Circuit (2016)
 - b. Cross Arm Replacement – 7 Circuit (2016)
 - c. Comprehensive Maintenance:
 - (2016) - 11 Circuit
 - (2017) - 7 Circuit
 - (2018) - 7 Circuit

- (2019) - 6 Circuit
- (2020) - 4 Circuit

BLCI :

1. Extension of Distribution Lines
2. Upgrading of Distribution Lines
3. Additional Substation
4. Electrification

BOHECO I :

1. BLEP Project (Barangay Line Enhancement Program)
 - a. Energized all household thru NIHE (National Intensified Household Electrification)
 - b. Upgrade existing distribution lines on Island Barangays thru submarine cable and connect to the Grid (mainland)
 - c. Sustain power reliability
 - d. Reduced power cost level to mainland
2. Renewable energy-solar power introduction

BOHECO II :

1. Construct new substation at Jagna
2. Replacement of existing power transformer 2.5 MVA to 5 MVA at Mahayag, San Miguel
3. Replacement of kwhr meter with accurate register
4. Massive recruitment for DOE program recipients
5. Massive Information drive
6. Barangay Line Enhancement Program/Island Barangays will be installed submarine cable to connect mainland Grid
7. Upgrading of Power Transformer at Alicia Substation 6 MVA to 10 MVA
8. Sitio Electrification Program (SEP) to all Sitios un-energized
9. Construction of Jagna Main Office Head Quarter Building
10. Construction of Ubay Area Office Collection Center
11. Acquisition of Sus-Transmission Asset of NGCP 69 KV from Ubay to Garcia Hernandez Lines
12. Install SCADA to all Substations

PGBh:

1. Bohol Island Power Development Plan (BIPDP)
 - Power Supply Plan (Generation Plan)
 - Transmission Development Plan
 - Distribution Development Plan
 - Electrification Plan
2. Use LFC as a “Clearing House” for decision-making vis-à-vis Power
3. Operation of the Bohol Energy Development Advisory Council (BEDAG)

Chapter IV

GOALS, OBJECTIVES AND TARGETS

Sector : ENVIRONMENT & NATURAL RESOURCES MANAGEMENT
Sub-Sector : Land Resource Management



Development Goal

- Conserve and manage Bohol's natural landscapes and seascapes in such a way that will safeguard the functional capacities of these ecosystems and their sustainable use

Development Objectives

- To improve the soil-water balance as a life support mechanism for economic development
- To enforce strictly the river easements, buffer zones and landscape assemblies that shall be implemented along with all the provisions of the NIPAS Law

Sub-Sector : FORESTRY

Development Goals

- Ensuring the perpetual existence of adequate forest resources for the use and enjoyment of the people through local government driven, interagency, and multi-sectoral forest management
- To protect, conserve and enhance our existing forest resources and to adopt strategies that would hasten the restoration of lost ecological forest and diminishing biodiversity in order to address the escalating problem on water degradation and climate change in the local scenario
- Conserve endemic and indigenous species

Development Objectives

- To enforce the river easements, buffer zones and landscape assemblies that shall be implemented along with all the provisions of the NIPAS Law
- To protect and conserve the existing forest ecosystems and their diverse genetic resources to protect, and to adopt strategies that would hasten the restoration of lost ecological forest and diminishing biodiversity in order to address the escalating problem on water degradation and climate change in the local scenario
- To rehabilitate severely eroded areas especially those 18% slope and above
- To protect and rehabilitate watersheds potential sources of local water supply
- To promote biodiversity conservation and forest restoration program through IEC and continuous operation of indigenous tree nurseries.
- To promote and sustain the newly developed eco-tourism packaged tour promoting the tree planting activity for the local and foreign tourists in the province.

Sub-Sector : BIODIVERSITY

Development Goals

- Conserve endemic and indigenous species

Development Objectives

- To protect wildlife species and their habitats to promote ecological balance and enhance biological diversity

- To promote biodiversity conservation and forest restoration program through IEC and continuous operation of indigenous tree nurseries.
- To increase flora and fauna species in the province through the promotion of Rainforestation technology.
- To promote and sustain the newly developed eco-tourism packaged tour promoting

Sub-Sector : WATER RESOURCES

Development Goal

- Ensure effective and sustainable use of water resources and recharge area

Development Objectives

- To formulate appropriate water pricing for sustainable use of water resources
- To establish a Bohol Watershed Network with a designation of priority catchments for protection. These are areas that are strictly needed for water production and enhanced protection zoning including peripheral buffer zones
- To designate buffer zones (water reserve basins) to reduce damage from heavy flooding and increase water infiltration
- To improve water use including conservation of groundwater resources

Sub-Sector : COASTAL/MARINE MANAGEMENT

Development Goals

- Sustainable development of coastal/marine resources
-

Development Objectives

- To increase productivity and income to the people of Bohol in the coastal areas
- To protect and conserve the existing marine sanctuaries in the province of Bohol
- To protect the coastal areas to become resilient enough to yield greater amount of fish stock

Sub-sector : MINERAL RESOURCE MANAGEMENT

Development Goals

- Ensure protection and rehabilitation of the safe environment where mining activities are undertaken

▪

Development Objectives

- To restore quarried and other mining areas
- To rationalize the extraction of minerals to support local and national industrialization

Sub-sector : URBAN DEVELOPMENT/ MANAGEMENT

Solid & Liquid Waste & Sewage

- Situation
- Development Issues
- Development Framework

Air/Noise/Odor Pollution

- Situation
- Development Issues
- Development Framework

Development Goal

- Ensure that all LGUs shall implement the 10-year Integrated Ecological Solid Waste and Liquid waste management plan in each municipalities
- Cleaner air and reduced noise for healthy people and a more pleasant environment

Development Objectives

- By 2018 the sector aims that 90% of the LGUs in the province will have an approved 10 Year ISWM Plan.
- To reduce the negative impact of garbage on health and environment
- To protect underground and surface water from contamination and maintain seawater quality

Air Pollution

Development Goal

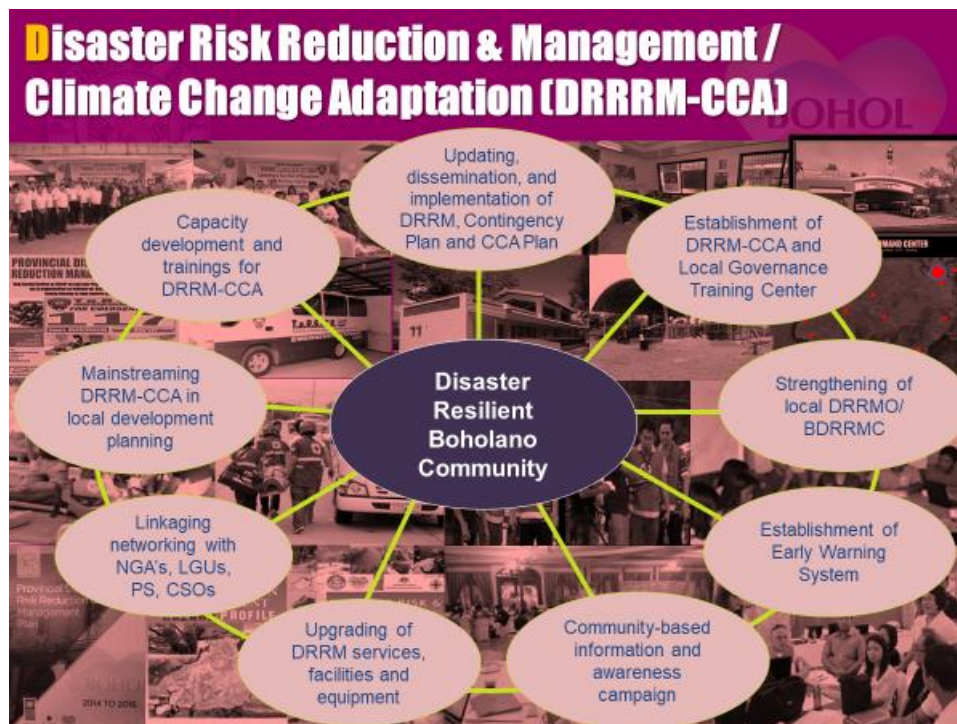
- Cleaner air and reduced noise for healthy people and a more pleasant environment
- The goal of the province is to preserve the air quality by favoring eco-tourism and agro-industrialization as a vehicle for economic growth

Development Objectives

- To contribute to the reduction of greenhouse gases
- To protect underground and surface water from contamination and maintain seawater quality
- To reduce greenhouse gas emissions from vehicles and promote fuel efficiency and non-motorized methods of transportation to save on fuel consumption and generate positive effects to mitigate climate change

DISASTER RISK REDUCTION MANAGEMENT AND CLIMATE CHANGE ADAPTATION

Climate Change Mitigation and Adaptation



Development Goals

- Build the capacity of the local government units and civil society in developing mechanisms to adapt to climate change
- Avoid hazards and mitigate their potential impacts by reducing vulnerabilities and exposure and enhancing capacities of communities.

Development Objectives

- Restore and improve facilities, livelihood and living conditions and organizational capacities of affected communities, and reduced disaster risks in accordance with the “building back better” principle.
- To reduce greenhouse gas emissions from vehicles and promote fuel efficiency and non-motorized methods of transportation to save on fuel consumption and generate positive effects to mitigate climate change
- To formulate mitigating and adaptation measures to address climate change
- To develop a monitoring and evaluation framework that will track the progress and accomplishments of the climate change agenda in the province
- To develop networks on climate change

Disaster Risk Management

Development Goals

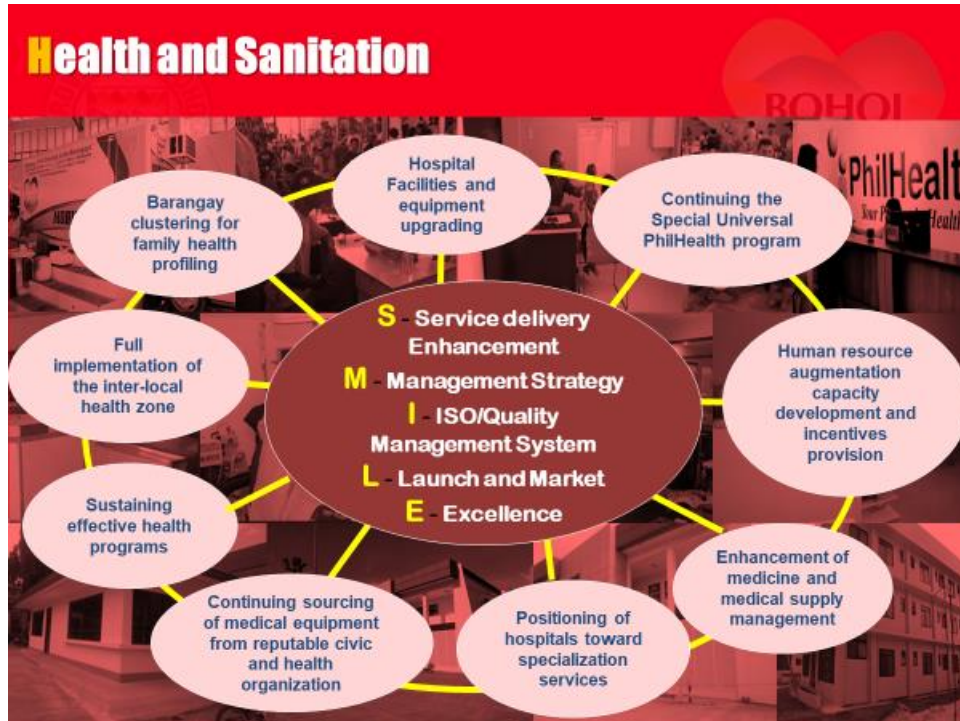
- Ensure the safety of the local people and properties in addressing natural and man-made environmental hazards

Development Objectives

- To reduce, address or avoid the risks of natural environmental hazards in vulnerable areas in Bohol including socio-economic and infrastructure risks
- To identify DRM approaches and options which include the development of Disaster Risk Reduction measures (DRR)
- To enhance the capacity of local government units in instituting Disaster Risk Reduction

Sector : SOCIAL DEVELOPMENT SECTOR

Sub-Sector : Health and Sanitation



In the attainment of its overarching vision for the development of Bohol Province, a most comprehensive development framework has been adopted by the Provincial leadership to eradicate poverty and ensure access to basic social services for all Boholanos. It envisages to transform Bohol's economy through an integrated development framework balancing the social, economic and environmental dimensions of sustainability.

The Social Development Sector shall focus on ensuring an enabling policy environment for inclusive growth, poverty reduction, convergence of service delivery, maximized synergies and active multi-stakeholder participation. Priority strategies include:

- (a) attaining the Millennium Development Goals/Sustainable Development Goals (MDGs/SDGs);
- (b) achieving universal coverage in health and basic education;
- (c) adopting the community-driven development approach;
- (d) converging and aligning government's responses to poverty for priority beneficiaries and target areas;
- (e) accelerating asset reform;

- (f) mainstreaming climate change adaptation and disaster risk reduction in social development;
- (g) mainstreaming gender and development;
- (h) strengthening civil society-basic sector participation and public-private partnerships;
- (i) adopting volunteerism; and
- (j) developing and enhancing competence of the bureaucracy and institutions.

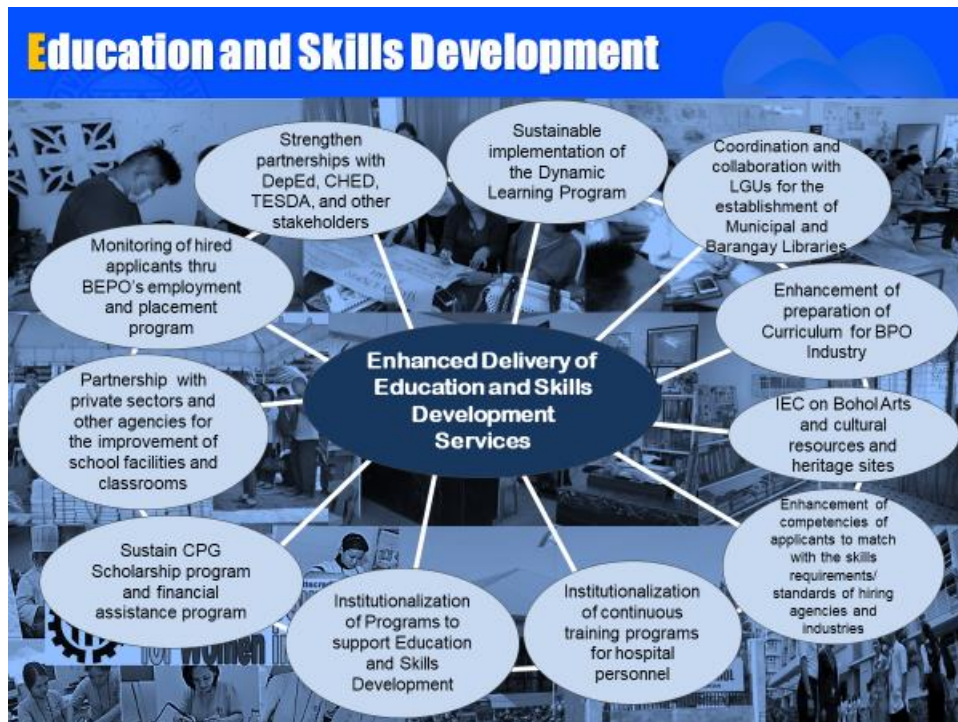
Defining these priorities is critical but implementation also call for a change in political mindset, a continued commitment to effective leadership, and policy and institutional coordination to balance the interests of the people and the environment as it faces the demands for significant financial resources to close infrastructure gaps, provide universal access to social protection, health, housing and education and the challenge of preserving and promoting its cultural heritage assets. Actions are also needed to address climate change and other environmental dimensions of sustainability by mobilizing political commitment, involving communities, building partnerships and sustaining solidarity in the execution of social programs and projects.

- **Population Management**

The overall population development objective, as advocated by the United Nations, is to improve the social, economic and environmental quality of human settlements and the living and working environments of all people, in particular the urban and rural poor.

Development Objectives:

1. To ensure sustainable management of settlements to improve the living conditions of residents, especially the marginalized, thereby contributing to the achievement of national and local economic development goals.



2. To provide for the land requirements of human settlement development through environmentally sound physical planning and land use so as to ensure access to land to all households, where appropriate



3. To plan for sufficient education, cultural and leisure facilities to cater to the needs of Bohol's population especially its growing elderly population by enhancing the quality of life of adults specifically age 60 and older and to fostering their independent living through the delivery of comprehensive mental health and supportive services, advocacy, and education.



- **Social Development**

The overall goal for social development is the promotion of the social wellbeing of all Boholanos by improving health and sanitation services, providing quality education and housing and promoting social inclusion of the poor and vulnerable by empowering people, building cohesive and resilient societies, and making institutions accessible to citizens.

Development Objective:

To improve both the overall level and the distribution of well-being amongst Bohol's population.

- **Limited Access to Formal Credit and Financing**

- High cost of agri-loans
- Many supporting requirements

- **Lack of Roadmap for the Asean Integration**

- Farmers and fisherfolks not aware of the current needs and trends of the market (compliance to food safety and standards and impacts of ASEAN Economic Community)

Sector : ECONOMIC DEVELOPMENT

Sub-Sector : Agriculture and Rural Development



SUB-SECTOR VISION

Green Bohol, a Competitive and Sustainable Agro-industrial Province

SUB-SECTOR GOALS

- *Improved agricultural productivity for food sufficiency and increased farmers' income*
- *Increased agriculture sector resilience to climate change risks*
- *Enhanced Green Economy through Agri-fishery and Livestock*
- *Enhanced agricultural products and services competitiveness*

SUB-SECTOR OBJECTIVES AND TARGETS

➤ Crops

- To increase food sufficiency
 - Rice sufficiency from 106% to 115% by the end of planning period
 - 1.2% per year

- Corn 2.5% increase per year
 - Vegetables from 43% to 58%
 - 2.5% per year
 - Fruits 72% to 80%
 - 1.3% per year
 - Rootcrops
 - Sweet Potato: 20% increase in production
 - Ubi: 8% to 10%
 - Coconut
 - 20% increase in production
-
- To strictly implement the Comprehensive Land Use Plan (CLUP) for land conversions
 - To mitigate the effect of climate change
 - To produce alternate sources of farm inputs that are environment friendly
 - To reduce postharvest losses thru provision of facilities
 - To enhance product development and value adding
 - To enhance production thru establishment and modernization of farm machineries and facilities

➤ **Fisheries**

- To increase fishery production
 - Commercial : 1,381 to 1,519.1 MT
 - Municipal : 10,991 to 12,090.1 MT
 - Aquaculture : 91,522 to 100,707.2 MT
- To increase production areas by 10 %
- To establish additional MPAs in the province run by LGUs
 - 12 MPAs

➤ **Livestock**

- To increase chicken and duck egg production by 10% annually
- To increase breeder base for ducks and native chicken
- To increase milk production by 5% annually
- To minimize livestock and poultry mortality and morbidity due to parasites and Diseases
- To improve genetic potential of local stocks
- To increase livestock productivity and herd build-up

➤ **Agri-Enterprise**

- To assist farmers to become entrepreneurs
- To increase adoption of agri-technologies by 15%
- To increase farmers' access to financing/capitalization
- To provide support to farmers and fisherfolks
- To establish 30 community - based micro enterprises/coops per year

A. Increase investments and employment across an efficient value chain

- Create job opportunities by expanding existing markets, exploring new markets and promoting private investments
- Promote more value-adding into products and develop the capacities of stakeholders for value-chain management
- Promote vertical and horizontal integration of input, production and market
- Strengthen linkage with agro-processing industry through greater participation in effective value chain (e.g. contract farming, re-emergence of coops and producers' organization)
- Transform agrarian reform beneficiaries (ARBs) into viable entrepreneurs
- Conduct local promotional events (Agri Fair, Ubifest, Provl. Achievement Days, World Food Day and others)
- Participation to national/international promotional events
- Labelling of Agri-Bohol Tatak Products
- Enterprise and Marketing Assessments
- Market Matching
- Institutionalization of Calendar for Agri-Cultural Year Round Festivities (Rice Festival, Ubi Festival, Dairy Festival etc.)

B. Provision of agri-support equipment and climate-resilient agriculture infrastructure facilities

- Establishment of Common Service Facility (CSF)
- Establishment of Fish Landing Terminals and Cold Storage
- Provision of post-harvest equipment (Mini ice plant)
- Provision of laboratory for bio-control
- TrichodermaTrichogramma Earwig
- Tissue Culture Laboratories (banana, macapuno, ubi)
- Establishment of Eucheuma Processing Plant
- Establishment an Oyster Processing Plant
- Formulation of community-based feed mill for fish
- Provision of rice transplanters, harvesters, threshers, water pumps to qualified farmers' organizations
- Link production areas to markets (e.g. FMR, food terminals)
- Increase investments in propagation facilities (e.g., brood stock, hatcheries, nurseries and laboratories) through enhanced public-private collaboration

C. Increased sector resilience to climate change risks

- Reduce climate change related risks and the vulnerability of natural ecosystems and biodiversity through ecosystem-based management approaches, conservation efforts, and sustainable environment and natural resources-based economic endeavors such as agri-ecotourism

- Adopt Integrated Water Resource Management (IWRM) and Sustainable Land Management (SLM) Technologies in the development of water, land and related resources
 - Promote environment-friendly and sustainable production systems that promote organic agriculture
 - Improve the climate change resilience of fisheries through restoration of fishing grounds, stocks and habitats
-
- Increase the resilience of agriculture communities through the development of climate change sensitive technologies, establishment of climate-resilient agricultural infrastructure and climate-responsive food production systems, and provision of support systems to the most vulnerable communities.
 - Promote viable and competitive crop, livestock and fishery varieties that can tolerate climate variability
 - Establish climate-resilient agriculture infrastructure through enhanced technical design
-
- Strengthen the agriculture and fisheries insurance system as an important risk sharing mechanism
 - Incorporate natural hazards and climate risk in the agricultural land use plan or the CLUP
 - Strengthen the capacity of communities to respond effectively to climate risks and natural hazards
 - Continue vulnerability and adaptation assessments especially in food production areas
 - Incorporate natural hazards and climate risk in the agricultural land use plan or the CLUP
 - Strengthen the capacity of communities to respond effectively to climate risks and natural hazards
 - Development of climate and disaster – responsive technologies and innovations
 - Promote the adoption of quality inputs such as seeds or planting materials of high-yielding and drought/ flood-resistant varieties of crops and quality fry of fish species

Sector : ECONOMIC DEVELOPMENT

Sub-Sector : Tourism Development



Sub-Sector Vision

An Eco-cultural Tourist Destination, Globally Competitive in its Sufficiency to the Standards of the Industry, Proud of its Distinct and Unique Boholano Heritage; Upholding Environmental and Cultural Sustainability, Economic Value but Giving Utmost Importance to the Well-being of its People, Security and Client Satisfaction.

Sub-Sector Goals

- Sustainable tourism and livelihood development
- Improved infrastructure support facilities access and connectivity
- Competitive tourist destinations and products
- Quality tourism standards in tourism services and facilities

Sub-Sector Objectives and Targets

- *Business Continuity Plan*
 - To provide alternative source of power by identifying strategic locations and technologies for power generation
 - To increase existing power supply by 50% by the year 2021
 - To increase existing water supply by 50% by the year 2021
 - To sustain availability of water supply
- *Comprehensive Tourism Master Plan*
 - To revitalize the existing Tourism Master Plan adopting the “Triple Bottomline Approach” (profit, people, and planet)
 - To sustain Bohol as an eco-cultural tourist destination.
- *Product Development*
 - To convince investors/owners of upcoming tourism and tourism-related structures to integrate of Boholano vernacular architecture in their exterior/interior designs
 - To impose green principles and barrier-free tourism requirements in all tourism and tourism-related structures
 - To increase by 50% tourism structures adopting BVA, G&BFT requirements
 - To further educate investors and LGUs on tourism product development and sustainability
 - To boost eco-cultural tourist sites by 50% in 2021
 - To showcase and promote Boholano artistry and cultural beauty
 - To discover untapped Boholano artists/talents
 - To upgrade the level of cultural and arts performances to global standard
 - To protect environmental heritage and sustainable tourism
 - To control building of establishments in tourism areas beyond its carrying capacity
 - To reduce problems on sanitation and environmental problems by 50% in 2021
- *Accessibility*
 - To establish seamless connectivity with Cebu as an international port of entry for Bohol
 - To increase by 70% among ferries practicing online booking in 2021
 - To provide comfort and convenience to passengers at ports of entry
 - To decrease congestion and inconvenience by 80% in port of entries.
 - To improve the flow, and ease of passengers from purchasing tickets, availing seat number and terminal fee to the waiting area
 - To increase arrivals of cruise ships by 70% in 2021
 - To raise number of flights by 70% in 2021
 - To elevate by 50% market share in terms of airline flights in Bohol in 2021
 - To increase number of tourist arrivals by 50% in 2021

- *In-Land Transportation*

- To enforce standards and quality service for tourists
- To raise by 70% the number of Department of Tourism (DOT) accredited tourist service vehicles in 2021
- To decrease the number of “colorum” vehicles by 70% in 2021
- To control transportation services in accordance to the ideals of the industry
- To promote safety and security of tourists’ travel
- To advance competency level of transportation services
- To increase seating capacity of accredited vehicles by 80% in 2021

- *Standards and Services*

- To provide a customer-friendly information service to tourists and guest
- To provide an information desk in all major tourist sites, busy locations and in port areas
- To supply adequate tourist information on print, social media, blogs, online influencers, systems/applications, etc.
- To fortify discipline within and near/outside port areas
- To lessen by 70% unruly behaviors or related issues
- To cultivate among all service providers the value of work, integrity and dignity
- To lessen by 70% cases of illegal/dishonest practices and violations of standards
- To instill the importance of proper hygiene among tourist-service providers
- To obtain a 30% yearly increase on satisfaction rating of service-providers based on exit surveys by 2021
- To be effective in the tourism global market
- To assure tourists of their safety and satisfaction
- To increase by 50% the number of accredited and compliant service-providers in 2021
- To provide client satisfaction in terms of value for money
- To reduce presence of stray animals by 60% in 2021
- To improve quality of medical services in terms of emergency response and first aid
- To elevate trust of tourists by 50% in our medical facilities by 2021
- To decrease by 50% death cases of tourists by 2021
- To level up compliance of LGUs, MTOs and AEs by 70% in 2021
- To regain Bohol’s spot as the second most-visited destination in Central Visayas by 2021 based on tourist arrival data
- To employ regular tourism officers in LGU’s with the knowledge and skills in tourism
- To increase tourism officers with regular items by 70% in 2021

- *Marketing and Promotions*

- To meet up with other ASEAN destinations as regards standards of the tourism global market
- To further increase international tourist arrivals by 50% in 2021
- To integrate actively in tourism with other ASEAN countries

- *Disaster Risk Reduction Management*

- To maintain a commanding status in safety and security in terms of tourist-related crimes, etc. by 2021
- To identify other strategic locations for proper waste disposal
- To minimize waste by 50% in 2021 by operationalization of the three Rs at household and AE levels

- *Sex Tourism*

- To constantly promote human welfare and dignity as influence by the tourism industry
- To minimize cases of anti-sex tourism related violations by 50% in 2021
- To encourage the report of cases of violations

Sector : ECONOMIC DEVELOPMENT

Sub-Sector : Trade and Industry



Sub-Sector Vision

A Globally Competitive and Business-friendly Island Province where People and Communities Benefit from Inclusive Growth, Climate- Resilient and Sustainable Development Towards Better Quality of Life.

Sub-Sector Goals

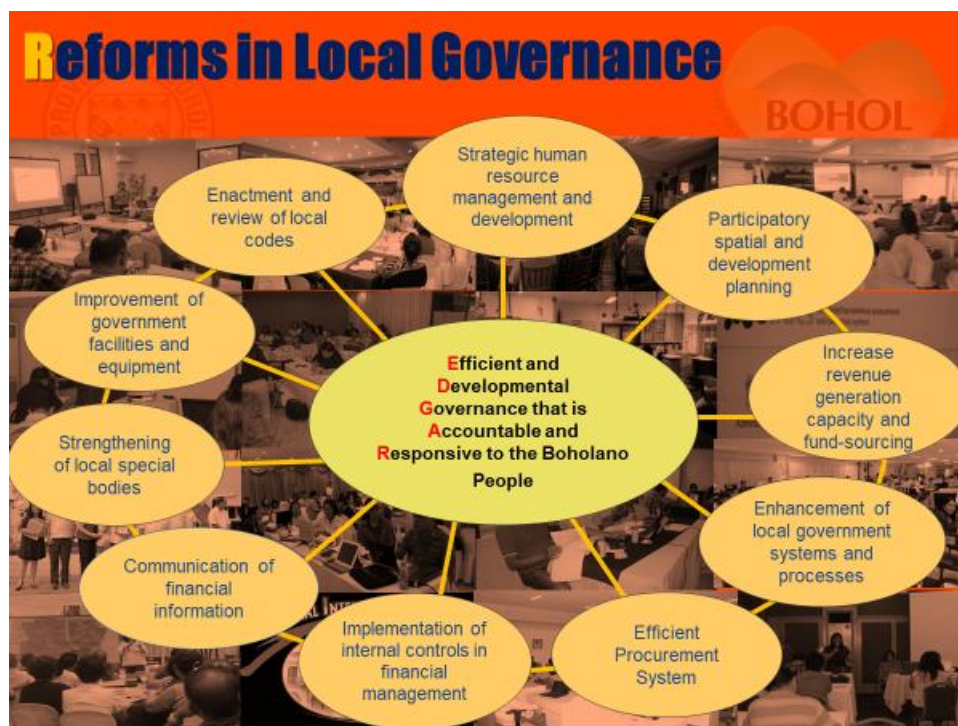
- Sustainable economic growth with environmental sustainability
- Create a better business environment
- Improved efficiency and productivity
- Enhanced consumer welfare

Sub-Sector Objectives and Targets

- To establish directory of graduates and professionals lodged with the educational institutions
- To enjoin industry stakeholders to identify skills gaps and shortages for the top employment generators of the province, viz: Agriculture, Tourism/ Hospitality Wholesale and retail trade, and ICT/ BPO
- To provide employment opportunities for technical, vocational and agri-graduates
- To increase registration and mainstreaming of micro enterprises by 40% in 2021
- To generate P10 Billion investments in 2021
- To increase number of employment generated from MSMEs by 50% in 2021
- To capacitate women in business
- To assist in the organization and registration of 25 new business groups in 2021
- To have at least 2 BPOs locate here
- To promote financial literacy and management among small business owners
- To implement 100% compliance among LGUs of the BPLS
- To advocate mainstreaming of MSMEs to highlight the sector's important role in local economic development
- To set-up business database center at the Negosyo Center Bohol
- To set-up online linkages with LGUs with existing websites
- To mainstream into the consciousness of LGUs the need for a competitive mindset
- To collaborate with the LGUs and the private sector on a mutual manifested desire for Bohol national competitiveness ranking to be 12 notches higher by 2021
- To promote formulation of a Local Action Agenda for Competitiveness and a permanent local competitiveness council to ensure implementation of the action agenda
- To protect and conserve the natural biodiversity and resources of the province of Bohol
- To provide infra support facilities especially alternative energy/ power source and identify and develop new water sources
- To lobby and advocate for support for quality connectivity
- To update business registration processes that include DRRM-CCA guidelines
- To encourage LGUs to adopt investment/ economic legislations that are anticipatory in nature and strongly implement existing ones

- To encourage mainstreaming of underground sectors and properly assess the nature of their trade in terms of DRRM-CCA policies and framework
- To create new market opportunities to integrate climate change consideration into investment and infrastructure planning
- To pursue land banking to accommodate potential zonal changes from residential to non-residential urban use areas for MSMEs
- To install early warning systems in strategic areas to minimize potential fatalities and injuries
- To conduct Investor handholding, ICT/ BPO Summit, Investment forums and business matching
- To promote and facilitate Incentives availment and registrations
- To review the Bohol Investment Code (BIC)
- To improve resource efficiency of enterprises
- To establish Economic Zones in strategic areas

Sector : DEVELOPMENT ADMINISTRATION SECTOR
Sub-Sector : Public Finance



Vision

A financially stable Bohol governed by sound fiscal policies that promote transparency, accountability and efficiency, installed and operated with effective resource management mechanisms and sustainable revenues to support development initiatives.

Goals

- Substantially increased local revenues and reduced IRA dependency
- Established online RPT collection and synchronized Municipal Assessors and Municipal Treasurer's Database
- Updated schedule of market values throughout the Province of Bohol
- Complete and approved cadastral surveys and tax maps of municipalities
- Boundary disputes resolved and real property assessment established in barangays/ Municipalities
- Improved asset management of the entire Provincial Government
- Heightened awareness on the concept of value for money and management by outcome
- Logical and strategic allocation of resources for priority PAPs
- Effective and efficient utilization of resources for better service delivery
- Improved internal control system for sound fiscal management
- Enhanced project implementation and utilization of appropriation/ budget
- Effective monitoring of Cash Advances
- Effective and efficient computerized financial processing, recording and reporting
- Efficient conversion of e-NGAS accounts to PPSAS accounts
- Improved quality of services of financial offices
- Enhanced understanding of PGBh Audit Compliance Mechanism
- Improved consistency and accuracy in the implementation of financial policies and guidelines
- Timely granting of financial assistance to municipalities and barangays
- Updated and real-time status of accounts
- Sustained strong planning and budgeting linkages to ensure funding and implementation of identified priority programs and projects
- Accurate, systematic and timely procurement of goods and services
- Adequate and competent manpower in financial offices
- Conducive office spaces for financial offices

Objectives and Targets

- To increase local revenues by at least 12% every year starting 2017
- To reduce IRA dependency to 70% by year 2021
- To establish a dedicated office at the PGBh to handle the study, development, establishment, and management of public economic enterprises
- To maximize utilization and economic value/ potentials of PGBh-owned real properties
- To improve service delivery and internal control of existing revenue-generating units in the PGBh
- To assess and monitor the implementation of tax measures
- To improve enforcement of tax provisions

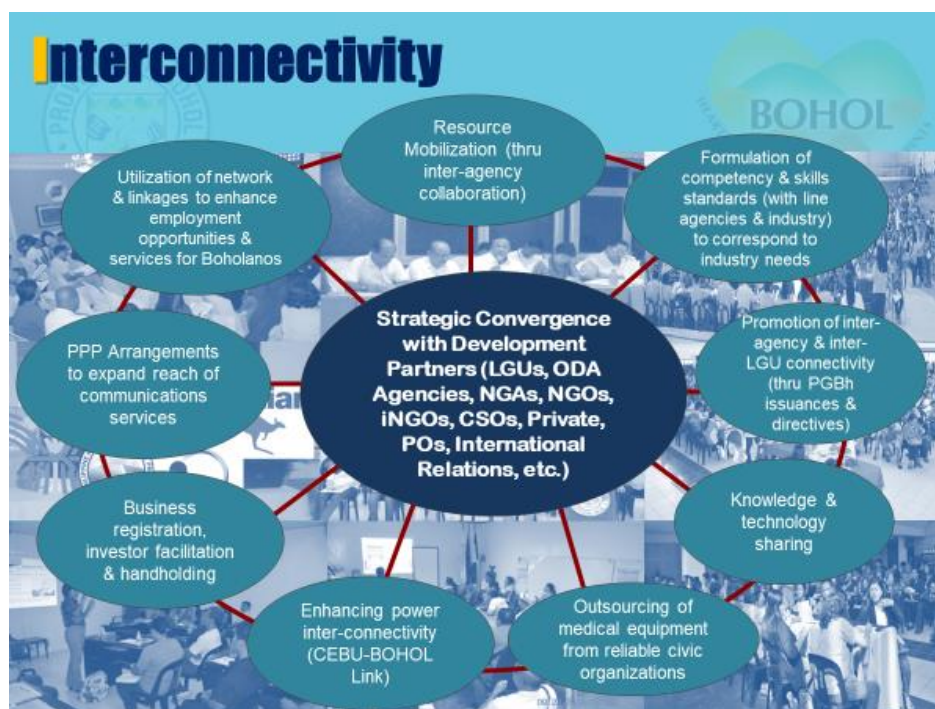
- To have province-wide connectivity of ETRACS
- To have 100% implementation of ETRACS in LGUs

- To implement online Real Property Tax (RPT) payment
- Full computerization of Real Property Assessment and Collection
- Schedule of market values updated by 2017 to be used as basis for general revision of real property assessment
- Reduced processing time for transactions at the PAssO
- To have an updated list of complete and incomplete survey maps/ cadastral survey
- All Municipalities tax mapped and surveyed by year 2018
- Boundary disputes in barangays/ municipalities resolved
- To properly manage and account the assets of the Provincial Government from procurement/ donation to the time issued and utilized
- Fully reconciled records of the PGBh
- To conduct IEC and Advocacy on Value for Money and Management by Outcomes every year to PGB and municipal LGUs
- To promote responsible and detailed / itemized budgeting and implementation of programs and activities of offices/ hospitals
- To promote better understanding of the PGBh financial standing and results of operations for policy formulation and implementation
- To reduce number of COA AOMs/ Increased % of AOMs acted upon
- To communicate financial report from PTO, PBMO and PAccO to management
- To promote prompt and timely submission of hospital financial reports
- To foster speedy processing of financial transactions particularly those under the PHO and the hospitals
- To promote further the value for money spending and improve tracking the utilization of resources
- To improve utilization rate of budgets appropriated for development programs and projects
- To increase percentage of project completed at the end of each year vis-à-vis with those number of projects funded
- To improve the implementation of liquidation of cash advances according to prescribed timelines
- To significantly address the delays in the preparation of bank reconciliation statements
- To be able to submit financial reports on time to management to guide decision-making
- Immediate roll-out of the new version of e-NGAS which is PPSAS compliant
- Efficient conversion of e-NGAS accounts to PPSAS accounts

- Improve processing time and transparency of all financial transactions
- To evaluate implementation of Audit Compliance Mechanism
- To identify gaps and address such gaps through recommendations
- To strengthen and establish a functional Internal Control System and procedures in every department
- To promote transparency and accountability with private sector participation
- To formalize internal policies which will serve as basis for financial decision-making
- To enhance policy formulation and implementation
- To assist in developing a system of processing, approving and granting financial assistance to other Local Government Units in a timely manner
- To fast-track processing and release of financial grants
- To increase the percentage of Recipient LGUs/NGOs/POs that comply with the prescribed period to liquidate
- To improve direct linkage between the Local Development Investment Plan (LDIP) and PGBh Annual Investment Plan (AIP) and that at least 95% of the number of PAPs identified in the AIP are based on the annual slice of the LDIP (for PGBh PAPs)
- To sustain close linkages between AIP and Annual Budget and that 100% of the Appropriation Ordinance/ Budget are based on the approved AIP
- To improve LGU performance on policy-based budgeting, comprehensiveness and transparency in the budgeting process
- To reduce number of procurement activities by 40%
- To implement a procurement system that will promote accuracy and timeliness
- To formulate a Fully compliant Annual Procurement Plan (APP)
- To improve processing time of procurement
- To establish a competent PPMU and effective implementation of procurement reforms at the PGBh
- To fully address personnel requirements for effective fiscal management
- To fill up regular plantilla positions
- To build and use the new Provincial Capitol Building by year 2018

Sector : DEVELOPMENT ADMINISTRATION

Sub-Sector : Local Governance



Vision

Bohol is a role model for responsive, transparent and accountable Local Government run by professional public servants

Goals

- Improved effectiveness of operation of mandated Local Councils and Special Bodies
- Updated and effective local codes responsive to the socio-economic situation of the province
- Updated and responsive Comprehensive Land Use Plans of LGUs
- Comprehensive and DRRM-CCA mainstreamed PDPFP
- PDPFP-aligned medium-term and annual development plans
- Enhanced LGU-NGA collaboration for better and facilitated implementation of NGA/ ODA-funded programs and projects
- Improved LGU capacities to access, comply and implement NGA/ ODA-assisted programs and projects
- Presence of comprehensive local database that can be used for planning, policy formulation and decision-making
- Improved and sustained effective operations of PGBh offices

- Professionalized public service and improved institutional capacities for better productivity
- Competent and committed PGBh personnel to perform mandates and workloads in offices
- Sustained responsive, transparent, efficient and effective delivery of government services
- More motivated, effective and productive personnel
- Well-informed communities on the programs and projects of government, encouraging participation and support

- Improved Bohol's access to information and knowledge for national progress through public libraries
- Stronger learning partnerships and culture of intellectual freedom among communities in Bohol through librarians
- An organizational culture of competent and dedicated library personnel

- Maximized and fully utilized PGBh ICT developed information systems
- Integrated Information system with different sources of databases
- Stable, safe and reliable ICT systems
- Stable, safe and reliable ICT systems
- Transparent, integrated and shared Provincial Government database system

- Adequate, disaster-resilient and green design office spaces and facilities for the employees/ officials and clients of the Provincial Government
- Adequate, functional, energy-efficient and appropriate equipment support to increase efficiency and productivity

- Modernized and functional sports buildings, equipment and facilities
- Sustained sports development program in the Province
- Sustained promotion of welfare and holistic development of the youth

Objectives and Targets

- To achieve 100% active operation of all provincial level councils and special bodies
- To review and revisit all local Codes / Ordinances that need updating, and amend/ revise when necessary
- To craft and approve new local codes, as needed
- To assist in the updating of 100% of all CLUPs of LGUs that require updating (37 LGUs with approved updated CLUPs) by year 2018
- To mainstream DRR-CCA in the Updated PDPFP
- To ensure alignment of development plans to the PDPFP
- To reduce and / or simplify project requirements and processes of NGA/ ODA-assisted programs to attain at least 80% of targeted number of LGUs accessing NGA assistance by 2018

- To continue to capacitate 49 provincial/ municipal/ city LGUs on project development, fund sourcing and project management
- To complete, fully institutionalize and utilize the Community-Based Monitoring System (CBMS) in all LGUs by 2017

- To ensure continuous and smooth operations of PGBh offices
- To adopt competency profiles in all PGBh offices and hospitals
- To approve PGBh Competency-based Human Resource Development Plan (2017-2019)
- To develop Competency Assessment per plantilla personnel
- To sustain capacity development for personnel
- To attain the Certificate of SPMS Functionality
- To increase motivation and productivity of personnel
- To provide performance-based bonus and incentive
- To enhance the intra-connectivity of PGBh offices in the generation and submission of HR related reports/ plans
- 100% of the needed plantilla positions created and corresponding personnel hired by year 2019
- To Institutionalize PGBh offices
- To promote better welfare and provide benefits to PGBh employees in the performance of their functions
- To increase public awareness on the programs and projects of government
- To encourage exchange of ideas and solutions to different problems of communities

- To build learning/information centers in each barangay, municipality and city
- To create alliances with local government agencies and community groups
- To provide knowledgeable and well-trained library staff with the expertise to facilitate access to relevant and engaging i-sources of information

- To developed, test-run and fully utilize the PGBh information systems
- To establish a common footprint of data with multiple sources
- To establish an integrated system without user intervention
- To fully operate critically running ICT systems on a redundancy based servers
- To Increase access to information and seamless operation to critically running ICT system
- To operate seamlessly all PGBh servers running ICT systems
- To promote an energy saving mechanism for the PGBh ICT system
- To provide an integrated Provincial Database Management System

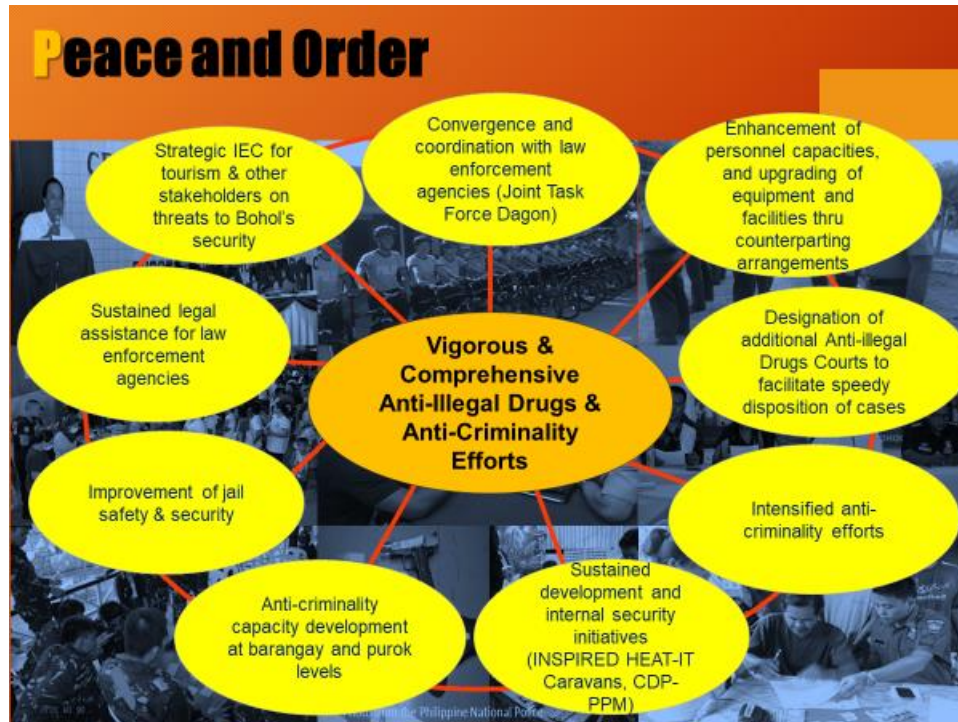
- 100% of space and facilities requirements of PGBh offices met
- 100% of office equipment requirements procured and properly used and maintained

- To upgrade /improve sports facilities and equipment of LGUs

- To address the social problems involving the youths
- To enhance youth participation in government policy-making and project implementation
- To provide better support systems and facilities for the youth

Sector : DEVELOPMENT ADMINISTRATION

Sub-Sector : Justice and Safety



Vision

A just, safe, and secured environment conducive to growth and development

Goals

- Maintained peace and order in society
- Maintained a drug free community
- Recovered loose firearms and eradicated illegal gambling in the province
- Sustained active community participation in crime prevention and enforcement efforts of authorities
- Improved services and facilities of law enforcement/ justice and safety agencies
- Presence of permanent EOD teams in the province
- Ensured the safety of the public especially road users and pedestrians
- Sustained the insurgency-free status of Bohol
- Improved jail management and facilities in the province

- Improved level of fire safety awareness and preparedness in the Province
- Safer and disaster-resilient buildings, homes and workplaces
- Improved and adequate fire-fighting facilities and services in the province

- Heightened awareness of Boholanos on disaster risk reduction management (DRRM) -Climate Change Adaptation (CCA)
- Reduced risks and vulnerabilities from disasters and other calamities
- Updated Local Disaster Risk Reduction and Management (DRRM) Plans in the province to consider the vulnerability, hazard and risk assessment reports
- Enhanced disaster risk reduction management (DRRM) awareness of Boholanos (at the household/ community level) and reduced their risks and vulnerabilities from disasters and other calamities
- Strengthened Local DRRM offices/ BDRRMC and improve coordination and linkages between LGUs on all pillars of DRRM
- Enhanced capacities of Barangay DRRM Committees in Contingency planning process
- Sustained proper management and supervision of DRRM initiatives at the Barangay, Municipal and *Provincial LGUs*

- Available disaster-resilient support buildings and facilities that can be used in times of disasters/ emergencies
- Enhanced participation of the Civil Society Organizations and the business sector in DRRM
- Improved, coordinated and reliable emergency response services in the Province

- Speedy disposition of cases in all courts of the province
- Enhanced legal services accessible to the general public
- Improved working facilities for Justice offices to deliver better services to clients

- Improved coordination among concerned government agencies for better and effective justice and safety service delivery
- Sustained capacity-development for all human resources of the agencies/ offices in the justice and safety sector
- Competent and adequately-manned law enforcement / justice and safety agencies to sustain peace and order initiatives
- Well-equipped government agencies/ organizations capable of providing the needed services and facilities to the public

Objectives and Targets

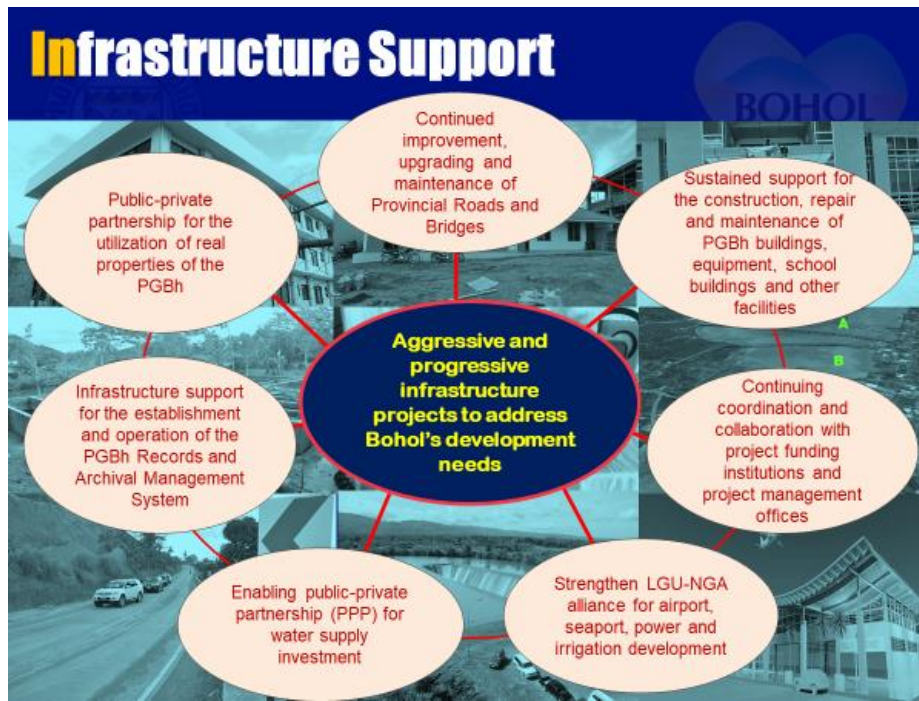
- To reduce or maintain crime rate in the Province of Bohol
- To strengthen coordination among agencies and stakeholders in the enforcement of laws
- Improved capacities of the municipalities, barangays, and puroks
- To provide competent free legal advice and services to law enforcers
- To improve peace and order situation through appropriate cultural showcases

- To foster better understanding on the role of arts to achieve peace and development
 - To eradicate drug proliferation in the province especially the main source of drug cartel
 - To reduce demand for illegal drugs
 - To reduce number of loose firearms
 - To eradicate illegal gambling
 - To sustain good relationship between stakeholders in crime prevention and enforcement
 - To boost trust and confidence of stakeholders towards the PNP and other law enforcement agencies
 - To provide safer environment to the public including tourists
 - Availability of at least 3 EOD teams in the province(one team per district)
 - To send 3 EOD teams to training whether in Metro Manila or abroad
 - To have complete EOD equipment and vehicle per team
 - To have a separate building for police stations in every municipality or city in the Province
 - To reduce traffic related incidents/ accidents
 - To maintain safety measures in the highways/roads.
 - To maintain the unaffected (insurgency-free) status of all the barangays in the province of Bohol
 - To increase monitoring capability on CNN Activities
 - To increase public awareness regarding CNN Propagandas and activities
 - To insulate cleared barangays from CNN and left- leaning sectoral organization influence
 - To expand the reach and sustained the delivery of social and economic services to Boholano constituents
 - To establish permanent Coast Guard stations/ sub-stations/ COPs in the province of Bohol to support and enhance its operation
-
- To provide adequate jail facilities to cater to the increasing number of prisoners in the Province
 - To reduce congestion rates of jails in the Province to below 100% by year 2018
 - To build and provide a total of xx additional cells and xx jail buildings by 2018
 - To provide all the necessary and holistic rehabilitation services for inmates every year
 - To achieve the targeted number of inmates (xx% of total jail population) being reached/ provided with assistance by the rehabilitation program
 - To provide assistance (after-care services) to 100% of released inmates needing help to find decent jobs or start livelihood in their communities
 - To facilitate and extend assistance for the social integration of released inmates and their access to needed social services
-
- To reduce yearly fire incidence & improve public awareness on fire prevention in all municipalities of Bohol
 - To increase community awareness on Fire Prevention & Preparedness of all barangays in the province

- To fully implement and enforce the minimum mandatory fire safety requirements to all private and public establishments
 - To upgrade all BFP facilities and equipment
 - To address 100% of hiring requirements to augment BFP personnel
 - To know the different hazards and risks in every barangay of the province as bases for DRRM
 - To prepare, update and disseminate local/community hazard maps
 - To update the DRRM Plans which include the vulnerability and risk assessment reports
 - To improve awareness and preparedness of institutions and the public on DRRM-CCA
 - To organize community-based DRRM at the Purok/ household level
 - To capacitate the barangay DRRM Committees in the contingency planning processes
 - To create Local Disaster Risk Reduction and Management Office (LDRRMO) and appoint permanent DRRM Officers in all LGUs
 - To strengthen coordination among LDRRMO Offices of LGUs
 - To identify and establish evacuation centers in the barangays and municipalities of Bohol which are compliant to the set acceptable standards and resilient to the hazards in the area
 - To increase awareness and actual involvement of the CSOs and business sector in DRRM
 - To organize emergency response units in all LGUs
 - To enhance partnership and coordination among agencies/ organizations providing emergency response services
 - To replicate the initiatives of TaRSIER 117 in all the LGUs of Bohol
 - To set up a database of community disaster volunteers/ local and national response teams (Water Search and Rescue, Search and Rescue, Medical teams) operating in the province
-
- A fair and judicial disposition of cases
 - To reduce case loads of public lawyers/ prosecutors
 - To increase the number of lawyers at PAO and Prosecution Office
 - To establish/ construct a new Hall of Justice that can provide enough space for all occupants (offices/ courts/ clients)
-
- To promote sharing of information among agencies to ensure proper service delivery and discharge of functions
 - To provide all the needed capacity-development program to all personnel that required such based-on training needs assessment
 - To acquire/ upgrade/ improve the needed facilities and equipment of agencies concerned
 - City police stations must have at least 10 patrol cars and 10 motorcycles.
 - Municipal police stations must have at least 2 patrol cars and 3 motorcycles.
 - Every city/municipal police stations must have modern communication and at least one hand held radio and one computer per police officer

Sector : INFRASTRUCTURE DEVELOPMENT SECTOR

Sub-Sector : Transport and Access Development



VISION:

A WELL- COORDINATED INFRASTRUCTURE DEVELOPMENT FOR MODERN AND ECONOMIC TRANSPORT FACILITIES THROUGH SUSTAINABLE DEVELOPMENT

GOALS:

1. Upgrade road network, bridges, buildings and ports through quality infrastructure
2. Properly coordinated implementing agencies and stakeholders

OBJECTIVES:

1. To formulate/upgrade detailed engineering activities
2. To construct efficient drainage system
3. To comply ECC requirements from DENR
4. To improve roads leading to tourist areas
5. To provide standard road safety devices
6. To construct of Tagbilaran City to Panglao Island 3rd Bridge
7. To complete the construction of New Bohol Airport
8. To upgrade the Ubay Airport
9. To facilitate the feasibility study of the Construction of Inter-Island Bridges and Roads through the Highland of Bohol

10. To facilitate the feasibility study of the construction of the three major bridges
11. To construct the 3rd bridge of Tagbilaran City to Panglao Island
12. To facilitate the feasibility study of the Monorail System connecting the Bohol Business Park to New Bohol Airport and nearby municipalities
13. To facilitate the construction of Footbridges/overpass near school sites with Heavy foot traffic
14. To facilitate the implementation of the 20 Single Lane Modular Steel Bridge of the PGBh-DAR-DPWH Bridge Projects
15. To facilitate the study of traffic management along J. A. Clarin Street and along the roads around the Rizal Park fronting Old Capitol Building, Saint Joseph Cathedral, and major street within the vicinity.
16. To facilitate the feasibility study of the 4th bridge of Tagbilaran City to Panglao Island
17. To facilitate the feasibility study of the Bohol Comprehensive Integrated Flood and Drainage System Master Plan
18. To facilitate the implementation of Road Projects for road governance reforms:
 - a. DPWH-DOT Convergence Program for Provincial Roads/Tourism Highways Development
 - b. Worldbank-Funded Philippine Rural Development Project (PRDP) thru the DA and PGBh
 - c. National and Provincial Government Convergence thru the Conditional Matching Grant to Province (CMGP) (KALSADA Program)
 - d. DPWH-DTI Convergence Program for Road Leveraging Linkages to Investments and Trade (RoLL-IT)
19. To increase berthing spaces in sea ports

Sector : INFRASTRUCTURE DEVELOPMENT

Sub-Sector : Water Supply and Irrigation Development

VISION:

A FULLY DEVELOPED, SUSTAINABLE AND QUALITY WATER SUPPLY AND IRRIGATION FACILITIES THROUGH PROPER UTILIZATION AND CONSERVATION OF WATER RESOURCES TO ENHANCE PRODUCTIVITY AND FOOD SECURITY

GOALS:

1. Properly utilized major water resources for greener Bohol
2. Enhanced tourism industry through improved water supply, sewerage, sanitation and irrigation facilities
3. Self-sufficient province in rice and water supply
- 4.

OBJECTIVES:

1. To provide adequate drainage system in Tagbilaran City and rapidly urbanizing areas
2. To provide a sustainable potable water supply in each municipalities
3. To increase the storage capacity of the systems in Tagbilaran City
4. To develop, rehabilitate and or upgrade irrigation facilities
5. To construct additional distribution mainlines and lateral lines
6. To develop 3 major water sources
7. To implement sanitation program starting at identified pilot area

Sector : INFRASTRUCTURE DEVELOPMENT

Sub-Sector : Power & Energy

VISION:

ADEQUATE, QUALITY, RELIABLE AND AFFORDABLE POWER SUPPLY IN THE PROVINCE OF BOHOL AT COMPETITIVE RATES GIVING DUE CONCERN TO CUSTOMERS SATISFACTION, SOCIETY AND THE ENVIRONMENT

GOALS:

1. Adequate generation capacity during Bohol islanding operation
2. Reliability Standards complied
3. Met Forecasted demand especially in Panglao Island
4. Fully rehabilitated lines
5. System Reliability and Power Quality

OBJECTIVES:

1. To build land-based power plant
2. To interconnect Negros-Bohol or Cebu-Bohol
3. To install 138 KV transmission lines from Ubay to Corella
4. To install 10 MVA substation solely for Panglao Island
5. To upgrade medium voltage distribution lines
6. To allocate budget and transfer poles affected by road widening
7. To rehabilitate the overextended and sub-standard lines
8. To energize all households in the franchise area
9. To build new power substation at Jagna
10. To replace existing power transformer from 2.5 MVA to 5MVA at San Miguel Substation
11. To replace new kwhr meter to old consumers (2 yrs and above)



GOALS:

- ## OBJECTIVES:

- 598

Chapter V

STRATEGIES

SECTOR: ENVIRONMENT & NATURAL RESOURCES MANAGEMENT

Sub-Sector : LAND RESOURCE MANAGEMENT

Development Strategies

- Fast track the approval and implementation of the Protected Area Management Plans
- Implement watershed management, soil conservation and agro-forestry
- Promote sustainable agriculture, e.g., Sloping Agricultural Land Technology
- Develop Karst Landscape Management Plan
- Continue implement the Land Survey and Titling Program
- Adoption and implementation of poverty reduction programs
- Mainstreaming Women and Development on the ENR management framework

Sub-Sector : FORESTRY

Development Strategies

- Establishment of commercial tree planting & agro-forestry community parks in each barangay
- Promote the Bohol Tree Enterprise Program or Rain Forestation/Harvesting farming
- Institutionalize Forest Land Use Plan in the local government units
- Enhance Community-based Forest Management & Protected Area community-based resource management agreement (PACBRMA) & Special Agreement Protected Areas
- Continue implement Reforestation using indigenous species
- Continuous production and disposal of assorted dipterocarp & non-dipterocarp species including fruit trees
- Enforcement of environmental laws, policies and ordinances
- Adoption of planting materials that is resilient to climate change
- Establishment of wildlife corridors in the province through the promotion of rain-forestation technology
- Strong collaboration among stakeholders, partner agencies and other sector
- Intensify advocacy on environmental management (from ridge to reef)
- Promotion of producing non-wood forest species to LGUs in support of the province's cottage industry
- Showcase native tree seedling production to MLGUs, NGAs, NGOs, POs and other interested private sector

- Adoption of community-based approach in Watershed Management by MLGUs
- Support the implementation of Integrated Natural Resources and Environmental Management Project (INREMP)

Sub-sector : BIODIVERSITY

Development Strategies

- Institutionalize monitoring and evaluation systems for biodiversity conservation
- Enforcement of existing wildlife laws and Cave Act Law
- Development of biodiversity database and monitoring system
- Involve LGUs and local communities in biodiversity management
- Establishment of Bohol Rescue Center for wildlife and wildlife corridors
- Establishment of Biodiversity data bank at one location.
- Continuous production and disposal of assorted dipterocarp & non-dipterocarp species including fruit trees
- Institutionalize/enhance the sustainable operation and management of the Bohol Biodiversity Complex
- Adoption of planting materials that is resilient to climate change
- Development of biodiversity resources database for terrestrial and coastal zone
- Establishment of wildlife corridors in the province through the promotion of rain-forestation technology
- Sustainable operation of Bohol Biodiversity Complex (BBC) as showcase project for the Consortium and the Province
- Placement of trained Biodiversity personal in positions that are Non-Biodiversity related.
- Strengthen monitoring evaluation apprehension system to reduce illegal collection and use of flora and faunal biodiversity especially by tourist by resorts facilities and illegal wildlife trading, dynamite fishing, and other detrimental practices
- Strengthen research on Bohol's Biodiversity and how to use these resources sustainably.
- Collection of OP-TC Date Inventories of Floral/Fauna from various ecosystems on and adjacent to Bohol.
- Development of biodiversity reserves and conservation projects at public and private schools in Bohol
- Establishment of Biodiversity data bank at one location for all Bohol data.
- Establishment of review committee to study effects on local biodiversity before recommendation of issuances of permits for activities such as resort construction, mining, road construction, subdivisions, and others.
- Strengthen support for Bohol Biodiversity Complex to make it a prime Educational Destination and Training Facility for Bohol's Terrestrial Biodiversity

- Formation and support for inter-sectoral meetings to coordinate biodiversity use and conservation on Bohol.
- Institute the Covenant Forest and Garden program on private and Church lands
- Development of a Marine Biodiversity Center to complement the BBC in Bilar
- Develop training program on biodiversity conservation and use for the LGUs
- Develop cave ecosystem monitoring system

Technical support services to GEOPARKS implementation

Bohol is one of selected sites for Geopark. The Geopark is an official initiative of UNESCO within the Division of Ecological & Earth Sciences, programme and budget. It is a continuing effort of the Provincial Government and the University of the Philippines School Urban and Regional Planning (UP-SURP) to pursue the recognition of the proposed Bohol Global Geopark “the Country’s First National Geopark”. The initiative is proposed at the 14 municipalities as seen in the map below. The goals of the project are the following:

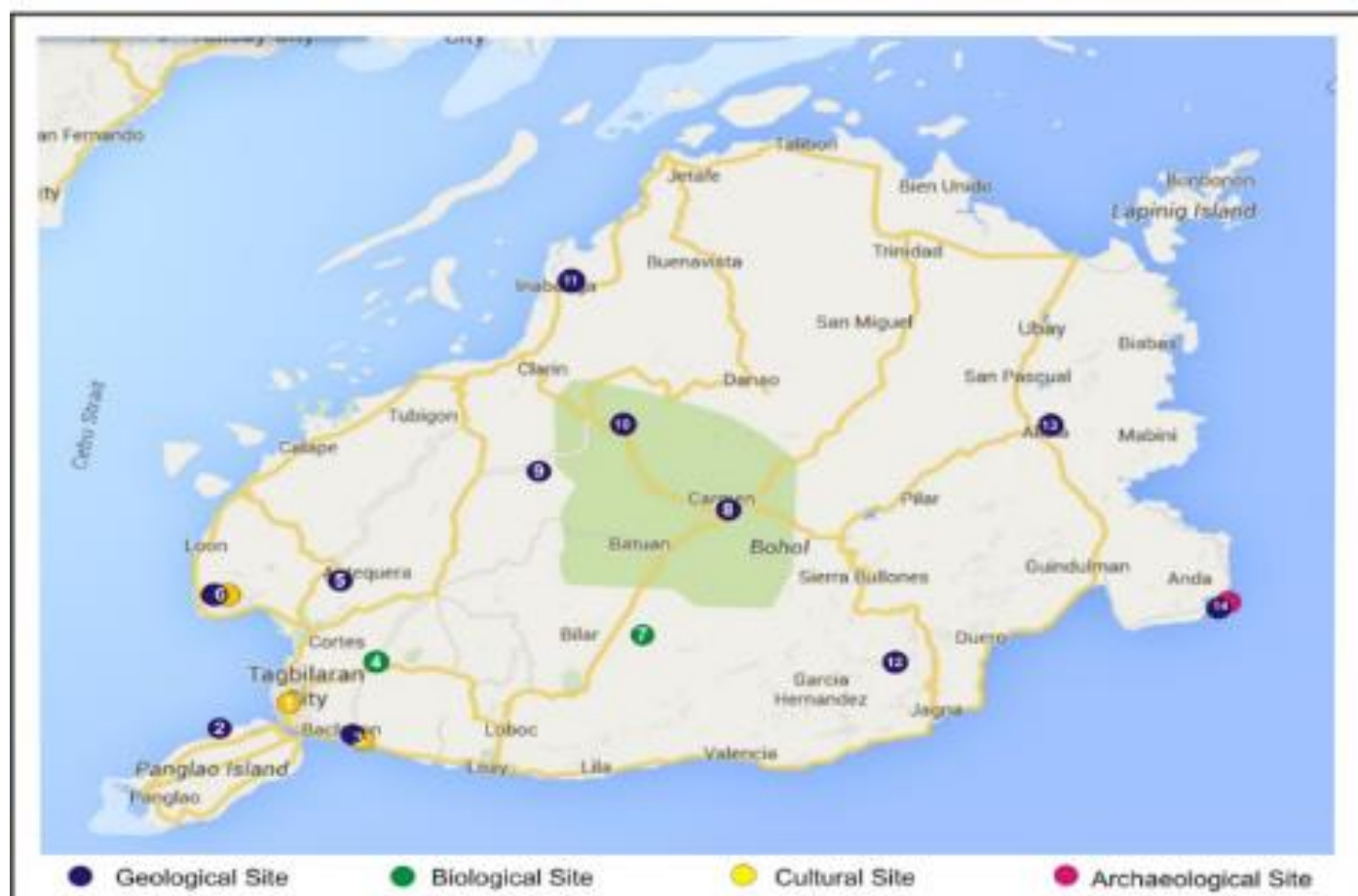
- Conservation of significant geological- paleontological features in Bohol
- Education by activities to provide geo-scientific knowledge and environmental concepts to the public.
- Research by regional and global coordination and cooperation.
- Socio-economic improvement of the region.
- Geotourism will stimulate economic activities. Creation of local enterprises and cottage industries. Science tourism with conferences & workshops.

Sub-sector: WATER RESOURCES

Development Strategies

- River bank stabilization through greenbelts or planting of ornamental plants and deep-rooted trees
- Develop and implement a comprehensive karst management plan for the province
- Institutionalize Integrated Water Resources Management Plan
- Strengthen institutional capacity for water resource management
- Implement the Provincial Water Supply, Sewerage and Sanitation Sector Plan
- Promotion of water conservation program

BOHOL GEOPARK: POTENTIAL GEOSITES



1. TAGBILARAN CITY

- cultural site
- National Museum-Bohol Field Office
- St. Joseph Cathedral

2. HINAG-DANAN CAVE (Dausi)

- geological site
- cave museum*
- stalactites, stalagmites,
- underground pool

3. BACLAYON TERRACE, BACLAYON CHURCH

- geological site and cultural site
- exposed terrace feature of the Maribojoc Formation
- 20m, 40m, 60m levels
- fossilized shells
- National historical landmark, 2nd oldest church
- Bacayon Museum

4. PHIL TARSIER SANCTUARY (Corella)

- Biodiversity site
- Tarsiers
- Information center

5. INAMBAKAN CAVE (Antequera)

- geological site
- cave system
- river
- diverse forest

6. UPLIFTED TERRACE PUNTA CRUZ WATCH TOWER (Maribojoc, Loon)

- geological site, cultural site
- modern-day uplifted terrace due to recent earthquake, part of Maribojoc Formation
- shoreline retreat
- tidal notches

7. RAJAH SIKATUNA PROTECTED LANDSCAPE

- biological site
- flora and fauna
- information center
- successful reforestation of Dipterocarpaceae-endemic and endangered trees of Bohol

8. CHOCOLATE HILLS (Carmen)

- geological site
- geological monument
- 360 degree view deck
- information center

9. LIMESTONE HILL CROSS SECTION (Sagbayan)

- geological site
- close up of limestone formation
- landslide site, due to recent earthquake
- part of Carmen Formation

10. 2013 EPICENTER

- geological site
- epicenter of the 7.2 Bohol earthquake, Aug 2013

11. GROUND RUPTURE (Inabanga)

- ground rupture site of Bohol Fault
- at least 5 meter uplifted and downthrown blocks
- trench sites for fault studies
- information center

12. SE BOHOL OPHIOLITE COMPLEX (Jagna, Duero)

- geological site
- complete sequence of exposed oceanic crust and mantle sequence
- approx. dated 100 Mya

13. ALICIA SCHIST

- geological site
- Basement rocks of Bohol Island
- metamorphic rocks
- approx. dated 120 Mya

14. LAMANOC POINT (Anda)

- geological site and archaeological site
- Graveyard Cave, Shaman Cave, Tungob Cave, Hematite Cave
- Fossilized shells
- burial caves
- skeleton remains
- burial jars
- coffins
- annual convergence place of local medicine men

Prepared by: G. Hülmer, Univ. of Hamburg, SES; M. Delos Reyes, UP-SURP; N. Aguda, UP-SURP/NIGS; J. Madronero, Jr., PSS
Bohol Geopark Project, August 2015

Sub-sector : COASTAL/MARINE RESOURCE MANAGEMENT

Development Strategies

- Update and integrate Coastal Resource Management Plan and Zoning Ordinances into municipal comprehensive land use plans
- Lobby the implementation of the Integrated Fishery Management Plan
- Establish marine and fish sanctuaries to augment those already present
- Policy development on the Right Sizing of Fishing Effort in Danajon Bank and other coastal municipalities
- Establish protection program for Danajon Double Barrier Reef
- Strictly enforce coastal laws, rules and regulations under the provisions of RA 8550 or The Philippine Fisheries Code of 1998
- Facilitate and regulate the issuance of PACBRMA and CBFMA in mangroves areas
- Adopt intensified coastal resource management through community-based approaches
- Banning commercial fishing vessels from operating within the municipal waters
- Collaborate planning, monitoring and evaluation on a yearly basis by NGAs, NGOs, and coastal MLGUs
- Encourage implementation of the Aquaculture Code of Conduct

Sub-sector : MINERAL RESOURCE MANAGEMENT

Development Strategies

- Establishment of a database for a Mineral Resource Information Management System
- Institutionalization of a Multi-Partite monitoring system
- Strict implementation of the EIA system (streamlining the process without disregarding the community consultation at the barangay level)
- Formulation of Policy on the issuance of Exploration Permit to ensure coordination with MLGUs, PLGU, civil society and community organizations
- Strict implementation of Bohol Provincial Mining Ordinance

Sub-sector : URBAN DEVELOPMENT/ MANAGEMENT

Development Strategies

- Fully implement the Ecological Solid Waste Management Act (RA 9003) and Clean Water Act (RA 9275)
- Continue establishing the clustered Sanitary Landfill and Recovery Center Facility in the municipality and Materials Recovery Facility in all barangays

- Monitor and regulate the importation, manufacture, handling, storage and transportation and disposal of hazardous and toxic substances
- Strictly implement planning standard as provided for in the Building and Sanitation Code of the Philippines for the construction of septic systems
- Establish Wastewater Treatment Facility in every establishment
- Provision of Technical Assistance thru trainings/ seminars/ workshops, coaching and mentoring to MLGUs
- Provision of Incentives/Awards given to top ten (10) MLGUs ISWM Best Practices implementers
- Linkage with institution/line agencies for M & E on the implementation of ISWM Program and other solid waste management activity
- Policy on the mandatory requirement on waste segregation waste avoidance and reduction, composting, segregated collection and establishment of Sanitary Landfill as final disposal for solid waste to be integrated at the Bohol Environment Code and its Implementing Rules and Regulations

Air Pollution

Development Strategies

- Implementation of a noise abatement program that includes, among others, restriction of operating hours of establishments that create noises
- Establish a vehicle emission system in accordance with standards provided under PD 1181
- Formulation of standards for buffer zones between noise and air pollution sources and settlements, i.e. for agro-industrial establishments as poultry and hog farms
- Enforce no burning ordinances involving crop residues and household wastes
- Evaluation by LGUs of the noise generating potential of infrastructure projects as part of the requirements in securing zoning clearances and building permits
- Close coordination with the Land Transportation Office to check and monitor motor vehicles, buses, jeepneys so they comply with air quality standards
- Improve road network and traffic management systems
- Establish and implement environmental standards and guidelines for the effective implementation of pollution prevention and control in the province.
- Coordination with line agencies in the implementation of air and water quality monitoring activities, establishment of operation and maintenance of waste water facilities by major establishments as conditions to the ECC;
- Conducts surface water quality monitoring on major rivers as per request by MLGUs in coordination with PHO;
- Regular water/air quality monitoring& surveillance in collaboration with DENR-EMB-7

DISASTER RISK REDUCTION MANAGEMENT AND CLIMATE CHANGE ADAPTATION

Development Strategies

- Implementation of Clean Development Mechanism (CDM) e.g. solid waste (bio-composting)
- City and municipal LGUs shall enforce traffic regulations that will minimize congestion
- Integration of climate friendly information in policy making, planning in school and training curricula
- Establish global warming monitoring (climate monitoring system) and prediction system in the province
- Mainstreaming Local Climate Change to the provincial and municipal land use plans
- Government, NGOs and the private sector shall advocate and incorporate energy efficiency and the use of renewable energy sources in guidelines like: building codes, investment codes, procurements, infrastructure development, housing development and street lighting
- LGUs, NGOs, NGAs, and the private sectors shall implement measures that reduce vehicular emissions like anti-smoke belching campaigns, engine tune-ups, and engine maintenance
- Information, Education and Communication Campaigns (IEC). All concerned groups, especially schools and information centers shall incorporate climate friendly information in policy making, planning and implementation programs as well as in school and training curricula
- Establishment of Bohol Institute for Climate Change
- Establish and strengthen capacities of communities to anticipate, cope and recover from the negative impacts of emergency occurrences and disasters.
- Provide life preservation and meet the basic subsistence needs of affected population based on acceptable standards during or immediately after a disaster.

Disaster Risk Management

Development Strategies

- Adoption of hazard-resilient construction and maintenance for buildings and other infrastructures
- Mainstreaming Disaster Risk Reduction program and policies in provincial and municipal land use plans (mapping and contingency plans)
- Prepare shelter plans for families that will be relocated from the high risk areas
- Provision of access to safe new housing sites
- Promotion of private sector-led development of affordable housing
- Improvement of sites/services in the future

- Provision of livelihood opportunities
- Establishment of early warning and communication system
- Capacity building for resilience and Hazards mapping assessment and analysis
- Strengthen the provincial, municipal and barangay disaster preparedness team

Following the analyses specified in the PDPFP, the more important concerns which should be responded to, are those that have serious potentials to be:

- Life threatening or are direct threats to public safety;
- Threat to the sustainability of key production resources or employment activities;
- Threat to the delivery of basic services; and
- Harmful or destructive to protected areas, flora, fauna, and other protected natural resources.
-

Hence, the analyses should show the risks involved in the physical development framework or the specific settlements, production & protection land uses, and infrastructure development aspects of the PDPFP and their translation into goals, objectives and targets for risk reduction.

SECTOR: SOCIAL DEVELOPMENT

Strategies:

- Formulate and implement programs to reduce the impact of the phenomenon of rural to urban drift by improving rural living conditions;
- Develop and implement resettlement programs which address the specific problems of displaced populations;
- Promote human settlement planning and management specifically in disaster-prone areas;
- Promote the formulation of environmentally sound and culturally-sensitive tourism programs as a strategy for sustainable development of urban and rural settlements;
- Reduce vulnerability of populations exposed to environmental risk factors;
- Impose the establishment of an internationally-standard Evacuation Center in every municipality as temporary shelter for displaced families especially during disasters and calamities;
- Monitor settlements build-up, land used for settlements and population changes as settlements affect most aspects of environmental condition. The environmental and natural resource impacts of settlements must be assessed as to the physical extent of settlements, population, and their impact in changing land cover from the point of view of their ecological footprint.

- Undertake a comprehensive inventory of land resources in order to establish a land information system in which land resources will be classified according to their most appropriate uses and environmentally fragile or disaster-prone areas will be identified for special protection measures;
- Encourage partnerships among the public, private and community sectors in managing land resources for human settlements development;
- Promote understanding among policy makers of the adverse consequences of unplanned settlements in especially environmentally vulnerable areas and develop appropriate local land use and settlements policies required for this purpose;
- Build capacities of government and other actors to face the challenge of environmental migration
- Support “age-friendly” initiatives to address the issue of longevity with the elderly/older people as potential human capital
- Promote programs and projects to support better aging
- Build facilities that cater especially to the needs of the elderly

Social Development

Strategies:

- Make social welfare programmes and services responsive to the needs of Boholanos especially the poorest of the poor, the marginalized and the most vulnerable groups in society;
- Strengthen collaborative partnerships essential for developmental social welfare services;
- Effectively manage the risks to health from hydro-meteorological, geological, biological (such as epidemics and pandemics), technological and societal hazards;
- Greater investments to strengthen emergency and disaster risk management for health and ensure resilient and functioning health and social protection systems;
- Implementation of safe medical and other social facilities as a priority to ensure that new and existing social facilities remain operational even during emergencies and disasters;
- Strengthen preparedness and response capacities of communities as foundation for a timely and effective response;
- Providing essential services to build human capital in education, healthcare, water and sanitation, among others;
- Mobilizing political commitment, involving communities, building partnerships and sustaining solidarity in the execution of social development programs and projects

Culture and Heritage Preservation

Cultural risks can be addressed by various means, including the following:

1. Addressing disasters and climate change
 - Disaster risk management plans that incorporate cultural heritage consideration
 - Post-disaster response and recovery programs that are consistent with management plans
 - Raising the cultural sensitivity of disaster management authorities, the families, and other users that occupy heritage properties
 - Regular maintenance and monitoring for risk reduction of heritage properties
2. Culturally-sensitive land use and spatial plans
3. Systematic documentation of cultural heritage
 - Strengthening local cultural information
 - Sustaining cultural education to generate people support for conservation
4. Preserving Bohol's IP Culture
5. Designating history/heritage zones to enhance residents' sense of place and to protect both cultural properties and history
6. Outcome-based Cultural Planning and Management

Cultural groups, bodies, individuals, and institutions must learn how to develop, sustain and implement proactive programs, ensuring inter-generational continuity. They should be steeped in the science of outcome-based planning and management and be adept in the processes of research, experimentation, planning, implementation, evaluation with defined targets and outcomes as well as in the rigors of financial management.

7. Development of Community-based Creative Industries and Community-based Tourism through Resource Generation, Promotions and Marketing

Government and the private sectors must develop collaborations and initiatives for the artists to have gainful livelihoods, expand the economic benefits of community-based cultural tourism, and provide financial and logistical support for arts-based businesses to grow. They should pioneer in establishing Infrastructures for the arts thus providing decent homes for artistic creation and productions. Local business must link with the promotions industries and develop artists-friendly promotions and marketing programs. Local marketing acumen must be promoted and developed. Through these forms of cooperation, night life in Bohol can bristle with exciting cultural entertainment that will attract legions of visitors and tourism repeaters.

8. Mainstreaming/institutionalization in town programs

The arts and culture components of human and social development must be part and parcel of the regular programs of municipalities. They must be seen as not sheer entertainment for fiestas and special occasions, but an integral force in creating a local citizenry imbued with pride of place, and empowered to produce cultural works that can contribute to social and economic progress. Cultural mapping in all municipalities must be conducted as a basis for all forms of development planning. All municipalities must have an Arts and Culture Officers/ Desks to link with the provincial systems

9. Providing for Cultural Infrastructures and other facilities

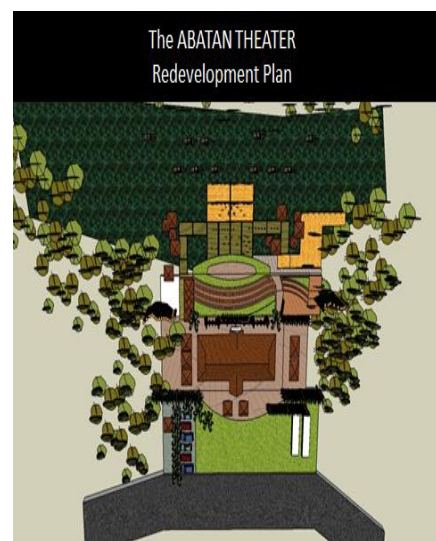
The absence of cultural infrastructures in the province make its cultural life laid-back, boring, uneventful, spiritless, unexciting. There should be more participatory activities for the cultural sector to redefine strategies in re-designing and implementing the integration of arts and culture in the development processes.

There is a need to establish galleries, museums, different forms of cultural tours, productions, cultural clubs and events in Bohol. If we have a proper Center for the Performing Arts and Exhibitions or smaller centers in communities that will be mobilized to generate exciting regular cultural fares thus enhancing their socio-economic progress. There will be regular venues for local artists to showcase and practice their craft.



10. Recommending for Artistic and Cultural Education and Trainings in the Arts and Professionalization of Boholano Artists and Cultural Workers

To achieve excellence and mastery in the arts, to compete with other national bodies of artistic works, local Boholano artists and cultural workers must be provided with the best of artistic and cultural education in non-degree and degree programs in the various artistic and cultural fields such as the visual and industrial arts, the performing and literary arts, architecture, the related disciplines of archaeology, cultural anthropology, humanities, tourism, and cultural management. This will propel a movement of trained, honed, masterful



artistic creators, producers and managers who shall infuse our cultural life with great artistic vibrancy. Academic, conservatory, studio and mentor programs must be developed within the context of Boholano arts and culture and these can be done in collaboration with the NCCA, DepEd, CHED and TESDA. Indonesia and Thailand Regional Centers for Cultural Training and Venezuela's El Sistema are formidable examples of how community youths developed into professional members of town orchestras after years of supported musical trainings.

11. Heritage restoration and reconstruction with community participation

The current rehabilitation of heritage structures especially Bohol's heritage churches demands awesome resources and expertise. Despite the help of national and international agencies and foreign experts, this phenomenon will be a great opportunity for local artisans, craftsmen, artists and cultural workers to develop indigenous knowledge and expertise at restoration, reconstruction, and other forms of rehabilitation. The experience can be a future bank of knowledge that can produce various studios, workshops, shops enunciating local geniuses in heritage development

12. Promoting Arts and Culture in Education

The ongoing unfolding of the K to 12 Programs in our basic educational system can be an easy target for further inroads for cultural globalization and foreign cultural advances. There is a need to seriously implement current educational mandates of Mother Tongue Education, Contextualization/ Indigenization/ Localization of the Curriculum, and Community Outreach and Extension Programs. These will ensure the growth of our Boholano youths as culturally sensitized and sensitive, critical, creative and empowered learners and creators. Recent efforts at establishing cultural and heritage education programs like Escuela Taller and the Heritage Center of BISU must be open for inclusion and participation of all the cultural sectors and artists of the province.

13. Culture and Disaster Risk Reduction and Climate Change Adaptation

The recent natural devastations in the Visayas, particularly in Bohol, necessitate the need to build an ecologically resilient environment. Its programs in Disaster Risk Reduction and Climate Change Adaptation can be more powerful and effective if anchored in local cultural knowledge, and transmitted through creative and local cultural forms of popular education. Along this line, Cultural Heritage Conservation Plans will be prepared thru collaborative efforts, to be designed and developed ideally before a disaster. This should incorporate effective post-disaster heritage conservation strategies to ensure cultural resources are considered in post-disaster damage and loss assessments and to address post-disaster cultural heritage risks as noted above. Furthermore, the conservation of

cultural resources be a consideration in resettlement planning, site selection, and relocation plans.

The importance of restoring damaged cultural assets is linked to the significance of cultural heritage of a community. For cultural heritage, the monetary cost cannot be the only element of assessment; it is necessary to contemplate the heritage significance that justifies its consideration as a cultural asset that society wants to keep. In the case of religious heritage, for example, the inability of people to follow rituals and traditions such as weddings, funerals, religious or festive celebrations necessitates the importance of restoration considerations.

14. Continued Investments for the Conservation and Restoration of Boholano Cultural Heritage Assets

The power that cultural assets have for generating economic resources and the existence of well-preserved elements with cultural relevance can be major factors in the influx of visitors as well as the social and economic development of localities. In this sense, investing in the conservation and recovery of heritage items not only allows the preservation of historical and identity values, but also the maintenance of funding sources for the locality.

SECTOR: ECONOMIC DEVELOPMENT SECTOR

Sub-Sector: Agriculture and Rural Development

SUB-SECTOR STRATEGIES

- A.** Raise productivity and incomes of agriculture, livestock and fishery-based households and enterprises
- Promote farm diversification by increasing production of commodities with high-value-adding and export potential (e.g., HVC, livestock and poultry, seaweeds)
 - Improve rural infrastructure and facilities
 - Develop markets, provide effective market assistance, marketing support and information systems and product development
 - Strengthen research, development and extension
 - Improve credit access
 - Expand existing markets and develop new products
 - Provide capacity building for small farmers and fisherfolks
 - Organize small farmers and fisherfolks into formal groups (e.g., associations, cooperatives, federations)
 - Provide small farmers and fisherfolk affordable and easy access to formal financing

➤ **Crops**

- Maximize potential areas and adopt diversified farming
- Adopt community-based seed banking per municipality
- Enhance and promote organic agriculture
- Institutionalize SUHID/ Bahay Kubo, FAITH, HOPE, CHARITY and Gulayan Sa Paaralan
- Utilization of idle lands
- Promote Edible Landscaping and Containerized/ Urban Gardening
- Strengthen the agriculture and fisheries insurance system as an important risk sharing mechanism
- Promote alternative staple food
- Promote the utilization of farm machineries

➤ **Fisheries**

- Enhance the collaboration between agri-fishery industry stakeholders
- Completion of RD & E loop of the agri-fishery sector
- Enhance marine/inland hatcheries to support grow-out production
- Operation and maintenance of Multi-Species Freshwater Fish Hatchery (tilapia, hito and eel)
- Livelihood support to Marine Protected Areas (MPAs)
- Strengthen protection and management of the marine sanctuaries
- Advocate for strict enforcement of fishery laws and regulations
- Distribution of fishing materials/fingerlings, seaweed propagules and farm implements
- Campaign expansion of planting eucheuma in deep sea areas
- Campaign for expansion of oyster production areas
- Infusion of stocks and breeders
- Implementation of Provincial Commodity Investment Plan (PCIP) for Seaweeds
- Provision of post-harvest facilities such as ice-making and cold chain technology
- Promote the utilization of fishing technologies and gears
- Pursue effective fishery resource management
 - Sustainable use of biodiversity
 - Food security
 - Sustainable fisheries
 - Marine and coastal tourism

➤ **Livestock**

- Provision of support to investors on chicken and duck egg production
- Enhance and expand the adoption of rice duck farming
- Promote the adoption of integrated farming systems
- Herd build-up of dairy breeder base
- Forage and pasture development
- Intensive campaign for dairy enterprise
- Clustering approach on Dairy production (Coops)

- Counter-parting of funds for the procurement of drugs and biologics
- Infusion of genetically superior breeds of livestock using live breeders and frozen semen
- Maximize potential of breedable animals
- Promotion of native animals for production in the rural areas
- Maximize utilization of available indigenous feedstuff and farm by-products
- Generation of counterpart funds for the construction/establishment and procurement of facilities and equipment
- Provision of livestock and poultry support facilities

B. Increase investments and employment across an efficient value chain

- Create job opportunities by expanding existing markets, exploring new markets and promoting private investments
- Promote more value-adding into products and develop the capacities of stakeholders for value-chain management
- Promote vertical and horizontal integration of input, production and market
- Strengthen linkage with agro-processing industry through greater participation in effective value chain (e.g. contract farming, re-emergence of coops and producers' organization)
- Transform agrarian reform beneficiaries (ARBs) into viable entrepreneurs
- Conduct local promotional events (Agri Fair, Ubifest, Provl. Achievement Days, World Food Day and others)
- Participation to national/international promotional events
- Labelling of Agri-Bohol Tatak Products
- Enterprise and Marketing Assessments
- Market Matching
- Institutionalization of Calendar for Agri-Cultural Year Round Festivities (Rice Festival, Ubi Festival, Dairy Festival etc.)

C. Provision of agri-support equipment and climate-resilient agriculture infrastructure facilities

- Establishment of Common Service Facility (CSF)
- Establishment of Fish Landing Terminals and Cold Storage
- Provision of post-harvest equipment (Mini ice plant)
- Provision of laboratory for bio-control
- TrichodermaTrichogramma Earwig
- Tissue Culture Laboratories (banana, macapuno, ubi)
- Establishment of Eucheuma Processing Plant
- Establishment an Oyster Processing Plant
- Formulation of community-based feed mill for fish
- Provision of rice transplanters, harvesters, threshers, water pumps to qualified farmers' organizations
- Link production areas to markets (e.g. FMR, food terminals)

- Increase investments in propagation facilities (e.g., brood stock, hatcheries, nurseries and laboratories) through enhanced public-private collaboration
- D. Increased sector resilience to climate change risks**
 - Reduce climate change related risks and the vulnerability of natural ecosystems and biodiversity through ecosystem-based management approaches, conservation efforts, and sustainable environment and natural resources-based economic endeavors such as agri-ecotourism
 - Adopt Integrated Water Resource Management (IWRM) and Sustainable Land Management (SLM) Technologies in the development of water, land and related resources
 - Promote environment-friendly and sustainable production systems that promote organic agriculture
 - Improve the climate change resilience of fisheries through restoration of fishing grounds, stocks and habitats
 - Increase the resilience of agriculture communities through the development of climate change sensitive technologies, establishment of climate-resilient agricultural infrastructure and climate-responsive food production systems, and provision of support systems to the most vulnerable communities.
 - Promote viable and competitive crop, livestock and fishery varieties that can tolerate climate variability
 - Establish climate-resilient agriculture infrastructure through enhanced technical design
 - Strengthen the agriculture and fisheries insurance system as an important risk sharing mechanism
 - Incorporate natural hazards and climate risk in the agricultural land use plan or the CLUP
 - Strengthen the capacity of communities to respond effectively to climate risks and natural hazards
 - Continue vulnerability and adaptation assessments especially in food production areas
 - Incorporate natural hazards and climate risk in the agricultural land use plan or the CLUP
 - Strengthen the capacity of communities to respond effectively to climate risks and natural hazards
 - Development of climate and disaster – responsive technologies and innovations
 - Promote the adoption of quality inputs such as seeds or planting materials of high-yielding and drought/ flood-resistant varieties of crops and quality fry of fish species

Sub-Sector : Tourism Development

Sub-Sector Strategies

- Safeguard natural and cultural resources and vulnerable groups
- Provision of Infrastructure support in tourism

- Sufficient power and water supply
- Establish connectivity between gateways and key growth markets
- Encourage Public Private Partnership in tourism infrastructure and marketing development
- Implement marketing and promotions
- Establish Tourism Eco Zones (TEZ)
- Encourage LGUs to develop tourism related-products and services using community-based and ecotourism approaches
- Develop and implement a tourism campaign/ a distinct Bohol Brand (sustainable thru vernacular and green architecture)
- Quality standards of tourism facilities and services
- Facilitate investments and lower business cost
- Develop competent, well-motivated and productive workforce
- Improve governance relating to safety, security and handling tourists

Sub-Sector: Trade and Industry

Sub-Sector Strategies

- Streamline bureaucratic procedures and foster transparency
- Mainstream DRR and CCA in industry and services sectors
- Establish compliance mechanisms for business sector on DRR standards
- Strengthen implementation of or reform existing laws on land use and related laws such as building code for disaster-resilient industry and service sectors
- Establishment of Special Economic Zones (SEZ) in strategic areas
- Investment promotion, industry development in job generating areas especially in Tourism and Business Process Outsourcing
- Improve access to financing to support microenterprises
- Promotion of MSME development
- Promote e-commerce and ICT-enabled automation
- Encourage Public-Private Partnership (PPP)
- Harmonize the educational system with the changing needs of the industry
- Implement programs and tools to support and respond to climate change and disaster risk incidents
- Intensify a culture of competitiveness
- Promote culture of competitiveness by instilling customer focus and a sense of pride in job well done
- Ensure market-responsive education and training
- Intensive consumer education and advocacy
- Establish e-centers to enhance access to knowledge and technology particularly in rural and remote areas

SECTOR: DEVELOPMENT ADMINISTRATION

SUB-SECTOR: PUBLIC FINANCE

Strategies

- Increase the revenue generation capacity of the PGBh
 - Creation and Institutionalization of Public Enterprise Management Unit (PEMU)
 - Establishment and operation of economic enterprises utilizing existing PGBh-owned properties
 - Conceptualization and preparation of feasibility studies
 - Review and updating of the Revenue Code
 - Enhancement and integration of Information System
 - System and process audit of existing revenue-generating units in the PGBh
 - Tax Compliance Studies
- LGU partnership and collaboration
- Capacity-building for LGUs
- Migration of RPTIS Database to ETRACS Database
- Development of an in-house migration script from RPTIS to ETRACS
- Invitation of trainers for skills training for PAssO Employees
- Coordination with LGUs
- Computerization enhancement
- Process improvement
- Conduct research
- Coordination with DENR
- Coordination and dialogue with municipal mayors
- Counter-parting arrangements
- Coordination and dialogue with municipal mayors/ barangay captains
- Conduct of objective survey
- Enhancement of Asset Management System
- Consultation with responsible offices in the drafting of asset management manual
- Research of laws, rules and regulations
- Zero-based and activity-based budgeting
- Prioritization of resource allocation and utilization

- Implementation of austerity measures
- Fund-sourcing from external sources thru partnership and counterparting
- Communication of Financial Information to PGBh Management (Governor, SP, MEB Members)
- Sub-allotment for the devolved hospitals
- Organizational structure enhancement at the PAccO

- Installation of report mechanism on financial standing and operation of the PGB
- Optimum utilization of resources
- Enhancement of monitoring and evaluation system
- Proper and periodic consultation processes between project implementers and the PGBh management

- Strict implementation of guidelines on cash advances
- Personnel augmentation at the Provincial Accountant's Office
- Audit of Unliquidated Cash Advances

- Enhancement of E-NGAS which is compliant to PPSAS
- Hardware procurement
- Capacity-building
- Financial Audit

- Enhancement of PAccO Systems thru full scale implementation of Thin Client Architecture
- Revision of FiTTSys
- Capacity Development

- Information Dissemination of Audit Compliance Mechanism and how to answer Audit Observation Memorandum, Notice of Suspension and Notice of Disallowance
- Implementation of internal controls in Financial Management

- Research laws, rules and regulations
- Collaboration among financial offices in policy formulation
- Manualization of Fiscal policies
- Capacity-building for LFC offices

- Preparation of guidelines which will systematically process requests of financial assistance from other municipalities and barangays
- Strict implementation of the "No liquidation-No grants" policy
- Evaluation and screening of qualified recipients

- Periodic assessment and updating of the PDPFP and LDIP
- Strategic planning and regular assessment/operational planning of offices
- Promotion for the preparation of AIP-based budget
- Participatory and consultative process of planning and budgeting

- Proper observance of budget calendar
- Procurement Reforms
- Systems and processes review
- Capacity-building and personnel augmentation
- Selection and hiring of personnel
- Fund-sourcing, partnership with the National Government Agencies
- Proper maintenance of government buildings and facilities
- Incorporate plans and programs that will support Disaster Risk Reduction-Climate Change Adaptation

SUB-SECTOR: LOCAL GOVERNANCE

Strategies

- Review of existing structure/memberships of all mandated Local Councils and Special Bodies and re-organize when necessary
- Regular conduct of meetings, as mandated
- Capacity development
- Performance monitoring and evaluation
- Study for/ Implementation of incentive/ recognition schemes for active local councils/ or members
- Sustaining participation & consultation in policy & decision-making among all stakeholders
- Technical assistance and counterparting arrangements between LGUs and NGAs
- Participatory planning and consultative processes at the LGUs
- Integration of Disaster Risk Reduction Management and Climate Change Adaptation Strategies to CLUPs
- Participatory spatial and development planning with LGUs, NGAs, CSOs, PS
- Regular referencing of the development/ strategic plans from the PDPFP
- Assessment of strategic plans
- Inter-agency/ LGU and CSO partnerships
- Consultation and dialogue among funding NGAs/ ODA institutions for simplified/ unified requirements/ processes of implementing programs and projects
- Capacity-building training for key LGU officials and personnel on project development/ management
- Resource mobilization, fund-sourcing, counterparting and clustering arrangements for project implementation
- Filling of essential vacant positions at LGUs with competent people
- Technical assistance and guidance to LGUs on all CBMS modules and data processing
- Data sharing, consolidation and storage

- Issuance of needed directive/ Adoption of the Official CBMS data by the SBs

- Institutionalization and adoption of PGBh Succession Plan and Career Path of employees
- Strategic Human Resource Management and Development
- Continuing Capacity Development
- Performance Management and Evaluation
- Enhancement of the Human Resource Information System (HRIS)
- Scrap and built strategy
- Enhancement of recruitment policies and guidelines
- Review / Enhancement of PGBh office structures, functions and personnel structures
- Better facilities for the welfare of employees
- Coordination and linkaging between concerned agencies/offices and employees' groups
- Expanded benefits for personnel on health and insurance
- Networking, Information dissemination and public reporting

- Collaboration with Local governments for the establishment of public libraries
- Counterparting and fund sourcing
- Promotion/ EIC to high school graduates to enroll in library science programs
- Marketing activities to promote the profession of librarians
- Collaboration and partnerships with public school administrators and teachers

- Conduct IEC or awareness on PGBh ICT developed system
- Utilization of Information-Communication-Technology in government service

- Lobby in the formulation of policies that maximizes effective use of PGBh ICT developed system
- Building an integrated information system from different data sources
- Implement redundant based blade servers to maximize uptime of ICT systems
- Prevention of data lose to critically running system
- Stable power supply
- Integration of databases and systems
- Inter-office collaboration

- Improvement of government buildings and facilities
- Fund-sourcing and counterparting

- Improvement of facilities, structures and equipment to meet with the new required standards
- Collaboration with different stakeholders
- Sustaining sports events
- Partnership and collaboration with LGUs, NGAs, CSO and PS for youth development programs

- Youth representation in local special bodies and councils/ planning exercises and program implementation
- Information, education campaign
- Provision of facilities and services for the youth

- Implementation of plans and programs that supports disaster risk reduction and management-climate change adaptation activities

SUB-SECTOR: JUSTICE AND SAFETY

Strategies

- Enforcement of laws and continued pursuit of crime prevention efforts with stakeholders
- Intensified anti-criminality efforts
- Convergence and Coordination with law enforcement agencies
- Anti-criminality capacity development at the municipal, barangay and purok levels
- Legal assistance to law enforcers
- Arts and Culture as permeating agent to forge understanding, cooperation and amity among all people for peace and development
- Intensified operations against violation of RA 9165 (Anti-illegal drugs)
- Serving of search warrants to drug personalities
- Implementation of search warrants and checkpoints

- Intensify operation against illegal gambling
- Stakeholders participation

- Recognition of those people who participate in crime prevention

- Capability-building for PNP personnel
- Counterparting with LGUs (LGU must donate lot for the PNP and commit at least 40% financially for the constructions of the PNP building)
- Full implementation of traffic rules and regulations (RA136)
- Deployment of traffic enforcers in the streets /roads and enforcement of laws any other traffic related ordinance
- Sustaining Focused Military Operations
- Intensification of recruitment of quality informants
- Conduct of Peace Advocacy Symposium, YLS, Info-drive
- Establish of ICPSS
- Sustained Development and Internal Security Initiatives
- Institutionalization of the social reintegration program for rebel returnees
- Fund-sourcing and counterparting arrangements between national and local governments for the construction of coast guard stations
- Capacity-building and training exercises

- Project proposal preparation and fund-sourcing (from provincial, municipal, national governments) for the construction of new cells and jail buildings
 - Construction of needed cells/ jail buildings
 - Immediate transfer of insular prisoners to National Bilibid Prison and appropriate correctional institutions as soon as the Mittimus Order is issued
 - Regular follow-up of pending criminal cases for an early disposition & resolution of the case
 - Partnership and coordination with government agencies, civil society organizations and other stakeholders for the funding, technical support and implementation of rehabilitation programs
 - Proper Information dissemination to encourage inmates' acceptance and participation in rehabilitation programs
 - Partnership and coordination with government agencies, civil society organizations and other stakeholders for the provision of livelihood assistance and social integration support
 - Referral system of inmates for private and government institutions
-
- Intensification of information, education campaign of fire prevention
 - Enactment of legislative measures supporting fire safety
 - Enforcement of laws, policies and fire safety regulations
 - Enhancement of inter-office coordination in the enforcement of laws
 - Establishment of fire stations
 - Fund-sourcing and counterparting/ partnership with LGUs for the provision of lot and support for operations
 - Acquisition of facilities and equipment
 - Recruitment, augmentation and hiring of competent personnel
 - Development and enhancement of capabilities of personnel
-
- Hazard and risk assessment
 - Community-based hazard mapping
 - Information dissemination
 -
 - Establishment of early warning system
 - Strengthening of Barangay Disaster Risk Reduction and Management Committee
 - Review of the DRRM Plan using the four (4) pillars of DRRM
 - Updating of hazard/risks databases in the LGUs
 - Manualization of Disaster Response Operations
 - Climate change action planning and implementation
 - Mainstreaming DRRM-CCA to local development plans
 - Partnership and collaboration with NGAs, CSOs, and academe in the establishment of DRRM-CCA Training Center
 - Information dissemination
 - Organization of Community-based DRRM

- Capacity development on contingency planning
 - Institutionalization of LDRRM offices in all LGUs
 - Fund allocation and complete staff complementation
 - Collaboration, networking
 - Capacity development
 - Benchmarking
 - Identification of suitable Evacuation Center sites
 - Review of building designs based on the requirement of the Building Code of the Philippines
 - Fund-sourcing and counterparting arrangements with LGUs, NGAs, CSOs and the private sector
 - Collaboration, networking
 - Information and education
 - Capacity-development
 - Strengthening of clusters at the PDRRMC with expansion of membership from CSOs/ business sector
 - Institutionalization of the emergency response units in all LGUs of Bohol with annual budgetary allocations
 - Establishment of Satellite TaRSIER 117 stations in strategic areas of Bohol including hospitals
 - Continuous capacity development for TaRSIER 117
 - Provision of manpower complement for TaRSIER 117
-
- Designation of additional courts in Bohol
 - Coordination with executives, judges, IBP, Prosecutor's Office, PAO
 - Coordination with Chief of Prosecution Office and PAO
 - Coordination with executives, judges, IBP, Prosecutor's, PAO
 - Coordination with Chief of Prosecution Office and PAO
 - Fund-sourcing and counterparting arrangements with local and national government agencies
-
- Coordination, partnership and collaboration
 - Counterparting and cost-sharing
 - Information sharing
 - Training needs assessment
 - Fund-sourcing , counterparting and networking among LGUs, NGAs, CSOs, and PS
 - Hiring of personnel
 - Fund-Sourcing and Counterparting
 - Partnership and Clustering
-
- Actively pursue plans and programs that support disaster risk reduction management-climate change adaptation activities

SECTOR: INFRASTRUCTURE DEVELOPMENT

Sub-sector: Transport and Access Development

STRATEGIES:

1. Imposition of hazard resistant building design regulation for areas prone to hazard.
2. Construct of risk mitigation structure to protect important urban land use areas.
3. Establish road embankment protection
4. Complying the standard design with hazard resistant, specification and other requirements for roads, bridges, building and ports.
5. Strengthening of coordination with the stakeholders, implementing agency and other concerned agencies.
6. Upgrading transport system and facilities with hazard resistant design

Sub-Sector: Water Supply & Irrigation Development

STRATEGIES:

1. Establishment of water treatment facilities
2. Creation of water quality surveillance team
3. Regular water sampling on water sources
4. ECC provision requiring establishment for a watershed trust fund and distribution of seedlings
5. Rehabilitation of mangrove areas
6. Rain Water Harvesting
7. Creation of Local Monitoring of Groundwater Extraction
8. Advocacy on efficient and economical use of water
9. Enabling PPP for Water Supply Investment
10. Strengthen LGU-NGA alliance for water and irrigation development
11. Improvement of drainage, irrigation and water facilities
12. Integrating the approach in the equitable provision of potable water supply, sanitation and hygiene
13. Formulation of policy and advocacy by LGUs
14. Mobilization of resources
15. Proper management of water supply system to prevent saltwater intrusion
16. Proper coordination with stakeholders in Tagbilaran City for the equitable water supply and maintenance of respective facilities (Privatize TCWS)
17. Encourage rain water harvesting by constructing storage tanks at ideal areas as reservoir)
18. Preservation and maintenance of water recharge areas
19. Strict implementation of sanitation programs and drainage system so as not contaminated water sources

20. Construction of drainage and waste water system & treatment plants
21. Development of water treatment system for sustainable supply
22. IEC for the conservation of water
23. Conduct regular repair and rehabilitation of existing irrigation systems
24. Construction of small reservoir projects and communal irrigation projects

Sub-Sector : Communications Development

STRATEGIES:

1. Proper and wide information dissemination to reduce risk in climate change
2. Expansion and improvement of existing communication facilities
3. Generation and proper data banking for references and networking
4. Development of a competitive promotion and marketing campaign for the province.
5. Installation of fiber-optic lines/cables

Sub-Sector : Power & Energy

STRATEGIES:

1. System improvement
2. Full government intervention through tax incentives and measures to entice private sector to invest capital projects in order to improve the system
3. Environmental awareness and compliance
4. Fostering of community development and enhancement of social responsiveness
5. Educational information on electricity consumer's rights and obligations.
6. Full support of DOE thru National Intensified Household Electrification.
7. Coordinate with the LGUs and other agencies.
8. Enabling PPP for power investments

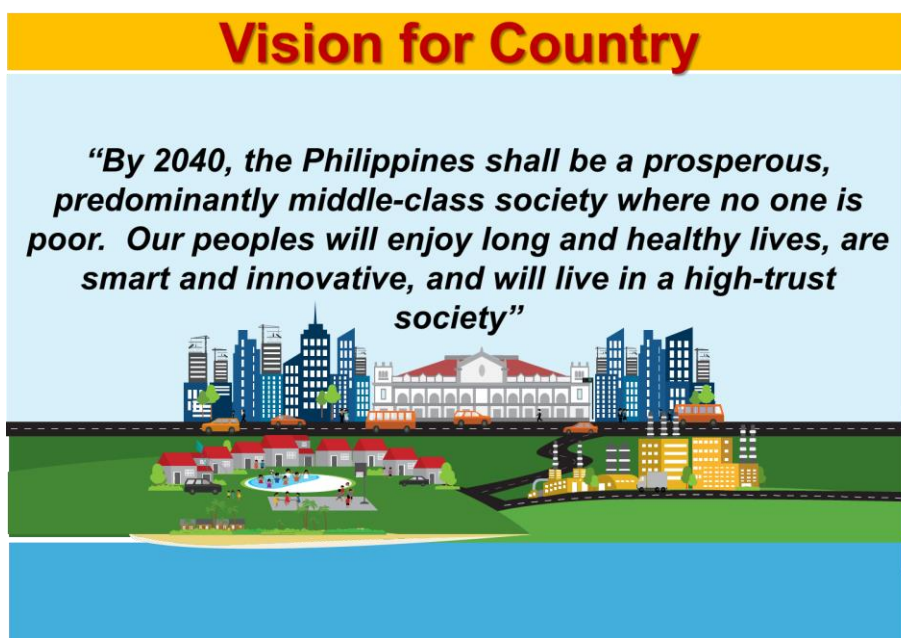
Chapter VI

LAND USE AND PHYSICAL DEVELOPMENT

BOHOL SPATIAL DEVELOPMENT FRAMEWORK

National Priorities

The vision for the country is that by 2040, the Philippines shall be a prosperous, predominantly middle-class society where no one is poor. Our peoples will enjoy long and healthy lives, are smart and innovative, and will live in a high-trust society.



Transforming the vision to into the next 4 medium-term Philippine Development Plans (PDP) requires strong ownership and buy-in by stakeholders and the country's leaders over the next 25 years. Each plan must build on previous plan, not change it unnecessarily. Needs and preferences may change over time and unexpected developments may arise (e.g. climate, science & technology).

The overall national strategic framework is *Matatag, Maginhawa at Panatag na Buhay* by 2040. To integrate all of these, the PDP 2017-2022 shall aspire to contribute to the attainment of the strategic framework by laying down a solid foundation for more inclusive growth, a high-trust society, and a globally competitive knowledge economy.

In line with the current Duterte Administration's battle cry, this can be done by focusing on three pillars of: "*Malasakit*" (enhancing the Social Fabric), "*Pagbabago*" (educing inequality), and "*Kaunlaran*" (increase Potential Growth of the economy); supported by a strong foundation in national security, infrastructure development, socioeconomic resiliency, and ecological integrity.



The national development agenda are high and sustained economic growth (7-8% per year); more inclusive growth that generates mass employment, reduces poverty, and equitably distributes opportunities; and high public trust in government through good governance.

From 2017-2022, the National Plan targets 7.5-8% average annual GRDP growth rate, 93.5% average annual employment rate, poverty incidence down to 21.7% by 2022 and achieve Sustainable Development goals.

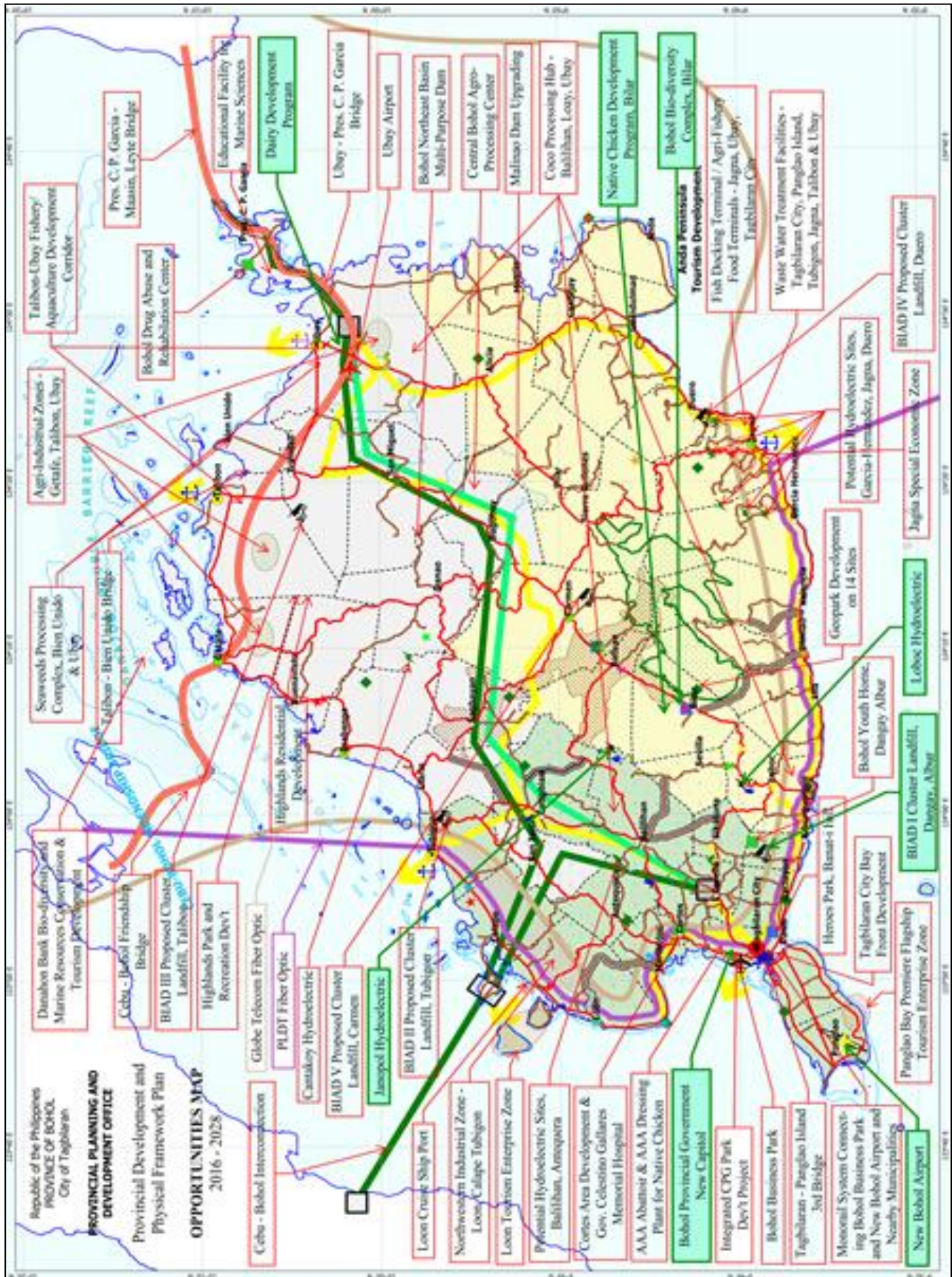
Regional Development Priorities

Taking the cue from the national government, the Central Visayas Regional Development Plan 2017-2022 aims for higher and more inclusive growth. Strategies to be used shall provide the enabling environment for new investors to come in, existing businesses to thrive and local economies to grow, namely: Livable communities, competitive business environment, increased connectivity and productivity, development of human capital and good governance.

The regional flagship programs and projects include power, water supply, roads and bridges, airports, seaports, solid waste management.



Bohol's Opportunities Map/ Spatial Development Map



The opportunities/ spatial development map presents the major strategies and directions that the Province of Bohol will pursue for the next 12 years. It indicates the major programs and projects that will be implemented by different stakeholders across sectors. These development priorities take into consideration the province's drive to have disaster-resilient communities, reduce poverty incidence, promote gender and development, support sustainable development, and protect and conserve the environment and natural resources.

Guided by the development framework and set objectives, the following major programs will be prioritized in Bohol:

Infrastructure Development

The New Bohol Airport Construction and Sustainable Environmental Protection Project with funding sources from the JICA Special Terms for Economic Partnership (JICA-STEP) and the Government of the Philippines is currently ongoing and is expected to be completed by the 1st quarter of 2018.



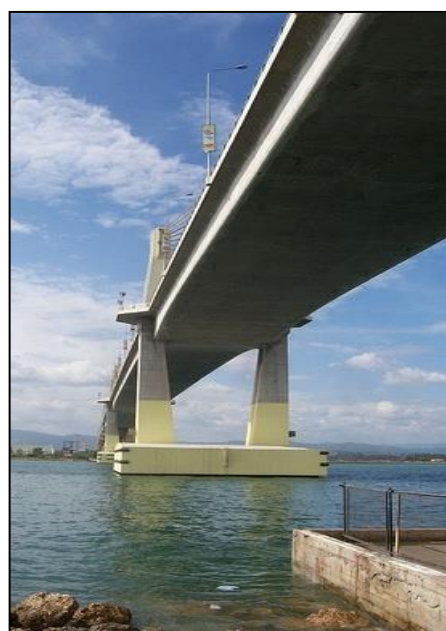
The Ubay Airport Development Project is open for Public-Private Partnership with initial investment from CAAP. It is intended for general aviation, training and flying school, and transport services for agri-business and tourism.



There is a planned construction of Inter-Island Bridges and Roads through the Highlands of Bohol. The Bohol – Cebu Bridge is proposed from Getafe, Bohol to Cordova, Cebu to connect the islands of Bohol and Cebu. The Bohol (Ubay) – Leyte (Maasin) Bridge is proposed to construct a new bridge to connect Bohol and Leyte province. Well-paved roads will also be constructed passing through the scenic highlands of Getafe, Talibon and Trinidad.

Three new major Bridges in Bohol will be constructed:

- a) Tagbilaran City to Panglao Island, which will connect Poblacion II, Tagbilaran City to Totolan, Dauis. It has an estimated length of 1.2 to 1.4 kms.;
- b) Ubay – Pres. Carlos P. Garcia Bridge will be located from Union, Ubay to Popoo, C.P.G with an estimated length of about 1.2 kms.;
- c) Talibon – Bien Unido



Bridge is located from Nueva Estrella, Bien Unido to San Isidro, Talibon with an estimated length of approximately 1.0 km.

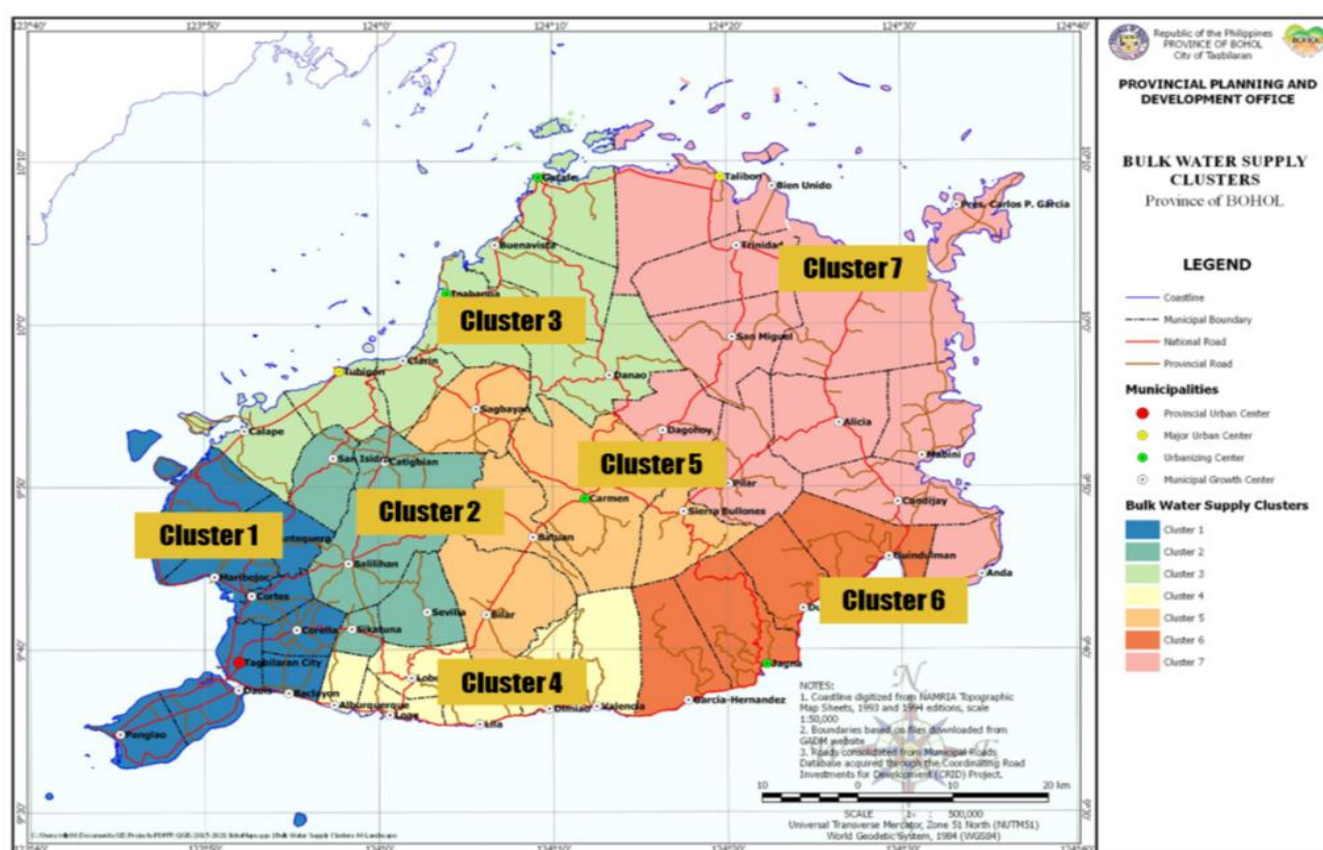
The Bohol Island Power Development Plan (BIPDP) was formulated to ensure security of supply, reliability and resiliency (climate-proof) of supply; and affordability (least-cost) to the consumers. It shall consist of the Power Supply Plan (Generation Plan), Transmission Development Plan (TDP), Distribution Development Plan/s (DDP), and

Electrification Plan. Construction of Bohol's own Power Source/ Plants will be in potential sites: Ubay, Alicia, and Jagna. The Transmission Development Plan of the National Grid Corporation of the Philippines (NGCP) will be composed of the Cebu-Bohol Interconnection Project (CY 2020), Cebu-Bohol 138 kv Transmission Line (T/L), Loon-Ubay 138 KV T/L, and the Loon-Coreolla 138 kv T/L. There will also be the Bohol Substation Upgrading at Ubay and Coreolla SS (CY 2020), 3. Visayas Voltage Improvement Project 3X7.5 MVAR, Capacitor in Coreolla (CY 2019), and Tagbilaran 69 kv Substation (CY 2020).

The Province welcomes private sector investments for power facilities that are intended to install new capacity for meeting the baseload requirement of distribution localities starting in 2019; primarily for the purpose of selling to the grid; and intended to serve the requirements of off-grid or other specific users in the island province.

There are potential sites for Power Supply Development in Bohol such as in Danao (Cantakoy Hydro Power), Loboc (Loboc Hydro Power), Balilihan (Janopol Hydro), Antequera (Inambacan), Garcia Hernandez (Upper and Lower Manaba), Jagna (Balili and Odiong), San Isidro (Caimbang), Duero (Alijawan), and Ubay (Gabi and Asinan).





The Bohol Water and Sanitation Project (BWSP) is divided into two phases: Phase I – Bulk Water Supply and Phase II - Water Distribution and Sewerage/ Sanitation Systems. Areas covered are Tagbilaran City and 17 Municipalities (Alburquerque, Antequera, Baclayon, Balilihan, Catigbian, Daus, Lila, Loay, Loboc, Loon, Maribojoc, Panglao, San Isidro, Sevilla, Cortes, Corella and Sikatuna). The three (3) water sources were initially identified for Development: Abatan River, Loboc River and Bugwak Spring.

Based on the studies conducted, municipalities are clustered with specific surface water identified as source for bulk water supply. The clustering are as follows:

- Cluster 1: Cortes, Maribojoc, Tagbilaran, Daus, Panglao, Corella, Baclayon, Antequera, Loon
- Cluster 2: Balilihan, Sevilla, Sikatuna, Catigbian and San Isidro
- Cluster 3: Inabanga, Getafe, Buenavista, Danao, Clarin, Tubigon, and Calape
- Cluster 4: Loboc, Valencia, Dimiao, Lila, Loay, Alburquerque
- Cluster 5: Sierra Bullones, Carmen, Batuan, Sagbayan, and Bilar
- Cluster 6: Guindulman, Duero, Jagna, Garcia- Hernandez
- Cluster 7: Trinidad, Talibon, Bien Unido, Ubay, Pres. Carlos P. Garcia, Alicia, Candijay, Mabini, Anda, San Miguel, Dagohoy, and Pilar

Port Development Projects include the improvement of Ubay Port, Tagbilaran Port Project, Tubigon Port Project, Ubay (Tapal) Seaport Project, and Loon Port Development Project (International Cruise Ship Port) with initial investments provided by the PPA.

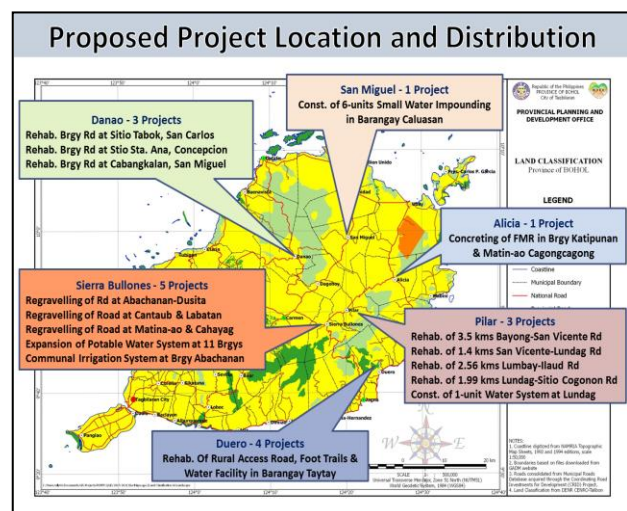


Another project proposed is the monorail/rail System connecting the proposed Bohol Business Park to the new Bohol Airport and nearby municipalities of Alburquerque, Corella and Maribojoc.

There is also the National and Provincial Government convergence thru the Conditional Matching Grant to Provinces (CMGP) (KALSADA program) for the concreting of road sections of Sikatuna – Balilihan via Badiang Road, Baucan (Balilihan) – Cambague (Sevilla) Road, Alegria (Catigbian)–Baang–Jagbuaya–Hanopol Road, Catigbian – Clarin via Bogtongbod Road, Canmanico – Anonang Road (Valencia), Maribojoc-Pagnitoan-Candavid- Basak (Loon) Road, and Jct. (TER) Dimiao-Oac-Bilar Road.



There are projects for Rural Infrastructure Projects under Integrated Natural Resources and Environmental Management Project (INREMP) of DENR (ADB-funded) in the municipalities of Danao, San Miguel, Duero, Alicia, Sierra Bullones, and Pilar.



Based on Republic Act 9593, Tourism Act of 2009 (Chatto-Gordon Law) Sec 34: DPWH– DOT Convergence Program for Provincial Roads/ Tourism Highways Development, upgrading of roads will be done leading to tourist areas in the municipalities of Tubigon, Carmen, Sierra Bullones, Jagna, Danao, Getafe, Guindulman, Anda, Candijay, Mabini, Antequera, Balilihan, Batuan, Loon, Catigbian, Sagbayan, Maribojoc, Antequera, Alburquerque, Sikatuna, Panglao Island, and San Isidro.

The PGBH – Department of Agrarian Reform– Department of Public Works and Highways Bridge Projects will cover the municipalities of Antequera, Catigbian, Sagbayan, Ubay, Dagohoy, Sierra Bullones, Guindulman, Dimiao, Bilar, Candijay, Duero, and Trinidad.

The proposed Bohol Northeast Basin Multi-Purpose Dam Project is located in Danao, Bohol with a service area of 12,500 has., which covers the municipalities of Danao, San Miguel, Trinidad, Dagohoy, Bien Unido and Ubay. Its source of water will be Wahig River and is intended for an irrigation system with a 10-MW hydro power.



The Malinao Dam in Pilar, Bohol will be upgraded with a two-meter rise which would directly benefit farmers with the increase capacity to store waater to support irrigation.



Small Reservoir Impounding and Irrigation Projects (SRIP) will be constructed in Benliw, Ubay; Bonotbonot, Buenavista; Mabini-Cayacay; Hibale, Danao; Calunasan, Calape; Liloan, Inabanga; Cabulihan, Tubigon; and Gabayan, Candijay.

The Philippine Long Distance Telephone Company (PLDT) and Globe Telecom have completed upgrading Bohol's connectivity to the national fiber optic node into fully-protected submarine cables that go through different routes and are now ready for commercial use.

Economic Development

The Provincial Agriculture Office is currently implementing the Bohol Integrated and Comprehensive Support Program for Agro-Industrial Development (BICS-PAID), which supports the national



goal on inclusive growth, poverty reduction and sustainable development and the provincial strategy of increasing investments in commodities with comparative advantage, value chain development and providing needed agriculture sector infrastructure support.

BICS-PAID addresses the much needed support services and facilities in the agriculture sector value chain with project components on crops, livestock and fisheries.

For Agri-Business Development and Fishery/Aquaculture Development, there is the Central Bohol Agro Processing Center with huge investments in irrigation dams that are expected to raise production not only in palay but of high value and industrial crops. The agro-based industries, food processing and related activities could be done while existing activities include commercial scale facilities in drying, storage and milling of palay. For the Talibon-Ubay Fishery/ Aquaculture Development Corridor, sea farming and aquaculture activities are existing in the area. Intervention in the coastal and marine resources could lead to further growth in the industry while processing of fish and marine products could further boost economy in the area.

The priority investment areas for high value crops are identified for high value vegetables, fruits, and cut flowers (highland barangays of Jagna, Duero, Sierra Bullones and Guindulman); contract growing of corn, cassava, coffee and cacao production (province wide especially in the 2nd and 3rd district); contract growing of special types of rice and coconut (Balilihan, Dauis, Panglao, Batuan, Carmen, Loboc, Albuquerque, Pilar, Ubay); establishment of coconut processing centers in Balilihan, Loay and Ubay; corn processing complex (Sagbayan and Ubay); climate-adaptable seed production and crop nurseries (Ubay, Balilihan, Bilar); orchard production for lanzones, rambutan and other fruits/crops (1st district) and orchard nurseries (Ubay, Tubigon, and Bilar); development of White Agriculture (Greenhouses) and Hydroponics Farms (vegetable producing



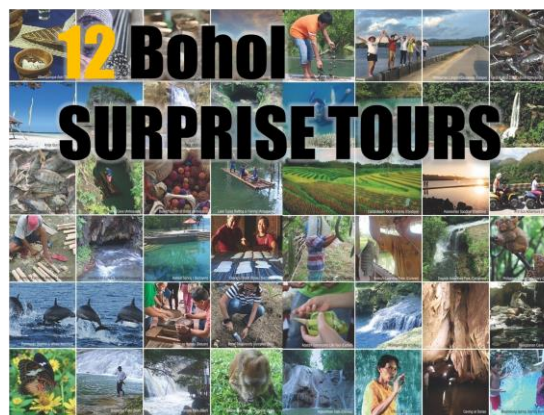
municipalities of Calape, Tubigon, Clarin, Balilihan, Ubay, Talibon, San Miguel and Bilar); establishment of Certified Organic Inputs Facility and Certification System (Bio-pesticides and fertilizer) (BOATECH, Ubay and BISU-Bilar Campus); fabrication and production facilities for farm equipment (BISU-Tagbilaran and BOFAMCO Pilar); establishment of Fruits and Vegetables Processing Complex (Duero and Balilihan); and establishment of Agromate Weather Station (Duero, Balilihan, Panglao and Pres. Carlos P. Garcia).

Three coco hubs with both processing and training facilities will be constructed in Balilihan, Loay and Ubay. An amount of P15 million has been earmarked by PCA for each of the processing centers. The coconut-based industrial hub in the municipality of Balilihan will maximize the production chain of the province's coconut industry.



The priority Public Investment Areas for Fishery Development (to be supplemented by PPP) are the following: Contract growing of Mud crab (Mabini, Ubay, Talibon, and Bien Unido) and Crab hatchery and bangus fry production (Candijay, Ubay, Guindulman); Fish docking terminals with cold storage and processing facilities (Tubigon, Ubay and Tagbilaran); Agri-fishery Food Terminals with cold storage and processing facilities (Tagbilaran City, Ubay and Jagna); Agri-fishery laboratory (BISU-Bilar, BISU Candijay, Carmen and Tubigon); Multi-species hatcheries for inland fisheries and mariculture species (BISU-Bilar, BISU Candijay and Clarin); and Seaweeds processing complex (Bien Unido, Ubay).

Bohol was declared as an Eco-Cultural Tourism Zone through Republic Act 9446. Bohol opened its ecotourism program to re-introduce the province as a prime mover in ecotourism development. It launched newly-clustered tour programs dubbed as “Bohol Surprise Tours” and clustered tour itinerary of new tourism sites in the countryside showcasing community life and livelihood of local folks.



Bohol Surprise Tour 1 covers the Tubigon Loom Weaving, Loon Coral Stairs, Organic Farm and Lunch and SAVIMA Mangrove Adventure in Maribojoc, and Punta Cruz Watch Tower.

Bohol Surprise Tour 2 covers the Lamanoc Island (Anda), Anda Beach and Lunch, Jagna Calamay Industry, and Clarin Ancestral House (Loay).

Bohol Surprise Tour 3 covers the Albur Calamay Industry, Loay Ironsmith Workshop, Balay sa Humay and Lunch (Batuan), Bohol Biodiversity Complex (Bilar), and Clarin Ancestral House (Loay).

Bohol Surprise Tour 4 covers the Cabilao Island Nature and Community Life Adventure (Loon), Lunch at Cabilao Island (Loon), Antequera Farm and Crafts Village Tour.

Bohol Surprise Tour 5 covers the Cabilao Island Nature and Community Life Adventure (Loon), Lunch at Cabilao Island (Loon), and Kawasan Falls and Agri-Farm Activities (Balilihan).

Bohol Surprise Tour 6 covers the Cambuhat River & Oyster Farm (Buenavista), Lunch at Cambuhat Village (Buenavista), Bohol Beads and Fiber (Inabanga), and Takla and Mud Crab Culture Community (Calape).

Bohol Surprise Tour 7 covers the Talibon Interpretive Center Learning Tour, Lunch at Talibon, Carabao Dairy Farm (Ubay), and Horseback Riding (Ubay).

Bohol Surprise Tour 8 covers the Baybayon Fishing Village Tour (Mabini), Lunch at Baybayon Fishport (Mabini), Ermita Ruins with Historical Mystery (Dimiao), and Music and Sound of Dimiao Rondalla.



1. Baybayon Fishing Village Tour (Mabini)	Ride a fishing boat and snorkel for giant clams or spread the picnic-mat on the low-tide sandbar. Then sail to gaze at Naasug cliffs but resist the beckoning aquamarine dip.
2. Lunch at Baybayon Fishport (Mabini)	Feast on fish, green crabs, shells and prawns, the freshest catch from Baybayon.
3. Ermita Ruins with Historical Mystery (Dimiao)	Under the shadow of an old stone-walled cemetery lie a crumbling secondary burial ground that hides the town's mysterious Spanish history.
4. Music & Sound of Dimiao Rondalla (Dimiao)	They pick, pluck and strum. The music they make speaks of a culture best expressed by the children and the rondalla of Dimiao.

Bohol Surprise Tour 8

Tour starts at 8:30am and ends at 5:00pm
Tour Price: Pnp4,400.
Inclusion: Transportation, Entrance Fees, Lunch, Accredited DOT Tour Guide, Complimentary Bottled Water.

Bohol Surprise Tour 9 covers the Tribu Eskaya Learning Tour (Duero), Lunch at Tribu Eskaya, Strawberry Farm Tour (Duero), and Music and Sound of Dimiao Rondalla.

Bohol Surprise Tour 10 covers the Caving and Lunch at Danao Adventure Park, Ang Paruparo (Butterfly Garden) (Carmen), Crunchy Cabcab Industry Tour (Sevilla).

Bohol Surprise Tour 11 covers the Philippine Tarsier Sanctuary (Corella), Lunch at Sikatuna Tree Park, Loboc Salabat Production Facility Tour, and Stand-up Paddling Tour.

Bohol Surprise Tour 12 covers the Holy Spirit School, Tricycle, St. Joseph Cathedral, Provincial Capitol, Painitang Bol-anon, President Carlos P. Garcia Heritage House, Casa Rocha and other Vintage Houses in Tagbilaran City.

The identified Tagbilaran Tourism Growth Areas are located in Taloto-Ubujan (eco-tourism, Mabaw Reef, historical sites), Dampas-Cogon-Dao (tourism bubble, visitor's/ info center with travel lounge facility), Poblacion 1, 2 & 3 (heritage houses, museums, cathedral), Bool-Mansasa (Bohol Friendship Park, Blood Compact Shrine, Four Heroes Project and landmarks at Banat-I Hill), and Cabawan-Tiptip (caves, city park, camp site, botanical garden and zoo).



Special Economic Zones (SEZ) will be established in strategic areas of the Province. Northwest and northernmost parts of Bohol facing Cebu mainland and Metropolitan Cebu across Bohol strait are potential expansion areas for tourism and industrial investments particularly in so-called coast-dependent or port-related industries. District 1 Northwestern Industrial Zone will cover Loon, Calape, and Tubigon. District 2 Agri-Industrial Zones will include Talibon, Ubay, and Getafe while District 3 Special Economic Zone covers Jagna.

The Bohol Business Park as an SEZ will be located at the current Tagbilaran City Airport area once its operation will be transferred to the New Bohol Airport in Panglao. It has an area of 24.24 hectares located adjacent to lots classified as Light Industrial area in the existing CLUP of Tagbilaran City.

Panglao Bay Premiere Flagship Tourism Enterprise Zone (PBPFTZ) covers an area of 111 hectares in Barangay Bolod and Tawala, Panglao, Bohol. It is one of the Flagship Tourism Eco Zone (TEZ) sponsored by TIEZA. It is an integrated mixed-use tourism and leisure resort community which will provide a mix of overnight and day visitor activities, facilities and services including holiday and retirement, residential, leisure shopping, food and beverage, and amusement and entertainment concepts.

Loon Tourism Enterprise Zone includes the development of Sandingan and Cabilao Islands as the main TEZ Islands. It is contiguous with the PPA Cruise Tourism Port, the Loon Tourism Corridor from Port Vicinity to Loon town proper, the Loon-TEZ Bohol Tourism Road Network and the expansion of eco-marine and coastal tourism. It is a Strategic Tourism Enterprise Zone for cruise tourism and for RORO vessels from Argao and Cebu for tourism logistics with inter-regional links to Central Philippines Cruise Tourism Destinations.

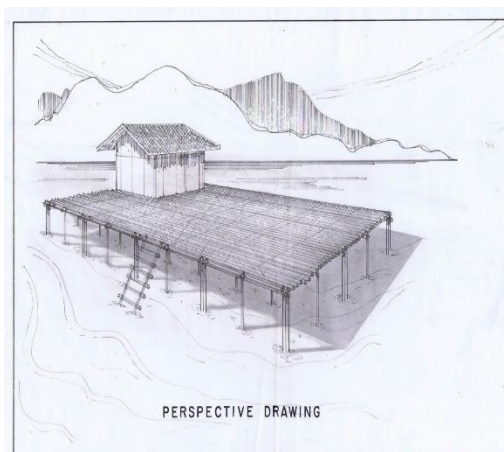


The World Bank-funded Project thru the Department Of Agriculture - PGBH – Philippine Rural Development Project (PRDP) has road projects under its I-BUILD subproject component. Among the project sites include the Del Carmen Weste via Tugbas Road, Mahayag Norte - Bagtic - Baang Road, San Agustin-Canmaya Centro-Kagawasan - Canmaya Diot Road, Alegria - Cabadingan - Candasag - Bugho Road, Campagao - Cabacnitan



FMR, Bilar, Desamparados (Calape) - Tabuan (Antequera) FMR, Pondol - Candaigan FMR, Loon, and Dagohan - Dagohoy FMR, Inabanga.

The Global Environment Facility (GEF) has a Seaweeds Development and Management Project that establishes Seaweed Research & Training Center and Seaweed Nurseries, expands production areas to 4,673 has. of potential seaweed areas and 9,300 has. potential deep-sea farms, Techno Demo Farms, construction of Support Facilities (12 Communal Drying Platforms with Storage Facilities, 5 Permanent Working Areas and Farm House, and 5 Docking Facilities), and rehabilitation and upgrading of Access Roads. The GEF also is developing 75 units Drying and 5 units Docking Facilities at 13 municipalities of Pres. Garcia, Ubay, Mabini, Bien Unido, Talibon, Getafe, Buenavista, Inabanga, Calape, Loon, Maribojoc, Tagbilaran & Panglao.

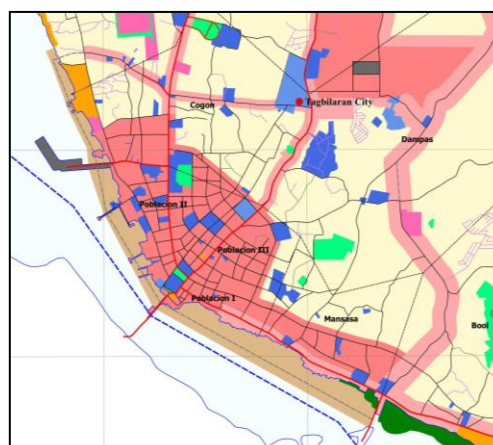


Another PRDP-funded project is the Bohol Native Chicken Development Project, which serves as a strategy to help farmers increase productivity and market competitiveness. The Production Center is in Bilar while Commercial Farms are located in Batuan, Corella, and Trinidad. Feed Mills will be established in Ubay, Pilar, and Sagbayan. Facilities will be established in Tagbilaran City, Corella, Ubay, Alicia, Batuan, and Bilar. Breeding Production Hatchery, Brooding and Chick Hardening Facilities will be established together with Commercial Breeding Farms (Batuan, Corella, and Trinidad), Hatchery/ Brooding Farms (Balilihan, Albur, and Loay), Hardening/Fattening Farms (Sikatuna, San Isidro, Sevilla, Loon, Danao, Loboc, and Tubigon) and establishment of Native Chicken Trading System (Ubay, Mabini and Province-wide).

Municipal-based Native Chicken Production Centers will be established in District 1 – Balilihan, Catigbian, Baclayon, Corella, Tagbilaran City, and Maribojoc; District 2 – Danao, San Isidro, San Miguel, Clarin, CP-Garcia, B-Unido, Dagohoy, Getafe, and Inabanga; and District 3 – Anda, Garcia Hernandez, Guindulman, Lila, Bilar, Dimiao, and Loay.

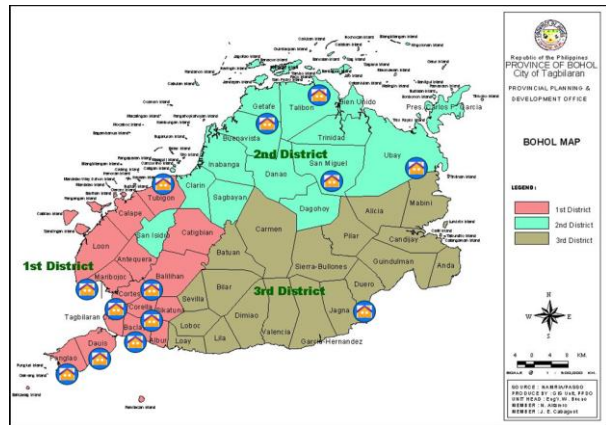
The Tagbilaran Waterfront Development Project will develop Foreshore Areas (boulevard, alternate roads, parks, eateries, water treatment facility).

A Fisheries and Aquaculture Processing Zone will be established potentially in the municipalities of Ubay and Talibon and will be composed of aquaculture farms, post-harvest and processing facilities, cold storage and marketing.



Social Development

A Major Housing Project is proposed in Songculan, Dauis, Bohol for the AFP-PNP Housing (St. Michael Residences) while Resettlement Proposed Projects are proposed in Tagbilaran City, Jagna (Barangay Canjulao and Barangay Tubod Monte), Tubigon (Barangay Guiwanon), Ubay (Barangay Cagting), Dauis (IP Housing Project for Identified Badjaos) and other Resettlement Projects.



Housing and Residential Development will be done in the municipalities of Maribojoc, Panglao, Dauis, Baclayon, Sikatuna, Cortes, Corella, Balilihan, Tagbilaran City, Getafe, Ubay, Talibon, Tubigon, and Jagna.

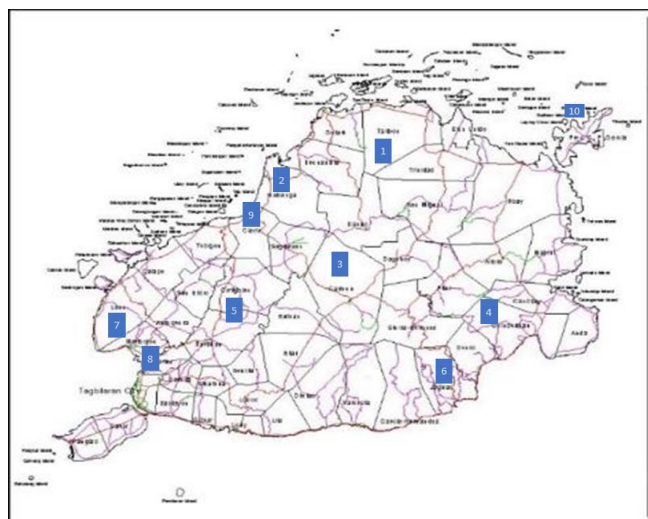
Highlands Residential Development will potentially be conducted in the highlands of Getafe to Talibon. It will be complete with support services and facilities.

Sports Activity Areas and Facilities and will be established for Cycling, Motocross, Dragon boating/ Kayaking/ Watersports, Hang Gliding/ Paragliding/ Air Surfing, Longboarding/ Skateboarding, Triathlons, Marathons, etc., Mountain Climbing/ Canyoneering/ Spelunking, etc., Hot Air Balloons, and other sports.

The Bohol Drug Abuse Treatment and Rehabilitation Center (DATRC) will be constructed in a strategic location in the province to support the rehabilitation of people who are into using illegal drugs.

The Gov. Celestino Gallares Memorial Regional Hospital, a NEDA Board-approved 500-bed capacity hospital is proposed to be constructed at Barangay Malayo Norte, Cortes, Bohol, with an estimated project cost of P2.20 Billion. The said hospital will be developed and modernized into a 5-storey medical tourism hospital. On the other hand, the PGBh-owned hospitals will be positioned towards specialization of services, as follows:

1. GMPH – Level 3 Hospital (Teaching & Training Hospital)
2. FDMH – Diabetology
3. CSTMH – Orthopedics
4. CanCH – Hospice Care and Geriatrics
5. CDH – Rehabilitation Medicine & Wellness
6. TBGDH – OB-Gyn & Pediatrics (Mother & Child Hospital)
7. CNCMH – Cardiology & Pulmonology



8. MCH – Nephrology
9. ClaCH – Oncology
10. CPGMH – Drug Rehabilitation & Mental Health

Hemo-Dialysis Centers are proposed in Garcia Memorial Provincial Hospital (Barangay San Jose, Talibon, Bohol); Cong. Simeon Toribio Memorial Hospital (Barangay Poblacion Sur, Carmen); and Maribojoc Community Hospital (Barangay Bayacabac, Maribojoc).

The Bohol Youth Home will likewise be constructed in the same site in Cortes to serve as a Provincial Rehabilitation Center for Juvenile/Youth Offenders/Children in conflict with the Law (CICL).

The Abatan Theatre as the Center for the Performing Arts and Exhibitions will be located in Abatan River, Barangay Salvador, Cortes, Bohol. It will be a venue for regular cultural fairs and productions, cultural clubs and events; regular venue for local artists to showcase and practice their craft. It has an estimated project cost of P50.0 Million.

The Regional Center for Cultural Training of Artists and Cultural Workers in Tagbilaran City is a place where artists and cultural workers will be provided with the best of artistic and cultural education, non-degree and degree programs in the various artistic and cultural fields such as the visual and industrial arts, the performing and literary arts, heritage architecture, the related disciplines of archaeology, cultural anthropology, humanities, tourism, and cultural management.

Boholano Culture, Arts and Heritage Promotion will include Eskaya Heritage Site Development and promotion for Eco- tourism in Barangay Taytay, Duero; Eskaya Traditional Handicraft in Barangays Taytay, Duero; Cantaub, Sierra Bullones; and Lundag, Pilar; and Eskaya Fashion Jewelry Making in Barangay Totolan, Dauis.

Educational Facilities for Tourism and Agriculture will be established - the Tourism Senior High School Facility in Lourdes National High School in Lourdes, Panglao and the proposed Bohol Agricultural Training and Research Center in San Pascual National Agricultural High School in Ubay.

Educational Facilities for Marine Sciences will potentially be established in the municipalities of Pres. Carlos P. Garcia and Candijay. The training and educational facility specialized on marine sciences aims to produce graduates that can support the needs of the economic zones and other marine-based industries of the province.

Development Administration

The New Provincial Capitol Building located in Gov. Lino Chatto Drive, New Capitol Site, Tagbilaran City will be operational in 2018, which is integrated within the CPG Park Development Project.



Other projects under Development Administration are the Integrated Carlos P. Garcia (CPG) Park Development Project and the New Bohol Museum Located in Tagbilaran City (under construction and restoration).

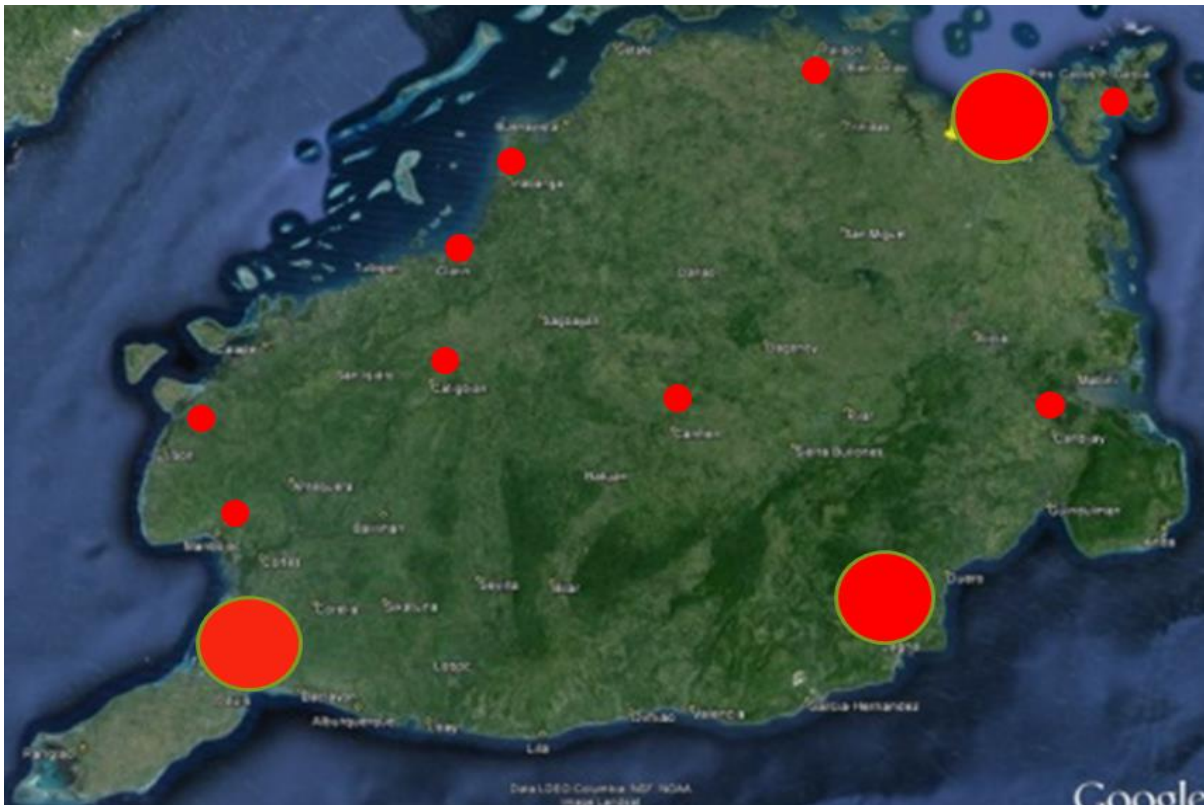
The Integrated Area Development in Cortes will have an integrated and multi-use of 24-hectare land, located in the municipality of Cortes, and owned by the Provincial Government for possible Public-Private Partnership (PPP) arrangement. It is potential for Economic Zone Development because of the following projects: New Gov. Celestino Gallares Memorial Hospital, Integrated Sports Complex, Arena, and Residential and Commercial Areas.



The Provincial Government will be establishing Public Economic Ventures with potential for PPP for the following ventures: Improvement of the Bohol Biodiversity Complex (BBC) in Bilar, Construction of Commercial Complex at the PGBh Dampas Lot (PGBh Square) in Tagbilaran City (with pre-requisite social preparation for informal settlers), Enhancement of CPG House, Old Museum with Café Caloy in Tagbilaran City, Development of Heroes Park and Recreation Center at Banat-I Hill (Tourism and Cultural Landmark) in Tagbilaran City, Construction of Commercial Stalls at CPG Complex and CPG Park in Tagbilaran City, and the Provincial Capitol Commercial Complex in Tagbilaran City (Open for business partnerships after the completion of the New Capitol Building).

The Banko Sentral Ng Pilipinas – Bohol Branch will be established. This will greatly help the operation of banks and noost further the banking industryin the province.

The new Provincial Disaster Risk Reduction and Management Center (PDRRMC) Command Center is located in Camp Bernido, Tagbilaran City, which is still under construction. Tarsier 117 SatelliteUnits will be established in other areas of the Province of Bohol. Tarsier 117 has already established in Tagbilaran City and Ubay to provide ambulance and other support equipment and provide rescue ambulances with Emergency Response Teams (ERTs) to district hospitals.



Construction of resilient Evacuation Centers will be compliant to the set standards in each of the 3 districts of Bohol. On the other hand, a Meteorological Radar Station will be established in Alburquerque where the Doppler Radar Site will be located in Barangay Basacdacu, Alburquerque (under bidding process).

A new Hall of Justice will soon be constructed in Tagbilaran City while Philippine National Police (PNP) Stations will be constructed in Alicia, Antequera, Baclayon, Bien Unido, Bilar, Buenavista, Clarin, Corella, Cortes, Dagohoy, Danao, Dauis, Garcia Hernandez, Getafe, Lila, Loay, Mabini, Maribojoc, Pres Garcia, Sierra Bullones, Sagbayan, San Isidro, San Miguel, Sevilla, Sikatuna, Tagbilaran City, and Trinidad

Fire Stations will be constructed or activated in the Municipalities of Alburquerque, Lila, Corella, Cortes, Sikatuna, Sevilla, Duero, Guindulman, Anda, Alicia, Dagohoy, Danao, San Miguel, Getafe, Sagbayan, Catigbian, and San Isidro.

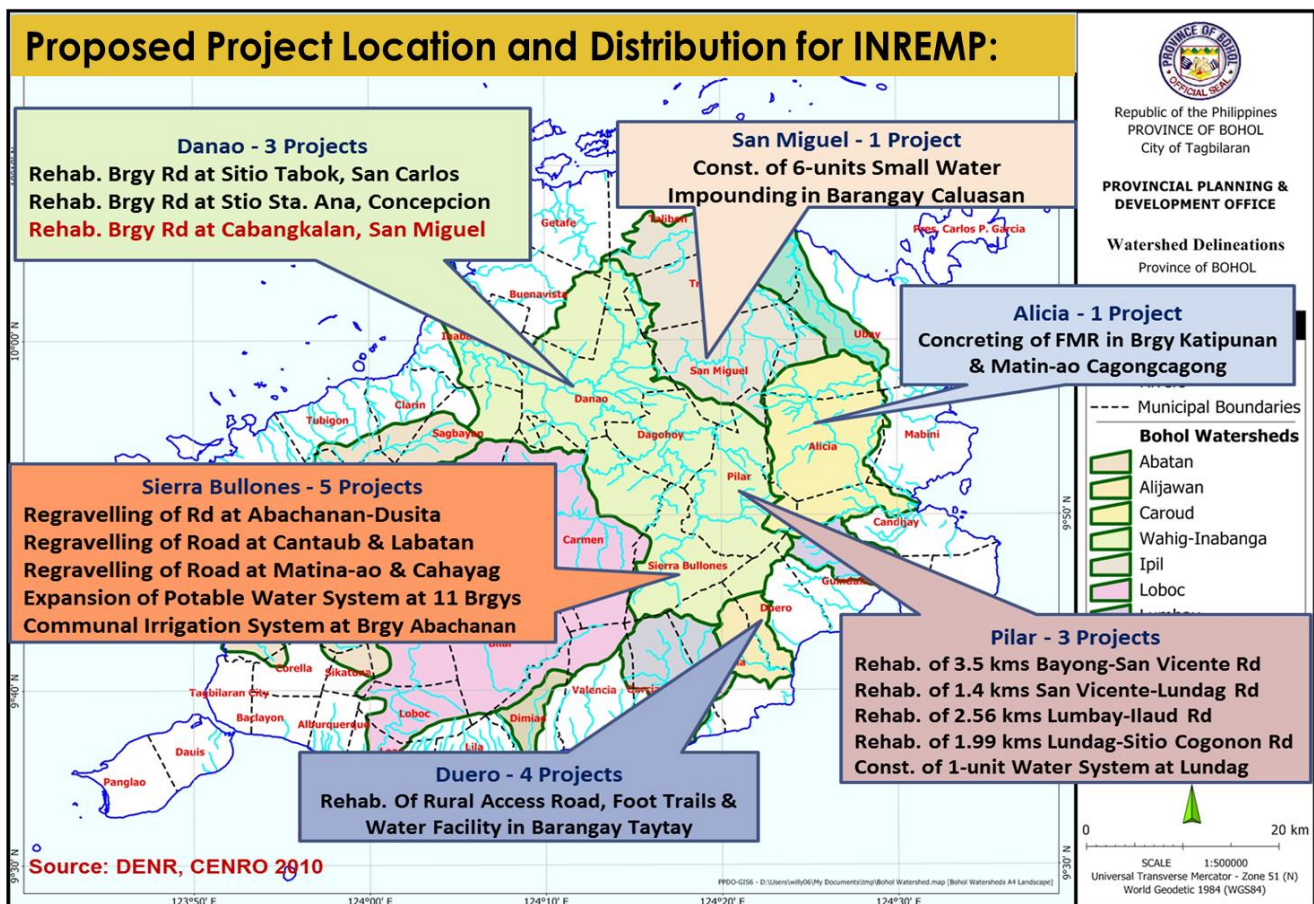
For the Jail Decongestion Program, additional cells or jail buildings will be constructed for the Tagbilaran City Jail, Bohol District Jail, Talibon District Jail, and with the proposed new jail facilities to Bohol Jail Management of the Philippines (BJMP).

Construction / Improvement of Philippine Coast Guard (PCG) Stations will be done in Tagbilaran (HCGS), Tagbilaran Causeway, Tagbilaran (Manga), Panglao (Poblacion), Panglao (Balicasag), Loay, Jagna, Anda, Ubay, and Tubigon.

Improvement of Military Camps will be done in Macaas/Cabuljan, Tubigon; Bicao, Carmen; Riverside, Bilar; Fatima, Ubay; Camp Bernido, Dao, Tagbilaran City; Bagumbayan, Pilar (minor); and San Vicente, Trinidad (minor).

Environment Management

For the Integrated Natural Resources and Environmental Management Project (INREMP) 2016-2020, the Wahig-Inabanga Upper River Basin. Its project components are Land Use Assessment and Planning (17 towns), Rural Infrastructure (Danao, Dagohoy Pilar, Sierra Bullones Alicia, San Miguel Talibon, Trinidad Inabanga, and Duero), Natural Resource Management (Sierra Bullones, Duero Danao, Inabanga, and Buenavista), and Capacity Development and Project Management.



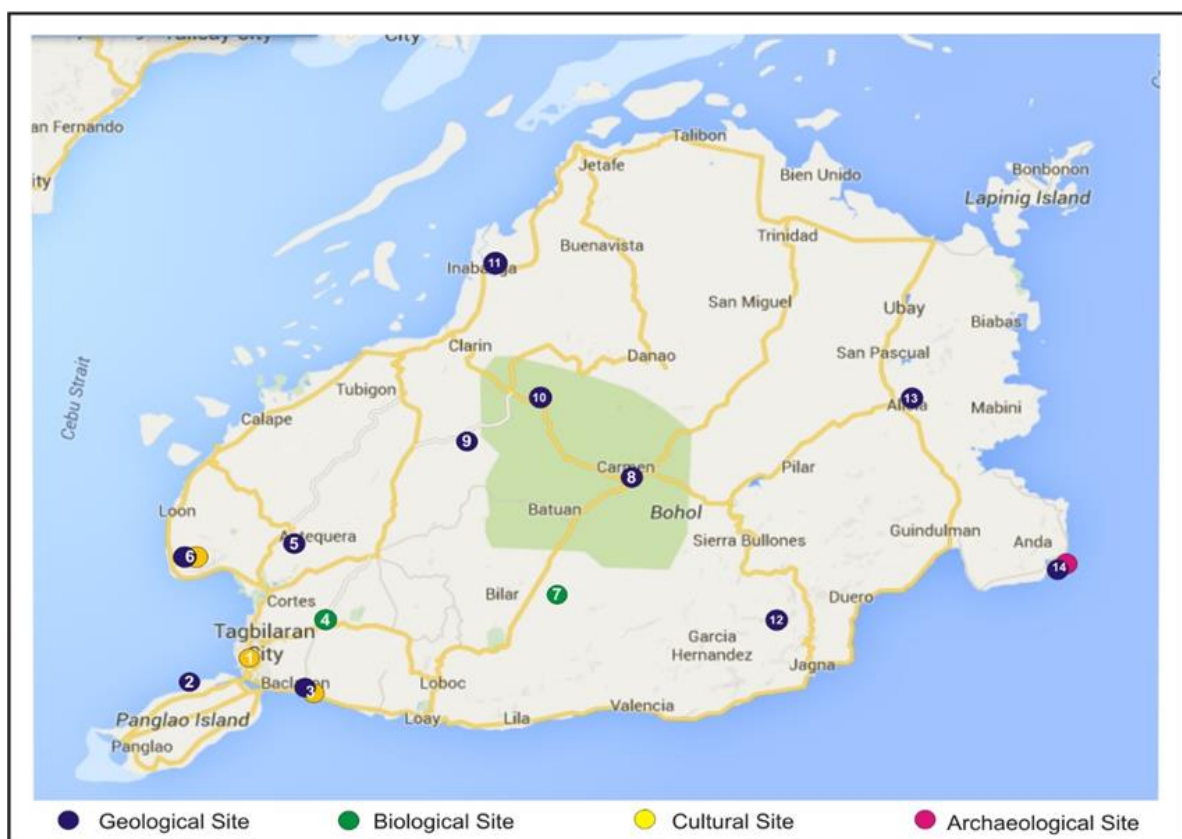
DENR is the National Greening Program (NGP) Agency for 2016-2017. There are 1,809 NGPs comprising 16,206 hectares or 4 % of Bohol's total land area.

The Cluster Sanitary Landfill is developed in 5 locations, namely: BIAD I (Albur), BIAD II (Tubigon), BIAD III (Talibon), BIAD IV (Duero), and BIAD V (Carmen). Albur Sanitary Landfill is already complete and the rest are for feasibility study (FS) and detailed engineering design (DED) and can be implemented through Public- Private Partnerships.



Waste Water Treatment Facilities are necessary in urbanizing areas and high density tourism centers. The potential areas for PPP development are in Tagbilaran City, Panglao Island, Tubigon, Jagna, Talibon and Ubay.

The proposed Geosites for Bohol Geopark are Tagbilaran City, Hinagdanan Cave (Dauis), Baclayon Terrace and Church, Philippine Tarsier Sanctuary (Corella), Inambakan Cave (Antequera), Uplifted Terrace and Punta Cruz Waych Tower (Maribojoc and Loon), Rajah Sikatuna Protected Landscape, Chocolate Hills (Carmen), Limestone Hill Cross Section (Sagbayan), 2013 Epicenter (7.2 Bohol earthquake), Ground Rupture (Inabanga), SE Bohol Ophiolite Complex (Jagna and Duero), Alicia Schist, Lamanoc Point (Anda).



The Bohol Geopark Project aims to conserve significant geological- paleontological features in Bohol, provide education by activities to provide geo-scientific knowledge and environmental concepts to the public, conduct research by regional and global coordination and cooperation, improve socio-economic aspects of the region, stimulate economic activities, create local enterprises and cottage industries. And stimulate science tourism with conferences and workshops.

The Bohol Biodiversity Center-Disaster Risk Reduction and Climate Change Adaptation (DRR/CCA) Facility in Bilar, Bohol has a total project cost of Php 2.5M. It is proposed by the PGBh through the Bohol Environment Management Office (BEMO) in partnership with Soil and Water Conservation Foundation, Inc. (SWCFI) and the Bohol Island State University (BISU).

The Bohol Marine Biodiversity Center, estimated at Php 10.00M, will be developed in Talibon, Bohol as proposed by the PGBh and BEMO, Bohol Tourism Office (BTO) in partnership with DENR, SWCFI, BISU and the Private Sector.

Marine Protected Areas (MPA) in the Coastal Municipalities are organized by District. District 1 covers Calape, Tagbilaran City, Loon, Maribojoc, Panglao, Dauis, Alburquerque, Baclayon, and Tubigon. District 2 covers Buenavista, Inabanga, Getafe, Bien Unido, Talibon, Clarin, Pres. C.P. Garcia, and Ubay while District 3 includes Candijay, Mabini, Anda, Guindulman, Duero, Jagna, Garcia-Hernandez, Valencia, Dimiao, Loay, and Lila. There is a total of 184 MPAs established in 28 municipalities with an aggregate area of 2,590.99 hectares, which is only 4% of the total area of the municipal waters.

There are facilities and services at Danajon Bank to promote better awareness and understanding on Biodiversity and Marine Resources Conservation and Protection. There is the Marine Station/ Conservation, Reef Information Center and Activity Center, and Tourism Facilities/ Dive Centers in Talibon, Bien Unido and other nearby municipalities.

Chapter VII

PROGRAMS, PROJECTS AND ACTIVITIES

SECTORAL PLAN: ENVIRONMENT & NATURAL RESOURCES MANAGEMENT

POLICY DECISIONS:

- Implementation of the Provincial Ordinance legalizing the selling of agricultural products from the Provincial Government Offices (e.g. native seedlings, vermi-compost & worms, etc) and regular budgetary allocation for the sustainable operation of the Complex.
- SP resolution authorizing the Governor to sign the MOAs to represent the Provincial Government for the management and operation of the BBC, CWMFMC and etc.
- SP Ordinance adopting Watershed Management Councils in all major watersheds in the province and provide counterpart funds for the operation and management of the watershed.
- Finalization and approval of the Carood Watershed Model Forest Management Council (CWMFMC) Memorandum of Agreement (MOA) for the counterpart contribution of the PGBh amounting to P450,000 for the operation and management of the Carood Watershed.
- Formulation of Implementing Rules and Regulation (IRR) for the revised Bohol Environment Code.
- An Executive Order (EO) to declare the CPG Plaza to be developed as an Ecological Park (Eco-Park) and allocate funds and designate a management staff.
- Re-activation of Bantay Kalasangan team.

Sub-sector : BIODIVERSITY

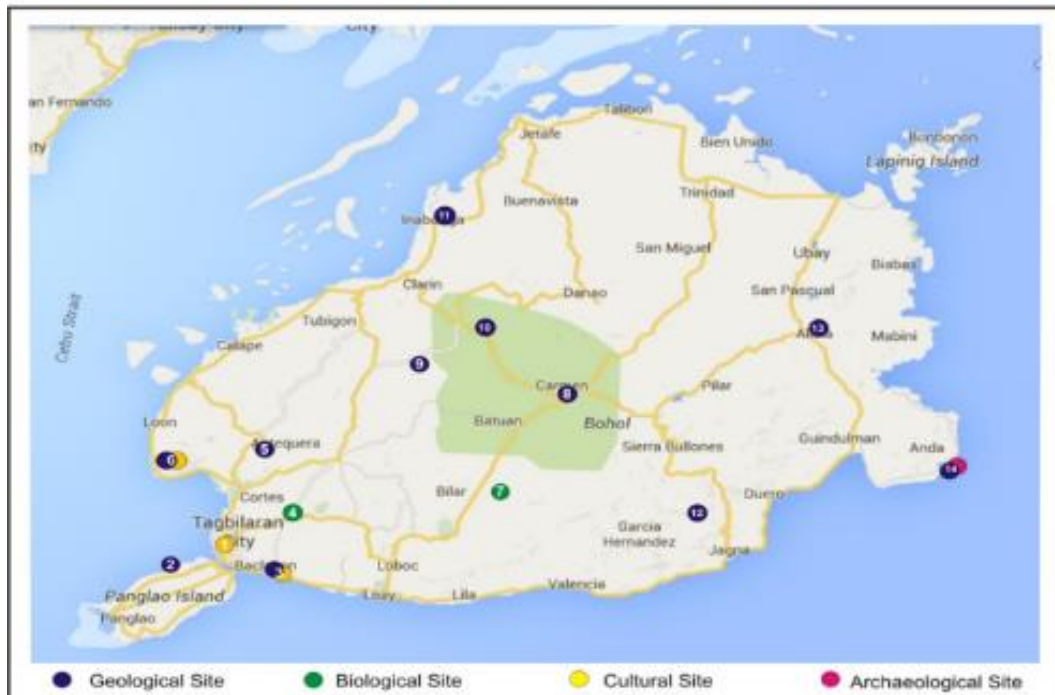
Technical support services to GEOPARKS implementation

Bohol is one of selected sites for Geopark. The Geopark is an official initiative of UNESCO within the Division of Ecological & Earth Sciences, programme and budget. It is a continuing effort of the Provincial Government and the University of the Philippines School Urban and Regional Planning (UP-SURP) to pursue the recognition of the proposed Bohol Global Geopark “the Country’s First National Geopark”. The are initiative is proposed at the 14 municipalities as seen in the map below. The goals of the project are the following:

- Conservation of significant geological- paleontological features in Bohol

- Education by activities to provide geo-scientific knowledge and environmental concepts to the public.
- Research by regional and global coordination and cooperation.
- Socio-economic improvement of the region.
- Geotourism will stimulate economic activities. Creation of local enterprises and cottage industries. Science tourism with conferences & workshops.

BOHOL GEOPARK: POTENTIAL GEOSITES



- | | | |
|---|--|---|
| <p>1. TAGBILARAN CITY</p> <ul style="list-style-type: none"> - cultural site - National Museum-Bohol Field Office - St Joseph Cathedral <p>2. HINAG-DANAN CAVE (Dauis)</p> <ul style="list-style-type: none"> - geological site - cave museum* - stalactites, stalagmites, - underground pool <p>3. BACLAYON TERRACE, BACLAYON CHURCH</p> <ul style="list-style-type: none"> - geological site and cultural site - exposed terrace feature of the Maribojoc Formation - 20m, 40m, 60m levels - fossilized shells - National historical landmark, 2nd oldest church - Bacलयon Museum <p>4. PHIL TARSIER SANCTUARY (Corella)</p> <ul style="list-style-type: none"> - Biodiversity site - Tarsiers - Information center <p>5. INAMBAKAN CAVE (Antequera)</p> <ul style="list-style-type: none"> - geological site - cave system - river - diverse forest | <p>6. UPLIFTED TERRACE PUNTA CRUZ WATCH TOWER (Maribojoc, Loon)</p> <ul style="list-style-type: none"> - geological site, cultural site - modern-day uplifted terrace due to recent earthquake, part of Maribojoc Formation - shoreline retreat - tidal notches <p>7. RAJAH SIKATUNA PROTECTED LANDSCAPE</p> <ul style="list-style-type: none"> - biological site - flora and fauna - information center - successful reforestation of Dipterocarpaceae-endemic and endangered trees of Bohol <p>8. CHOCOLATE HILLS (Carmen)</p> <ul style="list-style-type: none"> - geological site - geological monument - 360 degree view deck - information center <p>9. LIMESTONE HILL CROSS SECTION (Sagbayan)</p> <ul style="list-style-type: none"> - geological site - close up of limestone formation - landslide site, due to recent earthquake - part of Carmen Formation <p>10. 2013 EPICENTER</p> <ul style="list-style-type: none"> - geological site - epicenter of the 7.2 Bohol earthquake, Aug 2013 | <p>11. GROUND RUPTURE (Inabanga)</p> <ul style="list-style-type: none"> - ground rupture site of Bohol Fault - at least 5 meter uplifted and downthrown blocks - trench sites for fault studies - information center <p>12. SE BOHOL OPHIOLITE COMPLEX (Jagna, Duero)</p> <ul style="list-style-type: none"> - geological site - complete sequence of exposed oceanic crust and mantle sequence - approx. dated 100 Mya <p>13. ALICIA SCHIST</p> <ul style="list-style-type: none"> - geological site - Basement rocks of Bohol Island - metamorphic rocks - approx. dated 120 Mya <p>14. LAMANOC POINT (Anda)</p> <ul style="list-style-type: none"> - geological site and archaeological site - Graveyard Cave, Shaman Cave, Tungob Cave, Hematite Cave - Fossilized shells - burial caves - skeleton remains - burial jars - coffins - annual convergence place of local medicine men |
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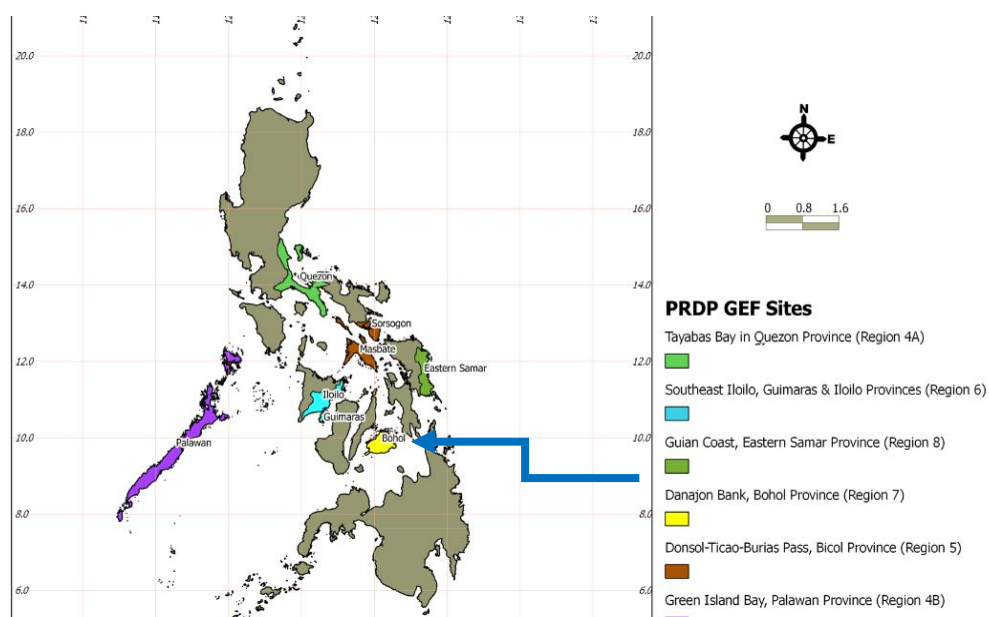
Prepared by: G. Hüller, Univ. of Hamburg, SES; M. Delos Reyes, UP-SURP; N. Aguda, UP-SURP/NIGS; J. Madronero, Jr., PSS
Bohol Geopark Project, August 2015

Sub-Sector: Coastal/Marine Resource Management

Initiatives to Danajon Bank under the Philippine Rural Development Project – GEF

Bohol is one of the six (6) pilot projects in the Philippines funded by the Global Environmental Facility (GEF). It is a 5-year World Bank grant package included under the Philippine Rural Development Project. The project aims to strengthen the conservation of the coastal and marine base in targeted program areas through biodiversity conservation and fisheries resources management. Among the pilot municipalities for the GEF sites are Ubay, Talibon Pres. Garcia, Bien Unido and Buenavista. Among the specific objectives of the projects are:

- At least 5% increase in annual farm incomes of PRDP household beneficiaries
- 7% increase in value of annual marketed output
- 20% increase in number of farmers & fishers with improved access to DA services by providing livelihood to the community
- Increase in Marine Protected Area (MPA) management effectiveness in selected sites in the GEF target areas
- Employ the Integrated Ecosystem Approach (Ridge-to-Reef/Watershed)
- Community and natural resource-based
- Community driven development oriented (communities and LGUs as main drivers in the coastal resources management and biodiversity conservation)
- Strengthen integration of CRM/NRM in local planning and development



Infrastructure Support to Marine Protected Areas with consideration to Livelihood of the Peoples Organizations

The Bureau of Fisheries and Aquatic Resources (BFAR) has established 81 fish landing centers in the 80 barangays in the coastal areas in Bohol (see table 10 below). The Philippine Rural Development Project proposes 75 units of solar dryer and five (5) docking facilities in the 13-coastal municipalities in Bohol.

DISASTER RISK REDUCTION MANAGEMENT AND CLIMATE CHANGE ADAPTATION

Sub-Sector: Climate Change Mitigation and Adaptation

Development Programs and Projects

It is important to ensure that proposed adaptation strategies are linked with existing the local government's plans, programs, projects and activities. Table 17, summarizes potential entry points of the suggested adaptation strategies.

Table __: SUMMARY OF SUGGESTED ADAPTATION STRATEGIES

Potential Climate Resilience Interventions	Relevant PPA's	Status	Leveraging
In case of power failure, individual households make use of solar lamps, generators, and batteries as source of energies at home.	Solar Energy	Proposed	DOST, DOE, Private companies
Policy development in the promotion of renewable energy, solar energy, among others	Promotion of Renewable Energy	Proposed	Sangguniang Panlalawigan
Alternatives include water tankers, bottled water & other water sources from other areas.	Energy Conservation program	On going	Private companies, Water sector
Rainwater collection strategy e.g. Roof top water harvesting to be made mandatory to deal with water stress due to anticipated increasing temperatures and decreasing precipitation	Integrated as a strategy in the Local shelter Plan of the 47 municipalities and 1-city Rainwater Harvesting Forest Ecosystem Management Water Resource Management Biodiversity Conservation & Management	On-going:(targeted to be completed by 2018)	Design of buildings can be modified to include a rooftop water harvesting and safe storage system. DENR, BEMO BEMO, NIA, NWRB SWCFI
Also, alternatives may include cloud seeding	Cloud seeding project	On going	PGBohol, OPA, DA, ATO

Table __: SUMMARY OF SUGGESTED ADAPTATION STRATEGIES

Potential Climate Resilience Interventions	Relevant PPA's	Status	Leveraging
In case of disruption of drinking water supply, boiling/chlorination of surface water can be done.	Regular water quality surveillance	On going	PHO, BEMO, DENR, HNU
Continue developing small water impounding affordable to the LGU (e.g. covering 2-3 hectares)	Construction of small water impounding projects	On going	DA, OPA
Interventions on natural farming methods and with appropriate technology and integration of DRR-CCA plans, will lead to enhance food sustainability by resilient agricultural producers.	Organic Farming Proper animal health management Integrated pest management Crop and animal diversification Developing/using drought/pest resistant varieties Diversified farming system (see Green-Life Program)	On going	DA, OPA NGOs ICLEI, ACCCRN DILG
Change to alternative agricultural or agro-forestry practices	Agro-forestry project	On going	DA, OPA, BEMO, DENR
Promote organic farming practices	Organic Farming	On going	DA, OPA
Adopt crop Adopt backyard farming for added household food security insurance system	Crop Insurance System	Proposed	DA, OPA
Adopt urban agriculture and natural farming system	Urban Agriculture	Proposed	DA, OPA

Disaster Risk Management

It is in this context that the Provincial Government commits to:

- Adopt a responsive policy framework to serve as an enabling environment to reduce losses from natural disasters including climate change-related risks
- Identify, develop and implement measures and strategic interventions that will significantly reduce adverse risks and damages and improve community resiliency against the backdrop of disaster and climate change risks and potential impacts.
- Use of the best available and practicable tools and technologies from the social and natural sciences as decision aids and support systems to stakeholders in preventing, reducing, and managing disaster risks
- Enhance institutional and technical capacity to facilitate the paradigm shift from disaster response to disaster preparedness and mitigation

- Project climate change-vulnerable areas; determine the extent of consequences of natural hazards and calamities; and take up climate change adaptation and disaster risk reduction and management strategies.
- Formulate effective and efficient tools for vulnerability, impact and adaptation assessment that are relevant to target sectors and implementers
- Enhance provincial monitoring, forecasting and hazard warning systems; and improve effectiveness of early warning systems available to communities
- Improve mechanisms to address gaps and limitations of existing assessment and vulnerability approaches, in relation to the needs and objectives of climate change plans
- Mainstream climate and disaster risk-based planning in local development and land use planning
- Support capacity development programs, including the preparation/gathering and dissemination of appropriate data
- Increase access to climate change adaptation knowledge products and support services to guarantee that the needs of the marginalized and vulnerable sectors are addressed
- Promote the integration of hazard maps with infrastructure development to address potential hazards and prescribe the use of and reference to hazard maps in all local government development planning.
- Support initiatives in climate change, resiliency and environmental management under Local Agenda 21, and encourage “green” infrastructure.
- Empirically identify areas at risks to disaster, ensure proper siting of development undertakings, and identify appropriate management and mitigation measures in place.
- Make lifeline and public critical infrastructure resilient to disasters and climate change impacts.
- Design and plan for structures both vertical and horizontal in accordance with the hazard risk management policies to wit:
 - Avoid permanent development within and adjacent to areas vulnerable to hazards
 - Design of buildings and other infrastructure development shall consider the long-term effect
 - Establish protection zone to buffer the works during construction stage
 - Continuously develop institutional capacity on DRM and CCA implementation.
 - Conduct regular monitoring and evaluation of DRM and CCA programs, projects and activities.

Table __: Disaster Preparedness Services and Facilities

Type of Services/Facilities	Name of Organization	Location
Disaster Management & risk Reduction System	<ul style="list-style-type: none"> Telephone & Radio System Integrated Emergency Response (TARSIER 117) 	Provincial Government of Bohol (Province-wide coverage)
Emergency Medical Response		
Police, Army, Coast Guard, Navy and Fire Assistance		
Public Service Program (Search and Rescue & Weather Monitoring)		
Search and Rescue Unit (SAR)	<ul style="list-style-type: none"> Bohol Outdoors Explorer Club, Inc. (BOEX) Tagbilaran City Emergency Response Operating team (TECEMROT) Divine Outdoors Club (DWOC) Philippine National Red Cross (PNRC) 	Tagbilaran City
Evacuation Centers	All provincial, city and municipal evacuation center under its Disaster Coordinating Councils (DCCs) of Bohol	Province-wide
Relief Unit	<ul style="list-style-type: none"> All provincial, city and municipal evacuation center under its Disaster Coordinating Councils (DCCs) of Bohol Office of the Provincial Social Worker and Development 	Province-wide
Fire Suppression	All provincial, city and municipal Fire Suppression unit under its Disaster Coordinating Councils of Bohol, Bureau of Fire Protection (BFP)	Province-wide
Emergency Medical Services	<ul style="list-style-type: none"> Tagbilaran City Emergency Response Operating Team (TECEMROT) All government and private-owned hospitals 	Tagbilaran City Province-wide
Transportation Services	All Provincial, city and municipal disaster coordinating councils in Bohol	Province-wide

Source: PPRMO 2015

Current initiatives for Disaster Risk Management:

- Regional Launching on Integrating Disaster Risk Reduction and Climate Change Adaptation in Local Development Planning and decision-making processes wherein Bohol is one of the pilot provinces for DRR/CCA
- DPWH: mainstreaming DRM in their project development cycle for roads and bridges
- Department of Education: has adapted the design of safe school
- Department of Health: design of safe hospitals
- DENR: Climate Change and EIA
- Bohol is a pilot province for READY and REDAS Project (Hazard Mapping and IEC) sponsored by DOST, OCD, MGB, PAGASA, PHIVOLCS, DA(BSWM), NAMRIA-DENR

Development Policies

- Restrict or discourage development in hazard-prone areas.
- Allow some improvements or activities in hazard-prone areas.
- Economic incentives (such as tax relief) that encourage or discourage development in high hazard areas.
- Encourage the removal or relocation of buildings in floodplains
- Protect critical facilities, such as police stations and emergency shelters (e.g., elevate them or prohibit their construction in hazard-prone areas).
- Encourage the acquisition/buying out of properties, especially those in hazard prone areas.
- Limit development in environmentally sensitive areas such as steep slopes.
- Protect mitigating features of the environment, such as wetlands

Environmental & Natural Resource Management (including natural capital, climate change adaptation)

- Community understanding of characteristics & functioning of local natural environment & ecosystems (e.g. drainage, watersheds, slope and soil characteristics) and the potential risks associated with these natural features and the human interventions that affect them (e.g. climate change).
- Adoption of sustainable environmental management practices that reduce hazard risk (e.g. soil & water conservation, sustainable forestry, wetland management to reduce flood risk, conservation of mangroves as buffer against storm surges, maintenance of water supply & drainage systems)
- Preservation of biodiversity (e.g. through community-managed seed banks, with equitable distribution system).
- Preservation & application of indigenous knowledge and appropriate technologies relevant to environmental management.
- Access to community-managed common property resources that can support coping & livelihood strategies in normal times & during crises.

Health and Well Being (including Human capital)

- Physical ability to labor & good health maintained in normal times through adequate food & nutrition, hygiene & health care.
- High levels of personal security and freedom from physical & psychological threats.

- Food supplies & nutritional status secure (e.g. through reserve stocks of grain & other staple foods managed by communities, with equitable distribution system during food crises).
- Access to sufficient quantity & quality of water for domestic needs during crises.
- Awareness of means of staying healthy (e.g. hygiene, sanitation, nutrition, water treatment) and of life-protecting/saving measures, and possession of appropriate skills.
- Community structures and culture support self-confidence and can assist management of psychological consequences of disasters (trauma, PTSD).
- Community health care facilities & health workers, equipped & trained to respond to physical & mental health consequences of disasters & lesser hazard events, and supported by access to emergency health services, medicines, etc.

Sustainable Livelihoods

- High level of local economic activity & employment (including among vulnerable groups); stability in economic activity & employment levels
- Equitable distribution of wealth and livelihood assets in community
- Livelihood diversification (household & community level), including on-farm and off-farm activities in rural areas
- Fewer people engaged in unsafe livelihood activities (e.g. small-scale mining) or hazard-vulnerable activities (e.g. rain-fed agriculture in drought-prone locations)
- Adoption of hazard-resistant agricultural practices (e.g. soil & water conservation methods, cropping patterns geared to low or variable rainfall, hazard-tolerant crops) for food security
- Small enterprises have business protection & continuity/recovery plans
- Local trade & transport links with markets for products, labor & services protected against hazards and other external shocks

Social Protection (including social capital)

- Mutual assistance systems, social networks and support mechanisms that support risk reduction directly through targeted DRR activities, indirectly through other socio-economic development activities that reduce vulnerability, or by being capable of extending their activities to manage emergencies when these occur *
- Community access to basic social services (including registration for social protection and safety net services).
- Established social information and communication channels; vulnerable people not isolated.

- Collective knowledge and experience of management of previous events (hazards, crises).
- Development of informal systems (individual, household, family, clan, caste, etc.) and more structured groups (CBOs: e.g. emergency preparedness committees, support groups/buddy systems to assist particularly vulnerable people, water management committees, burial societies, women's associations, faith groups).

Physical Protection; Structural and technical measures

- Community decisions & planning regarding built environment take potential natural hazard risks into account (including potential for increasing risks through interference with ecological, hydrological, geological systems) and vulnerabilities of different groups.
- Security of land ownership/tenancy rights. Low/minimal level of homelessness and landlessness.
- Safe locations: community members & facilities (homes, workplaces, public & social facilities) not exposed to hazards in high-risk areas and/or relocated away from unsafe sites.
- Structural mitigation measures (embankments, flood diversion channels, water harvesting tanks, etc.) in place to protect against major hazard threats, built using local labour, skills, materials and appropriate technologies as far as possible.
- Knowledge and take-up of building codes/regulations throughout community.
- Adoption of hazard-resilient construction and maintenance practices for homes and community facilities using local labor, skills, materials and appropriate technologies as far as possible
- Community capacities and skills to build, retrofit and maintain structures (technical & organizational).
- Adoption of physical measures to protect items of domestic property (e.g. raised internal platforms & storage as flood mitigation measure, portable stoves) and productive assets (e.g. livestock shelters).
- Adoption of short-term protective measures against impending events (e.g. emergency protection of doors/windows from cyclone winds)
- Infrastructure & public facilities to support emergency management needs (e.g. shelters, secure evacuation & emergency supply routes)
- Resilient & accessible critical facilities (e.g. health centers, hospitals, police & fire stations – in terms of structural resilience, back-up systems, etc.)

- Resilient transport/service infrastructure & connections (roads, paths, bridges, water supplies, sanitation, power lines, communications, etc.)
- Locally owned or available transport sufficient for emergency needs (e.g. evacuation, supplies), at least in the event of seasonal hazards; transport repair capacity within community.

Financial Instruments (including financial capital)

- Household and community asset bases (income, savings, convertible property) sufficiently large and diverse to support crisis coping strategies.
- Costs and risks of disasters shared through collective ownership of group/community assets.
- Existence of community/group savings and credit schemes, and/or access to micro-finance services.
- Community access to affordable insurance (covering lives, homes and other property) through insurance market or micro-finance institutions.
- Community disaster fund to implement DRR, response and recovery activities.
- Access to money transfers and remittances from household and community members working in other regions or countries.

Cross-cutting Strategies for the Environment Management

- Strengthen the capacities of stakeholders for environmental assessment, policy management and enforcement
- Promote an integrated approach to link social and economic development with protection of ecosystems that is decentralized and community-based approach
- Develop sustainable funding mechanism to support different initiatives e.g. endowments, taxes, user fees, etc
- Cultivate the culture of Corporate Social Responsibility (building alliance)
- Competent technical personnel in key management positions/with adequate compensation
- Adequate coordination body to reduce duplication of initiatives
- Adequate IEC programs
- Adequate monitoring and feed backing mechanisms
- Integration of environmental education in the school curriculum

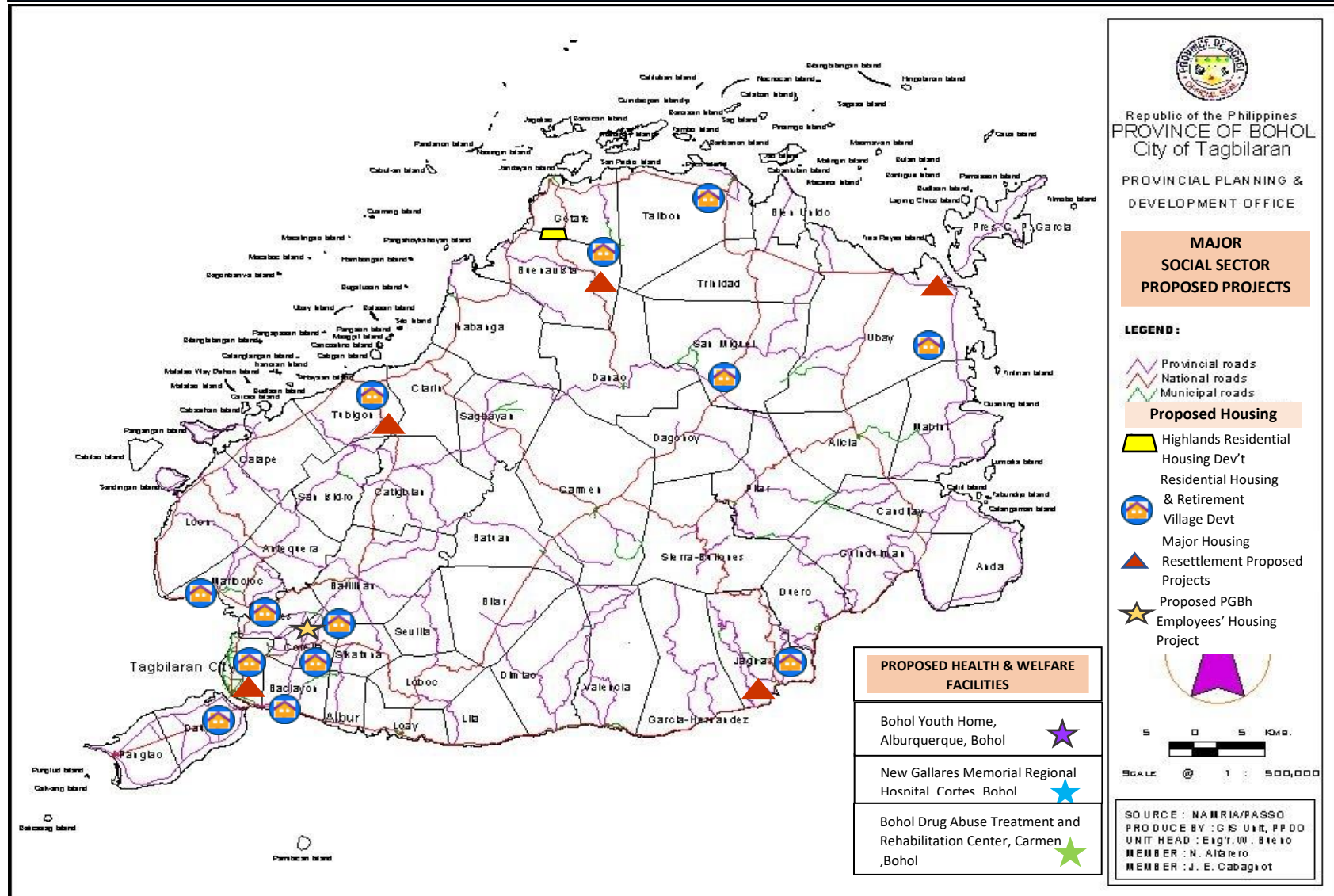
SECTORAL PLAN: SOCIAL DEVELOPMENT**Adaptation to Climate Change and Mainstreaming Disaster Risk Reduction for the Social Development Sector**

Exposure to weather and climate strongly influence human life. Any changes in weather and climate may exacerbate or ameliorate any potential exposure and subsequent impacts to the population. Bohol, just as the rest of the country, will be affected by the impacts of climate change and exposed to hazards and disasters both man-made or natural. Climate change is also strongly intertwined with other socio-economic changes.

Climate change leading to higher temperatures, changing precipitation patterns and sea level rise, is a current reality in Bohol. Historical weather data shows Bohol already facing the real impact of climate change, worsening the vulnerability of its population particularly its poor communities. Temperature changes are known to affect the transmission of infectious diseases like dengue and respiratory tract infections with rising morbidity and mortality rates of these diseases already happening in Bohol. Data provided by the Provincial Health Office shows rising incidence of these diseases. In 2015, a total of 151 dengue cases were reported in Bohol with 7 deaths while respiratory tract infections were among the leading causes of illness and death in the province.

Demographic trends such as on-going urbanization and competing demand for resources such as water from the public and other sectors, i.e., industry and agriculture, leads to scarcity of these resources. The growing size of Bohol's urban population, its economic assets and the complexity of systems to provide and manage a variety of social services make especially these areas highly vulnerable to both current climate variability and future climate change. Likewise, an ageing population increases the share of people vulnerable to extreme weather conditions. It is projected by PSA that those aged 65 and older will almost triple in size accounting for 10 percent of Bohol's population by 2045 from only 7 percent in 2015.

MAJOR PROPOSED PROJECTS OF THE PROVINCIAL GOVERNMENT OF BOHOL: Social Development Sector



Likewise, urbanization reduces the area available for natural flood management or increases the number of homes and businesses actually in flood-prone and other hazardous areas. These socio-economic changes increase the vulnerability of people, property and ecosystems under current climate conditions as long as no adaptation measures are taken. Adaptation is therefore crucial to deal with the unavoidable impacts of climate change towards creating sustainable communities. For the Social Sector, adaptation options could range from actions that build adaptive capacity (e.g., sharing information, creating supportive institutional framework) to concrete adaptation measures (e.g., technical solutions, insurance mechanism, social protection measures) aimed at:

- accepting the impacts, and bearing the losses that result from risks (e.g. managing retreat from sea level rise);
- off-setting losses by sharing or spreading the risks or losses (e.g. through insurance);
- avoiding or reducing exposure to climate risks (e.g. building new flood defenses, or resettlement of people/communities or changing location or activity);
- exploiting new opportunities (e.g. engaging in a new activity, or changing practices to take advantage of changing climatic conditions);
- Establishing strong spatial planning which stops placing homes, businesses and infrastructure into current but also future risk-prone areas;
- Keeping public space and buildings cool by using green roofs or walls and providing more shade, rather than air conditioning which saves energy and can make cities even more attractive;
- Building infrastructure ready for future climate conditions and not in risk prone areas (such as floodplains or in danger zones);
- Incorporating climate change adaptation concerns into building standards and retrofitting activities, such as reviewing building designs to better insulate against heat and adapting the energy and transport systems to cope with higher temperatures, low water availability or flooding.

Building adaptive capacity involves developing the ability of people and systems to respond effectively to climate change. Below is a table that shows the expected climate changes in

Bohol Province:¹ The projected climate change scenarios are presented below prepared by the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA). These scenarios are culled from possible extreme events that would arise from average scenarios.

Summary of Expected Climate Changes in Bohol as it affects the Province's Social Environment ²	
Temperature	<ul style="list-style-type: none"> • Increase in Mean Temperature of 0.9 °C -1.2 °C by 2020 and 1.7 °C-3 °C by 2050 • Increase in the number of very hot days
Sea level	<ul style="list-style-type: none"> • Projected impact of 1-meter sea level rise
Rainfall	<ul style="list-style-type: none"> • Average annual rainfall increase from 2 to 17% by 2020 and 1 to 16% by 2050 • Increasing rainfall
Frequency of Extreme Events (Number of Days; Tagbilaran City)	<ul style="list-style-type: none"> • With temperature max > 35 °C from 1,710 days in 2020 to 3,413 days in 2050 • Dry days = 6,836 days in 2020 to 6,473 days in 2050 • Days with Rainfall > 100 mm = 21 days in 2020 to 23 days in 2050

Sea level rise will increase the risk of flooding and storm surge. A projected 1-meter sea level rise in Bohol shows a vast portion of its area being inundated affecting its coastal settlements and livelihood.

SECTORAL PLAN: ECONOMIC DEVELOPMENT SECTOR

Sub-Sector : Agriculture and Rural Development

PRIORITY PROGRAMS AND PROJECTS

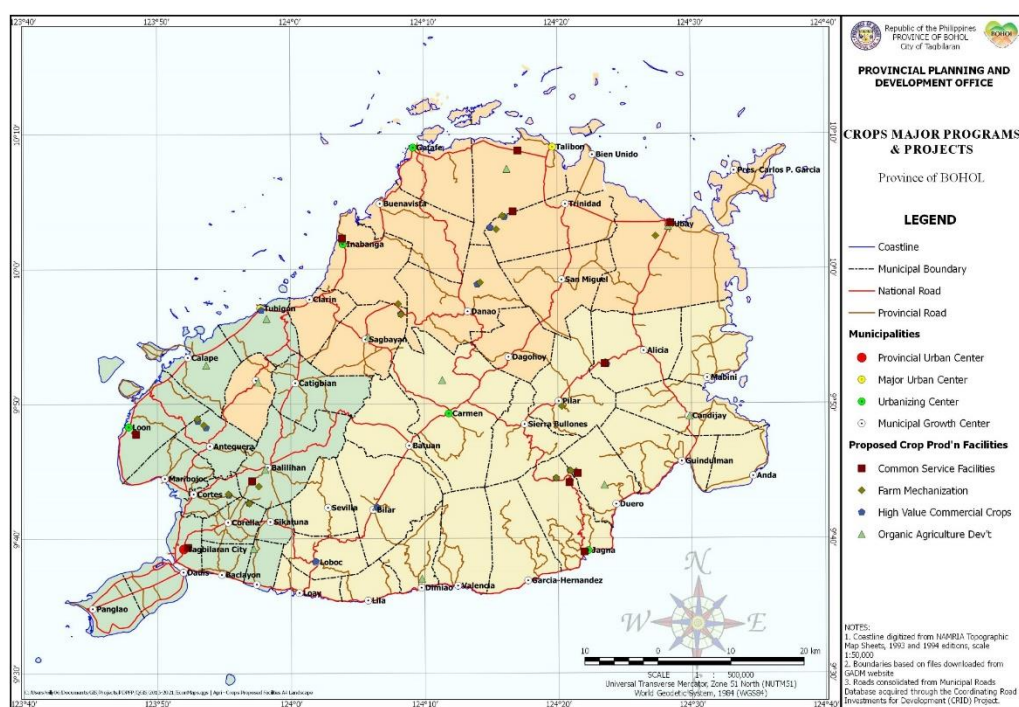
1) Bohol Integrated and Comprehensive Support Program for Agro-Industrial Development (BICS-PAID)

¹ Source: Disaster Risk & Vulnerability Assessment 2012-2016, Bohol Province, 1st Draft

² PAGASA, 2010

The proposed program is supportive of the national goal on inclusive growth, poverty reduction and sustainable development. It supports the province' strategy of increasing investments in commodities with comparative advantage, value chain development and providing needed agriculture sector infrastructure support.

BICS-PAID addresses the much needed support services and facilities in the agriculture sector value chain with the following project components:



Crops

a. High-Value Commercial Crops Development

The site is located in areas covered by the Country side Development Program Purok Power Movement (CDP-PPM). The 3 year program is implemented in the following pilot barangays: Magsija, Balilihan; Tubigon, Bilar, Loboc, Canangcaan, Corella; Fatima, Cortes; Quinapun-an, Antequera; Cabayugan, Calape; Campatud, Loon; Langtad, Sagbayan; Magsaysay, Talibon; Kauswagan, Trinidad; Caluasan, San Miguel; Katipunan, Alicia; Taytay, Duero; Mayana, Jagna; Canta-ob, Lataban, Sierra Bullones.

b. Organic Agriculture Development

Sagbayan, Balilihan, San Isidro, Dimiao, Carmen, Calape, Talibon, Tubigon, Duero, Alburquerque, Ubay, Bilar and Candijay

c. Enhanced Farm Mechanization Development Program

1. Magsija, Balilihan
2. Maslog, Balilihan
3. Canangcaan, Corella
4. Fatima, Cortes
5. Quinapon-an, Antequera
6. Cabayugan, Calape
7. Campatud, Loon
8. Taming, Danao
9. San Jose, Inabanga
10. Langtad, Sagbayan
11. Magsaysay, Talibon
12. Kauswagan, Trinidad
13. Caluasan, San Miguel
14. Katipunan, Alicia
15. La Suerte, Pilar
16. Buenavista, Ubay
17. Taytay, Duero
18. Mayana, Jagna
19. Cantaob, Sierra Bullones
20. Lataban, Sierra Bullones
21. Ubay
22. Pilar

d. Establishment of Common Service Facilities and Display Centers Common Service Facilities:

Magsija, Balilihan; Campatud Loon; San Jose, Inabanga; Kauswagan, Trinidad; Katipunan, Alicia; Taytay, Duero; and Mayana, Jagna

Display Centers:

Municipalities of Jagna, Ubay, Talibon and Tagbilaran City

e. Other Proposed Priority Agri-Projects

- **Covered High Value Vegetable, Fruits and Cut Flowers Production**
 - Highland barangays of Duero, Jagna, Sierra Bullones and Guindulman
- **Contract Growing on Corn, Cassava, Coffee and Cacao Production**
 - provincewide depending on the interested land owner particularly in the 2nd and 3rd district
- **Production of Special Types of Rice and Coconut for Tourism Purposes**
 - Balilihan, Dauis, Panglao, Batuan, Carmen, Loboc, Albuquerque, Pilar, Ubay
 - Japonica, Red and Brown Rice
 - Aromatic, Macapono, Pandan, Matag Coconuts
- **Establishment of Farm Mechanization Pool**
 - Ubay, Bilar, Tubigon and Jagna
- **Establishment of Corn Processing Complex**
 - Sagbayan and Ubay
- **Establishment of Climate Adoptable Crop Nurseries**
 - Ubay, Balilihan and Bilar
- **Establishment of Orchard Production (Lanzones and Rambutan)**
 - First District of Bohol
- **Establishment of Accredited Orchard Nurseries**
 - Ubay, Tubigon and Bilar
- **Establishment of Coconut Hubs (Coconut Processing Centers)**
 - Balilihan, Loay, Ubay
- **Establishment of Fruits and Vegetables Processing Complex**
 - Duero and Balilihan
- **Development of White Agriculture (greenhouses) and Hydroponics Farms**
 - Vegetable producing municipalities of Calape, Tubigon, Clarin, Balilihan, Ubay, Talibon, San Miguel and Bilar

- **Establishment of Certified Organic Inputs Facility (bio-pesticides and fertilizer)**
 - BOATECH, Ubay and BISU-Bilar Campus
- **Fabrication and production facilities for farm equipment**
 - BISU Tagbilaran and BOFAMCO Pilar
- **Establishment of Ka ABAG Institute or Academy**
 - Ubay and Bilar
- **Institutionalization of Ka-ABAG (assistance for barangay agricultural growth) in every purok in the province**
 - All municipalities and barangays province wide

Livestock



- **Livestock and Poultry Development Program**
 - a) Establishment of Accredited AAA Abattoir

The accredited AAA slaughterhouses shall be fully equipped with support facilities and equipment, transport facilities like meat vans, bio-security, wastes management, data base and policies that are area compliant to national and provincial laws.

Target Sites: Brgy. Tiptip, Tagbilaran City

b) Establishment of AA Abattoir

Target Sites: Ubay, Carmen, Talibon, Tubigon, Sagbayan, Balilihan, Valencia, Panglao, Jagna

c) Establishment of AAA Dressing Plant for Native Chicken

A dressing plant with Cold Storage Facility and “halal” accreditation standards

Target Sites: Tagbilaran City, Ubay, Carmen

Target Group/Beneficiaries: Native Chicken growers and vendors association

d) Establishment of Cold Storage Facilities and Equipment For Meat and Meat Products. Cold storage facilities maybe in form of equipment like freezers or a refrigerated room in the market that allows safekeeping of excess meat & meat products for sale in a day. In this manner, meat and meat products retain its quality and minimize spoilage that may cause public hazard.

Target Sites: Brgy. Manga Tagbilaran, Jagna, Talibon, Ubay, Tubigon

Target Group/Beneficiaries: Meat vendors in municipal markets

e) Establishment of Community-based Milk Collection Centers

Milk collection center is a common area where farmers collect milk from dairy animals strategically located in municipalities where a number of farmers are into dairying. This center will be equipped with milking equipment and supplies and provided with a vehicle to transport fresh milk to the processing plant.

Target Sites: Ubay, Mabini, San Miguel, Alicia, Dagohoy

Target Group/Beneficiaries: Dairy Farmers

f) Establishment of Dairy Outlets with Cooling Facilities

The Outlets are actually attractive display centers equipped with freezers, power generating machines and ice cream parlor that will be operated and supervised by the dairy POs.

Target Sites: Panglao, Jagna, Tubigon, Loboc, Tagbilaran

Target Group/Beneficiaries: Dairy farmers and POs

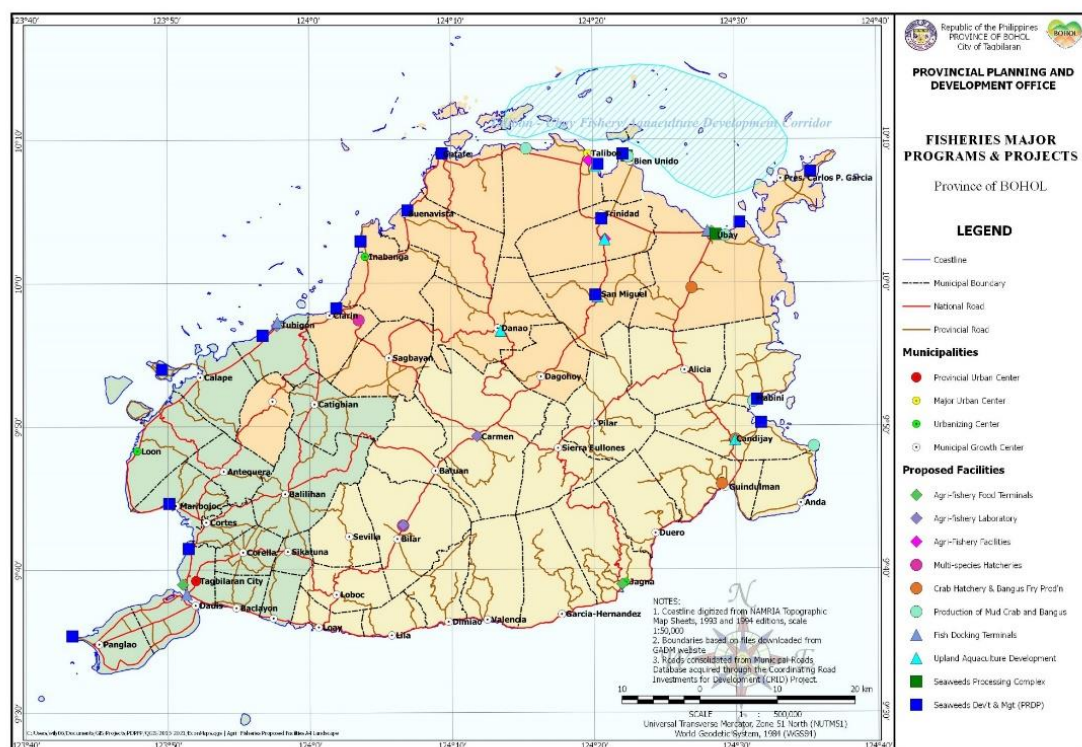
g) Silage Production and Marketing

The proposed enterprise will engage in the production of cassava/forage silage production as feeds for dairy animals in commercial scale.

Target Sites: Carmen, Ubay

Target Group/Beneficiaries: POs, farmers

Fisheries



a) Upland Aquaculture Development

Talibon, Trinidad, San Miguel and Danao, Bohol

- Intervention done in upland freshwater areas thru raising of cultivable species for culture and integration of other farming activities
- Special Project for Bangus Hatchery at BISU, Candijay

b) Enhancement of Agri-Fishery Facilities

Target Location: Talibon and Trinidad

- Enhancement of Demonstration Model Farms and Training Center with Cold Storage Facilities and Refrigerated Vans

c) Establishment of Crab Hatchery and Bangus Fry Production

- Candijay, Ubay and Guindulman

d) Production of Mud Crab and Bangus thru Contract Growing

- Mabini, Candijay, Buen Unido, Talibon and Ubay

e) Establishment of Fish Docking Terminals with Cold Storage and Processing Facilities

- Tubigon, Ubay and Tagbilaran

f) Establishment of Agri-fishery Food Terminals with Cold Storage and Processing Facilities including Reefer Van for transport

- Tagbilaran City, Ubay and Jagna

g) Establishment of Agri-fishery Laboratory including Soils, Phytosanitary and Tissue Culture

- BISU-Bilar, BISU Candijay, Carmen and Tubigon

h) Enhancement of Multispecies Hatcheries for Inland Fisheries and Mariculture Species

- BISU- Bilar and BISU Candijay and Clarin

i) Establishment of Seaweeds Processing Complex

- Buen Unido and Ubay

2) Visayas Spatial Development Framework

Agri-Business Development/Fishery and Aquaculture Development Areas

a) Central Bohol Agro Processing Center

- Huge investments in irrigation dams are expected to raise production not only in palay but of high value and industrial crops. Agro-based industries, food processing and related activities could be done in a yet to be determined locations in the area. Existing activity include commercial scale facilities in drying, storage and milling of palay. Newly established African oil palm plantations will have prospects for processing and production.

b) Talibon-Ubay Fishery/Aquaculture Development Corridor

- Sea farming and aquaculture activities are existing in the area
- Processing of fish and marine products could further boost economy in the area

3) Philippine Rural Development Project (PRDP)

a) Seaweeds Development and Management

Target Location: Priority Areas - Buenvista, Talibon, Bien-Unido, Ubay, CPG (5 Global Environment Facility - GEF sites) Including Getafe, Mabini, Candijay, Ubay, Inabanga, Calape, Trinidad, San Miguel, Tubigon, Clarin, Panglao, Maribojoc, Tagbilaran City

- GEF support is concentrated in Marine Protected Areas (MPA) within the Danajon Reef, a priority area with a globally significant biodiversity value, where demand for an improved and effective resource management is high.

b) Bohol Native Chicken Development Program

- Development of native chicken value chain as a strategy to help farmers increase productivity and market competitiveness
- Provides an investment-friendly environment for the native chicken value chain by increasing efficiency and productivity through organization of

growers, modernized production methods, scientific and systematic breeder stock and establishment of hatchery, breeding centers, dressing plant and processing and cold storage facilities

- Production Center – Bilar; Commercial Farms (Batuan, Corella, Trinidad); Feed Mill (Ubay, Pilar, Sagbayan); Establishment of Facilities (Tagb. City, Corella, Ubay, Alicia, Batuan, Bilar)

Sub-Sector: Tourism Development

1) Bohol Surprise Tours

- Bohol opened its ecotourism program to re-introduce the province as a prime mover in ecotourism development
- Bohol launched newly-clustered tour programs dubbed as “Bohol Surprise Tours”, a clustered tour itinerary of new tourism sites in the countryside showcasing community life and livelihood of local folks



Bohol Surprise Tour 1

1. Tubigon Loom Weaving (Tubigon)
2. Loon Coral Stairs (Loon)
3. Organic Farm and Lunch (Maribojoc)
4. SAVIMA Mangrove Adventure (Maribojoc)
5. Punta Cruz Watch Tower (Maribojoc)

Bohol Surprise Tour 2

1. Lamanoc Island (Anda)
2. Anda Quenale Beach and Lunch (Anda)
3. Jagna Calamay Industry (Jagna)
4. Clarin Ancestral House (Loay)

Bohol Surprise Tour 3

1. Albur Calamay Industry (Alburquerque)
2. Loay Ironsmith Workshop (Loay)
3. Balay sa Humay and Lunch (Batuan)
4. Bohol Biodiversity Complex (Bilar)
5. Clarin Ancestral House (Loay)

Bohol Surprise Tour 4

1. Cabilao Island Nature and Community Life Adventure (Loon)
2. Lunch at Cabilao Island (Loon)
3. Antequera Farm and Crafts Village Tour (Antequera)

Bohol Surprise Tour 5

1. Cabilao Island Nature and Community Life Adventure (Loon)
2. Lunch at Cabilao Island (Loon)
3. Kawasan Falls and its Agri Farm Activities (Balilihan)

Bohol Surprise Tour 6

1. Cambuhat River and Oyster Farm (Buenavista)

2. Lunch at Cambuhat Village (Buenavista)
3. Bohol Beads and Fiber (Inabanga)
4. Takla and Mud Crab Culture Community (Calape)

Bohol Surprise Tour 7

1. Talibon Interpretative Center Learning Tour (Talibon)
2. Lunch at Talibon (Talibon)
3. Carabao Dairy Farm (Ubay)
4. Horseback Riding in Ubay (Ubay)

Bohol Surprise Tour 8

1. Baybayon Fishing Village Tour (Mabini)
2. Lunch at Baybayon Fishport (Mabini)
3. Ermita Ruins with Historical Mystery (Dimiao)
4. Music & Sound of Dimiao Rondalla (Dimiao)

Bohol Surprise Tour 9

1. Tribu Eskaya Learning Tour (Duero)
2. Lunch at Tribu Eskaya (Duero)
3. Strawberry Farm Tour (Duero)
4. Music and Sound of Dimiao Rondalla (Dimiao)

Bohol Surprise Tour 10

1. Caving at Danao Adventure Park (Danao)
2. Lunch at Danao Adventure Park (Danao)
3. Ang Paru-paro (Butterfly Garden) (Carmen)
4. Crunchy Kabkab Industry Tour (Sevilla)

Bohol Surprise Tour 11

1. Philippine Tarsier Sanctuary (Corella)
2. Lunch at Sikatuna Tree Park (Sikatuna)

3. Loboc Salabat Production Facility Tour (Loboc)
4. Stand – up Paddling Tour (Loboc)

Bohol Surprise Tour 12

1. Holy Spirit School (Tagbilaran City)
2. Tricycle (Tagbilaran City)
3. St. Joseph Cathedral (Tagbilaran City)
- 4.. Provincial Capitol (Tagbilaran City)
5. Painitang Bol-anon (Tagbilaran City)
6. President Carlos P. Garcia Heritage House (Tagbilaran City)
7. Casa Rocha and other Vintage Houses (Tagbilaran City)

2) Tagbilaran Tourism Growth Areas

A. Tagbilaran Tourism Growth Area 1

- a) Eco-tourism
 - Boardwalk
 - Aqua Sports
- b) Mabaw Reef
 - Glass-Bottom Boat
 - Helmet Diving
- c) Historical Site
 - Battle of Ubujan (Captain Salazar Monument)

B. Tagbilaran Tourism Growth Area 2

- a) Tourism Bubble (Ecotourism Precinct)
 - Integrated Bus Terminal
 - Central Public Market
 - Recycling/ Upcycling Facilities in One Compound
- b) Tagbilaran City Visitor's Center/ Tagbilaran Tourist Info Center
 - Travel Lounge Facility

C. Tagbilaran Tourism Growth Area 3

Urban Heritage Conservation

- a) Heritage Core/ Cluster of Heritage Houses and Buildings
- b) Development of Sitio Ubos
- c) Sunset Dinner Cruise
- d) Museums
- e) Century-Old Church/ St. Joseph the Worker Cathedral

D. Tagbilaran Tourism Growth Area 4

- a) Bohol Friendship Park/ Blood Compact Shrine
- b) Four Heroes Project at Banat-i Hill
- c) Tagbilaran City Landmarks in Banat-i Hill

E. Tagbilaran Tourism Growth Area 5

- a) Mesias/ Lajos-Lajos Caves
- b) Development of Tagbilaran City Park and Camp Site/ Botanical Garden and Zoo

3) Anda Peninsula Tourism Development

- Anda is considered as an eco-cultural and heritage tourism site in the eastern peninsula
- White sandy beaches, the hanging coffins, relics of old Bohol, cave writings that dates back to antiquity
- Remained unscathed in terms of its natural ecological and cultural assets

Sub-Sector: Trade and Industry

1. Establishment of Special Economic Zones (SEZ) in Strategic Areas of the Province

The Province of Bohol has identified the establishment of Special Economic Zones in strategic areas as one of its development priorities to support its efforts for the province's agro-industrialization and sustained economic growth.

In the northwestern portion, three initial industrial estate sites are identified in the municipalities of Loon, Calape and Tubigon. Preferred investments include roll-on-roll-off (ro-ro) port facility, plantations/ agro-forestry, agri-based industries including processing and post-harvest, infrastructure and utilities, light manufacturing and agri-tourism.

Possible areas of investments are in light manufacturing and agro-industries that support primary production and processing. The northern part of Bohol being near to the industrial center of Cebu is identified and prepared for the eventual industrialization of Bohol. The northern corridor of Bohol was identified as the zone for industrial development in the province. The close proximity of the northern part of Bohol to the booming industrial center of Cebu has stimulated the provincial government's zeal to prepare for the eventual industrialization of the province.

Northwest and northernmost parts of Bohol facing Cebu mainland and Metropolitan Cebu across Bohol strait are potential expansion areas for tourism and industrial investments particularly in so-called coast-dependent or port-related industries

The Municipality of Cortes has been identified as suitable for medical tourism park/ center. A 20.3095 hectares government owned lot in Malayo Norte and Malayo Sur, Cortes is strategic for ecozone development. The proposed site is proposed for Medical Tourism, Retirement Ecozone Park and mixed use development intended for wellness, sports and recreational facilities and housing that will catalyze the development of a high-quality and environmentally-sustaining economic zone of local and regional significance that will enhance Bohol's economic competitiveness and business environment.

District I

Northwestern Industrial Zone (Light Industrial Zone)

- a) Loon
- b) Calape
- c) Tubigon

Municipality of Cortes (Medical Tourism Park/ Center)

District 2

Agro-Industrial Zone

- a) Getafe
- b) Talibon
- c) Ubay

District 3

Utilities Enterprise Economic Zone

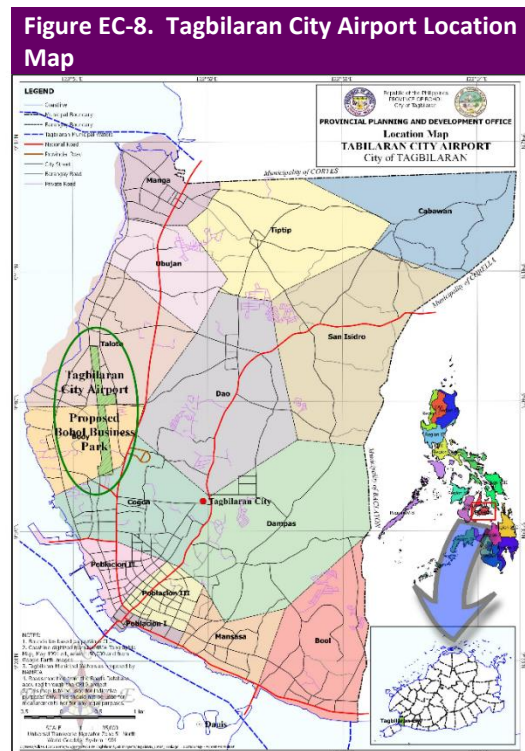
Jagna, Danao, Loboc, Balilihan, Antequera, Garcia Hernandez, Jagna, San Isidro, Duero and Ubay

2) Bohol Business Park

Will be located at the current Tagbilaran City Airport area once its operation will be transferred to the New Bohol Airport in Panglao. The site is about 24.24 hectares located adjacent to lots classified as Light Industrial area in the existing CLUP of Tagbilaran City. About 27% or 6.5 hectares is owned by the Provincial Government of Bohol and the remaining area by the Civil Aviation Authority of the Philippines (61%) and the rest privately owned.

Possible Business and Industry Locators
(Industrial and Information Technology Park)
are:

- ✓ Information Technology-based services such as Call Centers, Software and Product Development, Business Process Outsourcing
- ✓ Light and low-intensity industries
- ✓ Tourism-based services
- ✓ Commercial spaces for Offices
- ✓ Food and support services



3) Panglao Bay Premiere Flagship Tourism Enterprise Zone (PBPFTFZ)

One of Flagship Tourism Eco Zone (TEZ) sponsored by TIEZA. Covers an area of 111 hectares in Barangay Bolod and Tawala, Panglao, Bohol.

Is an integrated mixed-use tourism and leisure resort community which will provide a mix of overnight and day visitor activities, facilities and services including holiday and retirement, residential, leisure shopping, food and beverage, and amusement and entertainment concepts



4) Loon Tourism Enterprise Zone



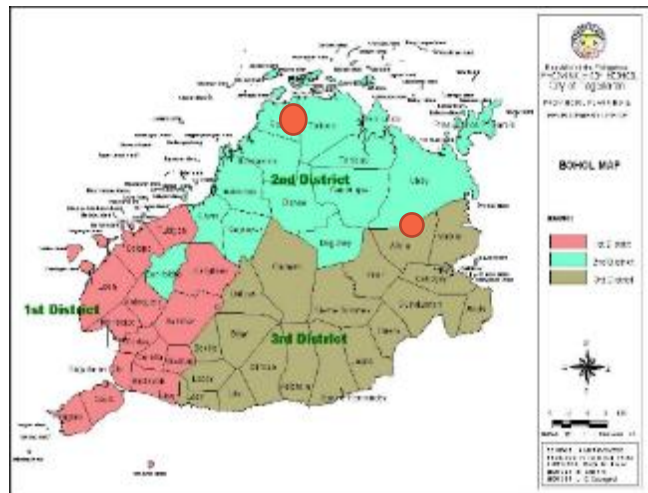
The establishment of the Loon Tourism Enterprise Zone (TEZ) includes the development of Sandingan and Cabilao Islands as the main TEZ Islands: Sandingan with an area of 610.7 hectares, Cabilao Is. with 886.1 hectares and the portside with an area of 37.8 hectares. The TEZ is contiguous with the PPA Cruise Tourism Port, the

Loon Tourism Corridor from Port Vicinity to Loon town proper, the Loon-TEZ Bohol Tourism Road Network and the expansion of eco-marine and coastal tourism.

Municipality of Loon is strategic as a Tourism Enterprise Zone owing to its strategic location to catalyze economic development to adjacent towns and to the entire province of Bohol being located midway of Tourism Clusters 1 and 2; transshipment to other ports thru road network; base for cruise tourism with adjacent tourism clusters and for RORO vessels from Argao and Cebu for tourism logistics, with inter-regional links to Central Philippines Cruise Tourism Destinations.

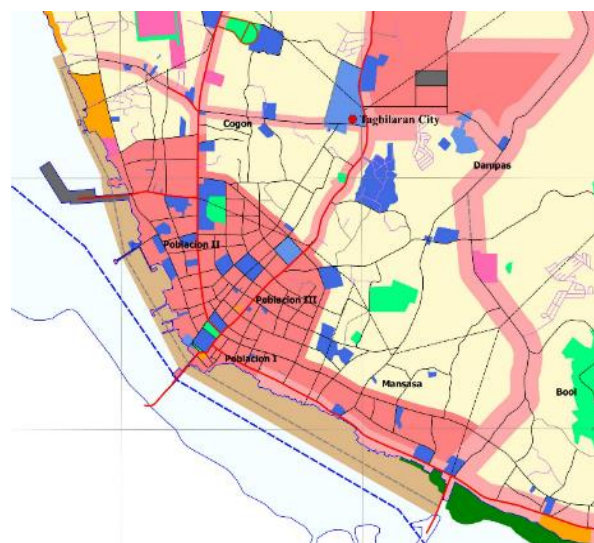
5) Fisheries and Aquaculture Processing Zone

- aqua-culture farms
- post-harvest and processing facilities
- cold storage and marketing
- potential in the municipalities of Ubay and Talibon



6) Tagbilaran City Bay Bayfront Reclamation and Development

- Access roads
- Boulevard
- Commercial and recreation areas
- Parks and greeneries



7) Highlands Park and Recreation Area

Potential for development of:

- Bohol Botanical Gardens
- Public Parks
- Golf Course

- Common public facilities
- Lookout points
- Ideal in the highlands of Getafe, Talibon and interior parts of Bohol

SECTORAL PLAN: DEVELOPMENT ADMINISTRATION

SUB-SECTOR: PUBLIC FINANCE

Major Programs, Projects and Activities

- Establishment of Public Enterprise Management Unit
- Development and operation of economic enterprises:
 - Economic Initiatives at the Bohol Biodiversity Complex in Bilar
 - Construction/Rehabilitation of Commercial Stalls (CPG Complex, CPG House, CPG Park, Etc.)
 - Construction of Capitol Square (Dampas Lot)
 - Enhancement of CPG House, Old Museum
 - Development of Banat-I Hill
 - Tourist Transport System (City Port-Airport- CPG- Dao Terminal- Panglao)
 - Provincial Capitol Complex (after the completion of the Capitol Building)
- Review of the Revenue Code
- Passage of Ordinance amending the Revenue Code of the Province
 - Environmental tax on tourism sites
 - Environmental tax on rooms of all hotels, pension houses and other accommodation facilities
 - Insurance fees for tourist activities with high risks (ex. zip line, river cruise, diving)
 - Service fee on documentary stamps
 - Extraction tax on mineral lands
 - Updating of fees for use of PGBh real properties, facilities and services
 - Updating of hospital fees and other charges
 - Graduated verification fees according to the age of tax declaration records

- Integration of Collection System of E-TRACS to I-Hospital Management Information System
- Devolved Hospitals audit
- Biodiversity Audit
- Chocolate Hills Complex Follow Up Audit
- Conduct of Tax Compliance Studies and provision of necessary recommendations to improve implementation

- Full implementation of ETRACS
- Capacity-building programs for LGUs on ETRACS implementation
- Establishment of central server to be lodged at BICTU

- Migration of RPTIS database to ETRACS database
- Establishment of bigger bandwidth internet connectivity in every MLGU and high end central server dedicated for ETRACS

- Updating of Schedule of Market Values (SMV) Project
- Mass Imaging and Encoding of Tax History Information System

- Provision of fast and regular lane on Tax History Service

- Operationalization of Developed Computerized System

- Updating of listing of approved cadastral survey map

- Meeting with municipal mayors for the conduct of tax mapping
- Conduct of cadastral surveys and Tax Mapping Activities in municipalities

- Meeting with municipal mayors/ barangay captains to resolve boundary disputes

- Development of Asset Management Manual/ Guidelines
- Periodic physical inventory count, recording and reporting
- Periodic updating of records based on PGSO reports
- Strict implementation of PGSO mandated functions of inspectorate
- Inclusion of the Audit of Inventories in Hospital Audit
- Regular conduct of public auction for unserviceable PGBh properties

- IEC on and implementation of zero-based and activity-based budgeting
- IEC and Advocacy on Value for Money and Management by outcomes
- Availment of assistance from external foreign/ local sources to fund development projects
- IEC on laws governing DRRM-CCA, allocation and utilization of DRRM Fund
- Recommend policies for the insurance of employees performing hazardous work

- Providing financial information and fiscal advice to the governor, members of the Management Executive Board (MEB) and members of the Sangguniang Panlalawigan (SP)
- Conduct of Financial Analysis
- Render Advisory opinion on financial matters
- Render Monthly Report on Collection and Expenditures during LFC Meetings and Semi-Annual Report to SP
- Explore possibility for the adaption of sub-allotment for the hospitals
- Installation of Hospital Transaction Section based at the Provincial Accountant's Office (PAccO)

- Full operation of Fiscal Monitoring and Evaluation System to give emphasis on outcomes of resource spending
- Constant dialogue between MEB members on the status of the implementation of major PPAs
- Full implementation of the Project Monitoring and Evaluation Information System (ProMEIS)

- Regular meeting of Monitoring and Evaluation Officers to discuss issues and concerns
- Reactivation of the Provincial Monitoring and Evaluation Committee (ProMEC)

- IEC and implementation of the guidelines on cash advances
- Hiring of contractual accountants to focus on reconciliation
- Cash Advance Audit
- Cash Management Follow Up Audit
- Periodic sending of reminder letters to personnel

- Follow-up and confer with COA Central Office for schedule of roll out and Users/Technical Trainings
- Technical and Users Training
- Procurement of the corresponding hardware support requirements for implementation of the new version of E-NGAs
- Conduct of Financial Audit in order to validate credibility of Financial Reports

- Procurement of hardware support requirements
- Evaluation of existing systems
- Trainings
- Design proper and system construction
- Implementation of the new system

- Audit Compliance Mechanism Re-orientation
- Creation and institutionalization of an Audit Committee
- Creation and designation of Internal Control System Focal Persons in each Department
- Enforce the implementation of Audit Recommendations
- Conduct of internal audit engagements
- Audit Compliance Mechanism Re-orientation

- Inventory of all existing financial policies/ guidelines and evaluation of their applicability
- TWG/Local Finance Committee Workshops for the crafting of Financial Policies
- Manualization of all fiscal policies
- Capacity building and skills training for fiscal management personnel and the members of the LFC

- Preparation of guidelines in granting financial assistance
- Implementation of New Scheme in granting Financial Assistance
- Reconciliation and updating of PAccO records (Audit control and e-NGAS)
- Periodic issuance of demand letters in coordination with Local Government Affairs of the Governor's Office
- Information, Education Campaign for LGU officials and qualified NGOs/POs regarding policies on financial grants

- Assessment and updating of the LDIP
- Assessment and updating of the PDPFP
- Conduct of term-based strategic planning at the MEB and Office levels
- Conduct of assessment and operational planning at the MEB and Office levels
- Preparation of AIP and Budget at the Office and Provincial levels
- Periodic consultation with LGUs, NGAs, and CSOs on development plan formulation and program implementation
- Proper observance of fixed calendar for budget preparation, authorization and submission of annual budget/ ordinance for review by appropriate agency

- Implementation of bulk procurement
- Implementation of e-procurement
- Orientation / seminar Workshop to the different end-users of new procurement systems and policies
- Capacity Building program for the BAC , BAC-TWGs and PPMU
- Review and Strengthening Program for PPMU's organizational structure

- Hiring of personnel for financial offices
- Construction of the New Bohol Provincial Capitol Building
- Continued proper maintenance of PGBh buildings and facilities

Plans and programs that supports disaster risk reduction-climate change adaptation activities

- Passage of Ordinance amending the Revenue Code of the Province
 - Environmental tax on tourism sites
 - Environmental tax on rooms of all hotels, pension houses and other accommodation facilities
 - Insurance fees for tourist activities with high risks (ex. zip line, river cruise, diving)
 - Service fee on documentary stamps
- IEC on laws governing DRRM-CCA, allocation and utilization of DRRM Fund
- Recommend policies for the insurance of employees performing hazardous work

SUB-SECTOR: LOCAL GOVERNANCE

Major Programs, Projects and Activities

- Regular updating of an effective structure for local councils and special bodies
- Conduct of regular meetings of Local Councils / special bodies as required
- Capacity Enhancement Program for Local Councils and their respective Secretariat Offices
- Conduct of periodic performance monitoring and evaluation for Local Councils and Special Bodies
- Incentive/ Recognition Program for active local councils/ bodies following approved guidelines

- Conduct of public hearings, consultative meetings and sessions for the review/ updating of the following Codes/ Ordinances:
 - Revenue Code
 - Organic Agriculture
 - Sand and Gravel
 - Bohol Arts , Culture and Heritage Code
 - General Ordinances
- Conduct of public hearings, consultative meetings and sessions for the crafting and approval of the Tourism Code, Ordinance for Roads Development, and DRRM-CCA ordinances that would guide the entire province pertaining to urgent and highly important concerns
 (ordinance / policies for the reduction of emissions of green house gases, reversion of abandoned fishponds back to mangroves, water conservation, incentives for use of reusable bags/ biodegradable bags, incentives for use of climate-smart technologies/ energy efficiency in buildings, agriculture, and industries)
- Formulation of Implementing Rules and Regulations (IRR)
- Environmental Code
- Establish and institutionalize DRRM-CCA Committees in local Sanggunians, where necessary
- Implementation of partnership arrangements between LGUs and NGAs for technical and financial assistance for the updating of CLUPs
- Assistance in the conduct of participatory workshops for the updating of CLUPs of LGUs integrating DRRM – CCA strategies
- Review and Approval of the CLUPs at the SB, PLUC and SP
- Implementation of the Zoning Ordinances by LGUs
- Periodic assessment and updating of the PDPFP and Local Development Investment Plan (PDIP) mainstreaming DRM-CCA
- Conduct of strategic planning and regular assessment / operational planning/ investment planning at the Management Executive Board (MEB) and Office levels
- Formulation of the Executive – Legislative Agenda (ELA)
- Periodic consultation with development stakeholders across sectors

- PGBh-CSO Partnership Program
- Lobby for consultative processes among funding NGAs/ ODA institutions and LGUs to improve access to assistance for funded programs and projects
- Conduct of orientation/ coordination meetings, forums with LGUs on NGA/ ODA funded programs and projects
- Capacity-building program for LGUs on project development and management with the assistance of funding agencies
- Forum / Training on fund sourcing, counterparting, and fund management for LGUs
- LGU Personnel hiring program
- Conduct of coaching sessions/ training for LGUs on CBMS utilization
- Procurement of needed hardware for CBMS
- Orientation session for users of the CBMS
- Plan formulation workshop using CBMS data

- Development , review, approval and implementation of PGBh Succession Plan and Employees' Career Pathing Plan
- Formulation /completion of competency models per office/hospital
- Formulation of competency profiles per position in every department/hospitals
- Conduct of Competency Assessment Review
- Institutionalization and adoption of PGBh Competency Profiles per position
- Updating and Institutionalization of Competency – based HRD Plan
- In-house capacity-development trainings
- Establishment of the PGBh Learning Center
- Full implementation of the Strategic Performance Management System
- Rewards and Recognition program
- Continuous Moral Recovery Program
- Human Resource Information System Enhancement Program
 - Provision of additional modules/features in the HRIS
 - Establishment of PHRMDO Gender and Development (GAD) Database

- Continue to implement the Scrap and build Strategy
 - Formulation of Competency-based qualification standards
 - Implementation of competency-based recruitment and selection process
 - Filling-up of vacant positions
 - Review of organizational, functional and personnel structure of offices and units
 - Creation of new offices with plantilla positions
 - Periodic upgrading and continuing implementation of the Citizens Charter in support to the Anti-Red Tape Act
-
- Provision/ construction of facilities to promote employees' welfare (dental clinic, cafeteria, breastfeeding room, wellness center)
 - Expanded Health Care Program/ insurance for PGBh personnel and officials
 - Provision of other benefits / opportunities for employees such as insurance coverage for employees performing high risk tasks and scholarships
 - Orientation on Leave Benefits for Women
 - Information dissemination thru print/ broadcast media (PADAYON BOL-ANON, Kita ug ang Gobernador, IEC materials publication and distribution, networking)
 - IEC on DRRM-CCA
 - Organization of an information network to act as official provincial media for DRRM-CCA information dissemination and during calamities and emergencies
-
- Seminar/Workshops for the Organization and Management of Public Libraries for local government unit leaders and education committee chairmen
 - Establishment of public libraries in local government units
 - Procurement of library books and other materials including DRRM-CCA related reading materials and publications
 - In collaboration with schools, conduct information, education campaign on DRRM-CCA
 - EIC and marketing activities to high school graduates for library science programs

- Organization of support groups or “Friends of the Library” to help manage learning centers libraries

- Capacity Enhancement Program for concerned offices to fully utilized the usage of PGBh ICT developed system.
- Periodic System evaluation on the usage of PGBh ICT developed system
- Full implementation of developed systems
- Development and institutionalization of an integrated financial system
- Procurement of Blade or high-end servers with redundancy capability and a low footprint to minimize carbon emission and low energy consumption
- Procurement of generator set (preferably those that are energy –saving/Solar powered standby generator set)
- Institutionalization of a Data warehouse for all PGBH data
- Maintenance of PGBh website including the development of DRRM-CCA webpage

- Construction of disaster resilient new Provincial Capitol Building using green architecture
- Improvement and retrofitting of existing government structures and facilities
- Establishment of the Records/ Archives building and implementation of the Records Management Program
- Procurement and upgrading of equipment, furniture, fixtures and other facilities

- LGUS Sports structures, facilities and equipment Upgrading Program
- Participation and consultation Enhancement Initiatives for Policy-making bodies
- Conduct of Sports Meets, Boholympics and other activities for sports development
- Implementation of various youth development programs
- Participation and consultation enhancement Initiatives for Policy-making bodies involving the youth

- Information Campaign about Republic Act 10742 or otherwise known as the SK Reform Law
- IEC on anti-illegal drugs, illegal gambling, anti-criminality for the youth
- Establishment / construction of facilities and provision of services for the youth (ex. Bohol Youth Home, BCIC, Drug Rehabilitation Center)

Activities that are in-line with the PGB's disaster risk reduction and management-climate change adaptation programs

- Conduct of public hearings, consultative meetings and sessions for the crafting and approval of the Tourism Code, Ordinance for Roads Development, and DRRM-CCA ordinances that would guide the entire province pertaining to urgent and highly important concerns (ordinance / policies for the reduction of emissions of green house gases, reversion of abandoned fishponds back to mangroves, water conservation, incentives for use of reusable bags/ biodegradable bags, incentives for use of climate-smart technologies/ energy efficiency in buildings, agriculture, and industries)
- Formulation of Implementing Rules and Regulations (IRR)
- Environmental Code
- Establish and institutionalize DRRM-CCA Committees in local Sanggunians, where necessary
- Implementation of partnership arrangements between LGUs and NGAs for technical and financial assistance for the updating of CLUPs
- Assistance in the conduct of participatory workshops for the updating of CLUPs of LGUs integrating DRRM – CCA strategies
- Review and Approval of the CLUPs at the SB, PLUC and SP
- Implementation of the Zoning Ordinances by LGUs
- Periodic assessment and updating of the PDPFP and Local Development Investment Plan (PDIP) mainstreaming DRM-CCA
- Conduct of coaching sessions/ training for LGUs on CBMS utilization
- Plan formulation workshop using CBMS data

- Provision of other benefits / opportunities for employees such as insurance coverage for employees performing high risk tasks and scholarships
- IEC on DRRM-CCA
- Establishment of public libraries in local government units
- In collaboration with schools, conduct information, education campaign on DRRM-CCA
- Maintenance of PGBh website including the development of DRRM-CCA webpage
- Construction of disaster resilient new Provincial Capitol Building using green architecture
- Improvement and retrofitting of existing government structures and facilities

SUB-SECTOR: JUSTICE AND SAFETY

Major Programs, Projects and Activities

- Crime prevention and enforcement program(campaign against illegal drugs, loose firearms, illegal gambling,, arrest of wanted persons)
- Enforcement of Environmental laws and orientation on RA 1065
- Operationalization of the Bohol Joint Task Force Dagon and its Task Groups (TG Luwas-Kinabuhi, Turista, Palusot, Kinaiyahan, Banat, Kalinaw, Kadalanan, Kadagatan, Kontra-Krimen)
- Conduct of coordination meetings at the level of TWGs, Committees and PPOC, for the conduct of joint activities/ operations
- Capacity-building in municipalities, barangay, puroks on crime prevention and enforcement
- Legal Assistance for Enhanced Law Enforcement Program (LAELEP)
- Provincial Peace Day
- Conduct of cultural mapping for the harmonization and pooling of heritage and cultural resources for sustainable peace and development
- Serving of search and arrest warrants to drug personalities
- Conduct of Test-buy, buy-bust, and surveillance operations

- Conduct of drug symposium seminars
- Conduct of Drug Awareness Reduction Education (DARE) Seminar
- Strengthening Program for the Municipal Drug Abuse Council (MDAC), and Barangay Drug Abuse Council (BDAC)
- Continued operation of the Drug Testing Laboratory
- Conduct of Oplan Katok
- Campaign against illegal gambling
- Conduct symposium in crime prevention including citizen arrest
- Recognition activities for communities/ individuals who are active in crime prevention
- Meetings and forum with the tourism stakeholders on peace and security
- Organize Explosives Ordnance Disposal (EOD) Teams in Bohol
- Training for EOD Teams
- Procurement of necessary EOD equipment and support vehicles
- Construction of PNP Stations in municipalities
- Traffic enforcer deployment in streets
- Conduct of LTO deputation seminar
- Installation of road safety signs and warnings
- Conduct of intelligence-driven operation, Joint AFP/PNP Law Enforcement Operation, Mission Planning, Cmdr visit to Coy CPs, TPBs & CAA
- Continuing the Bayanihan Team activities
- Re-visitation and reassessment of all barangays in Bohol province,
- Deployment of iProTeam /SST/Probe to target barangays,
- Identification of primary and secondary issues,
- Cooptation of target personality and sectoral organization,
- Establishment of Counter organization
- Periodic iProteam/ SST/Probe Team assessment.
- Conducting Civil Military Operations
- Conduct of focused and purposive Information Support Affairs, Civil Affair and Public Affairs Operations
- Spotting of reliable informants/assets

- Conduct of training relative to information gathering and tradecraft operation
 - Support to informants such as cell phone load, POL and incentives
 - Conduct of Province wide Peace Advocacy Symposium in all Secondary and Tertiary Schools
 - Conduct of Youth Leadership Summit
 - Use of Television, Radio, Internet, Media and Print-ads (TRIMP) in support to public awareness campaign
 - Organization and retraining of BPATS and Tanods.
 - Empower the BPOC and prepare them to manage the barangays internal security affairs
 - Conduct of monthly BPOC meeting
 - Conduct of InSPIRED HEAT-IT Bohol Caravans
 - Countryside Development Program – Purok Power Movement
 - Mini-InSPIRED HEAT_IT Caravans
 - Medical Missions
 - Implementation of the Comprehensive Local Integration Program
 - PGBH Unit Infrastructure Program: Construction of needed PCG Unit Structures/ Buildings in Bohol
 - Upgrading of CGMT to CGSS
 - Renovation of PCG Facilities
 - Marine Pollution training and exercises between PCG, LGUs and other stakeholders
 - Salvage operation in reported shipwrecks in the province to prevent oil spill
-
- Construction of additional jail buildings
 - Construction of additional cells
 - Reinforcement of secondary fence for the new additional buildings
 - Jail Decongestion Program (include transfer of insular/convicted prisoners to other correctional institution)
 - Conduct regular follow-up of pending criminal cases in coordination with appropriate courts/ government agencies

- Implementation of programs for rehabilitation, livelihood, health, education, spiritual and psychological services for inmates
 - Health program thru regular medical and dental activities
 - Livelihood program
 - Alternative Learning System (ALS) program for inmates
 - Spiritual enrichment program
 - Psychological and human relations/ social integration program
 - Information dissemination campaign for inmates
 - Job fairs especially designed for released inmates
 - Micro-finance Literary Programs
 - Micro/ small Enterprise Development Program
 - Agricultural Programs
 - Livestock Programs
 - Implementation of Referral System
-
- Conduct of information education campaign on fire prevention
 - Coordination activities with LGUs for the enactment of legislative measures promoting fire safety and prevention
 - Strict implementation and enforcement of laws, policies & Fire Safety Regulations
 - Fire Safety Inspection among Public & Private Establishments, Institutions & Buildings
 - Conduct of Coordination meetings with City/Municipal Building Officials & LGU Head Offices
 - Activation/ Establishment of Fire Stations in Several Municipalities
 - Establishment of BFP Emergency Medical Services and Special Rescue Unit Program
 - Acquisition of Fire trucks
 - Upgrading of BFP office, facilities and equipment
 - Hiring of BFP Personnel
 - Organization of volunteer fire brigade
 - Capability-building/ Training Program for BFP personnel

- Conduct of hazard and risk assessments (across sectors)
- Conduct of community-walk through (town-watching) in identifying hazards/ hazard mapping
- Prepare/ Update and disseminate risk and hazard maps at the community level
- Conduct of IEC on the different hazards and risks in the Barangays/ municipalities (as applicable)
- IEC on laws governing DRRM-CCA, including laws and directives for the allocation and utilization of DRRM fund
- DRRM-CCA webpage at the PGBh Website
- Installation of hazard warning signs
- Establishment of early warning system in all municipalities of the Province
- Establishment of Meteorological Radar Station
- Conduct of drills, simulation exercises
- Capacity-building program
- Review and updating of the Local Disaster Risk Reduction Management (LDRRM) Plans
- Conduct of workshop for the updating of Database on hazard/risks in the LGUs or Barangays
- Formulation of a Disaster Response Operations Manual (DROM)
- Formulation of a Climate Change Action Plan (CCAP)
- Dissemination of the LDRRM, CCAP and DROM to different stakeholders
- Updating of the PDPFP integrating DRRM-CCA
- Mainstreaming DRRM-CCA to local Comprehensive Development Plans and Land Use Plans
- Assistance to barangay and purok planning integrating DRRM-CCA strategies
- Institutionalization and operation of the DRRM-CCA and Local Government Training Center
- Training of Trainors with the assistance of the Climate Change Commission

- Layout, production and dissemination of IEC materials on DRRM at the Purok/household level
- Conduct community-based DRRM orientation/ training at the barangay/ Purok/household level (Visayan version training modules)
- Establishment of Barangay/ purok-based DRRM teams
- Conduct of DRRM preparedness/ emergency management trainings, and drills, including training on CPR and introduction on the importance of survival kits in every household
- Review / updating of the all-hazard Contingency Plan for the Province of Bohol
- Conduct of training for trainers for contingency planning
- Contingency planning at the Barangays
- Passing and approving of Ordinance creating the LDRRM Office with annual budget appropriation
- Creation of DRRMO plantilla positions in all LGUs
- Appointment of permanent DRRMOs in all LGUs based on effective organizational structures
- Constant sharing of information among LDRRM offices in the province
- Forging of agreements among LGUs for mutual help during disasters
- Organization and active operation of the League of LDRRMOs
- Conduct of skills inventory of municipal DRRM staff and councils
- Conduct of regular meetings/ workshops
- Conduct of trainings for LDRRM officers
- Conduct of DRRM Summits
- Search for Best DRRM-CCA practices provincewide with incentives
- Conduct of benchmarking activities to best DRRM practices in other LGUs/Provinces
- Conduct of area survey with the assistance of the Mines and Geo-sciences Bureau (MGB)
- Conduct of orientation of the Municipal and Provincial Engineers on the standard requirements for resilient and green building designs

- Construction of new evacuation centers (which may also be used for other purpose during normal times) compliant to the set standards and resilient to the hazards in the area
- Designation of water and food depot in every municipality
- Identification of the different stakeholders for DRRM
- Conduct of orientation on DRRM based on RA 10121 including climate change mitigation and adaptation
- Conduct of DRRM-related capacity development activities
- Conduct of DRRM Planning workshop involving relevant CSOs/ Business sector
- Forge agreements/Memorandum of Understanding or Agreements with the CSOs and business sector to formalize their commitment for DRRM
- Conduct of orientations to LGUs on the activities and services provided by TaRSIER 117
- Assist the LGUs in organizing their respective emergency response units
- Crafting of standard operating procedures (SOP) governing emergency response in the province
- Setting –up of Satellite TaRSIER 117 stations in various municipalities
- Conduct of trainings for MDRRMO/ BDRRMC on Basic Life Support, Water Search and Rescue, Incident Command System, and others
- Appointment of regular/permanent emergency response Team Leaders in the LGUs
- Forging an agreement with the volunteers
- Establishment of a Database of community disaster volunteers, LGU/ National response teams
- Conduct relevant trainings for the members of the Task Force Dagon – Task Group Luwas-Kinabuhi, disaster-response teams and other volunteer groups
- Provision of applicable insurance for responders (including those personnel performing dangerous work) (from available insurance services such as the Red Cross)

- Round table conference with stakeholders (judges, IBP, Prosecutor's Office, PAO)
- Designation of additional anti-illegal drugs court in Bohol
- Hiring of lawyers for Prosecutor's Office, Public Attorney's Office
- Acquisition of land for the new Hall of Justice
- Construction of a new Hall of Justice

- Conduct of coordination meetings at the level of the TWGs, Committees, and Councils, as applicable
- Conduct of joint activities/ operations
- Conduct of training needs assessment of personnel
- Conduct of capacity-building trainings for law enforcement/ justice and safety personnel
- Recruitment, augmentation and hiring of competent personnel for law enforcement/ justice and safety agencies
- Implementation of the Bohol IP Telephony provincewide
- Acquisition of advance communication equipment
- Procurement of patrol cars/ motorcycles for PNP stations
- Procurement of communication equipment and IT equipment for the PNP stations
- Procurement of Communication facilities, SAR equipment, construction/ renovation/ repair of facilities in camps of the Armed Forces of the Philippines (AFP)
- Procurement of equipment for the Philippine Coast Guard (PCG): Marpol Equipment, Vehicle, Office equipment, additional floating assets, and safety equipment
- Procurement of additional firearms, Prisoners' van, handheld radios, and other equipment for the BJMP/ BDJ
- PDRRMC/Tarsier: Completion of the PDRRMC Operations and Relief Center, Procurement of additional ambulance upgrading of rescue equipment, IT equipment to support CCTV operations, monitoring and databanking
- Communication equipment for the PAGASA
- Philippine Red Cross (PRC): Blood bank equipment, new PRC sub-office in Bohol

- Rescue and emergency equipment and facilities for local Disaster Risk Reduction Management (LDRRM) offices
- Appropriate office spaces, equipment support for the Provincial Prosecutor's Office, Public Attorney's Office , DOJ-Parole and Probation Office

- **Implement disaster risk reduction and management-climate change adaption plans and programs**
 - Enforcement of Environmental laws and orientation on RA 10654
 - Operationalization of the Bohol Joint Task Force Dagon and its Task Groups (TG Luwas-Kinabuhi, Turista, Palusot, Kinaiyahan, Banat, Kalinaw, Kadalanan, Kadagatan, Kontra-Krimen)
 - Traffic enforcer deployment in streets
 - Installation of road safety signs and warnings
 - Conduct of intelligence-driven operation, Joint AFP/PNP Law Enforcement Operation, Mission Planning, Cmdr visit to Coy CPs, TPBs & CAA
 - Countryside Development Program – Purok Power Movement
 - PGBH Unit Infrastructure Program: Construction of needed PCG Unit Structures/ Buildings in Bohol
 - HCGS Tagbilaran
 - CGSS Panglao
 - CGSS Jagna
 - CGSS Tubigon
 - CGSS Ubay
 - CGMT Manga/Abatan
 - CGMT Baclayon
 - CGMT Causeway
 - CGMT Poblacion, Panglao
 - CGMT Loay Fish Port
 - CGMT Anda

- Marine Pollution training and exercises between PCG, LGUs and other stakeholders
- Conduct of information education campaign on fire prevention
- Coordination activities with LGUs for the enactment of legislative measures promoting fire safety and prevention
- Strict implementation and enforcement of laws, policies & Fire Safety Regulations
- Fire Safety Inspection among Public & Private Establishments, Institutions & Buildings
- Conduct of Coordination meetings with City/Municipal Building Officials & LGU Head Offices
- Activation/ Establishment of Fire Stations in Several Municipalities
- Establishment of BFP Emergency Medical Services and Special Rescue Unit Program
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- DRRM-CCA webpage at the PGBh Website
- Installation of hazard warning signs
- Establishment of early warning system in all municipalities of the Province
- Establishment of Meteorological Radar Station
- Conduct of drills, simulation exercises

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- Institutionalization and operation of the DRRM-CCA and Local Government Training Center
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- Establishment of Barangay/ purok-based DRRM teams
- Conduct of DRRM preparedness/ emergency drills, including training on CPR and introduction on the importance of survival kits in every household
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- Assist the LGUs in organizing their respective emergency response units
- Crafting of standard operating procedures (SOP) governing emergency response in the province
- Setting –up of Satellite TaRSIER 117 stations in various municipalities

- Conduct of trainings for MDRMO/ BDRMC on Basic Life Support, Water Search and Rescue, Incident Command System, and others
- Appointment of regular/permanent emergency response Team Leaders in the LGUs
- Forging an agreement with the volunteers
- Establishment of a Database of community disaster volunteers, LGU/ National response teams
- Conduct relevant trainings for the members of the Task Force Dagon – Task Group Luwas-Kinabuhi, disaster-response teams and other volunteer groups
- Provision of applicable insurance for responders (including those personnel performing dangerous work) (from available insurance services such as the Red Cross

SECTORAL PLAN: INFRASTRUCTURE DEVELOPMENT

Sub-sector: Transport and Access Development

A. Land Transport

1. Roads and Bridges:

The Provincial Government is fortunate to have many interventions on road governance reforms:

1. *PGBh – Department of Tourism – Department of Public Works and Highways Convergence for Provincial Roads/ Tourism Highways Development:*



- Improvement of Tubigon–Carmen-Sierra Bullones–Jagna Road
- Improvement /Concreting of Jct. (LIR) Buenavista-Carmen- Danao-Getafe Road
- Conc. of Jct. (TER) Guindulman-Anda-Badiang-Cogtong Road, leading to beaches and resorts, Anda, Bohol
- Conc. of Candijay - Cogtong Road, leading to beaches and resorts, Anda, Bohol
- Jct. (TER) La Union-Mabini-Cabulao-Ubay Road (Leading to beach areas at Anda and Ubay), Mabini, Bohol
- Antequera–Balilihan via Dorol Road leading to Chocolate Hills via Balilihan -Hanopol–Batuan Road from Catagbacan
- Catigbian - Canmano Road leading to Sagbayan Peak, Chocolate Hills and Danao Adventure Park, Sagbayan
- Abatan-Agahay-Buasao-Toril-Aghao Road (Cabawan) leading to several tourism sites, Maribojoc, Bohol
- Antequera-Balilihan via Dorol Road leading to Mag-aso Falls, Batuan Adventure Park and Chocolate Hills
- Concreting of Jct. (TER) Albur – Sikatuna Road
- Antequera–Balilihan via Dorol Road leading to Chocolate Hills via Balilihan–Hanopol–Batuan Road from Catagbacan



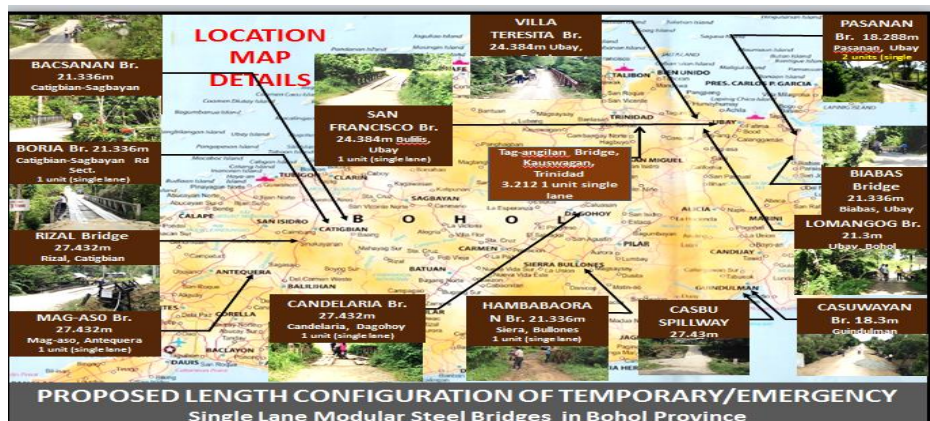
2. Counterparting Farm to Market Road Projects under the Worldbank Philippine Rural Development Project (PRDP) thru the Department of Agriculture and Provincial Government of Bohol:

<u>Forthcoming:</u>		
• BALILIHAN - Del Carmen Weste via Tugbas Road	2.8400 km.	P 32.80 M.
• CATIGBIAN - Mahayag Norte-Bagtic-Baang Road	3.5287 km.	P 31.50 M.
• BILAR - Campagao-Cabacnitan Farm to Market Road	11.972 km.	P 95.78 M.
• CALAPE - Desamparados-Tabuan (Antequera) FMR	15.8235 km.	P 126.59 M.
• LOON - Pondol-Candaigan Farm to Market Road	4.770 km.	P 56.00 M.
• INABANGA - Dagnawan-Dagohoy Farm to Market Road	7.8575 km.	P 82.86 M.
Under PRDP, a total length of <u>40.42 kilometers</u> of road will be concreted.		

3. National and Provincial Government Convergence Thru the Conditional Matching Grant to Provinces (CMGP) (KALSADA Program):

<u>On-going:</u>	
1. Concreting of Sikatuna – Balilihan via Badiang Road (Del Carmen Sur, Datag Sur & Norte, Balilihan - Badiang, Cambuac Norte and Poblacion, Sikatuna)	
<u>For Implementation:</u>	
1. Concreting of Alegria (Catigbian)–Baang–Jagbuaya–Hanopol Road	
2. Concreting of Canmanico – Anonang Road (Valencia)	
3. Concreting of Maribojoc-Pagnitoan-Candavid- Basak (Loon) Road	
4. Concreting of Jct. (TER) Dimiao-Oac-Bilar Road	
Total of 5 road sections proposed for funding in 2016 and 2017 and is expected to upgrade <u>37.990 kilometers</u> of roads.	

4. PGBh – Department of Agrarian Reform– Department of Public Works and Highways Bridge Project:



NO.	NAME OF THE BRIDGE	LOCATION	STATUS	REMARKS
1	BACSANAN	CATIGBIAN	80% COMPLETED	
2	BIABAS	UBAY	80% COMPLETED	
3	PASANAN	UBAY	50% COMPLETED	
4	CASBU	GUINDULMAN	95% COMPLETED	Final Grading and Riprap
5	CASUWAYAN	GUINDULMAN	95% COMPLETED	Final Grading and Riprap
6	SAN FRANCISCO	UBAY	NOT YET STARTED	
7	LOMANGOG	UBAY	TO BE STARTED	3rd week of February
8	VILLA TERESITA	UBAY	90% COMPLETED	Ongoing Grouted Riprap
9	TUMORAN	CANDIAY	ON-GOING AT 80%	Embankment of approaches
10	TAG-ANGILAN	TRINIDAD	NOT YET STARTED	
11	DUAY	DUERO	95% COMPLETED	Final Grading and Riprap
12	HAMBABAORAN	SIERRA BULLONES	TO BE STARTED	2nd Week of February
13	CURIMO	DIMIAO	COMPLETED	
14	CANDELARIA	DAGOHOY	95% COMPLETED	Ongoing Grouted Riprap
15	LA ROCA	DUERO	90% COMPLETED	On going Grouted Riprap
16	BORJA	CATIGBIAN	95% COMPLETED	for Final Grading and Asphalt
17	MAG-ASO	ANTEQUERA	COMPLETED	
18	RIZAL	CATIGBIAN	COMPLETED	

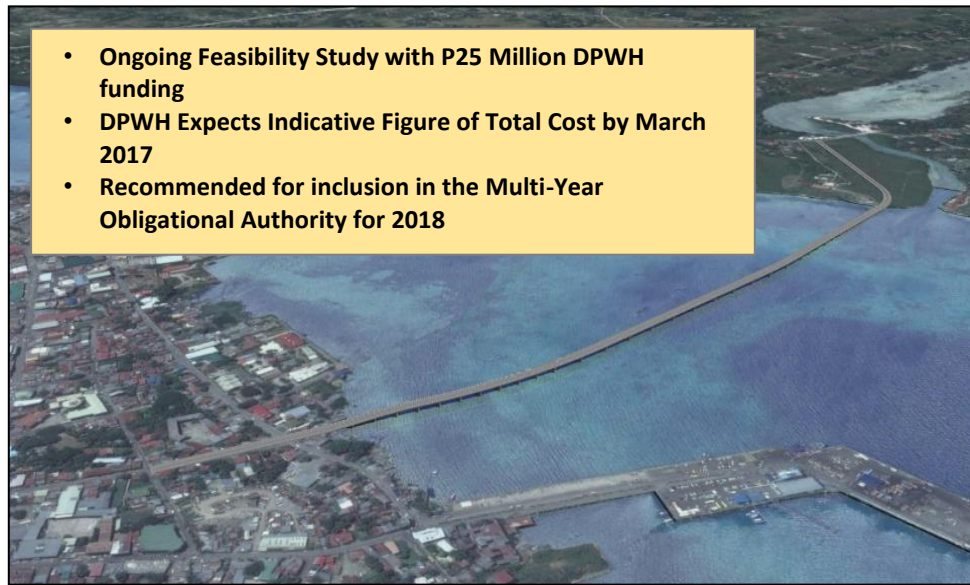
18 bridges to be upgraded to steel bridges with a total 396.24 linear meters in length

5. Completion of Bohol Earthquake Assistance (BEA) Projects

- Under the Bohol Earthquake Assistance (BEA) Fund, the Provincial Engineer's Office (PEO) upgraded/rehabilitated 36 provincial and barangay bridges with total length of 433.08 linear meters.



6. Construction of Tagbilaran City – Panglao Island 3rd Bridge



B. Seaport:

- Improvement of Terminal and Base Ports in Tagbilaran, Ubay, Catagbacan, Tubigon, Jagna, Talibon & Getafe



➤ **Port Development Projects:**

Improvement of Ubay Port

- Description: Ubay Port links to Maasin Port, S, Leyte
- Estimated Cost: P 55 Million
- Year of Implementation: 2015-2025

Tagbilaran Port Project

- Description: Improvement of Seaport Facilities
- Estimated Cost: P 750 Million
- Year of Implementation: 2015-2025

Tubigon Port Project

- Description: Improvement of Seaport Facilities
- Estimated Cost: P 250 Million
- Year of Implementation: 2015-2025

Ubay (Tapal) Seaport Project

- Description: Improvement of Ubay Seaport and its Facilities
- Estimated Cost: P 15 Million
- Year of Implementation: 2015-2025

Loon Port Development Project (International Cruise Ship Port)

- Location: Catagbacan Port, Loon, Bohol
- For implementation with initial investment of P200 Million from PPA



C. Airport

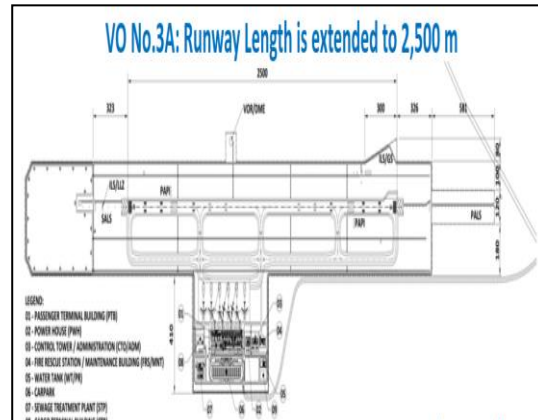
➤ **The construction of the New Bohol Airport Construction and Sustainable Environment Protection Project (NBACSEPP):**

- Ongoing civil works is expected to be completed by the 1st quarter of 2018
- Modification Works:
 - a. Construction of Passenger Boarding Bridges (PBBs).

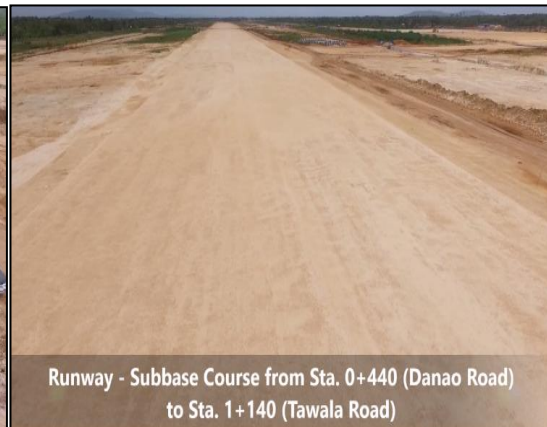


b. Extension of Runway by an additional length of 500 meters.

c. Funds for the additional works will be taken from the saving made during the competitive bidding and the recent depreciation of the Japanese currency value totaling an amount of about Million.



P439



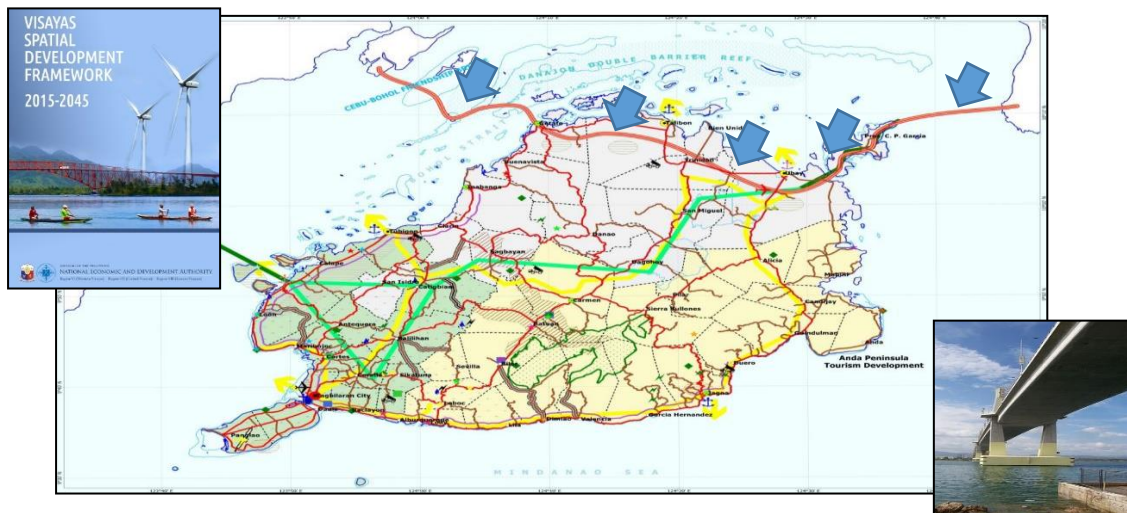
➤ **Ubay Airport Development**

- Open for Public-Private Partnership
- For general aviation, training and flying school, and transport services for agri-business and tourism
- With initial investment of P56 Million from CAAP



D. Forthcoming Programs/Projects

➤ **Construction of Inter-island Bridges and Roads through the Highlands of Bohol**



► **Bohol – Cebu Friendship Bridge**

- Location: Getafe, Bohol–Cordova, Cebu
- Description: Construction of a bridge connecting the island s of Bohol and Cebu
- Estimated Cost: P47.5 Billion *
- Year of implementation: 2026-2035

► **Bohol (Ubay) – Leyte (Maasin) Bridge**

- Location: Ubay, Bohol–Maasin, Southern, Leyte
- Description: Construction of a new bridge to connect Bohol and Leyte province
- Estimated Cost: P130.0 Billion *
- Year of implementation: 2026-2035

➤ **Construction of Other Major Bridges**

Ubay – Pres. Carlos P. Garcia Bridge

Location: Union, Ubay – Popoo, C.P.G

Estimated Length: Approximately 1.2 kms.

Estimated Cost for Feasibility Study: P 20.0M.



Talibon – Bien Unido Bridge

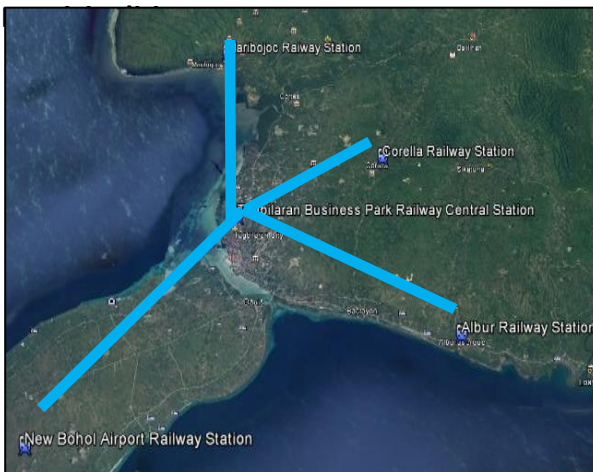
Location: Nueva Estrella, Bien Unido – San Isidro, Talibon

Estimated Length: Approximately 1.0 km.

Estimated Cost for Feasibility Study: P 20.0 M.



➤ **Monorail System Connecting Bohol Business Park to New Bohol Airport and Nearby**



- Development of a monorail system with stations at the Bohol Business Park initially connecting selected locations:

- ✓ New Bohol Airport
- ✓ Municipalities of Albur, Corella and Maribojoc
- ✓ Coverage can be expanded in the future

- Improves connectivity within the area of coverage and directly supports the operation of the business park and airport (to cater to the expected increase in tourists and travelers)

- Opens business opportunities, facilitates competition and reduces monopoly of business in localities

- Private-sector driven facility

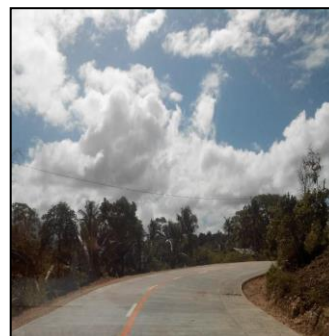
- Monorail system: cost-effective, less land requirement for right of way, most efficient and economical

➤ **Construction of Footbridge/Overpass Near School Sites with Heavy Foot Traffic**

- **Bohol Wisdom School**
C.P.G. Avenue, Tagbilaran City
- **Bohol Island State University**
C.P.G. Avenue, Tagbilaran City
- **University of Bohol**
Maria Clara St., Tagbilaran City
- **Holy Name University**
J. Clarin St., Tagbilaran City
- **Bohol Quality Mall**
C.P.G. Avenue, Tagbilaran City



➤ **Road Leveraging Linkages to Investments and Trade (RoLL-IT) Project**



Plans, Programs/Activities: (2016 – 2021)

DPWH I:

1. Road Upgrading (Gravel to Paved) based on Gravel Roads Strategies, Traffic Benchmark for upgrading to paved national road standards (HDM-4 Project Analysis) (Intermittent Sections) (Secondary Roads)
 - Upgrading Gravel to Concrete
 - Upgrading Asphalt to Concrete
2. Rehabilitation/Reconstruction/Upgrading of Paved National Roads including drainage based on Pavement Management System/Highway Development and Management-4 (HDM-4)
 - Rehabilitation/Reconstruction/Raising of Grades along TNR
 - Rehabilitation/Reconstruction/Upgrading of Damaged Paved National Arterial Roads along TNR

3. Preventive Maintenance based on Pavement Management System/Highway Development and Management-4 (HDM-4)
4. Network Development
 - Improvement/Widening of Secondary and Tertiary Roads
 - Off-Carriageway Improvement (Paving of Shoulder with Drainage Improvement)
 - Road Upgrading (Unpaved to Paved) Based on Gravel Road Strategies
 - Construction and Maintenance of Bridge/Rehabilitation/ Reconstruction/Replacement/Retrofitting of Existing Bridge
5. Maintenance and Construction Services of Other Infrastructure (Construction/Improvement of Access Roads leading to Airports, Seaports and Declared Tourism Destinations)
6. LOCAL BRIDGES(C 200 TYPE STEEL BRIDGE)
 - Proposed length configuration of temporary/emergency single lane Modular Steel Bridges (20 bridges–PGBh, DAR, DPWH)
7. Locally Funded Projects
8. Construction of Tagbilaran City to Panglao Island Bridge
9. Conduct of feasibility study of the construction of Footbridges/overpass near school sites with Heavy foot traffic
10. Conduct of feasibility study of the Monorail System connecting the Bohol Business Park to New Bohol Airport and nearby municipalities
11. Conduct study of traffic management along J. A. Clarin Street and along the roads around the Rizal Park fronting Old Capitol Building, Saint Joseph Cathedral, and major streets within the vicinity.
12. Conduct feasibility study of the Bohol Comprehensive Integrated Flood and Drainage System Master Plan
13. Implementation of Road Projects for road governance reforms:
 - a. DPWH-DOT Convergence Program for Provincial Roads/Tourism Highways Development
 - b. DPWH-DTI Convergence Program for Road Leveraging Linkages to Investments and Trade (RoLL-IT)

DPWH II:

1. MFO 1 - National Road Network Services
 - A. Assets Preservation of National Roads Generated from Pavement Management System/Highway Development and Management-4 (HDM-4)

- a) Preventive Maintenance (Intermittent Sections)
- b) Rehabilitation/Reconstruction of Damaged Paved National Roads
- B. Network Development
 - a. Widening of National Secondary Roads
 - b. Off-Carriageway Improvement
- C. Construction and Maintenance of Bridges along National Roads
- 2. MFO 2 - Flood Management Services
 - A. Construction/Maintenance of Flood Mitigation Structures and Drainage Systems
- 3. MFO 3 – Maintenance and Construction Services of Other Infrastructures
 - A. Construction/Improvement of Access Roads leading to Airports, Seaports & Declared/Strategic Tourism Destinations
 - a. To RORO Ports
 - b. To Declared/Strategic Tourism Destinations
- 4. Conduct of feasibility study of the Construction of Inter-Island Bridges and Roads through the Highland of Bohol
- 5. Construction of Ubay to Pres. Carlos P. Garcia Bridge and Talibon to Bien Unido Bridge
- 6. Implementation of Road Projects for road governance reforms:
 - a. DPWH-DOT Convergence Program for Provincial Roads/Tourism Highways Development
 - b. DPWH-DTI Convergence Program for Road Leveraging Linkages to Investments and Trade (RoLL-IT)

DPWH III:

- A. Roads:
 - 1. Rehab./Reconst./Upgrading of Damaged National Road including drainage
 - 2. Paving of Shoulder
 - 3. Road widening including drainage of National Roads
 - 4. Raising of Grade including approaches
 - 5. Road Upgrading (Unpaved to Paved) based on Gravel Strategies
- B. Bridges:
 - 1 Construction and Maintenance of Bridges along National Roads
 - 2. Retrofitting/Strengthening of Bridges
 - 3. Rehabilitation/Major Repair of Bridges

- C. Construction/Improvement of Access Roads leading to Airport, Seaports and Declared Tourism Destination
- D. Installation of Road Safety Devices
- E. Flood Control/Seawall Protection
- F. Implementation of Road Projects for road governance reforms:
 - a. DPWH-DOT Convergence Program for Provincial Roads/Tourism Highways Development
 - b. DPWH-DTI Convergence Program for Road Leveraging Linkages to Investments and Trade (RoLL-IT)

PEO :

- 1. Upgrading and maintenance of provincial roads and bridges
- 2. Completion of Bohol Earthquake Assistance (BEA) Projects
- 3. Sustainable engagement and collaboration with MLGU's, BLGU's and other agencies
- 4. Rehab and Minor Improvement (RMI) of Roads and Bridges
- 5. Construction of 20 bridges (Single Lane Modular Steel Bridge of the PGBh-DAR-DPWH Bridge Projects)
- 6. Provincial Roads Development and Rehabilitation Program
- 7. Coordination and management in the implementation of Philippine Rural Development Program (PRDP)
- 8. Assistance to the provincial implementation of the KALSADA Program
- 9. Implementation of Road Projects for road governance reforms:
 - a. DPWH-DOT Convergence Program for Provincial Roads/Tourism Highways Development
 - b. DPWH-DTI Convergence Program for Road Leveraging Linkages to Investments and Trade (RoLL-IT)

CEO :

- 1. Concreting of M. Parras Street, Lamdagan St., Bagong Lipunan Road, Matig-a St., Del Rosario St., B. Inting St., San Isidro-Cabawan Road and Espuelas Street
- 2. Concreting and Drainage Construction at G. Visarras Street, Franklin Street, T. Cloma Avenue, Janssen Heights Road, Calceta Street.
- 3. Concreting of Ubujan-Manga Coastal Road, Salazar Street, Dampas-Binayran-San Isidro Road, Katipunan Street, Ipil-ipil Street, Toledo Street.

4. Proposed Construction of Food Processing Center @ Manga National High School and Housekeeping Laboratory & Sports Laboratory @ Dr. Cecilio Putong National High School Evening Class.
5. Construction of Two Storey School Library & Sports Laboratory @ Dr. Cecilio Putong National High School
6. Proposed Single Storey, Welding Shop @ Mansasa High School
7. Proposed Housekeeping & Caregiving Building @ Dr. Cecilio Putong National High School
8. Proposed Single Storey, 2 Classroom School Building @ Dampas Elementary School
9. Proposed Two Storey, 4-Classroom School Building @ Dampas Elementary school
10. Proposed Single Storey, 2 Classroom School Building @ San Isidro High School
11. Proposed Construction of Science High School Covered Court @ Tagbilaran City National High School
12. Proposed Single Storey, 1 Classroom School Building @ Cabawan Elementary School
13. Proposed Single Storey, 1 Classroom School Building @ Booy Elementary School
14. Proposed Bleacher & 2 Movable Basketball (school gym) @ Dr. Cecilio Putong National High School
15. Proposed Computer Laboratory Science High School @ Tagbilaran city, Science High School
16. Proposed Food Tech & Beauty Care @ Mansasa High school
17. Proposed Bohol Friendship Park Development
18. Proposed Multi-Purpose Building/Evacuation Center (Phase 1)
19. Waste Water treatment
20. Hi-Tech Street Illumination Phase 5
21. Construction of Comfort Rooms @ CEO Building
22. Improvement of APC Building
23. Construction of Welcome Arches
24. Construction of Perimeter Fence to include APC
25. Construction of Covered and Basketball Courts
26. Construction of Police Community Precincts
27. Installation of Street Signs
28. Opening and Concreting of Newly Opened Road (Cogon District)
29. Construction of Fence at Motorpool

- 30. Rehabilitation of City Engineering Office
- 31. Painting Works of Pedestrian
- 32. Proposed Final Sorting Building

PPA :

- 1. Proposed Extension of Passenger Terminal Building, Welcome Center and Additional Fastcraft Berth, Port of Tagbilaran.
- 2. Improvement of Guardhouses, Welcome Arch, Center Island and Provision of Covered Walkway and Sidewalk along Causeway, Port of Tagbilaran.
- 3. Improvement of Covered Walkway and Replacement of Fendering System at Fastcraft Berth, Port of Tagbilaran.
- 4. Improvement of Guardhouses, Welcome Arch, Center Island and Provision of Covered Walkway and Sidewalk along Causeway, Port of Tubigon.
- 5. Construction of Port Integrated Collection Office, Port of Tagbilaran.
- 6. Proposed Reclamation for Motorpool, Office Storage, Ticketing Office and Back-up Area, Port of Tagbilaran.
- 7. Construction of Passenger Terminal Building, Port of Ubay.
- 8. Construction of Passenger Terminal Building cum Terminal Office, Port of Loon.
- 9. Construction of Passenger Terminal Building, Port of Getafe.
- 10. Proposed Patio de Pantalan, Port of Tagbilaran.
- 11. Loon Port Development Project, Port of Loon.
- 12. Dredging of Ubay Port, Port of Ubay.

CAAP :

- 1. Repainting/Repair of Runway Markings and Markers.
- 2. Maintenance Repair of Runway.
- 3. Vegetation Control of Runway Strip.
- 4. Dredging of Apron Canal.
- 5. Trimming/cutting of tall trees surrounding the runway strip.
- 6. Resealing of runway/apron joints.
- 7. Repair/repainting of passenger terminal building.
- 8. Repair/repainting of ARFF building.

LTO :

- 1. Acquire patrol car per district.
- 2. Register all transport group and association.
- 3. Provide help desk and monitoring on public transport.

4. Create a law enforcement team under the supervision of the concern agency.

PMPO :

1. Procurement of Equipment to Support Road Rehabilitation/ Development Program of the Provincial Engineer's Office (PEO)
2. Repair and Maintenance of Light and Heavy Road Equipment including necessary parts and tools.
3. Road Development and Rehabilitation Support Services (Labor Component).
4. Procurement of 1 unit Brand New Diesel-Powered Welding Machine for Offsite Welding Works.
5. Procurement of 1 unit Brand new Wheeled-type Hydraulic Excavator
6. Procurement of 1 unit Brand New 4x4 Truck with Articulated Crane

LTFRB :

1. Lot acquisition for the proposed Regional Office Building with an impounding area of 1,813 sq. meters.
2. Computer Interconnectivity project (LAN).

Sub-Sector: Water Supply & Irrigation Development

PROGRAM AND POLICY ACTION AGENDA PER SECTOR STRATEGY

Water and Sanitation			
Prioritized Strategies	Project/Programs / Activities (PPAs)	Policy Support Needed	Funding Requirement/ Sources
Strategy 1 Rain Water Harvesting	<ul style="list-style-type: none"> Information Drive on rainwater Collector Identification of Beneficiaries/ location Technical/ Specification Construction and Operation 	<ul style="list-style-type: none"> Resolution adopting establishment of Rain water collector Formulation of Procedure & Usage or Rain Collector Creation of Monitoring & Evaluation 	<ul style="list-style-type: none"> 1,500.00 per IEC (Local funds, CDF per brgy) P60,000.00 per IEC materials and others P50,000/ unit
Strategy 2 Local Monitoring of Groundwater Extraction	<ul style="list-style-type: none"> Creation of a Local ground Water Regulatory Committee Conduct of Ocular Inspection of existing ground water sources Data Base Establishment Periodic Monitoring on Water Quality and Quantity 	Enactment of Local ordinance regulating groundwater utilization	LOCAL FUNDS: <ul style="list-style-type: none"> P50,000.00 per year/ LGU- Transportation Expenses P60,000.00- IT Support P20,000.00 Public Consultation & IEC Expenses

Water and Sanitation			
Prioritized Strategies	Project/Programs / Activities (PPAs)	Policy Support Needed	Funding Requirement/ Sources
Strategy 3 Advocacy on efficient and economical use of water	<ul style="list-style-type: none"> Designing of IEC Module Production of Water Consumer's Manual IEC through Brgy. Assemblies in coordination with local WSPs Monitor and ensure implementation of all water tariff collection that is intended for watershed management 	<ul style="list-style-type: none"> Executive Order from the Governor to Mayors and Barangay Captains Creation of Monitoring Team per LGU 	<ul style="list-style-type: none"> P20,000.00/ barangay (LGU Funds) P30,000.00 per Brgy/WSP fund

➤ **BOHOL INTEGRATED WATER SUPPLY SYSTEM MASTER PLAN (BIWSSMP)**

The Bohol Integrated Water Supply System Master Plan guides the development of water resources for safe domestic, commercial and industrial use in order to improve the health of the community, while increasing opportunities for local economic development and protecting the depleting groundwater systems. The ultimate goal is to protect Bohol's water resources, while providing for the needs of economy, community and environment.

Water demand analysis through survey of beneficiary municipalities was undertaken to determine water demand characteristics. Local waterworks were also surveyed to determine the adequacy of water service. The projected population of Bohol and the projected population to be served under the Master plan up to 2035 is presented below.

**Projected Service Coverage for Urban and Rural Population at Five Year Interval
Population Period**

Year	Projected Population	Target Service Coverage		Source of Supply			
				Bulk Supply and Current Level III Sources		Other Sources	
		(%)	Population	(%)	Projected Population to be Served	(%)	Projected Population to be Served
2010	1,362,900	62	840,590	38	519,490	24	321,100
2015	1,480,700	90	1,327,568	58	864,638	31	462,930
2020	1,597,100	94	1,496,431	64	1,017,012	30	479,419
2025	1,707,600	94	1,600,192	66	1,126,300	28	473,892
2030	1,811,100	94	1,697,423	68	1,227,369	26	470,054
2035	1,908,200	94	1,788,683	68	1,298,559	26	490,124

Summary of Water Demand Projections for the Whole Province of Bohol

Demand Category	Demand (cumd)					
	2010	2015	2020	2025	2030	2035
Domestic	59,985	94,789	112,526	131,073	143,411	152,195
Commercial/Industrial	4,007	6,000	13,158	15,480	16,543	17,273
Institutional	2,996	3,272	3,965	5,490	5,790	6,024
Tourism	1,954	3,387	3,675	5,249	5,249	5,249
Industrial Estate	-	11,985	21,420	21,420	21,420	22,270
Total Water Demand	68,942	119,433	154,744	178,712	192,413	203,011
Non-Revenue Water	37,122	29,858	38,686	44,678	48,103	50,753
Average Daily Demand	106,064	149,291	193,430	223,390	240,516	253,764
Maximum Day Demand	134,499	188,924	244,840	281,637	303,223	319,906
Yearly Demand (mcm/yr)	38.71	54.49	70.60	81.54	87.79	92.62

RECOMMENDED PLAN

The recommended water supply master plan is envisioned to serve all the 47 municipalities and one city in Bohol. The identified potential sources are the six (6) river basins namely; Abatan, Loboc, Manaba, Carood, Ipil and Wahig-Inabanga. The municipalities and city are clustered under its river basin depending on the available flow that may be diverted from the river against the demand requirement, proximity of municipalities with respect to the river basin, hydraulic consideration, and geomorphology of the area. When completed, it will provide a total average daily production 208,353 cumd benefiting a population of about 1,078,000 in the Province of Bohol.

➤ Bohol Bulk Water Supply and Sanitation Project

- **The Project is divided into two phases:**
 1. *Phase I – Bulk Water Supply*
 2. *Phase II - Water Distribution and Sewerage/Sanitation Systems*
- **Municipalities covered:**
 - 18 towns comprising of 1 City and 17 Municipalities make up the Service Area:
(*Tagbilaran City, Alburquerque, Antequera, Baclayon, Balilihan, Catigbian, Daus, Lila, Loay, Loboc, Loon, Maribojoc, Panglao, San Isidro, Sevilla, Cortes, Corella and Sikatuna*)
- **Three (3) water sources were initially identified for Development:**
 1. Abatan River, Antequera
 2. Loboc River, Loboc
 3. Bugwak Spring, Balilihan



Proposed Clustering for Bohol Bulk Water Supply:

► The proposed recluster of municipalities takes into account the 2 studies conducted:

- ✓ *Feasibility Study for Bulk Water Supply under the Bohol Water and Sanitation Project of USAID COMPETE*
- ✓ *Bohol Integrated Water Supply System Master Plan under the LGDP of AusAID*

► Reclustering is necessary to:

- ✓ *Fast track the implementation of the Bulk water supply throughout the Province especially in areas where water is very much needed to support socio-economic development*
- ✓ *Reduce investment cost for development of facilities*
- ✓ *Lessen water cost for consumers*

GENERAL PARAMETERS

- Source of water must be surface water (rivers, falls, spring)
- Ground water sources are discouraged to avoid salt water intrusion/ maintained reserved groundwater and other environmental reasons
- Surface water will be tapped because:
 - ✓ Abundant, Reliable, Economically viable for potential investors
 - ✓ Potential investors are limited only to the supply of Bulk Water (tapping, development and supply)
- LGUs and Water Districts will maintain as the water distributor to consumers
- Provincial Government will manage the procurement and clustering based on available studies and to ensure that water sources are available, sufficient and affordable for these clusters, setting the parameters and terms of reference for management and procurement with the participation of technical consultants
- Setting of water rates for consumer's remains in the responsibility of LGUs/ Water Districts, subject to the technical viability of the water source to include transmission, water treatment costs.
- LGUs/ Water Districts are encouraged to improve their water distribution system

CLUSTER 1

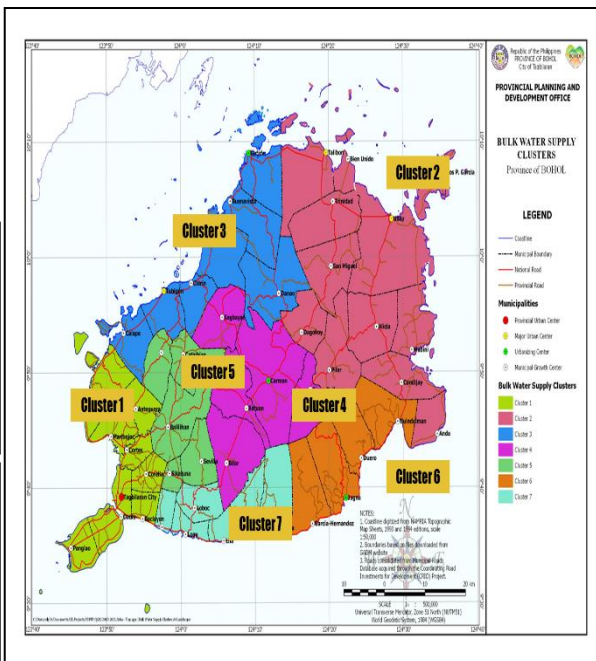
- **Areas covered:**
Cortes, Maribojoc, Tagbilaran, Dauis, Panglao, Corella, Baclayon, Antequera, Loon
- **Water Sources:**
Abatan River, Loboc River, Bugwak Spring and other Potential Surface water sources within the Cluster

CLUSTER 2

- **Areas covered:**
Trinidad, Talibon, Bien Unido, Ubay, Pres. Carlos P. Garcia, Alicia, Candijay, Mabini, Anda, San Miguel, Dagohoy, and Pilar
- **Water Sources:**
Ipil River and other surface water sources within the Cluster.

CLUSTER 3

- **Areas Covered:**
Inabanga, Getafe, Buenavista, Danao, Clarin, Tubigon, and Calape
- **Water Sources:**
Inabanga River and other surface water sources within the Cluster.



CLUSTER 4

- **Areas Covered:**
Sierra Bullones, Carmen, Batuan, Sagbayan, and Bilar
- **Water Sources:**
Water sources in Bilar and other surface water sources within the Cluster.

CLUSTER 5

- **Areas Covered:**
Balilihan, Sevilla, Sikatuna, Catigbian and San Isidro
- **Water Sources:**
Water sources in Balilihan, Sevilla and other surface water sources within the Cluster.

CLUSTER 6

- **Areas Covered:**
Guindulman, Duero, Jagna, Garcia-Hernandez,
- **Water Sources:**
Manaba River and other surface water sources within the Cluster.

CLUSTER 7

- **Areas Covered:**
Loboc, Valencia, Dimiao, Lila, Loay, Albuquerque
- **Water Sources:**
Loboc River and other surface water sources within the cluster.

2. Irrigation

Enhancement of Malinao Dam and other Irrigation Facilities:

➤ Upgrading of Malinao Dam

Location: Pilar, Bohol

Upgrade and raise up of 2 meter

Total Project Cost: PhP 653 Million

Project Components:

- ✓ Civil Works :
 - a. Malinao Dam Improvement
 - b. Irrigation Area Improvement
- ✓ Institutional Development Program
- ✓ Land Acquisition and Compensation
- ✓ Consulting Services

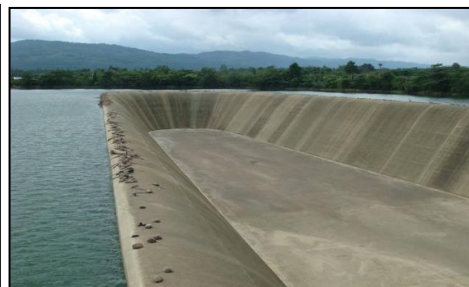
Fund Released:

CY 2015 – P 10.00 Million

CY 2016 – P200.00 Million

CY 2017 - P100.00 Million

Status: For finalization of Design Scheme



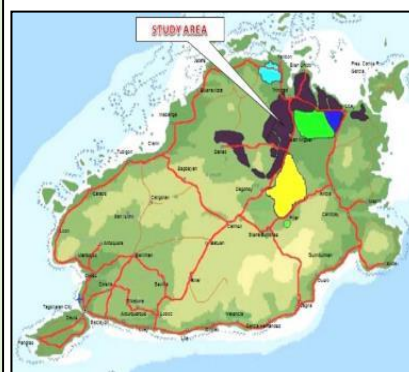
Small Reservoir Impounding and Irrigation Projects (SRIP)

Construction of Benliw SRIP, Ubay	- 400 Million	- 2015-2025 (ongoing)
Construction of Bonotbonot SRIP, Buenavista	- 400 Million	- 2015-2025 (ongoing)
Construction of Mabini-Cayacay SRIP, Mabini	- 450 Million	- 2015-2025 (ongoing)
Construction of Hibale SRIP, Danao, Bohol	- 350 Million	- 2015-2025 (ongoing)
Construction of Calunasan SRIP, Calape, Bohol	- 300 Million	- 2016-2018 (ongoing)
Construction of Liloan SRIP, Inabanga, Bohol	- 400 Million	- 2015-2025 (ongoing)
Construction of Cabulihan SRIP, Tubigon, Bohol	- 400 Million	- 2015-2025 (ongoing)
Construction of gabayan SRIP, Candijay, Bohol	- 450 Million	- 2015-2025 (ongoing)



Bohol Northeast Basin Multi-Purpose Dam Project

LOCATION	: DANA, BOHOL
SERVICE AREA	: 12,500 HAS.
MUNICIPALITIES COVERED	: Danao, San Miguel, Trinidad, Dagohoy, Bien Unido and Ubay
SOURCE OF WATER	: WAHIG RIVER
PROJECT OBJECTIVES:	
a. Irrigation System	
b. 10-MW Hydro Power	
Project Fund:	
• 2014 – 11,320,000.00 – FSDE	
• 2015 – 12,110,000.00 – FSDE	
• 2017 – 10,000,000.00 – FSDE	



Plans, Programs/Activities: (2016 – 2021)

BWUI :

1. Construction/Drilling of 2-deepwells at Tiptip and San Isidro
2. Construction of 1,000 cu.m. Reservoir at Tiptip or San Isidro area
3. Laying of 800 m. X 4"Ø PVC Transmission Mains at Titip and San Isidro
4. Construction of BWUI Office Building
5. Construction of 10MLD Ohan Spring WTP at Lourdes, Cortes
(Medium Term Program)
6. Laying of 9,500 m. X 400mmØ PE Transmission Mains from Ohan Spring
WTP to R6 in Dampas
7. Construction of 2,000 cu.m. Reservoirs at R6 Dampas
8. Continued Implementation of Non Revenue Water Reduction Programs
9. Continued Metering and Stub-outing Programs
10. Expansion of water services to the water stressed areas in Tagbilaran City and
Panglao Island

NIA :

1. Enhancement of Malinao Dam and other irrigation facilities
2. Construction of Benliw Small Reservoir Irrigation Project in Ubay, Bohol
3. Construction of Bonotbonot Small Reservoir Irrigation Project in
Buenavista,
4. Construction of Mabini-Cayacay Small Reservoir Irrigation Project in
Mabini,
5. Construction of Hibale Small Reservoir Irrigation Project in Danao, Bohol
6. Construction of Calunasan Small Reservoir Irrigation Project in Calape,
Bohol
7. Construction of Bohol Northeast Multipurpose Dam Project in Danao,
Bohol
8. Construction of potential Communal Irrigation Projects

PGBh :

1. Proposed Bohol Water and Sanitation Project (BWSP):

- Bulk Water Supply Project
- Water Distribution and Sanitation Project

CITY GOVERNMENT:

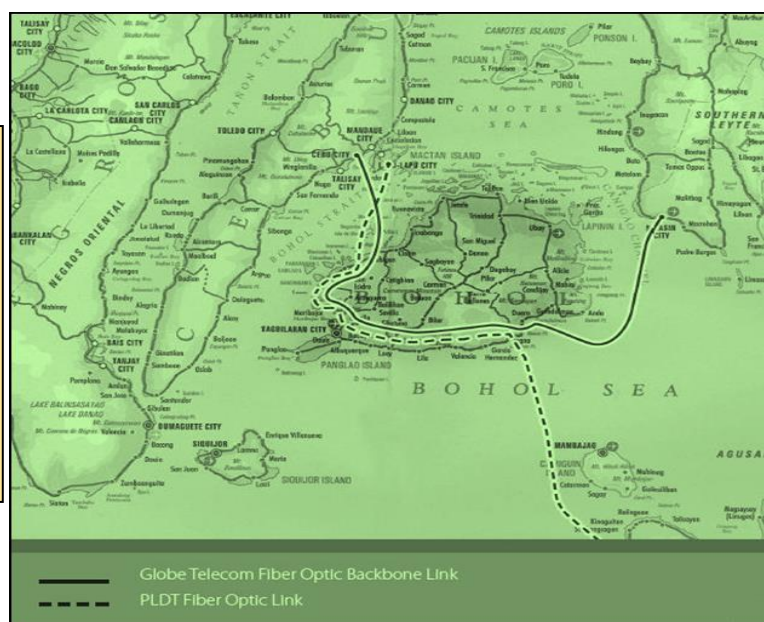
1. Construction of Wastewater Treatment Facility thru PPP in Tagbilaran City
2. Construction of Septage Treatment Facility thru PPP
(Ideal Site to be identified)
3. Construction of Solid Waste Treatment Facility thru PPP
(Ideal Site to be identified)
1. Tagbilaran Waterfront Development Project

Sub-Sector: Communications Development

1. Telephone Services

- On-going Development of Fiber Optic Network Facility in Bohol

Philippine Long Distance Telephone Company (PLDT) and Globe Telecom have completed upgrading Bohol's connectivity to the national fiber optic node into fully-protected submarine cables that go through different routes and are ready for commercial use.



PLDT continues to implement its upgrading program to increase the number of working lines in Tagbilaran and Panglao. In 2017, expansion of coverage is expected to be completed in the municipalities of Baclayon, Dausi, Tubigon, Anda, Talibon, and Ubay.

Plans, Programs/Activities: (2016 – 2021)

BLECS : 1. Regular/monthly feeding of information to all LGUs regarding Climate Change

2. Assist agencies in giving information on relief operations

PLDT : 1. FTTH (Fiber to the Home) Rollout in Alburquerque (East Poblacion), Baclayon (Brgy. Sta. Cruz & Laya), Cortes (Brgy. La Paz), Panglao (Brgy. Bolod & Royal Palm Area), Tagbilaran (Camella Homes), Tagbilaran (Brgy. Dao District), Tagbilaran (Brgy. Taloto Dist.), Tagbilaran (Brgy. Tiptip), Valencia (Badiang Spring Resort Area), Tubigon (Brgy. Poblacion), Jagna (Brgy. Poblacion), Calape (Brgy. Poblacion)

CRUZTECO : 1. Upgrading of Telephone facilities from Siemens to full NGN
2. Stand-alone satellite offices (Jagna and Tubigon)
3. CRUZTELCO is one of the bidders for the installation of Free WIFI in all towns and City in Bohol under DOST

PHILPOST : 1. Rewiring of Tagbilaran City PO
2. Issuance of Commemorative Stamp for the City Government of Tagbilaran in the celebration of its 50th Anniversary
3. Creation of Express Hub
4. Face-lifting/ Repair of Tagbilaran City PO
5. Full Computerization of Bohol Post Offices

BICT : 1. P.E.Z.A. Sites– IT Park

Sub-Sector: Power & Energy

● USAID-funded COMPETE Project: Bohol Island Power Development Plan (BIPDP)

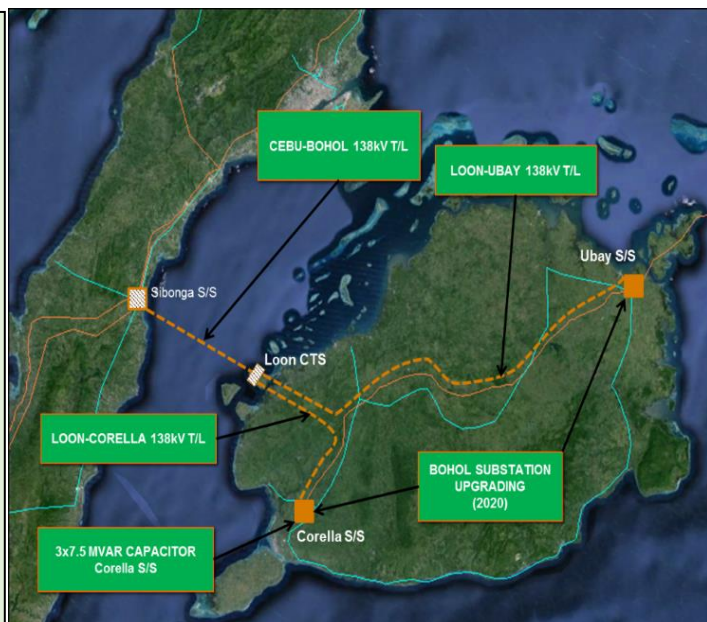
- E.O. No. 13 s. 2014 - Creation of Bohol Energy Development Advisory Group (BEDAG)
- BEDAG shall become the high-level and principal advisory body to the Provincial Government on any and all matters related to energy development in Bohol Province.
- *The Bohol Island Power Development Plan shall consist the following:*
 - Power Supply Plan (Generation Plan);
 - Transmission Development Plan (TDP);
 - Distribution Development Plan/s (DDP); and
 - Electrification Plan



● Upgrading of Transmission Lines and Development of New Power Sources

➤ Transmission Development NGCP:

1. Cebu-Bohol Interconnection Project (CY 2020)
 - a. Cebu-Bohol 138 kv Transmission Line (T/L)
 - b. Loon-Ubay 138 KV T/L
 - c. Loon-Corella 138 kv T/L
2. Bohol Substation Upgrading at Ubay and Corella SS (CY 2020)
3. Visayas Voltage Improvement Project 3x7.5 MVAR
4. Capacitor in Corella (CY 2019)
5. Tagbilaran 69 KV Substation (CY 2020)



➤ Cebu – Bohol Interconnection Project

a. Existing Transmission System (Cebu – Leyte - Bohol)



b. Projected Loading of Leyte – Bohol

Normal Condition			
Year	Available Generation	Projected/ Historical Demand (MW)	Leyte–Bohol Submarine Cable
2013	5.2	68.3	66%
2014	5.2	71.5	69%
2015	5.2	75.0	72%
2016	5.2	77.0	79%
2017	5.2	80.4	83%
2018	5.2	83.9	86%
2019	5.2	87.4	94%
2020	5.2	90.8	101%
2021	5.2	94.3	108%

Forecast is expected to **increase** as we are expecting faster load growth in Bohol with the completion of Panglao Airport that will **boost** the tourism and commercial industries.

c. Proposed Cebu – Bohol 138 KV Interconnection Project



The project will provide the connecting link between the power system of the island of Cebu and Bohol. The 30 kilometer, 200 MW Submarine Cable to be laid from Sibonga, Cebu Substation of 2x50 MVA to Loon Cable Terminal Substation (CTS) and connected through a 17 kilometer, 2x180 MW to Corella substation.

➤ One Bohol Power (1 BP) Aggregation

➤ One Bohol Power (1BP) Aggregation with the signing of the short and medium-term power supply agreements



ACTIVITY	SCHEDULE (Tentative)	REMARKS
Publication of Invitation for Public Bidding	1 st Quarter, 2017 and the week after 1 st Publication	Status: Proceed with the selection process for the long-term power supply agreement for the distribution utilities of Bohol.
Deadline of Submission of Letter of Intent (LOI) and Payment of Participation Fee	15 days after second Publication	
1 st Transaction Conference	30 days after LOI Deadline	
2 nd Transaction Conference	30 days after 1 st Transaction	
3 rd Transaction Conference	30 days after 2 nd Transaction	
Submission of Bids	9 months after last transaction conference	
Opening and Evaluation of Financial Proposals	Same day	
Post-Qualification, Verification of Value Added Services and Evaluation of Technical Proposal of Proponent with Lowest Calculated Long-Term Levelized Price (LCP)	Within 30 days after opening of Bids	
Declaration of Winning Proponent /s	30 days after Bid Opening	
Notice of Award to Winning Proponent/s	Same day	
Acknowledgement/Acceptance of Notice of Award	15 days after Notice of award	
Negotiations and Finalization of Power Supply Agreement	Within 3 months after Acknowledgement	
Signing of Power Supply Agreement	15 day after final Negotiation	
ERC Filing	ASAP	

➤ Proposed Long-Term Power Supply Procurement for Bohol from 2024 to 2043

The province of Bohol through its power and businesses sectors have foreseen the need for a long-term power supply that will add new generating capacity. This indispensable need envisage the

construction of a land-based power plant in Bohol that will serve its future power requirements. **According to the BEDAG-TWG based on its forecast computations - by year 2024 the combined power load demand for the 3 DUs in Bohol shall be at an average of 100 megawatts.** The 100 megawatt-threshold is the minimum requirement that Gencos require to enter into exclusive contracts with interested DUs according to the USAID Compete Team of UP consultants. This scenario is substantiated by the 1BP aggregation within the purview of its experience and expertise in the field of power supply distribution to electric consumers.

However, this undertaking is easier said than done; it could not be done overnight. There are basic important issues and concerns that need to be addressed first. One of the paramount concerns is the need to scout potential sites or locations for a proposed onsite power plant which would be strategically identified or designated as a priority investment area. But before this is done, the formulation of a policy framework should be put in place to set things in order. This policy framework will serve as a mechanism that will support and facilitate site identification, incentives grant offers and institutional processes in the form of assistance to potential power bidders in order to attract them. The concept of a power economic zone (power ecozone) is most likely appropriate and expected to address the abovementioned concerns. Furthermore, the proposed power ecozone is envisioned to be a key enabler for attracting power supply companies that would locate their facilities in Bohol. The idea of power ecozone in Bohol has been conceptualized through the collaborative efforts of the Bohol Power Investments Coordination Committee (BPICC), the BEDAG-TWG and the 1BP with technical assistance of the USAid Compete Team and facilitative support by the PPDO.

The proposed Power EcoZone has its overall goal of ensuring power supply availability, security, reliability and affordability. It will entice and facilitate the entry of power generating companies (Gencos) including renewable energy-based power plants which shall be entitled to special incentives allowed under the Bohol Investment Code and other types of support or assistance to be identified by the prospective LGU where the future power plant shall be located. If this scenario will materialize, these GenCos shall undergo competitive selection process (CSP) that would facilitate the establishment of the power plant in a timely and effective manner.

➤ **Power Generation Projects Using Appropriate Technologies in Suitable Areas of the Province.**

- **Formulation of a long-term Bohol Island Power Development Plan (BIPDP), which ensures:**
 - ✓ security of supply – available when needed;
 - ✓ reliability and resiliency (climate-proof) of supply;
 - ✓ affordability (least-cost)
- **The Province welcomes private sector investments for power facilities that are:**
 - ✓ intended to install new capacity for meeting the baseload requirement of distribution localities starting in 2019;
 - ✓ primarily for the purpose of selling to the grid; and
 - ✓ intended to serve the requirements of off-grid or other specific users in the island province
- **Potential Sites for Power Supply Development**
 - ✓ Danao (Cantakoy Hydro Power)
 - ✓ Loboc (Loboc Hydro Power)
 - ✓ Balilihan (Janopol Hydro)
 - ✓ Antequera (Inambacan)
 - ✓ Garcia Hernandez (Upper and Lower Manaba)
 - ✓ Jagna (Balili and Odiong)
 - ✓ San Isidro (Caimbang)
 - ✓ Duero (Alijawan)
 - ✓ Ubay (Gabi and Asinan)



➤ **Renewable Energy Sources as ancillary support for existing power requirements**

Based on the information extracted from the Coordinating Roads and Infrastructure Investments for Development (CRID), a joint program facilitated by the Bohol Chamber of Commerce and Industry (BCCI) and the Provincial Government of Bohol (PGBh) – there are three (3) proposals from three (3) Gencos to build renewable energy (RE) power plants in Bohol. These proposals correspond to three (3) identified areas in Bohol, namely: Ubay for solar, Jagna for wind, and Alicia also for solar. These proposed RE power plants cost Php 50,000,000.00 each. All these project proposals have been endorsed by the Regional Development Council (RDC) to the National Economic Development Authority-Investments Coordinating Committees (NEDA-ICC) for possible funding by the concerned and appropriate agencies.

In 2015, the Provincial Government of Bohol (PGBh) through the BEDAG conducted three (3) Power Investment Forums in Bohol. The first, second and third investment forums were held in Bohol on February 10, 2015, March 16, 2015, and June 16, 2016, respectively. A total of sixteen (16) private power generation/technology companies have presented their credentials and concepts on power investments for Bohol. Notwithstanding coal, the aforementioned power companies also offered to build renewable energy-driven power plants such as hydro, solar, wind and biomass.

Plans, Programs/Activities: (2016 – 2021)

NGCP :

1. Ormoc-Maasin 138 KV Transmission Line 2 Project - 113.97 km T/L (2016)
2. Visayas Voltage Improvement Project 3 X 5 MVAE Capacitor (2019)
3. Tagbilaran 69 KV Substation (2020)
4. Cebu – Bohol Interconnection Project (2020)
5. Transmission Line Maintenance Program:
 - a. Pole Replacement – 7 Circuit (2016)
 - b. Cross Arm Replacement – 7 Circuit (2016)
 - c. Comprehensive Maintenance:

➤ (2016)	-	11 Circuit
➤ (2017)	-	7 Circuit
➤ (2018)	-	7 Circuit
➤ (2019)	-	6 Circuit
➤ (2020)	-	4 Circuit

BLCI :

1. Extension of Distribution Lines
2. Upgrading of Distribution Lines
3. Additional Substation
4. Electrification

BOHECO I :

1. BLEP Project (Barangay Line Enhancement Program)
 - a. Energized all household thru NIHE (National Intensified Household Electrification)
 - b. Upgrade existing distribution lines on Island Barangays thru submarine cable and connect to the Grid (mainland)
 - c. Sustain power reliability
 - d. Reduced power cost level to mainland
2. Renewable energy-solar power introduction

BOHECO II :

1. Construct new substation at Jagna
2. Replacement of existing power transformer 2.5 MVA to 5 MVA at Mahayag, San Miguel
3. Replacement of kwhr meter with accurate register
4. Massive recruitment for DOE program recipients
5. Massive Information drive
6. Barangay Line Enhancement Program/Island Barangays will be installed submarine cable to connect mainland Grid
7. Upgrading of Power Transformer-Alicia Substation 6 MVA to 10 MVA
8. Sitio Electrification Program (SEP) to all Sitios un-energized
9. Construction of Jagna Main Office Head Quarter Building
10. Construction of Ubay Area Office Collection Center
11. Acquisition of Sus-Transmission Asset of NGCP 69 KV from Ubay to Garcia Hernandez Lines
12. Install SCADA to all Substations

PGBh:

1. Bohol Island Power Development Plan (BIPDP)
 - Power Supply Plan (Generation Plan)
 - Transmission Development Plan
 - Distribution Development Plan
 - Electrification Plan
2. Use LFC as a “Clearing House” for decision-making vis-à-vis Power
3. Operation of the Bohol Energy Development Advisory Council (BEDAG)

LOCAL DEVELOPMENT INVESTMENT PROGRAM/ACTION PLAN: CY 2016-2021

Programs/Projects/Activities (PPAs)

Sector: **ENVIRONMENT MANAGEMENT**

Sub-sector: **Environment and Natural Resources Management**

Agencies: **DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES (DENR), CENRO Tagbilaran & Talibon**

BOHOL ENVIRONMENT MANAGEMENT OFFICE (BEMO), SWCF, LGU

Programs/Projects	Location	Target Areas (hectares)	Funding Source	Implt'g. Agency	Investment Requirement (in Million Pesos)					
					2016	2017	2018	2019	2020	2021
1. National Greening Program (rehab. of open and denuded forestland in Bohol including maintenance &	Province-wide	1,100	DENR	DENR	6.04	31.82	15	15	15	15
2. National Forest & Landscape Restoration	Province-wide		DENR	DENR		25	10	10	10	10
3. Forest Boundary Line planting of Raintree	Province-wide		DENR	DENR		2	3	3	3	3
4. Land Disposition (Issuance of Residential Free Patent & Agricultural Free	Province-wide		DENR	DENR	8.25	8.25	8.25	8.25	8.25	8.25
			PGBH		3.5	3.5	3.5	3.5	3.5	3.5
5. Protected Area Management & Habitat	16 Protected Areas in Bohol		DENR	DENR		12.8	5	5	5	5
6. Protection & Conservation of Wildlife	Entire Province of Bohol		DENR	DENR		5	5	5	5	5
7. Pilot testing of Coastal & Marine Environment Comprehensive Mgt. Plan(Baseline/ benchmarking	Bien Unido, Talibon, Ubay, Pres. Garcia, Getafe, Buenavista, Inabanga, Clarin, Tubigon,		DENR	DENR		15	5	5		

Programs/Projects	Location	Target Areas (hectares)	Funding Source	Implt'g. Agency	Investment Requirement (in Million Pesos)					
					2016	2017	2018	2019	2020	2021
assessment inventory at Danahon Double Barrier Reef)									5	5
8. Ecotourism Development of RSPL	Bilar, Batuan, Carmen, Sagbayan		DENR	DENR		1.5	1.5	1.5	1.5	1.5
9. Climate Resilient Development Management	Province-wide		DENR, LGUs	DENR, NGO LGUs		15.6	1.3	3.9	2.6	3
10. Mangrove Rehabilitation Program	Coastal areas & island/islet barangays in Bohol	2,000	DENR, LGUs	DENR, NGO LGUs		12	6	6	6	6
11. Watersheds Characterization	watersheds in Bohol not yet characterized		DENR	DENR		2	2	2	2	2
12. Capacity Development Program	Province-wide		DENR	DENR		1	1	1	1	1
13. Upland Reforestation	Potential timberland within Bohol	2,000	DENR	DENR		16	8	8	8	8
14. Integrated Natural Resource and Environmental Management Project (INREMP)	17 municipalities in Wahig-Inabanga Watershed	848	ADB DENR	DENR, LGUs, POs	35	35	35	35	35	35
➤ Natural Resource Management										
15. Monitoring of establishments, and emission	Province-wide		EMB	EMB	1	1	1	1	1	1
16. Beach Watch	Panglao Bohol		EMB	EMB	0.5	0.5	0.5	0.5	0.5	0.5
17. Monitoring of water discharges	Province-wide		EMB	EMB	0.5	0.5	0.5	0.5	0.5	0.5
18. Development of Marine Biodiversity Center to	Suitable area along coastal zone	20-Oct	PBGH, BTO,	BEMO DENR		5	5	5	2	2

Programs/Projects	Location	Target Areas (hectares)	Funding Source	Implt'g. Agency	Investment Requirement (in Million Pesos)					
					2016	2017	2018	2019	2020	2021
complement the Bohol Biodiversity Center in Bilar			DENR, NGOs. SWCF, Private	SWCF BTO 						
19. Maintenance of Bohol Biodiversity Center: a) Seedling production b) Non-wood forest production c) Vermi-composting d) Vermi-composting facility e) Procurement of 1-shedder	Bilar, Bohol	5 hectares	BEMO SWCFI	BEMO SWCFI	1	1	1	1	1	1
20. Development of Biodiversity Reserves &	Public/private schools near		Dep-Ed NGOs	Dep-Ed SWCFI	0.5	1.5	1.5	2	2	2
21. Covenant Forest and Green Program on private & church lands	Any private lands suitable for project	1,000	BEMO, Churches, Private Land owners	BEMO DENR	0.5	0.5	0.5	0.5		
22. Development of Biodiversity Data Bank in Bohol	Selected university (BISU)		BEMO, BISU, Academe	BEMO, BISU, Academe	0.5	0.5	0.5	0.5	0.25	0.25
23. Forest Resources Management			PGBH	BEMO, BISU, Academe	1	1.2	1.2	1.2	1.2	1.2
a) Updating of forest cover			BEMO, BISU, Academe							
b) Mapping of natural forest	Province-wide									

Programs/Projects	Location	Target Areas (hectares)	Funding Source	Implt'g. Agency	Investment Requirement (in Million Pesos)					
					2016	2017	2018	2019	2020	2021
c) Geotagging of pocket forest	Tagbilaran City									
d) Establishment of pocket forest										
24. Approval of Bohol Ecotourism Framework Plan	Province-wide		BEMO	BEMO	0.1	0.1				
25. Enhancement of MPA Habitat & management	Coastal municipalities		PGBH BEMO	BEMO	0.6	0.6				
a) MPA assessment using MEAT tools										
b) Training/workshops										
c) Underwater biophysical assessment										
d) Mangrove plantation							0.6	0.6	0.6	0.6
e) Coral restoration and transplantations activities										
26. Strengthen and capacitate (30) Municipal Coastal Law Enforcement Teams – 8 CLEC Clusters, MCLETs & BETs in the protection of respective	Coastal municipalities		PGBH BEMO	BEMO	1.5	1.5	1.5	1.5	1.5	1.5
27. Purchase of seaborne patrol boats with complete	CLEC		PGBH thru BEMO	BEMO	2	8	1	1	0.5	0.5
28. Purchase of IEC materials (coastal protection & conservation) for posting to					0.2	0.2				
							0.2	0.2	0.2	0.2
29. Provision of financial assistance to 8 CLEC Clusters	8-CLEC clusters				2	2	2	2	2	2

Programs/Projects	Location	Target Areas (hectares)	Funding Source	Implt'g. Agency	Investment Requirement (in Million Pesos)					
					2016	2017	2018	2019	2020	2021
30. Conduct MPA Assessment, Reorganization of MPA Management Councils and	Coastal municipalities			BEMO	0.3	0.3				
			PGBH BEMO				0.3	0.3	0.3	0.3
31. Capacity Development & hiring of technical staff	Coastal municipalities		PGBH BEMO	BEMO	0.8	0.8				
							0.8	0.8	0.8	0.8
32. Giant Clam Hatchery Operation	Coastal municipalities		PGBH BEMO	BEMO	1.5	1.5				
a) Procurement of equipment	Sinandigan, Ubay						0.75	0.75	0.75	0.75
b) Maintenance of hatchery										
c) Repair and maintenance of equipment and vehicles										
33. Conduct regular CLEC, PCLETF, CLE-PTWG & CLEC	Coastal municipalities		PGBH BEMO	BEMO	0.3	0.3	0.3	0.3	0.3	0.3
34. Provision of financial assistance and livelihood to	Coastal municipalities		PGBH BEMO	BEMO	0.8	0.8				
							0.8	0.8	0.8	0.8
35. Construction of Visitor Center at the same time display center, and venue for seminar, trainings and other	To be identified at BBC Bilar Bohol		PGBH BEMO	BEMO	1	1	1	0.5		
									0.5	0.5
36. Construction of native cottages for local and foreign researchers, students, volunteers, and walk-in visitors	To be identified at BBC, Bilar Bohol		PGBH BEMO	BEMO	1.5	1.5	1.5	0.5		
									0.5	0.5
37. Construction of Climate Change Center Facility at BBC	Bilar Bohol		PGBH BEMO	BEMO	2	2	0.5	0.5	0.5	0.5
38. Showcasing the CPG Park	CPG, Tagbilaran City		PGBH	BEMO	1	1	0.3	0.2	0.2	0.2

Programs/Projects	Location	Target Areas (hectares)	Funding Source	Implt'g. Agency	Investment Requirement (in Million Pesos)					
					2016	2017	2018	2019	2020	2021
as "Eco-Park"			BEMO							
39. Updating of forest and Delineation/mapping of	All timberlands in Bohol		PGBH BEMO	BEMO	0.5	0.5	0.5	0.5	0.5	0.5
40. Conduct verification, monitor quarry operation, evaluation, and enforcement & investigation of conflict	Province-wide		PGBH BEMO	BEMO	1	1	1	1	1	1
41. Pollution Control Program	Province-wide		PGBH BEMO	BEMO	0.2	0.2				
a) Quarterly collection of samples										
b) Compliance of legal requirements e.g water permit, and discharges							0.2	0.2	0.2	0.2
c) Capacity enhancement trainings and workshops										
42. Support in the implementation of Integrated Water Resources Mgt.	Abatan, Carood, Wahig Inabanga and Loboc watersheds		PGBH BEMO	BEMO	0.1	0.2				
a) Technical assistance to watershed management							0.2	0.2	0.2	0.2
b) Water quality monitoring										
c) Training/workshops/meetings										
43. Geohazard Survey &	Tubigon, Clarin,		MGB-7	MGB-7	1					

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Programs/Projects	Location	Target Areas (hectares)	Funding Source	Implt'g. Agency	Investment Requirement (in Million Pesos)					
					2016	2017	2018	2019	2020	2021
	BIAD II – Macaas, Tubigon (for Loon, Calape, Tubigon, Clarin, San Isidro, Catigbian, Inabanga, Buenavista, Getafe									
49. Monitoring & Evaluation of ESWM Best Practices	Province-wide (48 LGUs)		PGBH BEMO	BEMO DENR		1.5		1.5		1.5
50. Sustained ISO 14001:2004 (EMS) Implementation and Operation a. Conduct of EMS Internal Audit b. Conduct of EMP Monitoring c. EMS Management Review d. Conduct 3 rd party surveillance audit e. Facilitate compliance to legal and requirements	Pilot PGBh offices		PGBH BEMO	BEMO		0.85				
							0.85	0.85	0.85	0.85
51. Upgrading of Environmental Management System (EMS) to ISO 14001:2015 Version a) Conduct orientation on the new version of ISO 14001 b) EMS documentation series of workshops	Pilot PGBh offices		PGBh BEMO	BEMO & Pilot Offices		1	0.8			
								0.8	0.8	0.8

Programs/Projects	Location	Target Areas (hectares)	Funding Source	Implt'g. Agency	Investment Requirement (in Million Pesos)					
					2016	2017	2018	2019	2020	2021
c) Procurement of EMS supplies and equipment, production of manuals and IEC materials and other related activities										
52. Development of Bohol GeoPark	14-sites in Bohol		PGBH UP-SURP UNESCO	BEMO, BTO, CCAD DENR, BTC PPDO,LGU s		1	3	3	3	3
53. Coastal Resource Management Program	Coastal Municipalities		PGBH	BEMO	5	6.3	6.3	6.3	6.3	6.3
54. Ecological Waste Management Program	Provincewide		PGBH	BEMO	0.5	1.5	1.5	1.5	1.5	1.5
55. Forest Resource Management Program	Provincewide		PGBH	BEMO	1	1.3	1.3	1.3	1.3	1.3
56. Pollution Control Program	Provincewide		PGBH	BEMO	0.1	0.12	0.12	0.12	0.12	0.12
57. Water Resource Management Program	Provincewide		PGBH	BEMO	0.1	0.12	0.12	0.12	0.12	0.12
58. Marine Protected Areas (MPA) Program	Coastal Municipalities		PGBH	BEMO	2	2	2	2	2	2
59. EMS/ ISO Certification and Other Related Programs	PGBh		PGBH	BEMO	0.93	1.6	1.6	1.6	1.6	1.6
60. Capital Expenditures related to the implementation of livelihood/ local economic development projects at the Bohol Biodiversity Center	Bilar		PGBH	BEMO	1.6					
61. Sand and Gravel Quarry Monitoring Operations	Provincewide		PGBH	BEMO	1.564	1.5	1.5	1.5	1.5	1.5
62. Coastal Resource Mgt. Research Boat	Provincewide		PGBH	BEMO		1.5				

LOCAL DEVELOPMENT INVESTMENT PROGRAM/ ACTION PLAN: CY 2016 -2021

Sector : ECONOMIC DEVELOPMENT

Sub-sector : AGRICULTURE

Agency : Office of the Provincial Agriculturist (OPA)

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NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTING AGENCY	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
Research & Agri Support Services/Procurement of Drilling Equipment and Accessories & Weighing Scale	Provincewide	20% DF	OPA	1.00	1.00	1.00	1.00	1.00	1.00	6.00
14 Agri-Pinoy Fisheries	Provincewide	Non-Office	OPA	1.73	1.75	1.75	1.75	1.75	1.75	10.48
15 Food Security Program	Provincewide	Non-Office	OPA	3.80	3.00	3.00	3.00	3.00	3.00	18.80
16 Nutrition	Provincewide	Non-Office	OPA	3.57	3.57	3.57	3.57	3.57	3.57	21.44
17 World Food Day Celebration	Provincewide	Non-Office	OPA		0.13	0.13	0.13	0.13	0.13	0.65
18 Sandugo Agri-Fair Celebration	Provincewide	Non-Office	OPA		0.26	0.26	0.26	0.26	0.26	1.28
19 Ubi Festival Celebration	Provincewide	Non-Office	OPA		0.44	0.44	0.44	0.44	0.44	2.20
Suhid sa Malamposong Mag-uumang Bol-anon	Provincewide	Non-Office	OPA		0.47	0.47	0.47	0.47	0.47	2.35
21 Special Project for Bangus Hatchery	BISU, Candijay	Non-Office	OPA		0.50	0.50	0.50	0.50	0.50	2.50
22 Greenhouse for Vegetable Production		Non-Office	OPA		1.50	1.50	1.50	1.50	1.50	7.50
23 Giant Clamp Hatchery	Selected Locations	Non-Office	OPA		1.00					1.00
Seaweed Development and Management	GEF Areas	World Bank (60%) Proponent Group (20%) PGBh (10%) MLGU (10%)	Proponent Enterprises/ PS/ BFAR & Other NGAs / OPA/ MLGU							
23 Seaweed Research and Training Center						5.00				5.00
24 Seaweed Nurseries						3.00	3.00	2.89		8.89
25 Expansion of Production Areas										0.00
- 4,673 has. Potential Seaweed Areas (Year 1-3 = 1,557.67 ha./yr)						280.38	280.38	280.38		841.14
- 9,300 has. Potential Deep-Sea Farms (Year 3-6 = 9,300 ha.)								372.00	372.00	744.00
26 Techno Demo Farms						1.00				1.00
27 Construction of Support Facilities										
- 12 Drying Platforms with Storage Facilities						140.00				140.00

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LOCAL DEVELOPMENT INVESTMENT PROGRAM/ ACTION PLAN: CY 2016 -2021

Sector : **ECONOMIC DEVELOPMENT**

Sub-sector : AGRICULTURE

Agency : Office of the Provincial Veterinarian (OPV)

NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTING AGENCY	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
A. PRODUCTION										
Bohol Native Chicken Dev't. Program				3.50	0.50	1.00	1.00	1.00	1.00	8.00
1. Breeder Production										
a. Institutional	Bilar, Ubay	PLGU, DA	OPV, DA-USF							
b. Municipal	Provincewide	PLGU,MLGU, BAI	OPV, MAO							
2. Feed Dev't	Bilar, Ubay	PLGU, DA	OPV, DA-USF							
3. NCD Satellite Lab	Tagbilaran	PLGU,DA	OPV							
4. Research & Development	USF,Ubay	PLGU,DA,	OPV,USF,UPLB							
		PCARRD	PCARRD							
Sub-total >>				3.50	0.50	1.00	1.00	1.00	1.00	8.00
Poultry Egg Development Program										
1. Rice Duck Farming	Rice Farming Areas	PLGU, DA, DOLE,	OPV,OPA,MAO		1.00	1.00	1.00	1.00	1.00	5.00
2. Establishment of Breeder	Rice Farming Areas	MLGU, NGO,	OPV,OPA,MAO		1.50	1.50	0.50	0.50	0.50	4.50
Production Farms/Centers		DA-USF								
for Ducks & Native Chicken										
3. Inventory of ducks & native chicken breeder base	Provincewide	DA, PLGU	OPV, MAO		0.10		0.10		0.10	0.30
4. Product development	Provincewide	DA, PLGU	OPV, MAO		0.30	0.30	0.30	0.30	0.30	1.50
5. Capacity Development	Provincewide	DA, PLGU	OPV, MAO		0.30	0.30	0.30	0.30	0.30	1.50
Sub-total >>					3.20	3.10	2.20	2.10	2.20	12.80
Provincial Dairy Development Program										
1. Infusion of dairy breeds	Provincewide	NDA, PCC	NDA, PCC, OPV		10.00		10.00		10.00	30.00
			MLGUs							
2. Community-based dairy farming	Provincewide	NDA, PCC	NDA, PCC, OPV		3.00	3.00	3.00	3.00	3.00	15.00
3. Product research &	Provincewide	NDA, PCC, DA	NDA, PCC, OPV,		1.00	1.00	1.00	1.00	1.00	5.00

NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTING AGENCY	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
development			MLGUs							
Sub-total >>				-	14.00	4.00	14.00	4.00	14.00	50.00
LETS HELP Bohol Program	Provincewide	PLGU, PO	OPV, MLGUs	2.00	1.00	1.00	1.00	1.00	1.00	7.00
Mutton Development Program	Provincewide	DA, PLGU	OPV, MLGUs			1.00	1.00	1.00	1.00	4.00
Chevon Development Program	Provincewide	DA, PLGU	OPV, MLGUs		1.00	1.00	1.00	1.00	1.00	5.00
Livestock Buy-back System	Provincewide	DA, PLGU	OPV, MLGUs			5.00	5.00	5.00	5.00	20.00
Livestock Herd Build-Up	Provincewide	DOLE, MLGU, DA,	DOLE, MAO,							
1. CDP-PPM Livestock-based	CDP-PPM areas	PLGU	OPV			1.00	1.00	1.00	1.00	4.00
2. Dairy SLP	Dairy Zones	PLGU, PCC, DSWD	OPV, PCC, DSWD	9.00	3.00	3.00	3.00	3.00	3.00	24.00
		PRDP								
3. Native Chicken SLPs	Balilihan, Anda,	PLGU, PRDP	OPV, MAO		1.00	1.00	1.00	1.00	1.00	5.00
	Dauis									
4. LETS HELP BOHOL Program	Provincewide	PLGU, CONBUSAC	OPV	2.00	2.00	1.00	1.00	1.00	1.00	8.00
5. Provincial Livestock & Poultry Production Center	PLPF Bilar	PLGU	OPV	1.00	1.00	1.00	0.50	0.50	0.50	4.50
6. Rural-Based Goat Production Centers	LHB Program areas	PLGU, KOICA	OPV, MLGU		5.00	5.00	0.50	0.30	0.20	11.00
7. Carabao Production & Research Center	Ubay	PCC	PCC		10.00	10.00	10.00	10.00	10.00	50.00
8. Dairy Cattle Multiplier Farm	Ubay	DA-NDA	NDA		10.00	10.00	10.00	10.00	10.00	50.00
9. Ubay Stock Farm	Ubay	DA	DA-USF		26.90	20.00	20.00	20.00	20.00	106.90
Sub-total >>				12.00	58.90	52.00	47.00	46.80	46.70	263.40
Genetic Improvement Program										
1. Artificial insemination services	Provincewide	NDA, PCC, DA	NDA, PCC, OPV, MLGUs	0.97	1.00	1.00	1.00	1.00	1.00	5.97
2. Natural breeding services	Provincewide	PLGU, DA, FCRA	OPV, MAO	0.69			0.30			0.99
Sub-total >>				1.66	1.00	1.00	1.30	1.00	1.00	6.96
Feed Resource Development	Provincewide	PLGU, DA, MLGU	OPV, MAO		0.80	0.50	0.50	0.50	0.50	2.80
1. Estab. & maintenance of forage & pasture nurseries	Provincewide			0.55	0.10	0.10	0.10	0.10	0.10	1.05
2. Indigenous feeds & feed supplement Formulation	Bilar	PLGU	OPV	0.55	0.10	0.10	0.10	0.10	0.10	1.05

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NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTING AGENCY	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
veterinary Garden										
12. Unified Health Program for Poultry										
13. Animal Rehabilitation Center					1.00	0.50	0.50	0.50	0.50	3.00
14. Animal Rabies Program: Bohol Rabies Prevention & Elimination Program (BRPEP)		PLGU, PCIC	OPV	1.00	1.00	1.00	1.00	1.00	1.00	6.00
Sub-total >>				4.60	6.50	7.00	7.00	7.00	7.00	39.10
Bohol Meat Safety & Control Program										
1. Upgrading of existing slaughterhouses	Provincewide	PLGU, MLGU	OPV, MLGUs	1.00	1.00	1.00	1.00	1.00	1.00	6.00
2. Establishment of accredited slaughterhouses with cold storage	Provincewide	PLGU, MLGU	OPV, NMIS			5.00	5.00	5.00	5.00	20.00
3. Establishment of Accredited Dressing Plant	Tagbilaran City	MLGU, NGO Private Sector	OPV, City Vet.			50.00	2.00	2.00	2.00	56.00
4. Communal poultry dressing plants with cold storage	Provincewide	KOICA, PLGU	OPV, NMIS, MAO		16.50					16.50
5. Procurement of equipment/ Upgrading of Slaughterhouses	Provincewide	PLGU, MLGU	OPV, MLGUs		2.00	2.00	2.00	2.00	2.00	10.00
Sub-total >>				1.00	19.50	58.00	10.00	10.00	10.00	108.50
C. WASTE MANAGEMENT										
Livestock & Poultry Waste Management Program										
1. Promotion & establishment of biogas digesters	Provincewide	PLGU, BAI, DA	OPV, MAO			0.40	0.40	0.40	0.40	1.60
Sub-total >>				-	-	0.40	0.40	0.40	0.40	1.60
D. CLIMATE CHANGE										
Livestock Disaster Risk Reduction Management and Response Program										
1. Enhanced Early Warning System for Livestock	Provincewide	DA, PLGU	OPV, MAO			2.00	2.00	2.00	2.00	8.00

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NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTING AGENCY	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
1. Agri-Livestock Research & Development	Provincewide	DA-USF, NDA, PCC, OPV			1.00	1.00	1.00	1.00	1.00	5.00
2. Upgrading of the Provincial Livestock and Poultry Farm into "Bohol Livestock & Poultry Production, Research & Development Center "	Bilar	PLGU, DA	OPV		1.00	1.00	1.00	1.00	1.00	5.00
3. Honey Bee (Apiary) Research & Development Project	Provincewide	PLGU, DA	OPV, MAO			1.00	1.00	1.00	1.00	4.00
Sub-total >>					2.00	3.00	3.00	3.00	3.00	14.00
G. INSTITUTIONAL & AGRI-TOURISM										
Institutional Development Program										
1. Barangay Livestock Aide (BALA)	Provincewide	PLGU, MLGU	OPV,MLGU	1.70	1.00	1.00	1.00	1.00	1.00	6.70
2. Dairy & Native Chicken Festivals	Tagbilaran	PLGU, DA, PCC NDA	OPV	0.76						
3. Rodeo	Tagbilaran	PLGU, Sponsors DA-USF	OPV, DA-USF			1.50		1.50		3.00
4. Horse and Dog Shows	Tagbilaran	PLGU, Sponsors	OPV, DA-USF, Horse & Kennel Clubs			0.50		0.50		1.00
Sub-total >>				2.46	1.00	3.00	1.00	3.00	1.00	10.70
H. ENTERPRISE DEVELOPMENT										
Enterprise and Marketing Development Program					1.00	1.00	1.00	1.00	1.00	5.00
1. Dairy Enterprise	Dairy Zones	PLGU, NDA, PCC, DA-PRDP, KOICA, USAID	OPV,PCC,NDA, PG	0.43	0.40	0.40	0.40	0.40	0.40	2.43
2. Native Chicken Enterprise	Province Wide	PLGU, DA-PRDP,	OPV,MLGU,PG		0.20	0.20	0.20	0.20	0.20	1.00
3. Meat-Based Enterprise	Province Wide	PLGU, DA, MLGU	OPV,MLGU,PG	0.19	0.10	0.10	0.10	0.10	0.10	0.69

NAME OF PROGRAM/ PROJECT		LOCATION	FUND SOURCE	IMPLEMENTING AGENCY	INVESTMENT REQUIREMENT (in Million Pesos)						
					2016	2017	2018	2019	2020	2021	TOTAL
4. SNACK (Simpleng Negosyo, Asenso sa Carne ug Keso)		Province Wide	PLGU, DA, MLGU	OPV,MLGU,PG	2.00	2.00	2.00	2.00	2.00	2.00	12.00
	Sub-total >>				2.62	3.70	3.70	3.70	3.70	3.70	21.12
I. Bohol Integrated and Comprehensive Support Program for Agro-Industrial Development (BICS-PAID)		Provincewide	(Counterparting) KOICA, BFAR, DA, PLGU, MLGU	OPA c/o PGBh/ MLGU/ DA/ BFAR/ KOICA							
1. Livestock Post-Harvest Support							15.88	15.88	15.88	15.88	63.50
Facilities and Equipment											
2. Capability Building for							3.50	3.50	3.50	3.50	14.00
Livestock and Poultry											
3. Feed Development							1.00	1.00	1.00	1.00	4.00
4. Public Health and Safety							3.75	3.75	3.75	3.75	15.00
5. Livelihood							6.38	6.38	6.38	6.38	25.50
6. Monitoring, Evaluation and							1.38	1.38	1.38	1.38	5.50
Planning											
	Sub-total >>				-	-	31.88	31.88	31.88	31.88	127.50
J. Native Chicken Development Program (PCIP)											
1	Establishment of Breeding, Production Hatchery, Brooding and Chick Hardening Facilities						23.10	23.10	23.10		69.30
2	Production and Marketing of Alternative Feeds and Feed Supplements for Native Chicken						2.50	2.50	2.50		7.50
3	Community-based Agri-vet Marketing and Enterprise						1.50	1.50	1.50		4.50
4	Promotion and Propagation of Ethno-veterinary Medicine						0.50	0.30	0.20		1.00
5	Organization and Capacitation of Native Chicken Growers						7.00	7.00			14.00
6	Masterlisting of Existing Native Chicken Growers/POs with its Existing Production Capacity						0.50	0.50	0.50		1.50

NAME OF PROGRAM/ PROJECT		LOCATION	FUND SOURCE	IMPLEMENTING AGENCY	INVESTMENT REQUIREMENT (in Million Pesos)						
					2016	2017	2018	2019	2020	2021	TOTAL
7	Expansion of Production Areas through Poultry and Crop Integration						2.50	2.00	2.00		6.50
8	Contract Lease Agreement for Utilization of Idle/ Vacant Lands										-
9	Free-range Native Chicken Production Support Program						10.00	10.00	5.00		25.00
10	Enhanced Capacity Dev't. and Externsion Services for Native Chicken Production						3.00	3.00	3.60		9.60
11	Establishment of Commercial Farms by Production Segment						100.00	100.0	100.0		300.00
	- Breeder Farm						10.00	10.00	10.00		30.00
	- Layer Farm						10.00	10.00	10.00		30.00
	- Hatchery/ Brooding Farm						50.00	50.00	50.00		150.00
	- Hardening/ Fattening Farm						30.00	30.00	30.00		90.00
12	Establishment of Native Chicken Trading System						16.00	16.00	16.00		48.00
13	Establishment and Management of Facilities						128.50	128.50	128.50		385.50
	- Dressing Facility										-
	* Mobile						3.50	3.50	3.50		10.50
	* Permanent						50.00	50.00	50.00		150.00
	- Processing, Packaging and Cold Storage						75.00	75.00	75.00		225.00
14	Product Development and R & D						10.00	10.00	10.00		30.00
15	Operationalization of NCD Laboratory						5.00	2.00	2.00		9.00
16	Institutionalization of the Unified Health Program						5.00	5.00	5.00		15.00
17	Promotion on the Use of Renewable Energy-operated Machines/ Facilities						3.00	3.00	3.00		9.00
18	Rehabilitation and Upgrading of 409.983 kms. Access Roads						3,416.53	3,416.52	3,416.52		10,249.57
19	Capacitation of Lead Players						2.00				2.00
20	Linkaging with Concerned Agencies/ Institutions						0.50	0.50			1.00

NAME OF PROGRAM/ PROJECT		LOCATION	FUND SOURCE	IMPLEMENTING AGENCY	INVESTMENT REQUIREMENT (in Million Pesos)						
					2016	2017	2018	2019	2020	2021	TOTAL
21	Intra-provincial Movement of Livestock and Poultry						0.50	0.50	0.50		1.50
22	Designation of Quarantine Inspectors in Coastal Municipalities with Ports and Sub-ports to Augment National-paid Quarantine Personnel						2.62	2.62	2.62		7.86
23	Massive Advocacy Campaign of Policies/ Laws						1.00	1.00	1.00		3.00
24	Conservation, Promotion and Adoption of the Newly Developed Boholano Strain Native Chicken						0.50	0.50	0.50		1.50
25	Regulating the operation of new & existing commercial livestock & poultry farms										
	- Indemnification Fund						5.00	5.00	5.00		15.00
	Sub-total >>				-	-	3,746.75	3,741.04	3,729.04	-	31.86
	GRAND TOTAL				31.14	176.35	3,977.83	3,896.52	3,875.92	154.38	12,112.12

LOCAL DEVELOPMENT INVESTMENT PROGRAM/ ACTION PLAN: CY 2016 -2021

Sector : ECONOMIC DEVELOPMENT

Sub-sector : AGRICULTURE

Agency : Bureau of Fisheries and Aquatic Resources (BFAR)

[illegible]

NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTING AGENCY	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
Distribution of Fishing Gears/ Paraphernalia	Coastal Municipalities									
- Gill Net		BFAR	BFAR			4.90	4.90	4.90	4.90	19.60
- Fishpot		BFAR	BFAR			1.80	1.80	1.80	1.80	7.20
- Crabpot		BFAR	BFAR			0.60	0.60	0.60	0.60	2.40
- Handline		BFAR	BFAR			0.18	0.18	0.18	0.18	0.72
- Motorized Banca		BFAR	BFAR			0.72	0.72	0.72	0.72	2.88
- Non-motorized Banca		BFAR	BFAR			1.60	1.60	1.60	1.60	6.40
c) Post Harvest and Marketing Devt. Project										
- Post Harvest Technology (Fish Pr	Talibon, Candijay, Inabanga, Getafe, Tubigon, Ubay	BFAR	BFAR			0.42	0.42	0.42	0.42	1.68
- Mini Iceplant	Ubay, Talibon, Jagna, Tagb. City, Guindulman	BFAR	BFAR			15.00	15.00	15.00	15.00	60.00
- Storage	Talibon, Tagbilaran City, Jagna, Guindulman, Calape	BFAR	BFAR			5.00	5.00	5.00	5.00	20.00
- Fish Stall	Coastal & upland municipalities	BFAR	BFAR			14.00	14.00	14.00	14.00	56.00
- Fish Stall	Coastal & upland municipalities	BFAR	BFAR			14.40	14.40	14.40	14.40	57.60
- Communal Fish Landing Center (CFLC)10 units	Cortes, Maribojoc, Clarin, Buenavista, Duero, Garcia Hernandez, Jagna, Albur, Loay, Trinidad	BFAR	BFAR			30.00	30.00	30.00	30.00	120.00
9 CRM										
- Marine Sanctuary Rehab.	Provincewide (All MPAs)	BFAR	BFAR			4.00	4.00	4.00	4.00	16.00
- Mangrove Planting	Provincewide	BFAR	BFAR			2.00	2.00	2.00	2.00	8.00
- Shell Seeding	Coastal Municipalities	BFAR	BFAR			0.10	0.10	0.10	0.10	0.40

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LOCAL DEVELOPMENT INVESTMENT PROGRAM/ ACTION PLAN: CY 2016 -2021

Sector : ECONOMIC DEVELOPMENT

Sub-sector : AGRICULTURE

Agency : Department of Agrarian Reform (DAR)

[illegible]

LOCAL DEVELOPMENT INVESTMENT PROGRAM/ ACTION PLAN: CY 2016 -2021

Sector : **ECONOMIC DEVELOPMENT**

Sub-sector : AGRICULTURE

Agency : Cooperative Development Authority (CDA)

NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTING AGENCY	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
I. EFFICIENT REGISTRATION										
1 Technical Advisory Services	Provincewide	CDA Budget	CDA	0.10	0.20	0.20	0.20	0.20	0.20	1.10
2 Special Assistance to Agriculture and Agrarian Reform type of Coops Agrarian Reform type of Coops	Provincewide	CDA	CDA	0.05	0.05	0.05	0.05	0.05	0.05	0.30
3 In partnership with LBP, creating a special window for financing especially for housing coops	Provincewide	LBP	CDA		5.00	5.00	5.00	10.00	10.00	35.00
4 On-going support to coops of the rebel women coops	Provincewide	CDA	CDA	0.05	0.05	0.05	0.05	0.05	0.05	0.30
5 Improved registration by electronic means	Provincewide	CDA/LGU/PCDC	CDA/PCDC	0.20	0.20	0.20	0.20	0.20	0.20	1.20
6 Enhanced policy guidelines, rules and regulations	Provincewide	CDA/PCDC	CDA/PCDC	0.05	0.05	0.05	0.05	0.05	0.05	0.30
II. EFFECTIVE REGULATION										
1 Conduct of Coop Inspection and Exit Conference to all coops	Provincewide	CDA	CDA	0.13	0.15	0.15	0.15	0.15	0.15	0.88
2 Holding of orientation and training workshops and seminars for all coops	Provincewide	CDA/PCDC	CDA/PCDC	0.05	0.05	0.05	0.05	0.05	0.05	0.30
3 Collection, validation, processing and evaluation of mandatory reports by coops	Provincewide	CDA	CDA/LGU	0.01	0.02	0.02	0.02	0.02	0.02	0.11

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LOCAL DEVELOPMENT INVESTMENT PROGRAM/ ACTION PLAN: CY 2016 -2021

Sector : ECONOMIC DEVELOPMENT

Sub-sector : AGRICULTURE

Agency : National Food Authority (NFA)

[illegible]

LOCAL DEVELOPMENT INVESTMENT PROGRAM/ ACTION PLAN: CY 2016 -2021

Sector : ECONOMIC DEVELOPMENT

Sub-sector : AGRICULTURE

Agency : Philippine Coconut Authority (PCA)

[illegible]

LOCAL DEVELOPMENT INVESTMENT PROGRAM/ ACTION PLAN: CY 2016 -2021

Sector : ECONOMIC DEVELOPMENT

Sub-sector : AGRICULTURE

Agency : Agricultural Training Institute (ATI) Regional Training Center (RTC) VII

[illegible]

NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTING AGENCY	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
-Sikat Saka	REGION VII	EXTENSION FUND	ATI-RTC VII							
-Requested Training										
Expanding Partnerships in										
3 Advancing Excellence in the AFE Delivery										
- RBO Program				0.20	2.40	2.60	2.90	3.10	3.50	14.50
- 4-H Program										
- Intervening Activities										
4 Scaling-Up of AFE Innovation	REGION VII	EXTENSION FUND	ATI-RTC VII							
- Learning Sites										
- Adop-a-School Program										
-School for Practical Agriculture				0.85	12.80	13.10	15.60	17.10	18.80	77.40
- Phil Farm for Herbal Tourism										
- FBS										
Strengthening AFE Stakeholders	REGION VII	EXTENSION FUND	ATI-RTC VII							
5 Capacity in Climate Change Adoption and Readiness										
-Tree for Life				0.60	8.00	9.20	10.58	12.17	13.99	53.94
-Disaster Risks and Reduction Management Trainings for AEWs and FLs (Regular Program, HVCDP, RICE, Corn & Livestock)										
6 Improving Enabling Environment and Quality Governance	REGION VII	EXTENSION FUND	ATI-RTC VII							
-Regional AFE Strategic Plan				2.44	17.00	19.55	22.48	25.85	29.73	114.61
-Staff Development										
- Midyear & Year-end Assessment										

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LOCAL DEVELOPMENT INVESTMENT PROGRAM/ ACTION PLAN: CY 2016 -2021

Sector : ECONOMIC DEVELOPMENT

Sub-sector : **Trade and Industry**Agency : **Department of Science and Technology (DOST)**[illegible]

LOCAL DEVELOPMENT INVESTMENT PROGRAM/ ACTION PLAN: CY 2016 -2021

Sector : ECONOMIC DEVELOPMENT

Sub-sector : Trade and IndustryAgency : **Department of Labor and Employment (DOLE)**[illegible]

LOCAL DEVELOPMENT INVESTMENT PROGRAM/ ACTION PLAN: CY 2016 -2021

Sector : ECONOMIC DEVELOPMENT

Sub-sector : Trade and Industry

Agency : Department of Trade and Industry (DTI)

[illegible]

[illegible]

LOCAL DEVELOPMENT INVESTMENT PROGRAM/ ACTION PLAN: CY 2016 -2021

Sector : ECONOMIC DEVELOPMENT

Sub-sector : Trade and Industry

Agency : **Bohol Investment Promotion Center (BIPC)**

[illegible]

LOCAL DEVELOPMENT INVESTMENT PROGRAM/ ACTION PLAN: CY 2016 -2021

Sector : **ECONOMIC DEVELOPMENT**

Sub-sector : Tourism

Agency : Bohol Tourism Office (BTO)

NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTING AGENCY/S	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
• Business Continuity Plan										
1.Bohol Power Transmission and Distribution Development Planning	Bohol	PGBh-GO	USAID COMPETE	0.300	0.300	0.300	0.300	0.300	0.300	1.800
• Comprehensive Tourism Master Plan										
1.Conduct of Fora	Tagbilaran	PGBh-GO	PPDO, SEEM, PTC	0.500	0.500	0.500	0.500	0.500	0.500	3.000
2.Profiling and Analysis of existing conditions	Bohol	PGBh-GO	PPDO, SEEM, PTC	0.300	0.300	0.300	0.300	0.300	0.300	1.800
3.Conceptual Site Planning	Bohol	PGBh-GO	PPDO, SEEM, PTC	0.300	0.300	0.300	0.300	0.300	0.300	1.800
• Product Development										
1. Revision, Legislation and Implementation of the PITD RedCom/PITEC	Bohol	National Gov't., PGBh-GO, City Gov't, NGO's, Private Sector	PPDO, SEEM, PITD RedCom/ PITEC	1.000	1.000	1.000	1.000	1.000	1.000	6.000
2. Exhibitions showcasing Boholano Vernacular Architecture, Green and Barrier-Free Tourism designs	Tagbilaran	National Gov't., PGBh-GO, City Gov't, NGO's, Private Sector	PPDO, SEEM, PITD RedCom/ PITEC	1.000	2.000	3.000	4.000	5.000	6.000	21.000
3.Bohol Tourism Office and CCAD as Model Structures	Tagbilaran	National Gov't., PGBh-GO, City Gov't, NGO's, Private Sector	PPDO, SEEM, PITD RedCom/ PITEC	150.000	150.000	150.000	150.000	150.000	150.000	900.000
4.Construction of a new Bohol Cultural Center	Tagbilaran	PGBh	PPDO, SEEM, PEO	3.000	6.648	9.648	9.648	9.648	9.648	48.240
5.Enhancement of the Plaza Rizal	Tagbilaran	PGBh	GSO, PEO	0.300	0.300	0.400	0.500	1.000	0.500	3.000

NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTIN G AGENCY/S	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
6.Publication of Coffee Table Books showcasing Existing New Structures with Boholano Vernacular Architecture and Samples of Designs to be adopted by developers	Philippines	PGBh	PPDO, SEEM, CCAD, BTO	1.000	50.000	60.000	70.000	80.000	90.000	351.000
7.Investment Fora	Tagbilaran	PGBh-GO	PPDO, SEEM, BIPC	0.500	0.500	0.500	0.500	0.500	0.500	3.000
10.School for Boholano <i>Music, Dance, Drama & the Arts</i>	Tagbilaran	PGBh	SEEM, CCAD	10.000	11.000	12.000	12.000	12.000	5.000	62.000
11.Cultural Mapping in LGU's	Bohol	PGBh	SEEM, CCAD	1.000	1.000	1.000	1.000	1.000	1.000	6.000
12.Regular Cultural Shows in accesible venues	Tagbilaran, Panglao Island	PGBh	SEEM, CCAD	1.000	3.000	3.000	3.000	3.000	3.000	16.000
13.Establishment Private Cultural Theaters	Tagbilaran, Panglao Island	Private Sector	SEEM, CCAD, BIPC	6.000	6.000	6.000	7.000	7.000	5.000	37.000
14.Conduct of Cultural/Arts Workshops/Trainings	Bohol	PGBh, NCCA	SEEM, CCAD	0.600	0.600	0.600	0.600	0.600	0.600	3.600
15.Public-Private-NGO Alliance	Bohol	PGBh, NGO's, Private Sector	SEEM	0.200	0.200	0.200	0.200	0.200	0.200	1.200
16. Semestral Orientations on Carrying Capacity and Environmental Sustainability	Bohol	PGBh	SEEM, BTO, BEMO, DENR	0.600	0.600	0.600	0.600	0.600	0.600	3.600
17.Marine Preservation of Panglao Bay	Panglao	PGBh-GO	PPDO, SEEM, PANGLAO LGU, BTO, BEMO, DENR	1.000	1.000	1.000	1.000	1.000	1.000	6.000
18.Marine Preservation & Regulations in Alona	Panglao	PGBh-GO	PPDO, SEEM, PANGLAO LGU, BTO, BEMO, DENR	1.000	1.000	1.000	1.000	1.000	1.000	6.000
19.For a with the tourism-related sectors	Bohol	PGBh-GO	PPDO, SEEM, PANGLAO LGU, BTO, BEMO, DENR	0.500	0.500	0.500	0.500	0.500	0.600	3.100
• Accessibility										
1.Draw a plan for Seamless Connectivity from port to port (Cebu-Bohol; VV)	Bohol	PGBh	PPDO, PEO, DOTC-PPA, BICTO	1.852	1.191	1.191	1.191	1.191	1.191	7.806

NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTING AGENCY/S	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
3. Systems such as –“Carmudi, Grab-a-Taxi, FoodPanda, Lamudi, AirBNB, TripAdvisor, Agoda, etc.”, be made available.	Bohol	PGBh-GO, PTC	PTC	1.000	1.000	1.000	1.000	1.000	1.000	6.000
4. Additional Tourist Police Stations	Bohol	PNP	PNP	1.500	2.500	3.000	3.000	3.000	2.000	15.000
5. Installation of more CCTV Cameras	Bohol	PGBH, PNP	PNP	1.000	100.000	100.000	100.000	100.000	100.000	501.000
6. Ample Lighting in Port Areas	Bohol	PPA, CAAP	PPA, CAAP	1.000	50.000	50.000	50.000	50.000	50.000	251.000
7. Information (tv) monitor for announcement/ notification, warnings, etc.	Bohol	PGBh	LGU's, PNP, AFP	1.000	2.000	2.000	2.000	2.000	2.000	11.000
8. Semestral Symposiums, Trainings and Awareness Programs	Bohol	PGBh-GO	SEEM, BTO	1.000	1.000	1.000	1.000	1.000	1.000	6.000
9. BE HONEST Campaign	Bohol	PGBh-GO, NGO	BCBP	1.000	1.000	1.000	1.000	1.000	1.000	6.000
10. Recognition, Rewards and Merits System	Bohol	PGBh-GO	SEEM, BTO	1.000	1.000	1.000	1.000	1.000	1.000	6.000
11. Semestral lectures on Proper Hygiene and Grooming	Bohol	PGBh-GO	SEEM, BTO	1.000	1.000	1.000	1.000	1.000	1.000	6.000
12. Quarterly sponsored/ Free Grooming Services	Bohol	Private Sector	Private Sector, BTO	1.000	1.000	1.000	1.000	1.000	1.000	6.000
13. Product Giveaways/Sampling by the Private Sector	Bohol	PGBh-GO, Private Sector	SEEM, BTO, BCCI	1.000	1.000	1.000	1.000	1.000	1.000	6.000
14. Regular Basic Professional Tour-Guiding Courses	Tagbilaran	Private Sector	Bohol TechVoc	1.000	2.000	1.000	2.000	1.000	2.000	9.000
15. Establishment of Additional Vocational Schools	Bohol	TESDA, Private Sector	TESDA, Private Sector	25.748	25.748	25.748	25.748	25.748	25.748	154.490
16. Annual Accreditation Workshops	Bohol	PGBh-GO, DOT	SEEM, BTO, DOT	0.300	0.300	0.300	0.300	0.300	0.300	1.800
17. Semestral Mobile Accreditation Projects	Bohol	DOT	DOT	0.400	0.400	0.400	0.400	0.400	0.400	2.400
18. Sponsor-an-Employee for National or International Trainings	Bohol	PGBh-GO, NGO's	SEEM, BTO	1.000	20.000	20.000	20.000	20.000	20.000	101.000
19. Client-Satisfaction Evaluations	Bohol	PGBh-GO	SEEM, BTO, PTC	1.000	1.000	1.000	1.000	1.000	1.000	6.000
20. Exit Surveys	Tagbilaran	PGBh-GO	SEEM, BTO	1.000	1.000	1.000	1.000	1.000	1.000	6.000
21. Online System/App for Comments, Ratings and Complaints by BTO	Bohol	PGBh-GO	SEEM, BTO	1.000	20.000	30.000	40.000	50.000	60.000	201.000
22. CookOuts	Bohol	PTC, BAHRR	PTC, BAHRR	1.000	2.000	2.000	2.000	2.000	2.000	11.000
23. Conceptualization & Promotion of Native Menu/Cuisine in AE's	Tagbilaran, Daus, Panglao, Anda	PTC, BAHRR	PTC, BAHRR	1.000	2.000	2.000	2.000	2.000	2.000	11.000

NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTIN G AGENCY/S	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
24. Marketing & Promotions of Seasonal Menus in AE's	Bohol	PTC, BAHRR	PTC, BAHRR	1.000	20.000	30.000	30.000	30.000	30.000	141.000
25. Free Vaccination of Animals	Bohol	OPV	OPV, LGU's	0.250	0.250	0.250	0.250	0.250	0.250	1.500
26. Quarterly Pet Registration among Communities	Bohol	OPV	OPV, LGU's	0.200	0.200	0.200	0.200	0.200	0.200	1.200
27. Adopt-a-Stray-Animal Campaign	Bohol	OPV	OPV, Animal Rights Groups	0.200	0.200	0.200	0.200	0.200	0.200	1.200
28. Provide Shelter & Basic Needs in Respective Areas	Bohol	OPV	OPV, Animal Rights Groups	1.000	2.000	2.000	2.000	2.000	2.000	11.000
29. Responsible Pet Ownership Program	Bohol	OPV	OPV, LGU's, Animal Rights Groups	0.200	0.200	0.200	0.200	0.200	0.200	1.200
30. Decompression Chamber	Panglao	PGBh-GO	PHO	1.000	0.000	0.000	0.000	0.000	0.000	1.000
36.First-Aid and Emergency Response Trainings in LGU's and Tourism Areas	Bohol	PGBh-GO	TARSIER 117	0.400	0.400	0.400	0.400	0.400	0.400	2.400
37.Medical Facilities Investment Fora	Tagbilaran & Panglao	PGBh-GO, PHO	PPDO, SEEM, BIPC, PHO	0.500	0.500	0.500	0.500	0.500	0.500	3.000
38.Refreshers and workshops on Tourism Data Collection	Bohol	PGBh-GO	SEEM, BTO	0.300	0.300	0.300	0.300	0.300	0.300	1.800
39.Provincial Ordinance on strict implementation of Tourism Data Collection	Bohol	PGBh	SP							0.000
40.Compliance Certificate from the LGU's Tourism Office as a Requirement for Business Registration	Bohol	PGBh	SP, LGU's	1.000	1.000	1.000	1.000	1.000	1.000	6.000
42.Capacity Development Trainings for Potential Tourism Officers	Bohol	PGBh-GO & LGU's	DOT, SEEM, BTO	0.300	0.300	0.300	0.300	0.300	0.300	1.800
43. Operationalization of TASKGROUP TURISTA	Bohol	PGBh-GO	TASKGROUP TURISTA, TARSIER 117	1.000	1.000	1.000	1.000	1.000	1.000	6.000
44. Seminars/information on tourist kidnapping, terrorism and bombings	Bohol	PGBh-GO	TASKGROUP TURISTA, TARSIER 117	0.300	0.300	0.300	0.300	0.300	0.300	1.800
•Marketing and Promotions										
1.Regular enhancement/ update of basic and important tourism information in/thru video campaigns, tourism promotional collaterals (brochures, maps)	Local, International	PGBh-GO	SEEM, BTO, PTC	1.000	5.000	10.000	20.000	30.000	40.000	106.000

NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTIN G AGENCY/S	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
2.Boost Global Exposure	Local, International	PGBh-GO	SEEM, BTO, PTC	1.000	20.000	20.000	20.000	20.000	20.000	101.000
3.Testimonials by Returning Guests in Video or Print	Local, International	PGBh-GO	SEEM, BTO, PTC	1.000	1.000	1.000	1.000	1.000	1.000	6.000
4.Social Media, Pop-Ups, Ads, Online Influencers, Blogs, etc.	Local, International	PGBh-GO	SEEM, BTO, PTC	1.000	30.000	30.000	30.000	30.000	30.000	151.000
5.TBTK (Encourage & Invite First Time Travelers to Bohol)	Local, International	PGBh-GO	SEEM, BTO, PTC	1.000	40.000	40.000	40.000	40.000	40.000	201.000
6.PGBh to Focus Participation in International Travel Marts (B2B's etc.)	Local, International	PGBh-GO	SEEM, BTO, PTC	100.000	100.000	100.000	100.000	100.000	100.000	600.000
7.PGBh, PTC, BAHRR & BOFETTO to Organize ONE BOHOL Travel Fairs in the country	Local, International	PGBh-GO	SEEM, BTO, PTC	1.000	40.000	40.000	40.000	40.000	40.000	201.000
8.Partnerships with the international media (print, tv, broadcast, etc.)	Local, International	PGBh-GO	SEEM, BTO, PTC	1.000	10.000	10.000	10.000	10.000	10.000	51.000
• Sex Tourism										
1.ECPAT Workshops	Bohol	ECPAT	ECPAT	0.300	0.300	0.300	0.300	0.300	0.300	1.800
2.Marriage Certificate Requirement for Couples checking-in AE's	Bohol	Private Sector	PGBh, BAHRR, AE's	0.300	0.300	0.300	0.300	0.300	0.300	1.800
3.24H Tourist Police Dispersal and Visibility in ALL Areas.	Bohol	PNP	PNP	1.000	1.000	1.000	1.000	1.000	1.000	6.000
4.ZEST (Zero Sex Tourism) Campaign in Bohol	Bohol	PGBh, NGO's	PGBh, Private Sector, PNP	2.304	2.304	2.304	2.304	2.304	2.304	13.824
5.Databank on Wanted/Identified Offenders	Bohol	PGBh-GO	PGBh, Private Sector, PNP	0.500	0.500	0.500	0.500	0.500	0.500	3.000
• Disaster Risk Reduction Management - Climate Change Adaptation										
1. Creation of a TWG that will formulate an amended Provincewide PITD-ReDCom Guidelines and its eventual adoption by the SP.	Bohol	PGBh	BTO/DOT	0.000	0.300	0.300	0.300	0.000	0.000	0.900
2. Conduct of a Summit pertaining to Green Building Design Standards.	Tagbilaran & Panglao	PGBh	PGBh	0.000	0.000	0.500	0.000	0.000	0.000	0.500

NAME OF PROGRAM/ PROJECT	LOCATION	FUND SOURCE	IMPLEMENTIN G AGENCY/S	INVESTMENT REQUIREMENT (in Million Pesos)						
				2016	2017	2018	2019	2020	2021	TOTAL
3. Conduct of trainings, seminars and workshops pertaining to disaster risk reduction and management to accommodation facilities and tourist land transport facilities.	Bohol	PGBh	PGBh, MLGUs	0.000	0.400	0.400	0.400	0.400	0.400	2.000
4. Conduct of trainings, seminars and workshops pertaining to the Principles of Carrying Capacity and Waste Management to accommodation facilities and tourist land transport facilities.	Bohol	PGBh	PGBh, BTO, BEMO	0.350	0.350	0.350	0.350	0.350	0.350	2.100
4. Conduct of trainings, seminars and workshops pertaining to the preservation/conservation of water resources (e.g. river systems, watersheds, waterworks systems).	Bohol	PGBh	PGBh, PPDO, BEMO	0.250	0.250	0.250	0.250	0.250	0.250	1.500
6. Operationalization of the clustered Sanitary Landfill.	Albur, Bohol	TIEZA, 16 Municipalities & 1 City	Albur as on of 15 municipalities & 1 City	0.000	11.600	11.600	11.600	11.600	11.600	58.000
7. Practice of Environmental Management System	Bohol	PGBh	PGBh, Private Sector	1.000	1.000	1.000	1.000	1.000	1.000	6.000
• <i>Tourism Recovery Program</i>	Bohol	PGBh	PGBh, Private Sector	3.000	1.500	1.500				6.000
• <i>Executive-Legislative Agenda (ELA) Development Pillars on Tourism and Livelihood</i>										0.000
1. Improvement of access leading to tourism sites.	Bohol	DOT-TIEZA, DPWH, PGBh	TIEZA, DPWH, PEO	0.000	2,908.000	8,388.000	0.000	0.000	0.000	11,296.000
2. Construction of public amenities on access roads leading to tourism sites.	Bohol	DOT-TIEZA, DPWH, PGBh	TIEZA, DPWH, PEO	0.000	4.500	11.700	0.000	0.000	0.000	16.200
3. Chocolate Hills Development Project.	Carmen, Bohol	TIEZA, PGBh, Municipality of Carmen	PEO, GSO	0.000	20.000	30.000	30.000	0.000	0.000	80.000
4. Strengthen organizational structure of BTO through institutionalization to be more responsive to clients expectations.	Tagbilaran City	PGBh-GO	GO, SP	0.000	2.775	2.775	2.775	2.775	2.775	13.874

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Local Development Investment Program

CY 2016-2021

Bohol Province

Sector : SOCIAL DEVELOPMENT SECTOR
 Sub-Sector : Health
 Agency : **PROVINCIAL HEALTH OFFICE**

Name of Program/Project	Location	Source of Funds	Project Cost	Time Frame & Investment Cost Per Year (in Million Pesos)						Implementing Agency	Remarks
				2016	2017	2018	2019	2020	2021		
Non-Communicable Disease Program (Healthy Lifestyle)	Provincewide	PGBh-Non Office	1.17	0.20	0.20	0.20	0.20	0.20	0.20	PHO	
Dental Services Program	Provincewide	PGBh-Non Office	8.12	0.62	1.50	1.50	1.50	1.50	1.50	PHO	
STD/ HIVAIDS Prevention and Control Program	Provincewide	PGBh-Non Office	5.22	0.22	1.00	1.00	1.00	1.00	1.00	PHO	
Blindness Prevention Program	Provincewide	PGBh-Non Office	2.46	0.26	0.44	0.44	0.44	0.44	0.44	PHO	
Renal Disease Coordinative Program	Provincewide	PGBh-Non Office	2.65	0.44	0.44	0.44	0.44	0.44	0.44	PHO	
Field Health Services Information System (FHSIS)	Provincewide	PGBh-Non Office	1.38	0.13	0.25	0.25	0.25	0.25	0.25	PHO	
DRUG Testing Program	Provincewide	PGBh-Non Office	5.33	0.33	1.00	1.00	1.00	1.00	1.00	PHO	
Dengue Prevention and Control Program	Provincewide	PGBh-Non Office	6.77	1.12	1.13	1.13	1.13	1.13	1.13	PHO	
Water Testing Program (Laboratory Services)	Provincewide	PGBh-Non Office	7.65	0.65	1.40	1.40	1.40	1.40	1.40	PHO	
Rabies Prevention and Control Program: Procurement of human rabies vaccine.	Provincewide	PGBh-Non Office	24.50	2.00	4.50	4.50	4.50	4.50	4.50	PHO	
Health Initiative on the Move for Surgery, Obstetrics/ Ophthalmology/ Orthopedic and Gynecology (H.I.M.S.O.G)	Provincewide	PGBh-Non Office	2.50	2.50						PHO	

Name of Program/Project	Location	Source of Funds	Project Cost	Time Frame & Investment Cost Per Year (in Million Pesos)						Implementing Agency	Remarks
				2016	2017	2018	2019	2020	2021		
Adolescent Youth Health Development Program	Provincewide	PGBh-Non Office	0.63	0.04	0.12	0.12	0.12	0.12	0.12	PHO	
Health Emergency Management Staff	Provincewide	PGBh-Non Office	0.59	0.09	0.10	0.10	0.10	0.10	0.10	PHO	
Health Education and Promotion	Provincewide	PGBh-Non Office	0.72	0.12	0.12	0.12	0.12	0.12	0.12	PHO	
Mental Health Program	Provincewide	PGBh-Non Office	2.53	0.03	0.50	0.50	0.50	0.50	0.50	PHO	
Leprosy Program	Provincewide	PGBh-Non Office	1.98	0.08	0.38	0.38	0.38	0.38	0.38	PHO	
Disability Program	Provincewide	PGBh-Non Office	1.65	0.15	0.30	0.30	0.30	0.30	0.30	PHO	
Provincial Epidemiology Surveillance Unit (PESU)	Provincewide	PGBh-Non Office	1.59	0.09	0.30	0.30	0.30	0.30	0.30	PHO	
National Vountary Blood Service Program	Provincewide	PGBh-Non Office	3.80	0.30	0.70	0.70	0.70	0.70	0.70	PHO	
Water Sewage Program/ Testing	Provincewide	PGBh-Non Office	1.64	0.09	0.31	0.31	0.31	0.31	0.31	PHO	
Primary Health Care & BHW Program Including Honorarium	Provincewide	PGBh-Non Office	18.00	3.00	3.00	3.00	3.00	3.00	3.00	PHO	
Tuberculosis Program	Provincewide	PGBh-Non Office	1.50		0.30	0.30	0.30	0.30	0.30	PHO	
Maternal Neonatal Child Health & Nutrition	Provincewide	PGBh-Non Office	1.30		0.26	0.26	0.26	0.26	0.26	PHO	
Population Dev't. Program	Provincewide	PGBh-Non Office	2.00		0.40	0.40	0.40	0.40	0.40	PHO	
Environmental Sanitation Program (Latrine construction for sustainable sanitation to municipalities and island barangays)	Provincewide	PGBh-20% DF	11.40	1.40	2.00	2.00	2.00	2.00	2.00	PHO	

Name of Program/Project	Location	Source of Funds	Project Cost	Time Frame & Investment Cost Per Year (in Million Pesos)						Implementing Agency	Remarks
				2016	2017	2018	2019	2020	2021		
Health Program for Barangays/ Gamot sa Barangay	Provincewide	PGBh-20% DF	32.50	7.50	5.00	5.00	5.00	5.00	5.00	PHO	
Construction of the Provincial Epidemiology Surveillance Unit (PESU) Standard PESU Room	Tagbilaran City	PGBh-20% DF	1.00		1.00						
Total			150.59	21.36	26.65	25.65	25.65	25.65	25.65		

Name of Program/Project	Location	Source of Funds	Project Cost	Time Frame & Investment Cost Per Year (in Million Pesos)							Implemen- ting Agency	Remarks
				2015	2016	2017	2018	2019	2020	2021		
Garcia Memorial Provincial Hospital Repair/ Renovation/ Expansion/ Construction of Hospital Buildings; Construction of STP; Construction of Support Facilities; Site Development Works, etc.	Talibon, Bohol	DOH	12		5.00	7.00					DOH	
			0									
Candijay Community Hospital Repair/ Renovation/ Expansion/ Construction of Hospital Buildings; Construction of STP; Construction of Support Facilities; Site Development Works, etc.	Candijay, Bohol	DOH	15		5.00	10.00					DOH	
		DPWH	2.5		2.50						DPWH	
<u>Cong. Simeon Toribio Memorial Hospital</u> Repair/ Renovation/ Expansion/ Construction of Hospital Buildings; Construction of STP; Construction of Support Facilities; Site Development Works, etc.	Carmen, Bohol	DOH	25		5.00	20.00					DOH	
		DPWH	4.5	2.00	2.50						DPWH	
Teodoro B. Galagar District Hospital Repair/ Renovation/ Expansion/ Construction of Hospital Buildings; Construction of STP; Construction of Support Facilities; Site Development Works, etc.	Jagna, Bohol	DOH	20		15.00	5.00					DOH	
		DPWH	4.5	2.00	2.50						DPWH	
Procurement of Medical/ Hospital Equipment for the GMPH - Talibon	Talibon, Bohol	PGBH	4.0		4.00						PGBH	
Procurement of Medical Equipment for the CSTMH- Carmen	Carmen, Bohol	PGBH	3.0		3.00						PGBH	
Procurement of Medical Equipment for the TGH - Jagna	Jagna, Bohol	PGBH	1.3		1.34						PGBH	
Procurement of Hospital/ Medical Equipment for the CNCMH in Loon	Loon, Bohol	PGBH	1.8		0.25	1.54					PGBH	
Provincial Counterpart for the Design and Build of a One (1) Storey Hospital Building Complex in <u>Loon, Bohol</u>	Loon, Bohol	PGBH	8.3		8.28						PGBH	
Procurement of Hospital Equipment for the CDH- Catigbian	Catigbian, Bohol	PGBH	2.5		2.48						PGBH	
Improvement/ Rehabilitation of Hospital Facilities at the CLCH , Clarin	Clarin, Bohol	PGBH	0.2		0.20						PGBH	

Name of Program/Project	Location	Source of Funds	Project Cost	Time Frame & Investment Cost Per Year (in Million Pesos)							Implementing Agency	Remarks
				2015	2016	2017	2018	2019	2020	2021		
Procurement of Hospital Equipment for the CLCH - Clarin	Clarin, Bohol	PGBH	0.4		0.38						PGBH	
Procurement of Medical Equipment for the CCH - Candijay	Candijay, Bohol	PGBH	0.9		0.86						PGBH	
Infrastructure project for the CCH - Candijay (TB DOTS Building)	Candijay, Bohol	PGBH	0.5		0.50						PGBH	
Procurement of DOH-Prescribed Equipment for the CCH - Candijay	Candijay, Bohol	PGBH	0.7		0.70						PGBH	
Improvement of Hospital Facilities for Maribojoc Community Hospital - Maribojoc (Water system - improvement of water pump unit with	Maribojoc, Bohol	PGBH	0.5		0.50						PGBH	
Procurement of Hospital Equipment for Maribojoc Community Hospital - Maribojoc	Maribojoc, Bohol	PGBH	0.3		0.33						PGBH	
Procurement of Hospital Equipment for the Francisco Dagohoy Municipal Hospital (FDMH - Inabanga)	Inabanga, Bohol	PGBH	0.5		0.50						PGBH	
Procurement of Hospital Equipment (Lead Sheets for X-Ray Room) for PCPGMH - CPG	Pres. CPG	PGBH	0.3		0.30						PGBH	
Total			475.24	35.00	92.70	97.54	250.00	0.00	0.00	0.00		

Local Development Investment Program

CY 2016-2021

Bohol Province

Sector : SOCIAL DEVELOPMENT SECTOR
 Sub-Sector : Social Welfare and Development
 Agency : **OFFICE OF THE SOCIAL WELFARE AND DEVELOPMENT**

Name of Program/Project	Location	Source of Funds	Project Cost	Time Frame & Investment Cost Per Year (in Million Pesos)						Implementing Agency	Remarks
				2016	2017	2018	2019	2020	2021		
Bohol Crisis Intervention Center	Tagbilaran City	Non-Office	23.50	3.50	4.00	4.00	4.00	4.00	4.00	OPSWD	
Bohol Stimulation and Therapeutic Activity Center (STAC)	Tagbilaran City	Non-Office	23.80	3.80	4.00	4.00	4.00	4.00	4.00	OPSWD	
Assistance to indigents and Individuals in Crisis Situation (AICS) (burial, medical/ hospital assistance)	Provincewide	Non-Office	60.00	10.00	10.00	10.00	10.00	10.00	10.00	OPSWD	
Community Outreach for the Badjao	Daus	Non-Office	1.80	0.30	0.30	0.30	0.30	0.30	0.30	OPSWD	
Older Persons Program	Provincewide	Non-Office	0.15	0.03	0.03	0.03	0.03	0.03	0.03	OPSWD	
Lot acquisition for the relocation of Storm Surge vulnerable communities and to support day care program for Badjao families	Daus	Other funds	3.00	3.00						OPSWD	
Construction of the Bohol Youth Home / Children In Conflict with the Law (CICL) Center - Provincial Counterpart	Cortes/ Albur		10.00		10.00					OPSWD/ DSWD	
Rehabilitation/ Completion of Persons with Disabilities (PWDs) Livelihood and Training Center	Tagbilaran City		1.00		1.00					OPSWD	
Construction of Day Care Center for Indigenous People	Selected Area		1.00		1.00						
Procurement of relocation site for Indigenous People	Selected Area		1.50		1.50						
Construction of Half-way House	Selected Area		1.00		1.00						
Construction of Drop-in Center	Selected Area		2.00		2.00						
Total			109.25	20.63	18.33	18.33	18.33	18.33	18.33		

Local Development Investment Program

CY 2016-2021

Bohol Province

Sector : SOCIAL DEVELOPMENT SECTOR
 Sub-Sector : Culture and Heritage Preservation
 Agency : **CENTER FOR CULTURE AND ARTS DEVELOPMENT**

Name of Program/Project	Location	Source of Funds	Project Cost	Time Frame & Investment Cost Per Year (in Million Pesos)						Implementing Agency	Remarks
				2016	2017	2018	2019	2020	2021		
Bohol Arts and Cultural Heritage	Provincewide	PGBh	0.85	0.10	0.10	0.15	0.15	0.15	0.20	CCAD	
Cultural Preservation and Revitalization	Provincewide	PGBh	21.00	2.50	3.50	3.50	3.50	4.00	4.00	CCAD	
The Abatan Theatre Center for the Performing Arts and Exhibitions	Cortes	External	50.00				50.00			BACH/ NCCA/DPW	
Regional Center for Cultural Training of Artists and Cultural Workers	Tagbilaran City	LGUs/ External	35.00				35.00			BACH/ NCCA/DPW H	
Boholano Culture, Arts and Heritage Promotion	Duero, Sierra Bullones, Pilar, Dauis	LGUs/ External	2.50			2.50				BACH/ NCCA/DPW H	
Total			109.35	2.60	3.60	6.15	88.65	4.15	4.20		

Local Development Investment Program

CY 2016-2021

Bohol Province

Sector : SOCIAL DEVELOPMENT SECTOR
 Sub-Sector : Education and Manpower Development
 Agency : TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY-BOHOL (TESDA-BOHOL)

Name of Program/Project	Location	Project Cost	Source of Funds	Time Frame & Investment Cost Per Year						Implementing Agency	Remarks
				2016	2017	2018	2019	2020	2021		
1 Massive Training and Retraining (school-based, center-based, enterprise-based and community-based programs)	Provincewide	2,157,035/year	TVIs, LGUs and other partners	2,157,035	2,157,035	2,157,035	2,157,035	2,157,035	2,157,035.00	TESDA	
2 Competency Assessment and Certification	-do-	57,050/year	TESDA	57,050.00	57,050.00	57,050.00	57,050.00	57,050.00	57,050.00	TESDA	
3 Unified Program Registration and Accreditation Program (UTPRAS)	-do-	150,500/year	TESDA	150,500.00	150,500.00	150,500.00	150,500.00	150,500.00	150,500.00	TESDA	
4 Accreditation of Assessment Centers	-do-	23,300/year	TESDA	23,300	23,300	23,300	23,300	23,300	23,300	TESDA	
5 5. Scholarship Programs	-do-	average of 14M/year	TESDA	16,725,060	14,000,000	14,000,000	14,000,000	14,000,000	14,000,000	TESDA	
6 Conduct of Trainers Methodology	-do-	89,800/year	TESDA	89,800	89,800	89,800	89,800	89,800	89,800	TESDA	
7 Industry Immersion of trainers	identified industries	100,000/year	TESDA, TVIs	100,000	100,000	100,000	100,000	100,000	100,000	TESDA	
8 Impact Evaluation Study (IES)	Provincewide	15,000/year	TESDA	15,000	15,000	15,000	15,000	15,000	15,000	TESDA	
9 Conduct/Participate Jobs Fair	as identified	5,000/year	TESDA, LGUs, TVIs and other	5,000	5,000	5,000	5,000	5,000	5,000	TESDA	
10 Refurbishment of training facilities of TESDA Provincial Training Centers (PTCs)	Provincewide	24,000,000	TESDA, TVIs	0	24,000,000	0	0	0	0	TESDA	
11 Upgrading of TESDA Provincial Office	Tagbilaran City	3,000,000	DBM	0	3,000,000	0	0	0	0	TESDA	
12 Skills Competition	to be identified	150,000/year	TESDA, APTIB, TVIs	150,000	150,000	150,000	150,000	150,000	150,000	TESDA	
13 Advocacy Programs	Provincewide	77,200/year	TESDA, TVIs	77,200	77,200	77,200	77,200	77,200	77,200	TESDA	
TESDA Tatak Video		5,000/year		5,000	5,000	5,000	5,000	5,000	5,000		
TESDA Idol		20,000/year		20,000	20,000	20,000	20,000	20,000	20,000		
KABALIKAT Award		20,000/year		20,000	20,000	20,000	20,000	20,000	20,000		
Total				19,594,945	43,869,885	16,869,885	16,869,885	16,869,885	16,869,885		

Local Development Investment Program

Bohol Province

Sector : SOCIAL DEVELOPMENT SECTOR
 Sub-sector : Housing
 Agency : HOME DEVELOPMENT MUTUAL FUND (Pag-IBig Fund)

NAME OF PROGRAMS/ PROJECTS	LOCATION	Number of Units	TOTAL PROJECT COST (₱ Million)	TIME FRAME & INVESTMENT COST PER YEAR						SOURCE OF FUNDS	IMPLEMENTING AGENCY	REMARKS
				2016	2017	2018	2019	2020	2021			
A. Institutional Loans												
1. Teacher's Village	San Isidro, Tagbilaran City	218	30.00		20.00		10.00			HDMF	Bohol Public School Teachers and Employees MPC	For GHLP
2. Bohol Concerned Citizen's Action for Progress, Inc. (BCCAP) Subdivision	Dauis, Bohol	170	10.00			10.00				HDMF		For GHLP
B. End-User Financing (Walk-in)			770.00	100.00	110.00	121.00	133.00	146.00	160.00	HDMF		
Total Number of Units		535	535.00	70	77	84	92	101	111			
Total		923	810.00	100.00	130.00	131.00	143.00	146.00	160.00			

Local Development Investment Program
BOHOL PROVINCE

Sector : SOCIAL DEVELOPMENT SECTOR

Sub-sector : Housing

Agency : NATIONAL HOUSING AUTHORITY

NAME OF PROGRAMS/ PROJECTS	LOCATION	TOTAL PROJECT COST (₱ Million)	TIME FRAME & INVESTMENT COST PER YEAR						SOURCE OF FUNDS	IMPLEMENTING AGENCY	REMARKS
			2016	2017	2018	2019	2020	2021			
1. AFP-PNP Housing	Dauis, Bohol	136.45	136.45						GAA	NHA	Project implementation on-going
St. Michael Residences											
2. Resettlement Assistance to LGU's		24.00		24.00					GAA	NHA	
Tagbilaran City Resettlement Project	Tagbilaran City, Bohol										Site identification on-going in coordination w/ the City Govt
3. Other Resettlement Projects:									GAA	NHA	
3.1. Jagna Resettlement Project	Jagna, Bohol	12.00			12.00						Continuing program (orientation conducted to the LGUs)
3.2. Tubigon Resettlement Project	Tubigon, Bohol	12.00			12.00						
3.3. Ubay Resettlement Project	Ubay, Bohol	12.00				12.00					
3.4. Other LGU's	Bohol Province	24.00					12.00	12.00			
TOTAL		220.45	136.45	24.00	24.00	12.00	12.00	12.00			

Local Development Investment Program
Bohol Province

Sector: SOCIAL DEVELOPMENT SECTOR
 Sub-sector : Social Welfare & Development
 Agency : FCB FOUNDATION Inc.

NAME OF PROGRAMS/ PROJECTS	LOCATION	TOTAL PROJECT COST (₱ Million)	TIME FRAME & INVESTMENT COST PER YEAR						SOURCE OF FUNDS	IMPLEMENTING AGENCY	REMARKS
			2016	2017	2018	2019	2020	2021			
Alternative Development Financing	Province wide	375.0	50.0	55.0	60.0	65.0	70.0	75.0	LBP	FCBFI	Revolving Fund : 8,000 clients per year
- Micro-financing			8,000 clients								
Demo Farm	Canangcaan, Corella, Bohol	5.0	1.0	1.0	1.0	0.8	0.7	0.5	FCBFI	Hog, Chicken & Vegetable Natural Farming	
Total		380.0	51.0	56.0	61.0	65.8	70.7	75.5			

Local Development Investment Program
Bohol Province

Sector : SOCIAL DEVELOPMENT SECTOR
Sub-Sector : Social Welfare and Development
Agency : **BOHOL INTEGRATED DEVELOPMENT FOUNDATION, INC. (BIDEF)**

Name of Programs and Projects	Location	Total Project Cost	Time Frame and Investment Cost per Year						Source of Funds	Implemen- ting Agency	Remarks
			2016	2017	2018	2019	2020	2021			
Disaster Risk Reduction Management and Climate Change Adaptation and Mitigation (DRRM/CCAM)											
1. Establishment of Disaster Risk Reduction and Management Mechanisms (EDRRMM) Project	Pangangan island, Calape, Bohol covering a total of 8 barangays	1,136,205	353,750	156,491	156,491	156,491	156,491	156,491	Philippine – Australia Community Assistance Program (PACAP)	BIDEF	The project started in October 2014 and will end in April 2016. The vulnerable sectors are amongst the main beneficiaries of the project.
2. Establishment of Disaster Risk Reduction and Management Mechanisms (DRILL) Project	Coastal barangays of Duero and Jagna covering a total of 23 barangays	6,488,980.00	2,506,096.00	1,440,700.00	635,546.00	635,546.00	635,546.00	635,546.00	MISEREOR/KZE, Germany	BIDEF	The project started in December 2014 and will hopefully end in November 2017. The vulnerable sectors are amongst the main beneficiaries of the project.
3. Strengthening the Capacities of Local Consortium towards Effective Humanitarian Assistance (Strengthening LC) Project	Province of Bohol/ Tagbilaran City	2,073,070.00	765,997.50	1,307,072.50					Start Fund through the Financial Enabler Project	BIDEF, SAC – Tagbilaran, UBCDFI and PCCED	The project started in July 2016 and will end in June 2017.
Governance											
1. Consolidating Civil Society Organization (CSO) Networks for Citizens’ Engagement toward Participatory and Accountable Governance (CCCE-PAG) Project	3 areas covering Tagbilaran City, Corella and Dagohoy, Bohol	2,422,150.00	1,041,053.00	958,947.00	422,150.00				European Union (EU) in partnership with the Philippine Partnership for the Development of Human Resources in Rural Areas (PPDRHRA)	BIDEF/ PhilDHRRA	The project started in January 2016 and will hopefully end in June 2018. CSO operating in the project sites are among the beneficiaries of the pro ject
Sustainable Agriculture											
Vermi composting and demonstration farm	Malitbog, Dagohoy, Bohol	6,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	Internal Source	BIDEF	The main beneficiaries/ clients are farmers and LGUs
Total		18,120,405	5,666,897	4,863,211	2,214,187	1,792,037	1,792,037	1,792,037			

Local Development Investment Program
Bohol Province

Sector: SOCIAL DEVELOPMENT SECTOR

Sub-sector: Culture & Arts Preservation

Agency: **BOHOL ARTS, CULTURE AND HERITAGE (BACH) COUNCIL**

Name of Programs and Projects	Specific Activity	Implementing Period	Resources Needed/Budget	Implementing Partners
CULTURE, DEVELOPMENT AND GOVERNANCE				
Support and provide technical assistance on BACH Code Implementation at LGU level	> Information, Education and Communication > IEC on BACH Code conducted in selected LGU’s and City. > Identify specific LGU’s areas as eco-cultural heritage sites (awareness before appropriation) > Conduct workshop on these specific areas which the BACH Code is applicable	October’2015 – December’2016	100,000.00	LGU’S, CCAD,BTO,BSTO and PTC
ARTS SECTION				
Home for the Arts (Balay Alampat)	> Letter of intent to utilize the AV for the promotion of the Arts addressed to the Provincial Governor Chatto through CCAD	October - December		CCAD, CPG Foundation
ARNIS				
Propagation of Arnis	> Conduct Arnis clinics workshop/seminars	Tagbilaran City- October 24-25, 2015		LGU
Revival ,Re-orientation of Arnis interest to our new generation (community)		1 st District – November 14-15, 2015		
		2 nd District- November 28-29, 2015		
		3 rd District – December 12-13, 2015		
HERITAGE				
Enhancing cultural mapping capabilities	> Formulation of Bohol Cultural mapping design and templates then implementation	October 1, 2015- December 2016	₱ 150,000.00 - ₱200,000.00	NCCA, LGU, CCAD, USAID, and Academe
Cultural Mapping	> Enumerators Training			
	> Implementation Target 7 towns or more			
	> Tangible Cultural Property collection and mass registration			
Heritage sites/Art Pilgrimage	> Identification Sites	3 sitess visits (W-N-E)	₱ 60,000.00 per site	BACH, CCAD, and LGY
	> Request for transport			
	> Resource person/Facilitators			
	> Actual Visit			
	> Evaluation Site			
	> Recommendation for Tourist destination			

**LOCAL DEVELOPMENT INVESTMENT PROGRAM
PROPOSED PROGRAMS AND PROJECTS
CY 2016-2021**

Sector: DEVELOPMENT ADMINISTRATION

Sub-Sector: Justice & Safety

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Counterpart Fund for the Provincial Peace and Order Council (PPOC) and Regional Peace and Order Council (RPOC)	Provincewide		PGBH	Non-Office	2016-2021	1,000,000.0	1,000,000.0	1,000,000.0	1,000,000.0	1,000,000.0	1,000,000.0
Operation of Local Special Bodies (Provincial Ordinance No. 2012-010)	Provincewide		PGBH	Non-Office	2016-2021	500,000.0	500,000.0	500,000.0	500,000.0	500,000.0	500,000.0
Legal Assistance for Effective Law Enforcement Program (LAELEP)	Provincewide		PLO/ IBP	Non-Office	2016-2021	450,000.0	450,000.0	450,000.0	450,000.0	450,000.0	450,000.0
Kauban sa Reporma / CLIP Program	Provincewide		GO	Non-Office	2016-2021	925,000.0	1,500,000.0	1,500,000.0	1,500,000.0	1,500,000.0	1,500,000.0
Kauban sa Reporma Resettlement Center Program (Water System Project)	Selected Area		GO	20% DF	2016	1,000,000.0					
Disaster Risk Reduction and Management (Calamity Fund)	Provincewide		PDRRMO/ PGBH	GF - LDRRMF	2016-2021	91,369,369.0	101,174,778.0	112,304,003.6	124,657,444.0	138,369,762.8	153,590,436.7
Anti-Drug Campaign Program	Provincewide		PPOC/ GO	Non-Office	2016-2021	1,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Online Database Program for the Provincial Legal Office (PLO)	Provincewide		PLO	Non-Office	2016-2017	350,000.00	35,000.00				
Construction of Additional Cells at the Bohol District Jail (BDJ)	Tagbilaran City		BDJ	20% DF	2017		10,000,000.00				
Support fund to Joint Task Force Dagon	Provincewide		PPOC/ GO	Non-Office	2017-2021		3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00
Center for Drug Education and Counseling (CDEC)	Provincewide		PPOC/ GO	Non-Office	2017-2021		5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00
<u>Peace and Order</u>											
Crime prevention and enforcement program(campaign against illegal drugs, loose firearms, illegal gambling , arrest of wanted persons)	Provincewide		PNP, LGU	PNP, LGU	2016-2021	14,500,000.00	15,000,000.00	15,500,000.00	16,000,000.00	17,000,000.00	18,000,000.00
Conduct of drug symposium seminars	Provincewide		PNP, LGU	PNP, LGU	2016-2021	500,000.00	1,000,000.00	1,500,000.00	2,000,000.00	2,500,000.00	3,000,000.00
Conduct of Drug Awareness Reduction Education (DARE) Seminar	Provincewide		PNP, LGU	PNP, LGU	2016-2021	500,000.00	1,000,000.00	1,500,000.00	2,000,000.00	2,500,000.00	3,000,000.00
Conduct of LTO deputation seminar	Provincewide		PNP, LGU	PNP, LGU	2016-2021	500,000.00	1,000,000.00	1,500,000.00	2,000,000.00	2,500,000.00	3,000,000.00
Conduct of Oplan Katok	Provincewide		PNP, LGU	PNP, LGU	2016-2021	800,000.00	1,200,000.00	1,500,000.00	2,000,000.00	2,500,000.00	3,000,000.00
Campaign against illegal gambling	Provincewide		PNP, LGU	PNP, LGU	2016-2021	500,000.00	1,000,000.00	1,500,000.00	2,000,000.00	2,500,000.00	3,000,000.00
Conduct symposium in crime prevention include citizen arrest	Provincewide		PNP, LGU	PNP, LGU	2016-2021	500,000.00	1,000,000.00	1,500,000.00	2,000,000.00	2,500,000.00	3,000,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Organize Explosives Ordnance Disposal (EOD) Teams in Bohol	Provincewide		PNP, LGU	PNP, LGU	2016-2021	700,000.00	1,000,000.00	1,500,000.00	2,000,000.00	2,500,000.00	3,000,000.00
Training for EOD Teams	Provincewide		PNP, LGU	PNP, LGU	2016-2021	2,000,000.00	1,000,000.00	1,500,000.00	2,000,000.00	2,500,000.00	3,000,000.00
Procurement of necessary EOD equipment and support vehicles	Provincewide		PNP, LGU	PNP, LGU	2016-2021	30,000,000.00	35,000,000.00	35,000,000.00	20,000,000.00	20,000,000.00	20,000,000.00
Construction of PNP Stations in municipalities	PPSC, ALICIA, ANTEQUERA, BACLAYON, BIEN UNIDO, BILAR, BUENAVISTA, CLARIN, CORELLA, CORTES, DAGOHOY, DANAOG, DAUIS, G HERNANDEZ, GETAFE, LILA, LOAY, MABINI, MARIBOJOC, PRES GARCIA, S BULLONES, SAGBAYAN, SAN ISIDRO, SAN MIGUEL, SEVILLA, SIKATUNA, TAGBILARAN CITY, TRINIDAD.		PNP, LGU	PNP, LGU	2016-2021	500,000.00	1,000,000.00	1,500,000.00	2,000,000.00	2,500,000.00	3,000,000.00
Procurement of patrol cars/ motorcycles for PNP stations			PNP, LGU	PNP, LGU	2016-2021	500,000.00	1,000,000.00	1,500,000.00	2,000,000.00	2,500,000.00	3,000,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Procurement of communication equipment and IT equipment for PNP stations	1 CITY, 48 MUNICIPALITY AND 20 FOR PHQ		PNP, LGU	PNP, LGU	2016-2021	500,000.00	1,000,000.00	1,500,000.00	2,000,000.00	2,500,000.00	3,000,000.00
Deployment of iProTeam /SST /Probe to target barangays	Bohol		AFP		2016-2021	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00
Identification of primary and secondary issues	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Cooptation of target personality and sectoral organization	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Establishment of Counter Organization	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Ipro Team/BTA/Probe Team summation	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Mission planning	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Focused Intel-Driven Operation	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Joint AFP/PNP law enforcement operation	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Cmdr Visit to Coy CPs, TPBs & CAA Dets	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Public Awareness Symposium	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Tri-media	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Stakeholders Engagement	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Livelihood projects and trainings	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Recruitment of Cat A & B AA	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Conduct CI to troops and OPCON CAFGU	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Conduct SSI	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Conduct BI/Record Check	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Conduct Area Study/CORAS	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Personal Meeting (PM)	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Visit/Liaising	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Conduct of CI Investigation	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Case build up against CNN	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Organization and retraining of BPATS and Tanods.	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Empower the BPOC and prepare them to manage the barangays internal security affairs	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Conduct of monthly BPOC meeting.	Bohol		AFP		2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Repair of Officer's Quarters at Camp Rajah Sikatuna, Carmen	Katipunan, Carmen		AFP	Bohol PGLU/ MLGU/ 302nd Infantry Brigade			595,399.00				
Road Repair at Camp Rajah Sikatuna, Carmen	Katipunan, Carmen	1000 m x 6 meters	AFP	Bohol PGLU/ MLGU/ 302nd Infantry Brigade			2,568,720.00				
Renovation of Officer Quarter	Macaas, Tubigon	180 sqm	47IB	Bohol/ MLGU Tubigon/ 47IB	July-Sept 2016	800,000.00					
Improvement of Enlisted Barracks	Cabulijan, Tubigon	936 sqm	47IB	Bohol/ MLGU Tubigon /47IB	July-Sept 2016	600,000.00					

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Improvement of Officer Quarter	Pilar, Bohol	75sqm	47IB	Bohol/ MLGU Pilar / 47IB	Oct – Dec 2018			80,000.00			
Improvement of Enlisted Barracks	Pilar, Bohol	800 sqm	47IB	Bohol/ MLGU Pilar / 47IB	Jan–May 2019				300,000.00		
Improvement of Multi-purpose Hall	Cabulijan, Tubigon	150 sqm	47IB	47IB/PLGU BOHOL	Apr-Aug 2017		350,000.00				
Improvement of Admin Building	Macaas, Tubigon	434 sqm	47IB	47IB/PLGU BOHOL	Sep-Dec 2017		350,000.00				
Improvement of Motor pool and Storage Area	Cabulijan, Tubigon	300 sqm	47IB	47IB/PLGU BOHOL	Jan-Apr 2018			350,000.00			
Renovation of Comfort Room	Macaas, Tubigon	36 sqm	47IB	47IB/PLGU BOHOL	Oct-Dec 2016	100,000.00					
Construction of Officers Mess Hall	Macaas, Tubigon	52 sqm	47IB	47IB/PLGU BOHOL	May-Sep 2018			260,000.00			
Construction of EP Mess Hall	Cabulijan, Tubigon	244 sqm	47IB	47IB/PLGU BOHOL	Jan-Sep 2019				150,000.00		
Construction of EP Comfort Room	Cabulijan, Tubigon	36 sqm	47IB	47IB/PLGU BOHOL	Jan-Mar 2017		150,000.00				
Renovation of Basketball Court	Macaas, Tubigon	600 sqm	47IB	47IB/PLGU BOHOL	Jan-Mar 2020					900,000.00	
Renovation of Badminton Court	Macaas, Tubigon	230 sqm	47IB	47IB/PLGU BOHOL	Apr-Jun 2020					150,000.00	

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Construction of Mini Gym	Macaas, Tubigon	100 sqm	47IB	47IB/PLGU BOHOL	July-Sept 2020					250,000.00	
Construction of Officer Quarters	Trinidad, Bohol	75 sqm	47IB	47IB/PLGU BOHOL	Jan-Apr 2019				80,000.00		
Construction of Enlisted Barracks	Trinidad, Bohol	800 sqm	47IB	PLGU Bohol/47IB	May-Oct 2018			325,000.00			
Operationalization of the Bohol Joint Task Force Dagon and its Task Groups	Provincewide		PGBh		2016-2021	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00
Capacity-building in municipalities, barangay, puroks on crime prevention	Provincewide		PGBh		2016-2021	1,500,000.00	1,500,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00
Legal Assistance for Enhanced Law Enforcement Program (LAELEP)	Provincewide		PGBH/ IBP		2016-2021	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
Strengthening Program for the Municipal Drug Abuse Council (MDAC), and Barangay Drug Abuse Council (BDAC)	Provincewide		PGBh		2016-2021	1,500,000.00	1,500,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00
Counterpart Fund for the Provincial Peace and Order Council (PPOC) and Regional Peace and Order Council (RPOC)	Provincewide		PGBh		2016-2021	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
Center for Drug Education and Counseling (CDEC)	Provincewide		PGBh		2017-2021		5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00
Development and Internal Security Programs											
Conduct of InSPIRED HEAT-IT Bohol Caravans/ Mini-InSPIRED HEAT_IT Caravans	Provincewide		PGBh		2016-2021	6,800,000.00	6,800,000.00	6,800,000.00	6,800,000.00	6,800,000.00	6,800,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Countryside Development Program – Purok Power Movement	Provincewide		PGBh		2016-2021	12,500,000.00	12,500,000.00	12,500,000.00	12,500,000.00	12,500,000.00	12,500,000.00
Medical Missions	Provincewide		PGBh		2016-2021	9,500,000.00	9,500,000.00	9,500,000.00	9,500,000.00	9,500,000.00	9,500,000.00
Implementation of the Comprehensive Local Integration Program (CLIP) - Kauban sa Reporma	Provincewide		PGBh		2016-2021	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00
Creation of National Coast Watch System.		PCG	PCG/DOTC		2016-2021						
OPLAN Ligtas Byahe Krismas		PCG	PCG/DOTC		2016-2021						
OPLAN Ligtas Byahe Semana Santa		PCG	PCG/DOTC		2016-2021						
OPLAN Listas Undas		PCG	PCG/DOTC		2016-2021						
Construction of needed PCG Unit Structures/ Buildings in Bohol		PCG	PCG/DOTC/ LGU								
A) PCG UNIT INFRASTRUCTURE PROGRAM			PCG	PCG/DOTC/ LGU	2018						
· HCGS Tagbilaran	Tagbilaran City							7,400,000.00			
· CGSS Panglao	Tawala Panglao							800,000.00			
· CGSS Jagna	Brgy Pagina Jagna							800,000.00			
· CGSS Tubigon	Pook Occidental Tubigon							800,000.00			
· CGSS Ubay	Port Area Ubay							800,000.00			

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Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
C) VEHICLE PROCUREMENT FOR THE PCG			PCG	DOTC/ PCG	2017						
- (1) Pick-up vehicle	Tagbilaran City						1,200,000.00				
- (1) 6 Wheeler Truck	Tagbilaran City						1,450,000.00				
- (5) Pick -up type Multi Cabs	Jagna, Panglao, Ubay, Tubigon and Talibon						1,000,000.00				
D) OFFICE EQUIPMENT ACQUISITION FOR THE PCG			PCG	DOTC/ PCG	2017						
- (10 units) Desktop Computers							329,000.000				
- (35units) Handheld Radios							455,000.000				
- VHF Marine Radio							15,000.000				
- Nautical Charts							3,000.000				
- Telephone							12,800.0000				
- (10 units) Printers							76,000.000				
E) ACQUISITION OF ADDITIONAL FLOATING ASSETS FOR THE PCG			PCG	DOTC/ PCG	2017						
- (6 pcs) Rubber Boats	Tagbilaran City, Jagna, Panglao, Tubigon, Talibon and Ubay						4,800,000.00				
F) PROCUREMENT OF SAFETY EQUIPMENT FOR THE PCG	Headquarters CSG Tagbilaran, Tagbilaran City		PCG	DOTC/ PCG	2017						
- Life Jackets							2,800.00				

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
- Life Rings							2,500.00				
- First Aid Kit							23,890.00				
G) OPERATION OF TASK FORCE DAGON/TASK GROUP KADAGATAN (PCG)	Tagbilaran City and Whole Province of Bohol		PCG	DOTC/ PCG							
<u>Fire Protection</u>											
Activation of Albur FS, Anda FS, Catigbian FS, Loboc FS, 18,Sagbayan FS, Sevilla FS & Sikatuna FS	Municipalities of Albur, Anda, Catigbian, Sagbayan, Sevilla & Sikatuna Bohol	Lot Donation with minimum area requirement of 315 sq m for the Construction of Fire	LGU & BFP	LGU & BFP	2016	18,200,000					
Acquisition of Firetrucks for Municipalities of Alicia, Getafe, Corella, Cortes, Dagohoy, Danao, Lila, Duero, Guindulman, San Isidro & San Miguel	Municipalities of Alicia, Getafe, Corella, Cortes, Dagohoy, Danao, Lila, Duero, Guindulman, San Isidro & San Miguel	Lot Donation with minimum area requirement of 315 sq m for the Construction of Fire Station	LGU & BFP	LGU & BFP	2016-2018	15,000,000	15,000,000	15,000,000			

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Intensify Fire Safety Inspection among Public & Private Establishments, Institutions & Buildings	Provincewide		BFP	BFP	2016-2018	480,000	480,000	480,000	480,000	480,000	480,000
Activation of Fire Stations for Municipalities of Alicia, Getafe, Corella, Cortes, Dagohoy, Danao, Lila, Duero, Guindulman, San Isidro & San Miguel	Municipalities of Alicia, Getafe, Corella, Cortes, Dagohoy, Danao, Lila, Duero, Guindulman, San Isidro & San Miguel	Lot Donation with minimum area requirement of 315 sq m for the Construction of Fire Station	LGU & BFP	LGU & BFP	2016-2021	28,600,000	28,600,000	28,600,000	28,600,000	28,600,000	28,600,000
Conduct of information education campaign on fire prevention	Provincewide	n/a	BFP	BFP	2016-2021	23,000.00	23,000.00	23,000.00	23,000.00	23,000.00	23,000.00
Enactment of legislative measures supporting fire safety	Provincewide	n/a	LGU/ BFP	LGU/ BFP	2016-2021	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00
Enforcement of laws, policies & Fire Safety Regulations	Provincewide	n/a	BFP	BFP	2016-2021	85,000.00	85,000.00	85,000.00	85,000.00	85,000.00	85,000.00
Coordination meetings with City/Municipal Building Officials & LGU Head Offices	Provincewide	n/a	BFP	BFP	2016-2021	165,000.00	165,000.00	165,000.00	165,000.00	165,000.00	165,000.00
Establishment of BFP Emergency Medical Services and Special Rescue Unit program	All BFP Stations		BFP	BFP	2016-2021	300,000.00	300,000.00	300,000.00	300,000.00	300,000.00	300,000.00
Upgrading of BFP office, facilities and equipment	All BFP Stations	n/a	BFP	BFP	2016-2021	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Hiring of BFP Personnel	All BFP Stations	n/a	BFP	BFP	2016-2021						
Capability-building/ Training Program for BFP personnel	All BFP Stations	n/a	BFP	BFP	2016-2021	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00
Jail Management											
Construction of new jail facility	Carmen DJ	2000 sq/m	BJMP/LGU	GAA	2018		5,000,000.00				
Construction of Primary Perimeter Fence	Carmen DJ	1 Hectare	BJMP/LGU	GAA	2018		2,000,000.00				
Construction of additional cells											
Construction of Additional Ten (10) Cells at the BDJ	BDJ	500 Sq/Mtrs	PGBh	LGU	2016-2017	3,000,000.00	10,000,000.00				
Construction of additional four (4) Cell	Tagbilaran CJ	500 sq/m	BJMP/City LGU	LGU			1,500,000.00				
Construction of additional four (4) Cell	Talibon DJ	200 sq/m	BJMP/ LGU	BJMP			1,500,000.00				
Reinforcement of secondary fence for the new additional buildings											
Control Fence at the BDJ	BDJ	500 Sq/Mtrs	PGBh	LGU	2016-2017	300,000.00	200,000.00				
Secondary Fence at the BDJ	BDJ	600 Sq/Mtrs	PGBh	LGU	2016-2018	400,000.00	300,000.00	300,000.00			
Control Fence at the Talibon DJ	Talibon DJ	150 Sq/Mtrs	BJMP	BJMP	2016-2017		150,000.00				
Secondary Fence at the Talibon DJ	Talibon DJ	200 Sq/Mtrs	BJMP	BJMP	2016-2018		300,000.00				
Secondary Fence	Tagbilaran CJ	2000 sq/m	BJMP	BJMP							

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Secondary Fence at the Ubay DJ	Ubay DJ	5000 Sq/Mtrs	BJMP	BJMP	2018			1,500,000.00			
Jail Decongestion Programs (include transfer of insular/convicted prisoners to other correctional institution)											
Bohol District Jail	BDJ	n/a	BJMP/DOH/PHO	PGBh	2016-2021	250,000.00	250,000.00	250,000.00	250,000.00	250,000.00	250,000.00
Carmen District Jail	CDJ	n/a	BJMP/DOH/PHO	BJMP	2016-2021	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00
Ubay District Jail	UDJ	n/a	BJMP/DOH/PHO	BJMP	2016-2021	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00
Talibon District Jail	TDJ	n/a	BJMP/DOH/PHO	BJMP	2016-2021	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00
Tagbilaran City Jail	TCJ	n/a	BJMP/DOH/PHO	BJMP	2016-2021	170,000.00	170,000.00	170,000.00	170,000.00	170,000.00	170,000.00
Conduct regular follow-up of pending criminal cases in coordination with appropriate courts/ government agencies											
Bohol District Jail	BDJ	n/a	BJMP/PAO/COURTS	PGBh	2016-2021	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00
Carmen District Jail	CDJ	n/a	BJMP/PAO/COURTS	BJMP	2016-2021	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00
Ubay District Jail	UDJ	n/a	BJMP/PAO/COURTS	BJMP	2016-2021	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00
Talibon District Jail	TDJ	n/a	BJMP/PAO/COURTS	BJMP	2016-2021	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00
Tagbilaran City Jail	TCJ	n/a	BJMP/PAO/COURTS	BJMP	2016-2021	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00
Health program thru regular medical and dental activities											
Bohol District Jail	BDJ	n/a	BJMP/DOH/PHO	PGBh	2016-2021	250,000.00	250,000.00	250,000.00	250,000.00	250,000.00	250,000.00
Carmen District Jail	CDJ	n/a	BJMP/DOH/PHO	BJMP	2016-2021	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00

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Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Establishment of Meteorological Radar station	Alburquerque, Bohol		PAGASA	PAGASA	2016-2017						
Deployment of Early warning System (DEWS)	Loboc Basin Loboc, Bohol		PAGASA/DO ST	PAGASA/DO ST	2016-2021						
Deployment of Early warning System (DEWS)	Inabanga Basin, Inabanga, Bohol		PAGASA/DO ST	PAGASA/DO ST	2016-2017						
Deployment of Early warning System (DEWS)	Abatan River, Cortes Bohol		PAGASA/DO ST	PAGASA/DO ST	2016						
Deployment of Early warning System (DEWS)	Tagbuani River, Alburquerque		PAGASA/DO ST	PAGASA/DO ST	2016						
Information & Dissemination Campaign (Meteorological Warnings & Hydro meteorological Hazards)	Bohol		PAGASA	PAGASA/LGU	2016-2021						
Disaster Risk Reduction and Management	Provincewide		PDRRMO	PGBh-LDRRMF	2016-2021						
Community hazard, risk and vulnerability assessments.	Provincewide	not applicable	LDRRMO, DENR-MGB, PHIVOLCS	Provincial and Municipal DRRM Funds	2017-2021		300,000.00	300,000.00	300,000.00	300,000.00	300,000.00
Community Risk and Hazard mapping.	Provincewide	not applicable	LDRRMO, DENR-MGB, PHIVOLCS, IT Team/Mapping Team	Provincial and Municipal DRRM Funds	2017-2021		300,000.00	300,000.00	300,000.00	300,000.00	300,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Information, Education and Communication (IEC). / DRRM Summit/ Fora	Provincewide	not applicable	LDRRMOs	Provincial and Municipal DRRM Funds	2016-21	250,000.00	250,000.00	250,000.00	250,000.00	250,000.00	250,000.00
Capacity Development on DRRM	Provincewide	not applicable	LDRRMOs, OCD, DILG	Provincial and Municipal DRRM Funds	2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Review the LDRRM and Contingency Plans	Provincewide	not applicable	LDRRMOs, DILG, OCD	Provincial and Municipal DRRM Funds	2016-17	100,000.00	200,000.00				
Community-based orientation on DRRM-CCA at the Purok/household level including other stakeholders.	Provincewide	not applicable	LDRRMOs, OCD, DILG	Provincial and Municipal DRRM Funds	2016-21	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Provincial DRRM Office establishment, staffing and operation	Provincewide	not applicable	LDRRMOs, SBs	Provincial and Municipal DRRM Funds	2016-21	18,000,000.00	18,000,000.00	18,000,000.00	18,000,000.00	18,000,000.00	18,000,000.00
Orientation of the Municipal and Provincial Engineers on the standard requirement for resilient buildings	Provincewide	not applicable	Engr. Maximino Aton, PEO	Provincial and Municipal DRRM Funds	2016-2019	50,000.00	50,000.00	50,000.00	50,000.00		
Construction of new evacuation centers compliant to the set standards and resilient to the hazards in the area	Provincewide	at least 500 sq. meters	DSWD, LDRRMOs, DPWH, PEO, ME, EnPs	national, provincial DRRM funds and grants	2016-2019	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00		

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Conduct of orientation and workshops on DRRM based on RA 10121 including climate change mitigation and adaptation to the different stakeholders, CSOs in DRRM	Provincewide	not applicable	LDRRMOs, OCD, PAG-ASA, DENR, PHIVOLCS, ETC.	Provincial and Municipal DRRM Funds	2016-2021	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00
Forge agreements/Memorandum of Understanding or Agreements with the CSOs, LGUs, academe and other business sectors, to formalize their commitment for DRRM.	Provincewide	not applicable	LDRRMOs, Governor, Mayors, SP, SBs	Provincial and Municipal DRRM Funds, Corporate Funds, PPP	2016-17	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
Conduct of orientations to LGUs on the activities and services provided by TaRSIER 117	Provincewide	not applicable	LDRRMOs, TaRSIER 117	Provincial and Municipal DRRM Funds	2016-2021	100000	100000	100000	100000	100000	100000
Assist the LGUs in establishing, organizing their respective emergency response units	Provincewide	not applicable	PDRRMO, TaRSIER 117	Provincial and Municipal DRRM Funds	2016-2018	100000	100000	100000			
Procurement of additional Ambulances for the expanded TaRSIER 117 stations, hospitals and upgrading of other rescue equipment	Ubay, Carmen, Talibon	not applicable	PDRRMO, TaRSIER 117	Provincial and Municipal DRRM Funds	2016-2018	3,000,000.00	3,000,000.00	3,000,000.00			
Conduct of trainings, like Basic Life Support, Water Search and Rescue, Incident Command System, others	Provincewide	not applicable	TaRSIER 117	Provincial and Municipal DRRM Funds	2016-2021	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Constant sharing of information among LDRRM offices and partners thru regular meetings, conferences, summits	Provincewide	not applicable	BALDRRMO, PDRRMO	Provincial and Municipal DRRM Funds	2016-2021	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00
Conduct of regular meetings of the PDRRMC	Provincewide	not applicable	PDRRMC	Provincial and Municipal DRRM Funds	2016-2021	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00
Strengthening of Bohol Association of LDRRMOs thru trainings, seminars, conferences	Provincewide	not applicable	PDRRMO, MDRRMOs, DILG	Provincial and Municipal DRRM Funds	2016-2021	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
Conduct of benchmarking activities to best DRRM practices in other LGUs/Provinces	Luzon, Visayas, Mindanao	not applicable	PDRRMO, BALDRRMOs	Provincial and Municipal DRRM Funds, External sources	2017		200,000.00				
Organization, strengthening and setting-up of Database for community disaster volunteers	Provincewide	not applicable	PDRRMOs, BICTU	Provincial and Municipal DRRM Funds	2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Justice											
Designation of additional anti-illegal drugs court in Bohol	Tagbilaran City		PGbh/ Supreme Court/ DOJ	PGbh/ Supreme Court/ DOJ	2017		10,000,000.00				
Hiring of lawyers for Prosecutor's Office, Public Attorney's Office	Tagbilaran City		DOJ	DOJ	2017-2021		5,000,000.00	5,000,000.00	5,000,000.00	6,000,000.00	6,000,000.00

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**LOCAL DEVELOPMENT INVESTMENT PROGRAM
PROPOSED PROGRAMS AND PROJECTS
CY 2016-2021**

Sector: DEVELOPMENT ADMINISTRATION

Sub-Sector: Local Governance

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Investment Requirement					
					2016	2017	2018	2019	2020	2021
Counterpart fund for various projects such as construction/ repair and improvement of various infrastructures, health programs, drugs, vitamins, food supplements for senior citizens and other sectors, livelihood projects, procurement of land, office equipment, medical equipment, sports equipment, furnitures, fixtures and tents, others to support development priorities	Provincewide		GO	Non-Office	45,900,000.00	48,900,000.00	50,000,000.00	50,000,000.00	50,000,000.00	50,000,000.00
Aid to Barangays	Provincewide		GO	Non-Office	11,090,000.00	22,180,000.00	22,180,000.00	22,180,000.00	22,180,000.00	22,180,000.00
Counterpart Funding for LGUs, NGOs, NGAs, ODA Programs	Provincewide		GO	Non-Office	12,000,000.00	12,000,000.00	12,000,000.00	12,000,000.00	12,000,000.00	12,000,000.00
Provincial Counterpart for the Implementation of the Philippine Rural Development Program (PRDP)	Provincewide		GO	20% DF	42,000,000.00	20,000,000.00	42,000,000.00	42,000,000.00	42,000,000.00	42,000,000.00
Prosperity Program - Purok Power	Provincewide		GO	Non-Office	7,000,000.00	5,500,000.00	5,500,000.00	5,500,000.00	5,500,000.00	5,500,000.00
Pro-Team, CDP, Purok Power Movement	Provincewide		GO	Non-Office	5,500,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00
HEAT-IT Bohol Outreach Program	Provincewide		GO	Non-Office	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00
HEAT-IT Caravan Counterpart Fund	Provincewide		GO	Non-Office	1,800,000.00	1,800,000.00	1,800,000.00	1,800,000.00	1,800,000.00	1,800,000.00
Capacity Building for Effective Local Governance	Provincewide		GO	Non-Office	5,500,000.00	3,500,000.00	3,500,000.00	3,500,000.00	3,500,000.00	3,500,000.00
Aid to Various National Government Agencies and Councils	Provincewide		GO	Non-Office	8,500,000.00	8,500,000.00	8,500,000.00	8,500,000.00	8,500,000.00	8,500,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Investment Requirement					
					2016	2017	2018	2019	2020	2021
Aid to Various Groups in Support to the Implementation of Social Programs	Provincewide		GO	Non-Office	4,600,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00
Reception and Ent'mt. of Visiting Dignitaries	Provincewide		GO	Non-Office	2,500,000.00	5,000,000.00	2,500,000.00	2,500,000.00	2,500,000.00	2,500,000.00
PGBh-Civil Society Organization (CSO) Collaboration Program	Provincewide		GO	Non-Office	900,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
Pres. Carlos P. Garcia Scholarship Program	Provincewide		GO	Non-Office	6,000,000.00	6,000,000.00	6,500,000.00	6,500,000.00	6,500,000.00	6,500,000.00
Provincial Government Educational Subsidy Program	Provincewide		GO	Non-Office	6,000,000.00	6,000,000.00	6,500,000.00	6,500,000.00	6,500,000.00	6,500,000.00
Tripartite Industrial Peace Council (TIPC)	Provincewide		GO	Non-Office	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00
Livelihood Program	Provincewide		GO	Non-Office	2,600,000.00	3,500,000.00	3,500,000.00	3,500,000.00	3,500,000.00	3,500,000.00
Food Security Program	Provincewide		GO	Non-Office	3,800,000.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00
Dairy Development and Comprehensive Health, Agricultural and Tourism Development Program	Provincewide		OPA, GO, OPV, PHO	Non-Office	475,000.00	475,000.00	475,000.00	475,000.00	475,000.00	475,000.00
Operation of Provincial Cooperative Development Council	Provincewide		PCDC	Non-Office	600,000.00					
Cooperative Development Program	Provincewide		GO/ PCDC	Non-Office	500,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
Roads Development Program for Bohol LGUs	Provincewide		GO	20% DF/ Other Funds	6,000,000.00	8,000,000.00	8,000,000.00	8,000,000.00	8,000,000.00	8,000,000.00
Waterworks Program for Bohol LGUs	Provincewide		GO	20% DF	1,500,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00
Electrification Program for Bohol LGUs	Provincewide		GO	20% DF	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00
Various Infrastructure Projects for Bohol LGUs	Provincewide		GO	20% DF/ Other Funds	10,000,000.00	10,000,000.00	10,000,000.00	10,000,000.00	10,000,000.00	10,000,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Investment Requirement					
					2016	2017	2018	2019	2020	2021
Assistance to Bohol LGUs Waterworks Program	Provincewide		GO	Non-Office	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00	5,000,000.00
Assistance to Support Bohol LGUs Various Infrastructure Projects	Provincewide		GO	Non-Office	20,000,000.00	15,000,000.00	15,000,000.00	15,000,000.00	15,000,000.00	15,000,000.00
Assistance to Support Bohol LGUs Electrification Program	Provincewide		GO	Non-Office	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00
Assistance to Support Bohol LGUs Road Development Program	Provincewide		GO	Non-Office	10,000,000.00	10,000,000.00	10,000,000.00	10,000,000.00	10,000,000.00	10,000,000.00
Medicare Para Sa Masa/ Philhealth for Indigents Program	Provincewide		GO	Non-Office	30,000,000.00	30,000,000.00	30,000,000.00	30,000,000.00	30,000,000.00	30,000,000.00
Primary Health Care & BHW Program Including Honorarium	Provincewide		GO	Non-Office	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00
ICT and Other Related Projects: Remote Back-up server provision, Capability building, upgarading of PGBh computer network, systems security risk management and failover	Provincewide		BICTU	Non-Office	2,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00
Effective Development Communications (EdCom) Program	Provincewide		EDCOM	Non-Office	8,000,000.00	8,000,000.00	8,000,000.00	8,000,000.00	8,000,000.00	8,000,000.00
Succession Planning	Prov'l. Govt. Capitol		HRMDO	Non-Office		100,000.00	100,000.00	50,000.00	50,000.00	50,000.00
Career Pathing	Prov'l. Govt. Capitol		HRMDO	Non-Office		50,000.00	50,000.00	50,000.00	50,000.00	20,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Investment Requirement					
					2016	2017	2018	2019	2020	2021
Human Resource Development Program * Formulation /completion of competency models per office/ hospital * Formulation of competency profiles per position in every department/hospitals * Institutionalization and adoption of PGBh Competency Profiles per position * Formulation and Institutionalization of Competency – based HRD Plan	Prov'l. Govt. Capitol		HRMDO	Non-Office		1,200,000.00	1,200,000.00	1,200,000.00	1,200,000.00	1,200,000.00
Strategic Performance Management System	Prov'l. Govt. Capitol		HRMDO	Non-Office		50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
Enhanced Human Resource Information System * Provision of additional modules/features in the HRIS * Establishment of PHRMDO Gender and Development (GAD) Database	Prov'l. Govt. Capitol		HRMDO	Non-Office		500,000.00	500,000.00	300,000.00	200,000.00	100,000.00
Rewards and Recognition Program	Prov'l. Govt. Capitol		HRMDO	Non-Office		1,500,000.00	1,500,000.00	1,500,000.00	2,000,000.00	2,000,000.00
Establishment of PGBh Learning Center	Prov'l. Govt. Capitol		HRMDO	20% DF				3,000,000.00		
Establishment of Employees Welfare Facilities	Prov'l. Govt. Capitol		HRMDO	20% DF		50,000.00	500,000.00	500,000.00	500,000.00	500,000.00
PGBh Health Care Program	Prov'l. Govt. Capitol		HRMDO	Non-Office		1,200,000.00	1,200,000.00	1,200,000.00	1,200,000.00	1,200,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Investment Requirement					
					2016	2017	2018	2019	2020	2021
Provision of hazard allowances and or insurances to employees handling hazardous jobs * Creation of a committee or special body to study possible benefits to be given to personnel specifically those handling hazardous jobs * Discussion with the created committee for the formulation of necessary policies and guidelines	Prov'l. Govt. Capitol		HRMDO	GF		500,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
Continuing Moral Recovery Program	Prov'l. Govt. Capitol		HRMDO	Non-Office		500,000.00	350,000.00	350,000.00	350,000.00	350,000.00
Orientation on Leave Benefits for Women	Prov'l. Govt. Capitol		HRMDO	Non-Office		50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
Review of PGBh offices' organizational, functional and personnel structure	Prov'l. Govt. Capitol		HRMDO	Non-Office			200,000.00			
Workforce planning	Prov'l. Govt. Capitol		HRMDO	Non-Office			200,000.00			100,000.00
Formulation of Competency-based Qualification Standards	Prov'l. Govt. Capitol		HRMDO	Non-Office		200,000.00				
Operation of the Provincial Development Council (PDC)/ Regional Development Council (RDC)	Bohol		PPDO	Non-Office		750,000.00	800,000.00	850,000.00	850,000.00	850,000.00
Review of the Provincial Development and Physical Framework Plan (PDPFP)	Prov'l. Govt. Capitol		PPDO	Non-Office		200,000.00				
Provincial Monitoring and Evaluation System (ProMES)	Prov'l. Govt. Capitol		PPDO	Non-Office		332,890.00	300,000.00	300,000.00	300,000.00	300,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Investment Requirement					
					2016	2017	2018	2019	2020	2021
Provincial Counterpart for the Implementation of the Provincial Roads Management Facility (PRMF) - Provincial Office Operation	Prov'l. Govt. Capitol		PPDO	Non-Office		100,000.00				
Implementation of the Bohol Integrated Water Resource Management Project - Water Supply and Sanitation Services	Provincewide		PPDO	Non-Office		250,000.00	270,000.00	270,000.00	270,000.00	270,000.00
Operation of the Road Sector Committee	Prov'l. Govt. Capitol		PPDO	Non-Office		100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Operation of the Bohol Energy Development Advisory Group (BEDAG)	Provincewide		PPDO	Non-Office		300,000.00	250,000.00	250,000.00	250,000.00	250,000.00
Improvement / Construction / Rehabilitation of PGBh Facilities	Tagbilaran City		PGSO	20% DF	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00
Rehabilitation of Bohol Cultural Center	Tagbilaran City		PGSO	20% DF	1,500,000.00	10,000,000.00				
Construction of Girls Dormitory of the OPSWD	Tagbilaran City		PGSO	20% DF		3,000,000.00				
Galing Purok Awards	Provincewide		GO	Non-Office	900,000.00					
Election Expenses	Provincewide		GO	Non-Office	1,000,000.00	500,000.00				
Improvement of the CPG Park (New Capitol Site)	Tagbilaran City		PGSO	Non-Office		12,000,000.00	12,000,000.00			
Installation of Powerhouse Facility at the New Capitol Building	Tagbilaran City		PGSO	Non-Office		5,000,000.00				
Construction of fence for the New Building of the Provincial Motorpool Office	Tagbilaran City		PGSO	Non-Office		3,000,000.00				
Procurement of furnitures and fixtures for the New Provincial Capitol Building	Tagbilaran City		All Offices/ GO	Non-Office			40,000,000.00			
Regular updating of an effective structure for local councils and special bodies	Provincewide		GO	Non-Office	-	-	-	-	-	-
Conduct of regular meetings of Local Councils / special bodies as required	Provincewide		GO	Non-Office	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Investment Requirement					
					2016	2017	2018	2019	2020	2021
Capacity Enhancement Program for Local Councils and their respective Secretariat Offices	Provincewide		GO	Non-Office	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00
Conduct of periodic performance monitoring and evaluation for Local Councils and Special Bodies	Provincewide		GO	Non-Office			150,000.00			150,000.00
Incentive/ Recognition Program for active local councils/ bodies following approved	Provincewide		GO	Non-Office	200,000.00			200,000.00		
Conduct of public hearings, consultative meetings and sessions for the review/ updating of the following Codes/ Ordinances:(Revenue Code, Organic Agriculture, Sand and Gravel, BACH Code, General Ordinances	Provincewide		SP	GF	300,000.00	300,000.00	300,000.00	300,000.00	300,000.00	300,000.00
Conduct of public hearings, consultative meetings and sessions for the crafting and approval of the Tourism Code, Ordinance for Roads Development, and DRRM-CCA ordinances that would guide the entire province pertaining to urgent and highly important concerns	Provincewide		SP	GF		200,000.00	200,000.00	200,000.00	200,000.00	200,000.00
Formulation of Implementing Rules and Regulations (IRR) of the Environment Code	Provincewide		SP	GF		200,000.00				
Establish and institutionalize DRRM-CCA Committees in local Sanggunians, where necessary	Provincewide		SP	GF			100,000.00			
Review and Approval of the CLUPs at the SB, PLUC and SP	Provincewide		SB, PLUC, SP	GF		50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
Periodic assessment and updating of the PDPPF and Local Development Investment Plan (PDIP) mainstreaming DRM-CCA	Provincewide		PPDO/ PDC	GF	200,000.00					400,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Investment Requirement					
					2016	2017	2018	2019	2020	2021
Conduct of strategic planning and regular assessment / operational planning/ investment planning at the Management Executive Board (MEB) and Office levels	PGBh		MEB	GF	200,000.00			300,000.00		
Formulation of the Executive – Legislative Agenda (ELA)	PGBh		All Offices/ GO/ SP	GF	200,000.00			300,000.00		
Conduct of orientation/ coordination meetings, forums with LGUs on NGA/ ODA funded programs and projects	Provincewide		PPDO	GF			100,000.00		100,000.00	
Capacity-building program for LGUs on project development and management with the assistance of funding agencies	Provincewide		PPDO	GF			200,000.00		200,000.00	
Creation of new offices with plantilla positions provided	PGBh		HRMDO/ GO/ SP	GF			3,000,000.00	3,000,000.00	3,000,000.00	3,000,000.00
Periodic upgrading and continuing implementation of the Citizens Charter in support to the Anti-Red Tape Act	PGBh		HRMDO	GF	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
Provision/ construction of facilities to promote employees' welfare (dental clinic, cafeteria, breastfeeding room, wellness center)	PGBh		GO/ BOPEL	20% DF/ Non-Office			1,500,000.00	1,500,000.00		
Expanded Health Care Program/ insurance for PGBh personnel and officials	PGBh		HRMDO	GF		500,000.00	500,000.00	500,000.00	500,000.00	500,000.00
Provision of other benefits / opportunities for employees such as scholarships	PGBh		HRMDO/GO	GF				2,000,000.00	2,000,000.00	2,000,000.00
Seminar/Workshops for the Organization and Management of Public Libraries	Provincewide		PLIC	GF			100,000.00	100,000.00	100,000.00	100,000.00
Establishment of public libraries in local government units	Provincewide		PLIC	GF						
Procurement of library books and other materials including DRRM-CCA related reading materials and publications	Provincewide		PLIC	GF/ donations			250,000.00	250,000.00	250,000.00	250,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Investment Requirement					
					2016	2017	2018	2019	2020	2021
EIC and marketing activities to high school graduates for library science programs	Provincewide		PLIC	GF		100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Organization of support groups or “Friends of the Library” to help manage learning centers libraries	Provincewide		PLIC	GF			50,000.00			
Capacity Enhancement Program for concerned offices to fully utilized the usage of PGBh ICT developed system.	PGBh		BICTU	GF			150,000.00		150,000.00	
Periodic System evaluation on the usage of PGBh ICT developed system	PGBh		BICTU	GF			150,000.00		150,000.00	
Full implementation of developed systems	PGBh		BICTU	GF	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00
Development and institutionalization of an integrated financial system	PGBh		BICTU	GF			1,000,000.00			
Procurement of Blade or high-end servers with redundancy capability and a low footprint to minimize carbon emission and low energy consumption	PGBh		BICTU	GF/ Non-Office			800,000.00			
Procurement of generator set (preferably those that are energy –saving/Solar powered standby generator set)	PGBh		BICTU	GF/ Non-Office			1,000,000.00			
Institutionalization of a Data warehouse for all PGBH data	PGBh		BICTU	GF/ Non-Office				1,000,000.00		
Maintenance of PGBh website including the development of DRRM-CCA webpage	PGBh		BICTU	GF/ Non-Office	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00
Construction of disaster resilient new Provincial Capitol Building using green architecture	Tagbilaran City		GO/PEO/D PWH	DPWH/PGBh	760,000,000.00					
Improvement and retrofitting of existing government structures and facilities	Tagbilaran City		PGSO	GF/ Non-Office	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Investment Requirement					
					2016	2017	2018	2019	2020	2021
Establishment of the Records/ Archives building and implementation of the Records Management Program	Tagbilaran City		PEO/ PGSO	GF/ Non-Office		8,000,000.00	2,000,000.00	500,000.00	500,000.00	500,000.00
Implementation of various youth development programs	Provincewide		PYS Unit/ GO	GF/ Non-Office	500,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
IEC on anti-illegal drugs, illegal gambling, anti-criminality for the youth	Provincewide		PYS Unit/ GO	GF/ Non-Office		300,000.00	300,000.00	300,000.00	300,000.00	300,000.00
Establishment / construction of facilities and provision of services for the youth (ex. Bohol Youth Home, BCIC, Drug Rehabilitation Center)	Provincewide		GO/PEO/D PWH	DSWO/ DPWH/ PGBh						
Sports Development/ Physical Fitness Program	Provincewide		PYS Unit/ GO	GF/ Non-Office	1,782,500.00	1,782,500.00	1,782,500.00	1,782,500.00	1,782,500.00	1,782,500.00
Boholympics Program	Provincewide		PYS Unit/ GO	GF/ Non-Office	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00
Youth Development Program	Provincewide		PYS Unit/ GO	GF/ Non-Office	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00	1,500,000.00
Blood Program	Provincewide		GO	GF/ Non-Office	340,000.00	340,000.00	340,000.00	340,000.00	340,000.00	340,000.00
Medical Mission Program	Provincewide		GO	GF/ Non-Office	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00
Senior Citizen's Medical Outreach Program	Provincewide		GO	GF/ Non-Office	7,500,000.00	7,500,000.00	7,500,000.00	7,500,000.00	7,500,000.00	7,500,000.00
Gender and Development (GAD) Mainstreaming and Advocacy	Provincewide		GO	GF/ Non-Office	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00
Child Welfare Development Program	Provincewide		GO/ OPSWD	GF/ Non-Office	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00
TOTAL					1,061,507,500.0	341,180,390.0	384,317,500.0	333,317,500.0	328,017,500.0	327,937,500.0

**LOCAL DEVELOPMENT INVESTMENT PROGRAM
PROPOSED PROGRAMS AND PROJECTS
CY 2016-2021**

Sector: DEVELOPMENT ADMINISTRATION

Sub-Sector: Public Finance

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
ENHANCEMENT OF PACCO SYSTEMS – (FiTTSys and e-NGAS) thru Full Scale Implementation of Thin Client Architecture	Tagbilaran City	n/a	PAccO	PGBh	2017						
REVISION OF FITTSYS - a) Technical evaluation – • Process flow and system handling • database considerations, interfacing with other systems	Tagbilaran City	n/a	PAccO	PGBh	2016						
b) Capacity Development for users and administrators - • Database Training (5 personnel) • System and Web Security Training (5 personnel) • Web Design Training (5 personnel) • Server and Android Training (5 personnel)	Tagbilaran City	n/a	PAccO	PGBh	2017						
c) Design proper and system construction	Tagbilaran City	n/a	PAccO	PGBh	2017						
d) Implementation: • Pilot Test Run Phase 1 and 2 • System implementation • Enhancement of the Revised FiTTSys	Tagbilaran City	n/a	PAccO	PGBh	2018						

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Capacity Development on the new e-NGAS (PPSAS) - • Technical Training and • Users Training	Tagbilaran City	n/a	PAccO	PGBh	2016						
Implement the new e-NGAS/ PPSAS - • Purchase of e-NGAS/ PPSAS hardware requirements	Tagbilaran City	n/a	PAccO	PGBh	2016						
Implement the new version of e-NGAS (PPSAS compliant) which requires Technical Training and User's Training	Tagbilaran City	n/a	PAccO	PGBh	2016						
Update e-NGAS/ PPSAS - • Update/enhancement of e-NGAS/ PPSAS hardware requirements	Tagbilaran City	n/a	PAccO	PGBh	2017-2020						
Final Release and Launching of the NEW PAccO MANUAL containing the following - • PAccO Audit Guidebook • Enhanced Audit Steps and the • Updated PAAS Checklist	Tagbilaran City	n/a	PAccO	PGBh	2016						
Disseminate/ furnish copies to other offices - • Updated PAccO Guidebook and • Updated PAAS Checklist	Tagbilaran City	n/a	PAccO	PGBh	2016						
Update PAccO Manual with revisions every 3 years.	Tagbilaran City	n/a	PAccO	PGBh	2019						
Standardized Office Structure thru Scrap and Build Strategy for three technical positions, viz: • Management and Audit Analyst IV • Administrative Officer III • Accountant III	Tagbilaran City	n/a	PAccO	PGBh	2017 and 2019						

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Transfer of Plantilla position Admin Aide I - Item No. 171 from SP to PAccO	Tagbilaran City	n/a	PAccO	PGBh	2017						
Create one Division for Hospital Transaction Services at PAccO through pooling of Hospital Accountants and Bookkeepers	Tagbilaran City	n/a	PAccO	PGBh	2016						
Conduct a Consultative Fora/Dialogue with all offices and hospitals of the PGBh regarding relevant issues, concerns and updates of PAccO, PBO, PTO, PIAO and PPMU.	Tagbilaran City	n/a	PAccO	PGBh	2016-2020						
Conduct consultation and IEC for newly-appointed officials of the PGBh regarding auditing and accounting rules and regulations	Tagbilaran City	n/a	PAccO	PGBh	2016 and 2019						
Tie up with local universities and tapping Accountancy KSAs to augment manpower thru: • accommodation of students for On-the-Job Training/exposure at PAccO (preferably Accountancy major)	Tagbilaran City	n/a	PAccO	PGBh	2016-2021						
Capacity Development – • Sending PAccO employees per year to attend relevant trainings, conferences and conventions.	Tagbilaran City	n/a	PAccO	PGBh	2016-2021						
Customer Service – • Purchase of monitor Kiosk for PAccO clients and customers	Tagbilaran City	n/a	PAccO	PGBh	2017						
Upgrading of Office Equipment/s and Accessories: • Purchase of New Reproduction Machine • Other Office Equipment	Tagbilaran City	n/a	PAccO	PGBh	2018						

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Purchase/fabrication of Equipment, Furnitures and Fixtures for office use (upon completion of the new Provincial Capitol Building)	Tagbilaran City	n/a	PAccO	PGBh	2018						
Assessment and updating of the LDIP	Tagbilaran City	n/a	PGBh/ NGAs/ CSOs	PGBh	2018, 2021			150,000.00			150,000.00
Assessment and updating of the PDPFP	Tagbilaran City	n/a	PGBh/ NGAs/ CSOs	PGBh	2021						400,000.00
Conduct of term-based strategic planning at the MEB and Office levels	Tagbilaran City	n/a	PGBh Offices	PGBh	2016, 2019	1,500,000.00			1,500,000.00		
Conduct of assessment and operational planning at the MEB and Office levels	Tagbilaran City	n/a	PGBh Offices	PGBh	2016-2021	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
Preparation of AIP and Budget at the Office and Provincial levels	Tagbilaran City	n/a	PGBh Offices	PGBh	2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Periodic consultation with LGUs, NGAs, and CSOs on development plan formulation and program implementation	Tagbilaran City	n/a	PGBh/ NGAs/ CSOs	PGBh	2016-2021	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00
Full implementation of the Project Monitoring and Evaluation Information System (ProMEIS)	Tagbilaran City	n/a	PPDO-PGBh	PGBh	2016-2021	200,000.00	200,000.00		200,000.00	200,000.00	
Regular meeting of Monitoring and Evaluation Officers to discuss issues and concerns	Tagbilaran City	n/a	PGBh Offices	PGBh	2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Reactivation of the Provincial Monitoring and Evaluation Committee (ProMEC)	Tagbilaran City	n/a	PPDO	PGBh	2016-2021	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00
Loan Amortization for Heavy equipment	PGBh	n/a	PTO/GO	20% DF	2016	10,750,778.1					
Loan Amortization for Hospital Modernization	PGBh	n/a	PTO/GO	20% DF	2016-2021	23,169,865.7	22,818,724.2	21,000,000.0	20,000,000.0	19,000,000.0	18,000,000.0

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Loan Amortization for Hospital Modernization 2		n/a	PTO/GO	20% DF	2016-2021		27,395,386.8	27,000,000.0	26,000,000.0	25,000,000.0	24,000,000.0
Enhancement of E-Budget System: Procurement of additional IT equipment for the Provincial Budget Office	PGBh	n/a	PBMO	Non-Office	2016-2021	300,000.00	300,000.00	300,000.00	300,000.00	300,000.00	300,000.00
Electronic New Government Accounting System (e-NGAS)	PGBh		PACCO	Non-Office	2016-2021		1,800,000.00	900,000.00	1,000,000.00	1,000,000.00	1,000,000.00
Conduct of General Revision/ Schedule of Market Value (SMV) development	Provincewide	n/a	PASSO	Non-Office	2016-2021	500,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00
Real Property Tax Information System / Real Property History Information System	Provincewide	n/a	PASSO	Non-Office	2016-2021	250,000.00	250,000.00	250,000.00	250,000.00	250,000.00	250,000.00
Land Titling Program (PUBLIC)	Provincewide	n/a	PASSO	Non-Office	2016-2021	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00
Establishment of economic enterprises of the Provincial Government of Bohol	PGBh		PEEMU	Non-Office	2017-2021		1,870,000.00	2,000,000.00	2,500,000.00	300,000.00	300,000.00
Level II Water System Development at the Bohol Biodiversity Complex (BBC)– Roxas, Bilar, Bohol	Bilar		PEEMU/ PEO	20% DF	2017		2,000,000.00				
Construction of Multipurpose Hall at the Bohol Biodiversity Center	Bilar		PEEMU/ PEO	20% DF	2017		2,000,000.00				
Installation of Street Lighting System using Solar Power at the Bohol Biodiversity Center	Bilar		PEEMU/ PEO	20% DF	2017		250,000.00				
Completion in the Construction of Coffee Shop and Reception Center at the CPG Museum in Support to Eco-Cultural Tourism and Economic Enterprise Development	Tagbilaran City		PEEMU/ PEO	20% DF	2017		2,500,000.00				
Opening of Access Road/ Alternate Route at the Bohol Biodiversity Center	Bilar		PEEMU/ PEO	Other Fund	2018			2,000,000.00			

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Construction of Bohol Biodiversity Visitor & Manpower Development Center	Bilar		PEEMU/ PEO	Other Funds	2018			3,000,000.00			
Completion of Campsite at the Bohol Biodiversity Center	Bilar		PEEMU/ PEO	Other Funds	2018			1,000,000.00			
Fencing of the Bohol Biodiversity Center	Bilar		PEEMU/ PEO	Other Funds	2018			1,000,000.00			
Construction of Ecolodges at the Bohol Biodiversity Center	Bilar		PEEMU/ PEO	Other Funds	2018			3,000,000.00			
Establishment of Public Enterprise Management Unit	PGBh	100 SqMters	SP/ GO/ P	GF	2016		2,850,000.00				
Development and operation of economic enterprises	Selected areas Provincial Govt Properties		PEEMU/ C	GF/ External funds	2017-2021		10,000,000.0	20,000,000.0	25,000,000.0	25,000,000.0	25,000,000.0
Review of the Revenue Code	PGBh		PTO/ SP Ways	GF	2016-2021	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Environmental tax on tourism sites	PGBh		PTO/ SP Ways	GF	2017-2018		100,000.00	100,000.00			
Revenue Measures: Environmental tax on rooms of all hotels, pension houses and other accommodation facilities; Insurance fees for tourist activities with high risks (ex. zip line, river cruise, diving)	PGBh		PTO/ SP Ways and Means	GF	2017-2018		100,000.00	100,000.00			
Service fee on documentary stamps	PGBh		PTO/ SP Ways and Means	GF	2017-2018		100,000.00	100,000.00			
Revenue Measures: Extraction tax on mineral lands	PGBh		PTO/ SP Ways and Means	GF	2018-2019			50,000.00	50,000.00		

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Updating of fees for use of PGBh real properties, facilities and services	PGBh		PTO/ SP Ways and Means	GF	2017		50,000.00				
Updating of hospital fees and other charges	PGBh		PTO/ SP Ways and Means	GF	2017		50,000.00				
Graduated verification fees according to the age of tax declaration records	PGBh		PTO/ SP Ways and Means	GF	2017		50,000.00				
Integration of Collection System of E-TRACS to I-Hospital Management Information System	PGBh / Hospitals		PACCO/ BICTU/H ospitals	GF	2017-2018		150,000.00	50,000.00			
Devolved Hospitals audit	All Hospitals		PIAO	GF	2017, 2019		100,000.00		100,000.00		
Biodiversity Audit	Bilar		PIAO	GF	2017, 2019		20,000.00		20,000.00		
Chocolate Hills Complex Follow Up Audit	Carmen		PIAO	GF	2017, 2019		30,000.00		30,000.00		
Conduct of Tax Compliance Studies and provision of necessary recommendations to improve implementation	Provincewide		PTO	GF	2017, 2019, 2021		50,000.00		50,000.00		50,000.00
Full implementation of ETRACS	PGBh		PTO/ PASSO/	GF	2018			120,000.00			
Capacity-building programs for LGUs on ETRACS implementation	Provincewide		PTO/ PASSO/ BICTU/ LGUs	GF	2018-2019			100,000.00	100,000.00		
Establishment of central server to be lodged at BICTU	PGBh		BICTU	GF	2018			500,000.00			
Migration of RPTIS database to ETRACS database	PGBh		BICTU	GF	2018			40,000.00			

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Establishment of bigger bandwidth internet connectivity in every MLGU and high end central server dedicated for ETRACS	PGBh		BICTU	GF	2018			200,000.00			
Provision of fast and regular lane on Tax History Service	PGBh		BICTU	GF	2017		20,000.00	20,000.00			
Updating of listing of approved cadastral survey map	Provincewide		PASSO	GF	2018						
Conduct of cadastral surveys and Tax Mapping Activities in municipalities	Provincewide		PASSO	GF	2017		120,000.00				
Meeting with municipal mayors/ barangay captains to resolve boundary disputes	Provincewide		PASSO	GF	2018			50,000.00			
Development of Asset Management Manual/ Guidelines	PGBh		PGSO/ PIA	GF	2017-2019		20,000.00	30,000.00			
Periodic physical inventory count, recording and reporting	PGBh		PGSO	GF	2016-2021	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00
Periodic updating of records based on PGSO reports	PGBh		PGSO	GF	2016-2021	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00
Strict implementation of PGSO mandated functions of inspectorate	PGBh		PGSO	GF	2016-2021						
Audit of Inventories in Hospitals	PHBh Hospitals		PGSO	GF	2018-2021			50,000.00	50,000.00	50,000.00	50,000.00
Regular conduct of public auction for unserviceable PGBh properties	PGBh		PGSO	GF	2016-2021	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00
IEC on and implementation of zero-based and activity-based budgeting	PGBh		PBMO	GF	016, 2018, 202	30,000.00		30,000.00		30,000.00	
IEC and Advocacy on Value for Money and Management by outcomes	PGBh		PBMO	GF	016, 2018, 202	30,000.00		30,000.00		30,000.00	
IEC on laws governing DRRM-CCA, allocation and utilization of DRRM Fund	PGBh		PBMO	GF	016, 2018, 202	15,000.00		15,000.00		15,000.00	

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Recommend policies for the insurance of employees performing hazardous work	PGBh		LFC	GF	2017		-				
Providing financial information and fiscal advice to the governor, members of the Management Executive Board (MEB) and members of the Sangguniang Panlalawigan (SP)	PGBh		LFC	GF	2017-2018		10,000.00	10,000.00	10,000.00	10,000.00	10,000.00
Conduct of Financial Analysis	PGBh		LFC	GF	2017-2018		-	-	-	-	-
Render Advisory opinion on financial matters	PGBh		LFC	GF	2017-2018		-	-	-	-	-
Render Monthly Report on Collection and Expenditures during LFC Meetings and Semi-Annual Report to SP	PGBh		PTO/ PAC	GF	2017-2018		15,000.00	15,000.00	15,000.00	15,000.00	15,000.00
Installation of Hospital Transaction Section based at the Provincial Accountant's Office (PAccO)	PGBh		PACCO	GF	2017		20,000.00				
Full operation of Fiscal Monitoring and Evaluation System to give emphasis on outcomes of resource spending	PGBh		PBMO/ P	GF	2016-2021	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00
Constant dialogue between MEB members on the status of the implementation of major PPAs	PGBh		MEB	GF	2016-2021	-	-	-	-	-	-
Full implementation of the Project Monitoring and Evaluation Information System (ProMEIS)	PGBh		PPDO	GF	2018			30,000.00			
Reactivation of the Provincial Monitoring and Evaluation Committee (ProMEC)	PGBh		PPDO	GF	2018-2021			80,000.00	80,000.00	80,000.00	80,000.00
IEC and implementation of the guidelines on cash advances	PGBh		PACCO	GF	2016-2021	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Hiring of contractual accountants to focus on reconciliation	PGBh		PACCO	GF	2017-2018		300,000.00	300,000.00			
Cash Advance Audit	PGBh		PACCO	GF	2016-2021	-	-	-	-	-	-
Cash Management Follow Up Audit	PGBh		PACCO	GF	2016-2021	-	-	-	-	-	-
Enhancement of E-NGAS which is compliant to PPSAS	PGBh		PACCO	GF	2016-2017	200,000.00	200,000.00				
Technical and Users Training for ENGAS-PPSAS	PGBh		PACCO	GF	2017		50,000.00				
Procurement of the corresponding hardware support requirements for implementation of the new version of E-NGAs	PGBh		PACCO	GF	2018		500,000.00				
Internal Audit Services (Operation of the Provincial Internal Audit Office)	PIAO Office, Tagbilaran City	NA	PIAO	GF	2016-2021	4,500,000.00	5,000,000.00	5,500,000.00	6,000,000.00	6,500,000.00	7,000,000.00
Creation and institutionalization of an Audit Committee	PGBh		PIAO/ SP	GF	2018			20,000.00			
Creation and designation of Internal Control System Focal Persons in each Department	PGBh		PIAO/ all Departments	GF	2017			-			
Enforcement of the implementation of Audit Recommendations	PGBh		PIAO/ all Departments	GF	2016-2021	-	-	-	-	-	-
Conduct of internal audit engagements	PGBh		PIAO	GF	2016-2021	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00
Inventory of all existing financial policies/ guidelines and evaluation of their applicability	PGBh		LFC	GF	2017		-				
TWG/Local Finance Committee Workshops for the crafting of Financial Policies	PGBh		LFC	GF	2017-2018		50,000.00	50,000.00			

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Capacity building and skills training for fiscal management personnel and the members of the LFC	PGBh		LFC	GF	2017-2018		50,000.00	50,000.00			
Preparation of guidelines in granting financial assistance	PGBh		LFC	GF	2018			20,000.00			
Reconciliation and updating of PAccO records (Audit control and e-NGAS)	PGBh		PACCO	GF	2016-2017		100,000.00	100,000.00			
Periodic issuance of demand letters in coordination with Local Government Affairs of the Governor's Office	PGBh		PACCO	GF	2016-2021	-	-	-	-	-	-
Information, Education Campaign for LGU officials and qualified NGOs/POs regarding policies on financial grants	Provincewide		PACCO	GF	2016, 2018, 2020	30,000.00		50,000.00		60,000.00	
Preparation of AIP and Budget at the Office and Provincial levels	PGBh		All Offices	GF	2016-2021	-	-	-	-	-	-
Proper observance of fixed calendar for budget preparation, authorization and submission of annual budget/ ordinance for review by appropriate agency	PGBh		PBMO	GF	2016-2021	-	-	-	-	-	-
Implementation of bulk procurement	PGBh		PPMU-BAC	GF	2018			150,000.00			
Implementation of e-procurement	PGBh		PPMU-BAC	GF	2018			200,000.00			
Orientation / seminar Workshop to the different end-users of new procurement systems and policies	PGBh		PPMU-BAC	GF	2018			100,000.00			
Capacity Building program for the BAC , BAC-TWGs and PPMU	PGBh		PPMU-BAC	GF	2016-2018	50,000.00	30,000.00	50,000.00			

Programs/ Projects (Description)	Location	Estimated Area Involved/ Required	Responsible Agency	Possible Funding Source	Schedule of Implementation	Investment Requirement					
						2016	2017	2018	2019	2020	2021
Review and Strengthening Program for PPMU's organizational structure	PGBh		HRMDO/ PIAO/ PPMU	GF	2017		30,000.00				
TOTAL						43,720,643.8	83,894,111.0	92,255,000.0	85,600,000.0	80,185,000.0	78,950,000.0

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
Sub-Sector : Power and Energy
Office / Agency : Bohol Light Comppany, Inc. (BLCI)

Programs / Projecs	Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
1. Extension of Distribution Lines	Tagbilaran City	With-in the city	BLCI	1,103,425.00	2,064,111.00	1,276,764.04	2,772,954.21	1,142,113.43	
2. Upgrading of Distribution Lines	Tagbilaran City	With-in the city	BLCI	851,372.00		1,276,764.04	2,772,954.21	1,142,113.43	
3. Additional Substation	Tagbilaran City	With-in the city	BLCI	37,931,116.00	13,803,600.00			20,000,000.00	
4. Electrifiication	Tagbilaran City	With-in the city	BLCI	22,996,889.00	18,992,900.00	21,010,769.98	14,403,458.02	19,706,059.00	
Total Investment Requirement				62,882,802.00	34,860,611.00	23,564,298.06	19,949,366.44	41,990,285.86	-

Notes: 1 - Location: Indicate location of the proposed project (barangay/municipality or even building name, if appropriate); 2 - Estimated Area: Indicated estimated area to be involved, if applicable (in sq. meters or hectares)

3 - Funding Source: Indicate possible funding source of the project. This may be office budget, GAA, local government, congressional funds, foreign funding agencies, or even by financial institutions

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : **Infrastructure Development**
Sub-Sector : **Power and Energy**
Office / Agency : **BOHECO I**

Programs / Projects	Location	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
1. Feeder Re-Configuration, F20, F19, F04 and Allocation of New	Panglao	N/A	CAPEX 2015-2017	5,564,220.00					5,564,220.00
Feeder 20A									
2. 3 s Primary Line Rehab	BOHECO-1 Coverage Area	N/A	CAPEX 2015-2017	2,646,270.00	2, 646,270.00	2,646,270.00	2,646,270.00		7,938,810.00
3. 1 s Primary Line Rehab	BOHECO-1 Coverage Area	N/A	CAPEX 2015-2017	3,845,573.00	3,845,573.00	3,845,573.00	3,845,573.00		15,382,292.00
4. Installation of Open Secondary Line	BOHECO-1 Coverage Area	N/A	CAPEX 2015-2017	2,339,483.00	2,339,483.00	2,339,483.00	2,339,483.00		9,357,932.00
5. Installation of Secondary Underbuilt	BOHECO-1 Coverage Area	N/A	CAPEX 2015-2017	228,905.00	228,905.00	228,905.00	228,905.00		915,620.00
6. Maca-as Substation 69kV Side Monitoring	Maca-as, Tubigon	N/A	CAPEX 2015-2017	3,200,000.00					3,200,000.00
and Control, Recloser Bypass Switch									
7. Carmen Substation 69kV Side Monitoring	Villacaryo, Carmen	N/A	CAPEX 2015-2017	6,850,000.00					6,850,000.00
and Control, Recloser Bypass Switch									
8. Loay Substation 15kV Protection & Control, Recloser Bypass Switch	Calvario, Loay	N/A	CAPEX 2015-2017			2,850,000.00			2,850,000.00
9. Dampas Substation 69kV Side Monitoring Panel, 15 kV Protection	Dampas, Tagbilaran City	N/A	CAPEX 2015-2017		6,850,000.00				6,850,000.00
and Control, Recloser Bypass Switch									
10. Maribojoc Substation 69kV Side Monitoring Panel, 15kV	Dipatlong, Maribojoc	N/A	CAPEX 2015-2017				1,250,000.00		1,250,000.00
Protection and Control									
11. Distribution Transformer	BOHECO-1 Coverage Area	N/A	CAPEX 2015-2017	14,168,042.00	13,895,465.00	13,183,050.00	8,474,807.00		49,721,364.00
12. Service Drop Wire	BOHECO-1 Coverage Area	N/A	CAPEX 2015-2017	5,147,585.00	5,028,266.00	4,918,589.34	4,804,091.42		19,898,531.76
13. Kwhr Meter	BOHECO-1 Coverage Area	N/A	CAPEX 2015-2017	11,072,482.00	11,426,757.00	10,921,445.00	10,790,346.66		44,211,030.66
14. Prepaide/ Postpaid AMR kWh Metering Service	BOHECO-1 Coverage Area	N/A	CAPEX 2015-2017	10,500,000.00	10,500,000.00	10,500,000.00	10,500,000.00		42,000,000.00
15. Meter Replacement	BOHECO-1 Coverage Area	N/A	CAPEX 2015-2017	7,500,000.00	7,500,000.00	7,500,000.00	7,500,000.00		30,000,000.00

Programs / Projects	Location	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
16. Maintenance Vehicle	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00		8,000,000.00
17. Service Vehicle	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017	1,200,000.00	1,200,000.00	1,200,000.00	1,200,000.00		4,800,000.00
18. 5 tonners Boom Truck	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017			6,000,000.00			6,000,000.00
19. 20 tonners Hydraulic Boom Truck	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017	12,000,000.00					12,000,000.00
20. Acquisition of Servers and its Needed Accesories	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017	1,172,000.00					1,172,000.00
21. Acquisition of Network Routers and Switches	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017	656,000.00	750,000.00	141,500.00			1,547,500.00
22. Acquisition of Appliance Firewall for Proactive Internet Connection	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017	456,000.00					456,000.00
23. Development for all Information System Program	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017	3,000,000.00	2,000,000.00	1,000,000.00	1,000,000.00		7,000,000.00
24. Critical Needed Materials	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017	1,100,000.00					1,100,000.00
25. Construction, Installation of Repeater Station Stuctures and Wireless Bridges	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017	7,474,000.00	5,474,000.00				12,948,000.00
26. SCADA System	ermen SS, Damapas SS, Loay	N/A	CAPEX 2015-2017	3,000,000.00	3,000,000.00				6,000,000.00
	& Catagbacan SS								
27. Distribution Planning Software Upgrading and Maintainance	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017	500,000.00	500,000.00	500,000.00	500,000.00		2,000,000.00
28. Administration Building (Sub-Office Area)	Cogon, Tagbilaran City	154 sq. m.	CAPEX 2015-2017	10,000,000.00					10,000,000.00
29. Administration Building Phase III	OHECO-1, Cabulijan, Tubigo	1,090 sq. m.	CAPEX 2015-2017	24,838,481.00					24,838,481.00
30. Infared Thermal Scanner	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017	800,000.00					800,000.00
31. Insulation Power/Dissipation Factor Tester	BOHECO-1, Cabulijan, Tubigon	N/A	CAPEX 2015-2017				7,500,000.00		7,500,000.00
32. Winding Resistance Tester	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017	300,000.00					300,000.00
33. Distribution Transformer Efficiency Tester	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017		1,000,000.00				1,000,000.00
34. Hi-Pot Tester	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017			1,500,000.00			1,500,000.00
35. Circuit Breaker Timing Tester	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017		1,500,000.00				1,500,000.00
36. Three-Phase Meter Tester	OHECO-1, Cabulijan, Tubigo	N/A	CAPEX 2015-2017	3,000,000.00					3,000,000.00

Programs / Projects	Location	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
37. Consumer Initiated Projects	BOHECO-1 Coverage Area	N/A	CAPEX 2015-2017	1,471,038.41	1,471,038.41	1,471,038.41	1,471,,038.41		4,413,115.23
38. Mantatao Island Submarine Cable Project	Mantatao Island, Calape	N/A	BLEP-NEA		19,650,000.00				19,650,000.00
39. Batasan Island Submarine Cable Project	Batasan Island, Tubigon	N/A	BLEA-NEA			26,540,579.12			26,540,579.12
40. Ubay Island Submarie Cable Project	Ubay Island, Ubay	N/A	BLEA-NEA				13,272,208.78		13,272,208.78
TOTAL				146,030,079	100,159,487	99,286,433	77,851,685		423,327,685

Notes: 1 - Location: Indicate location of the proposed project (barangay/municipality or even building name, if appropriate); 2 - Estimated Area: Indicated estimated area to be involved, if applicable (in sq. meters or hectares)

3 - Funding Source: Indicate possible funding source of the project. This may be office budget, GAA, local government, congressional funds, foreign funding agencies, or even by financial institutions

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016 – 2021

Sector: **INFRASTRUCTURE**
Sub Sector: **WATER SUPPLY**
Office/Agency: **BOHOL WATER UTILITIES, INC. (BWUI)**

Programs/Projects	Location	Estimated Area Involved/ Required	Possible Funding Source	Investment Requirement (In Million Pesos)					
				2016	2017	2018	2019	2020	2021
01) Construction/Drilling of Deep-well	Tiptip District	39 sq.m.	-	2.00					
02) Construction/Drilling of Deep-well	San Isidro District	300 sq.m.	-	2.00					
03) Laying of 4"Ø X 800 m. Transmission Mains	Tiptip/San Isidro	-	-	1.00					
04) Construction of 1,000 m ³ Reservoir	Tiptip District	370 sq.m.	-		10.00				
05) Construction of BWUI Office Building at R6	Dampas District	1,500 sq.m.	-	11.00	8.00				
06) Construction of 10 MLD WTP Plant & Facilities @ Cortes	Lourdes, Cortes	5,000 sq.m.	-		48.00	40.00	11.00	8.00	
07) Laying of 400 mmØ X 9,500 m. Transmission Mains	Cortes - Tagbilaran	-	-			28.00	28.00		
08) Construction of 2,000 m ³ Reservoir @ R6	Dampas District	370 sq.m.	-					10.00	10.00
09) Metering & Stub-outing Program	Tagbilaran City	-	-	1.00	1.00	1.00	1.00	1.00	1.00
10) Non Revenue Water Reduction Program (NRWRP)	Tagbilaran City	-	-	0.50	0.50	0.50	0.50	0.50	0.50
11) Expansion of Services & Revamp of Pipelines	Tagbilaran City	-	-	0.50	0.50	0.50	1.00	2.00	0.50
TOTAL INVESTMENT REQUIREMENT IN MILLION PESOS				18.00	68.00	70.00	41.50	21.50	12.00

Notes: 1. Location: Indicate location of the proposed project (Barangay/Municipality or even building name, if appropriate)
2. Estimated Area: Indicate estimated area to be involved, if applicable (in sq. meters or hectares)
3. Funding Source: Indicate possible funding source of the project. This may be office budget, GAA, local government, congressional funds, foreign funding agencies, or even by financial institutions

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
Sub-Sector : Transport and Access
Office / Agency : Civil Aviation Authority of the Philippines (CAAP)

Programs / Projects	Location ¹	Estimated Area Involved / Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
1. Development of Ubay Airport									
a. Training Flights	Ubay Airport			X					
b. Air Tours	Ubay Airport			X					
2. Construction of Taxiway	Ubay Airport		COB		2,500,000.00				
3. Construction of Apron (70m x 110m)	Ubay Airport		COB		25,000,000.00				
4. Construction of Perimeter Fence	Ubay Airport		COB		17,000,000.00				
5. Repainting/Repair of Runway markings & Markers	Tagbilaran Airport				375,000.00				
6. Maintenance Repair of Runway	Tagbilaran Airport				500,000.00				
7. Vegetation Control of Runway Strip	Tagbilaran Airport				400,000.00				
8. Dredging of Apron Canal (<i>Ramp Area</i>)	Tagbilaran Airport				100,000.00				
9. Trimming/Cutting of Tall Trees Surrounding the Runway Strip (<i>Outside the Runway</i>)	Tagbilaran Airport				425,000.00				
10. Resealing of Runway/Apron Joints	Tagbilaran Airport				350,000.00				
11. Repair/Repainting of Passenger Terminal Building	Tagbilaran Airport				500,000.00				
12. Repair/Repainting of ARFF Building	Tagbilaran Airport				300,000.00				
(Airport Fire Station Building)									
TOTAL					47,450,000.00				

Notes: **1** - Location: Indicate location of the proposed project (barangay/municipality or even building name, if appropriate); **2** - Estimated Area: Indicated estimated area to be involved, if applicable (in sq. meters or hectares)

3 - Funding Source: Indicate possible funding source of the project. This may be office budget, GAA, local government, congressional funds, foreign funding agencies, or even by financial institutions

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector	:	Infrastructure Development
Sub-Sector	:	Transport and Access
Office / Agency	:	City Engineering Office

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Programs / Projects	Location	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
20. Hi-Tech Street Illumination Phase 5									
21. Construction of Comfort Rooms @ CEO Building									
22. Improvement of APC Building									
23. Construction of Welcome Arches									
24. Construction of Perimeter Fence to include APC									
25. Construction of Covered and Basketball Courts									
26. Construction of Police Community Precincts									
27. Installation of Street Signs									
28. Opening and Concreting of Newly Opened Road (Cogon District)									
29. Construction of Fence at Motorpool									
30. Rehabilitation of City Engineering Office									
31. Painting Works of Pedestrian									
32. Proposed Final Sorting Building									
33. Construction of Wastewater Treatment Facility thru PPP in Tagbilaran City									
34. Construction of Septage Treatment Facility thru PPP									
35. Construction of Solid Waste Treatment Facility thru PPP									
DTI ROLL-IT Program:									
Concreting of San Isidro - Tiptip Road (F. Dagohoy St.)						34,030,000.00			
Concreting of Taloto - Ubujan - Manga Coastal Road						45,000,000.00			
Concreting of Manga - Tiptip - Cabawan Road						69,550,000.00			
Concreting of Tiptip - Cabawan Road (Esabo St.)						40,000,000.00			
Concreting of Road to BJMP Cabawan (City Jail)						31,950,000.00			
Concreting of Ramon Enerio St. (from cor. J. Alaba St. to Dumpsite)						30,780,000.00			
TOTAL				-					

Notes: 1 - Location: Indicate location of the proposed project (barangay/municipality or even building name, if appropriate); 2 - Estimated Area: Indicated estimated area to be involved, if applicable (in sq. meters or hectares)

3 - Funding Source: Indicate possible funding source of the project. This may be office budget, GAA, local government, congressional funds, foreign funding agencies, or even by financial institutions

Sector	:	Infrastructure Development
Sub-Sector	:	Transport and Access
Office / Agency	:	DPWH I

Sector	:	Infrastructure Development
Sub-Sector	:	Transport and Access
Office / Agency	:	DPWH I

Sector	:	Infrastructure Development
Sub-Sector	:	Transport and Access
Office / Agency	:	DPWH I

Programs / Projects		Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
	Location			2016	2017	2018	2019	2020	2021
3 - Funding Source: Indicate possible funding source of the project. This may be office budget, GAA, local government, congressional funds, foreign funding agencies, or even by financial institutions									
13. Repair of Camayaan Bridge along Jct. (TNR) CBCMR, Cortes, Bohol (K0015+739 - K0015+760) = (21 LM)			GAA	8,000,000.0					
14. Off Carriageway (Paving of Shoulder with Drainage Improvement at Tagb. North Road K0026+000 – K0027+540; K0027+850 – K0028+560 = (2,250 meters)			GAA	49,500,000.0					
15. Road Upgrading (Unpaved to Paved) @ ASILR K0024+860 – K0024+908; K0024+938 – K0025+050; K0025+189 – K0025+286				16, 840,000.00					
16. Road Upgrading (Unpave to Paved) at Balilihan-Hanopol-Batuan Road (K0039+060 – K0039+422) = (362 meters)				38, 730,000.00					
LOCAL INFRASTRUCTURE PROJECT:									
1. Upgrading(Gravel to Concrete) Antequera-Balilihan via Dorol Road (DOT Projects)			DOT	30,000,000.0					
2. Improvement of Access Road leading to New Transfer Site, Cortes, Bohol, Governor Celestino Gallares Memorial Regional Hospital				26,541,000.0					
3. Concreting of Barangay Road, Fatima, Cortes				2,000,000.0					
4. Concreting of Barangay Road, Monserat, Cortes, Bohol				2,000,000.0					
5. Concreting of Barangay Road, Talenceras, Tubigon, Bohol				2,000,000.0					
6. Widening/Concreting of Lourdes-Libaong Barangay Road, Panglao				2,000,000.0					
7. Construction of MPB, Dao, Dauis, Bohol				2,000,000.0					
8. Construction/Improvement of MPB (RIC Health Center) Matabao, Tubigon, Bohol				2,000,000.0					
9. Construction/Improvement of MPB, Sambog, Corella, Bohol				2,000,000.0					
10. Construction of Brgy. Habitat Health Center, Habitat Bool, Tagbilaran City, Bohol				1,500,000.0					
11. Construction of School Building in San Roque National High School Poblacion, Alburquerque, Bohol				1,700,000.0					
12. Construction of School Building in Alburquerque Central Elem. School in Poblacion, Alburquerque				1,700,000.0					
13. Construction of MPB (Covered Court) Brgy. Sta. Cruz, Calape,				5,000,000.0					
Local Bridges (C 200 TYPE STEEL BRIDGE):									

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : **Infrastructure Development**
Sub-Sector : **Transport and Access**
Office / Agency : **DPWH I**

Programs / Projects	Location	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
1. Mag-aso Bridge, Mag-aso, Antequera, Bohol				2,417,000.0					
2. Rizal Bridge, Rizal, Catigbian, Bohol				2,432,000.0					
3. Borja Bridge along Catigbian-Sagbayan Road				4,603,000.0					
4. Bacsanan Bridge along Catigbian-Sagbayan Road				4,257,000.0					
5. San Francisco Bridge, Bulilis, Ubay, Bohol				3,088,000.0					
6. Villa Teresita Bridge, Ubay,				3,234,000.0					
7. Pasanan Bridge, Pasanan, Ubay, Bohol (2 units single lane)				5,576,000.0					
8. Tag-angilan Bridge, Kauswagan, Trinidad, Bohol				3,212,000.0					
9. Candelaria Bridge, Candelaria, Dagohoy, Bohol				2,478,000.0					
10. Hambabaoran Bridge, Sierra Bullones, Bohol				3,210,000.0					
11. Casbu Spillway, Guindulman, Bohol				3,184,000.0					
12. Casuwayan Bridge, Guindulman, Bohol				3,123,000.0					
13. Curimo Bridge, Dimiao-Bilar Provincial Road				3,198,000.0					
14. Tumoran Bridge along Candijay-Cogtong Road				3,201,000.0					
15. Duay Bridge along Itum-Duay-Payao Road, Duero, Bohol				3,143,000.0					
16. La Roca Bridge, Lobogon, Duero, Bohol				3,172,000.0					
17. Bugsoc Bridge, Bugsoc, Sierra Bullones, Bohol				3,202,000.0					

1. Improvement/Widening of Tagbilaran East Road with Drainage Drainage including RROW					50,000,000.0				
2. Improvement/Widening of Tagbilaran North Road with Drainage including RROW					50,000,000.0				
3. Improvement/Widening of Jct. Maribojoc-Antequera-Catagbacan Road with Drainage including RROW					50,000,000.0				
4. Improvement/Widening of Jct. Tagbilaran City-Corella-Sikatuna-Loboc Road					50,000,000.0				
5. Slab Replacement 280 mm of Tagbilaran North Road K0001+000 - K0001+685)					5,264,000.0				
6. Slab Replacement 280 mm of Tagbilaran City-Corella-Sikatuna Road (Intermittent Section)					50,000,000.0				
7. Construction of Anislag Bridge, Maribojoc, Bohol					30,000,000.0				

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : **Infrastructure Development**
Sub-Sector : **Transport and Access**
Office / Agency : **DPWH I**

Programs / Projects	Location	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
1. Const. of Multi-purpose Building (Motorpool, Lab.,etc.)						10,000,000.0			
2. Const. of Employees Quarter						6,000,000.0			
3. Const. of Multi-purpose Building (Evacuation Center)						16,000,000.0			
b. Footbridge/Overpass									
1. Feasibility Study for the Construction of Footbridge/Overpass Near School Sites with Heavy Foot Traffic in Tagbilaran City: <ul style="list-style-type: none"> • Bohol Wisdom School, CPG Avenue • Bohol Island State University, CPG Avenue • University of Bohol, Ma. Clara Street • Holy Name University, J.A. Clarin Street • Bohol Quality Mall CPG Avenue 						20,000,000.0			
2. Construction of Footbridge/Overpass Near School Sites with Heavy Foot Traffic in Tagbilaran City including RROW: <ul style="list-style-type: none"> • Bohol Wisdom School, CPG Avenue • Bohol Island State University, CPG Avenue • University of Bohol, Ma. Clara Street • Holy Name University, J.A. Clarin Street • Bohol Quality Mall CPG Avenue 						50,000,000.0			
c. Roads and Bridges									
1. Concreting of San Isidro-Binayran-Dampas Road						75,000,000.0			
2. Reconstruction of Hangos Road (four lanes) Tagbilaran City leading to New Provincial Capitol Building						50,000,000.0			
3. Concreting of San Isidro - Tiptip Road						27,220,000.0			
4. Construction of taloto-Ubujan-Manga Coastal Road						36,000,000.0			
5. Concreting of Manga - Tiptip - Cabawan Road						50,000,000.0			
V. Flood Management Services (5 projects)						115,000,000			
6. Maintenance and Construction Services of Other Infrastructures						3,968,593,000			
1. Construction of the Tagbilaran City-Panglao Island 3rd Bridge (Const. of New Offshore Bridge Connector between Panglao Island Airport and Tagbilaran City Port Project including RROW Acquisition Phase I)						MYOA 500000000			

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
 Sub-Sector : Transport and Access
 Office / Agency : DPWH I

Programs / Projects	Location	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
2. Feasibility Study for the Construction and Operation of the Monorail System connecting the Proposed Business Park in Tagbilaran City to the New Bohol Airport in Panglao and other strategic areas of the province						20,000,000			
3. Feasibility Study for the Construction of a 4th Bridge linking Tagbilaran City (through Barangay Bool) to Panglao Island						35,000,000			
4. Feasibility Study on Traffic Management for the Streets of Tagbilaran City, Bohol , particularly along J.A. Clarin Street fronting the New Tagbilaran City Hall and major streets within the area						10,000,000			
5. Feasibility Study on Traffic Management for the Streets of Tagbilaran City, Bohol , particularly along the Rizal Park fronting the Old Capitol Building, Saint Joseph Cathedral, and major streets within the vicinity						10,000,000			
6. Construction/Improvement of Access Roads leading to Airports									
a. Concreting of Tawala Road leading to New Bohol Airport including RROW acquisition						237,330,000			
b. Concreting of Jct. Panglao Island Circumferential Road via Biking to Libaong-Bolod leading to New Bohol Airport including RROW acquisition						231,250,000			
c. Lourdes-Bolod-Tawala Road leading to New Bohol Airport including RROW acquisition						134,350,000			
7. Construction/Improvement of Access Roads leading to various Tourism Sites (Please refer to Tourism Road Infrastructure Project TRIP)						2,365,663,000			

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Programs / Projects	Location	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2,018.0	2019	2020	2021
1. Feasibility Study for the Proposed Construction of the Ubay-Pres. Carlos P. Garcia Bridge						20,000,000.0			
2. Feasibility Study for the Proposed Construction of the Bien Unido - Talibon Bridge						20,000,000.0			
3. Conduct of Feasibility Study and Construction on the Proposed Inter-island Bridges and Roads through the highlands of Bohol a. Conduct of Feasibility Study and Construction on the Proposed Inter-island Bridges: 1. Cordova, Cebu – Getafe, Bohol 2. Ubay, Bohol – Maasin, Southern Leyte b. Roads through the highlands of Getafe, Trinidad and Talibon, Bohol						140,000,000.0			
Sub-total						1,284,006,000			
II. Flood Management Services									
a. Construction/Maintenance pf Flood Mitigation Structure and Drainage Systems - 9 projects (refer to PPAs for 2018)						121,000,000			
III. Maintenance and Construction Services of Other Infrastructure									
a. Construction/Improvement of Access Roads leading to Airports, Seaports & Declared Strategic Tourism Destinations:									
1. To RORO Ports - 3 projects (refer to PPAs for 2018)						220,000,000			
2. To Declared /Strategic Tourism Destinations - 42 projects (refer to PPAs for 2018)						1,908,500,000			
					1,284,006,000				
					2,249,500,000				
					3,533,506,000				
Sub-total						2,249,500,000			
TOTAL						3,533,506,000			

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure
Sub-Sector : Roads and Bridges
Office / Agency : DPWH-Bohol 3rd District Engineering, Guindulman, Bohol

Programs / Projects	Location ¹	Estimated Area Involved/Requi red ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
A. ROADS									
1. Rehab./Reconst./Upgrading of Damaged Paved Nat'l Road including drainage along Tagbilaran East Road, K0216+120 - K0216+760	Loay - Jagna Section		GAA	16.968	31.450				
2. Rehab./Reconst./Upgrading of Damaged Paved Nat'l Road including drainage along Loay Interior Road	Loboc - Carmen Section		GAA		46.355				
3. Rehab./Reconst./Upgrading of Damaged Paved Nat'l Road including drainage Tagbilaran-Corella-Sikatuna-Loboc Road	Loboc, Bohol		GAA	40.000	23.000	-	-	-	-
4. Paving of Shoulder along Tagbilaran-Corella-Sikatuna-Loboc Road	Loboc, Bohol		GAA			50.000	50.000	50.000	50.000
5. Road Widening including Drainage along Tagbilaran East Road	Loay - Alicia Section		GAA	70.000	70.000	50.000	50.000	50.000	50.000
6. Paving of Sloulder along Loay Interior Road	Loboc - Carmen Section		GAA	70.000	60.000	50.000	50.000	50.000	50.000
7. Paving of Sloulder along Tagbilaran East Road	Loay - Alicia Section		GAA	90.000	75.000	50.000	50.000	50.000	50.000
8. Paving of Sloulder along Jct. Dat-an-Carmen-Sierra Bullones-Pilar-Alicia Road	Pilar - Alicia Section		GAA	30.000	20.000	20.000	20.000	20.000	20.000
9. Raising of Grade including Approaches of Pinganan Bridge along Jct. (LIR) Carmen-Sagbayan-Bacane Rd.	Carmen, Bohol		GAA	12.510	-	-	-	-	-
10. Paving of Sloulder along Jct. (LIR) Carmen-Sagbayan-Bacane Rd.	Carmen, Bohol		GAA			20.000	20.000	20.000	20.000
11. Road Upgrading of Balilihan-Hanopol-Batuan Road	Batuan, Bohol		GAA	66.325	15.000	-	-	-	-
12. Paving of Shoulder along Balilihan-Hanopol-Batuan Road	Batuan, Bohol		GAA			20.000	20.000	20.000	20.000
13. Paving of Shoulder along Jagna - Sierra Bullones Road	Jagna, Bohol		GAA		20.000	20.000	20.000	20.000	20.000

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure
Sub-Sector : Roads and Bridges
Office / Agency : DPWH-Bohol 3rd District Engineering, Guindulman, Bohol

Programs / Projects	Location ¹	Estimated Area Involved/Requi red ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
B. BRIDGES									
1. Replacement of Candagas Bridge along Jct. Dat-an, Carmen-Sierra Bullones-Pilar-Alicia Road	Sierra Bullones, Bohol		GAA	15.900					
2. Retrofitting/Strengthening of Balbalan Bridge along Tagb. East Road	Dimiao, Bohol		GAA	5.000					
3. Retrofitting/Strengthening of Canmanico Bridge along Tagb. East Road	Valencia, Bohol		GAA	3.000					
4. Retrofitting/Strengthening of Tangohay Bridge along Tagb. East Road	Dimiao, Bohol		GAA	6.000					
5. Rehab./Major Repair of Bayog Bridge along Jct. (LIR) Carmen-Sagbayan-Bacani Road	Carmen, Bohol		GAA	2.000					
6. Rehab./Major Repair of Loboc Br. 2 along Loay Interior Road	Carmen, Bohol		GAA	2.000					
7. Retrofitting/Strengthening of Gotozon Bridge Along Loay Interior Road	Loboc, Bohol		GAA		5.000				
8. Retrofitting/Strengthening of Tugan Bridge along Tagb. East Road	Candijay, Bohol		GAA		5.000				
9. Retrofitting/Strengthening of Tabajan Bridge along Tagb. East Road	Guindulman, Bohol		GAA		3.000				
10. Retrofitting/Strengthening of Cabongbongan Bridge along Carmen-Sierra Bullones-Pilar-Alicia Road	Alicia, Bohol		GAA		2.000				
11. Retrofitting/Strengthening of Bridges within the District	Within the District		GAA			15.000	15.000	15.000	15.000
C. CONSTRUCTION/IMPROVEMENT OF ACCESS ROADS LEADING TO AIRPORTS, SEAPORTS AND DECLARED TOURISM DESTINATIONS									
1. Concreting of Jct. (TER) Guindulman-Anda-Badiang-Cogtong Road leading to beaches and resorts, Anda, Bohol	Anda, Bohol		GAA	61.350	154.000				

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure
Sub-Sector : Roads and Bridges
Office / Agency : DPWH-Bohol 3rd District Engineering, Guindulman, Bohol

Programs / Projects	Location ¹	Estimated Area Involved/Requi red ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
2. Concreting of (TER) La Union-Mabini-Cabulao-Ubay Road (leading to beach areas at Anda and Ubay), Mabini, Bohol	Mabini, Bohol		GAA	195.730	40.000				
3. Concreting of Candijay-Cogtong Road including Construction of Box Culvert leading to beach areas at Anda Peninsula	Candijay, Bohol		GAA		15.000				
4. Improvement of Ilaya-Angilan-Bangwalog-Taytay Road	Duero, Bohol		GAA		60.000				

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
 Sub-Sector : Power and Energy
 Office / Agency : National Grid Corporation of the Philippines (NGCP)

Programs / Projects	Location ¹	Estimated Area Involved/Requi red ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
1. Ormoc-Maasin 138 KV Transmission Line 2 Project				X					
113.97 km T/L									
2. Visayas Voltage Improvement Project 3 X 5 MVAE							X		
Capacitor									
3 Tagbilaran 69 KV Substation								X	
4. Cebu – Bohol Interconnection Project (2020)								X	
1. Transmission Line Maintenance Program:									
a. Pole Replacement – 7 Circuit (2016)									
b. Cross Arm Replacement – 7 Circuit (2016)									
c. Comprehensive Maintenance:									
11 Circuit				X					
7 Circuit					X				
7 Circuit						X			
6 Circuit							X		
4 Circuit								X	
Total Investment Requirement				-	-	-	-	-	-

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
Sub-Sector : Water and Irrigation
Office / Agency : NIA - Bohol (Province)

Programs / Projecs	Location ¹	Estimated Area Involved/Required ² Has.	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
A. Small Irrigation Project (SIP)									
1. Hibale-Nagud SIP	Danao	41.00			26,875,000.00				
2. Cantijong SIP	Danao	30.00		6,500,000.00					
3. Genonocan SIP	Tubigon	6.00		1,705,000.00					
4. Baclayon (Hagbuaya) SIP	Catigbian	30.00		6,750,000.00					
5. Caboy-Villaflor SIP	Clarin	18.00			2,813,000.00				
6. Cagawasan SWIP	Dagohoy	61.00			37,500,000.00				
7. Cansague Sur (Masonoy) SIP	San Isidro	25.00			8,125,000.00				
8. Victoria_Antipolo SIP	Garcia Hernande	40.00		3,375,000.00	6,250,000.00				
9. Cantuyoc-Canjulao SIP	Jagna	20.00		4,500,000.00					
10. Cabayugan SIP	Calape	15.00				3,750,000.00			
11. Lobogon-Panakildan SIP	Duero	30.00				7,500,000.00			
12. Cansuhay-Ilaud (Lobogon La Roca) SIP	Duero	25.00		5,625,000.00					
13. Casbu SIP	Guindulman	45.00		9,000,000.00		1,500,000.00			
14. Ka-akot SIP	Lila	10.00				2,500,000.00			
15. Upper Inaghuban SIP	Pilar	50.00				12,500,000.00			
16. Cagyo SIP	Sierra bullones	30.00				7,500,000.00			
17. Cansumpa SIP	Valencia	30.00				7,500,000.00			
18. Cambitoon SIP	Sagbayan	25.00					6,250,000.00		
19. Dagohoy Ilaud SIP	Alicia	20.00					5,000,000.00		
20. Cambacay SIP	Batuan	10.00					2,500,000.00		
21. Kamanajon SIP	Batuan	10.00					2,500,000.00		
22. Malapok SIP	Batuan	10.00					2,500,000.00		
23. Banban-Catunggan SIP	Dimiao	10.00		2,200,000.00					
24. Lapsaon (Bauhugan) SIP	Dimiao	20.00		4,500,000.00					
25. Guindaguitan SIP	Dimiao	10.00					2,500,000.00		
Sub-Total		621.00		44,155,000.00	81,563,000.00	42,750,000.00	21,250,000.00		

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
Sub-Sector : Water and Irrigation
Office / Agency : NIA - Bohol (Province)

Programs / Projecs	Location ¹	Estimated Area Involved/Required ² Has.	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
26 Buenos Aires SIP	Carmen	40.00					10,000,000.00		
27 Calam SIP	Valencia	15.00					3,750,000.00		
28 Sundo SIP	Antequera	10.00						2,500,000.00	
29 Boyog SIP	Balilihan	10.00						2,500,000.00	
30 Bongbong SWIP	Ubay	50.00						12,500,000.00	
31 Cadelaria SIP	Dagohoy	80.00						20,000,000.00	
32 Cagawasan SIP	San Miguel	10.00						2,500,000.00	
33 Baogo SIP	Inabanga	50.00						12,500,000.00	
34 Liloan Norte SIP	Inabanga	14.00						3,500,000.00	
35 Garcia SIP	Batuan	5.00						1,250,000.00	
36 Kansinajon SIP	Batuan	5.00						1,250,000.00	
37 Mahawbo SIP	Batuan	5.00						1,250,000.00	
38 Ka Damon SIP	Batuan	8.00						2,000,000.00	
39 Poblacion Sur SIP	Batuan	6.00						1,500,000.00	
40 Sta. Cruz SIP	Batuan	5.00						1,250,000.00	
41 Upper Cabacnitan SIP	Batuan	25.00						6,250,000.00	
42 Datag (Carmen) SIP	Carmen	25.00						6,250,000.00	
43 Fatima SIP	Carmen	11.00						2,750,000.00	
44 Montesunting SIP	Carmen	20.00						5,000,000.00	
45 Cabagakian SIP	Dimiao	15.00						3,750,000.00	
46 Cabulihan SIP	Dimiao	8.00						2,000,000.00	
47 Limokon Ilaya SIP	Dimiao	12.00						3,000,000.00	
48 Limokon Ilaud SIP	Dimiao	12.00						3,000,000.00	
49 Anonang SIP	Valencia	8.00						2,000,000.00	
50 Candua Oriental SIP	Valencia	6.00						1,500,000.00	
51 Catug-an SIP	Valencia	5.00						1,250,000.00	
52 Danao (Valencia) SIP	Valencia	12.00						3,000,000.00	
53 Tausion SIP	Valencia	15.00						3,750,000.00	
54 Cutcutan SIP	Valencia	25.00		5,625,000.00					
Sub-Total		512.00		5,625,000.00			13,750,000.00	108,000,000.00	

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
Sub-Sector : Water and Irrigation
Office / Agency : NIA - Bohol (Province)

Programs / Projects	Location ¹	Estimated Area Involved/Required ² Has.	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
55 Hanopol SIP	Balilihan	30.00							7,500,000.00
56 Ponsod SIP	Maribojoc	20.00							5,600,000.00
57 Liloan Sur SIP	Inabanga	10.00							2,800,000.00
58 Capayas SIP	San Miguel	25.00							7,000,000.00
59 Tawid SIP	Batuan	10.00							2,800,000.00
60 Maawa SIP	Carmen	50.00							12,500,000.00
61 Nueva Vida Norte SIP	Carmen	30.00							7,500,000.00
62 Nueva Vida Este SIP	Carmen	20.00							5,000,000.00
63 San Agustin-Poblacion-Concepcion SIP	Sierra Bullones	125.00							35,000,000.00
64 Maubo SIP	Valencia	10.00							2,800,000.00
65 Duwangon-Camahid SIP	Bilar	20.00		4,500,000.00					
Sub-Total		350.00		4,500,000.00					88,500,000.00
TOTAL (SIP)		1,483.00		54,280,000.00	81,563,000.00	42,750,000.00	35,000,000.00	108,000,000.00	88,500,000.00
B. CIS Extension Projects									
1 Bungahan (Pasong) CIS	Antequera	10.00			2,500,000.00				
2 San Isidro CIS	Balilihan	10.00			2,500,000.00				
3 Banlasan CIS	Calape	40.00			6,250,000.00				
4 Suhoton (Catmonan) CIS	Calape	25.00			5,000,000.00				
5 Macaas-Buacao CIS	Tubigon & Clarin	17.00			3,425,000.00				
6 Tubigon (Ilihan) CIS	Tubigon	20.00			5,000,000.00				
7 Bacani CIS	Clarin	10.00			2,500,000.00				
8 Yanaya CIS	Bilar	10.00			2,500,000.00				
9 Catugasan CIS	Dimiao	10.00			2,500,000.00				
10 Cadapdapan CIS	Candijay	50.00			7,500,000.00				
11 Mahangin-Cabigohan CIS	Candijay & Guindulman	20.00			3,125,000.00				
12 Sapa CIS	Candijay	10.00			2,500,000.00				
13 Cambuyo CIS	Garcia Hernandez	28.00			6,875,000.00				
14 Upper Cahalop CIS	Garcia Hernandez	10.00			2,500,000.00				
15 Bayong CIS	Guindulman	25.00			4,375,000.00				
16 Mayuga CIS	Guindulaman	30.00			5,000,000.00				
Sub-Total		325.00			64,050,000.00				

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
Sub-Sector : Water and Irrigation
Office / Agency : NIA - Bohol (Province)

Programs / Projects	Location ¹	Estimated Area Involved/Required ² Has.	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
17 Upper Cansuhay CIS	Jagna	8.00			2,000,000.00				
18 Banderahan CIS	Valencia	14.00			3,200,000.00				
19 Ginopolan CIS	Valencia	14.00			3,000,000.00				
20 Cansawon CIS	Maribojoc	28.00				4,275,000.00			
21 Cawayanan-Bunacan-Bosongon CIS	Tubigon	65.00				15,875,000.00			
22 Kangsaway CIS	Batuan	23.00				5,750,000.00			
23 Roxas CIS	Bilar	20.00				3,125,000.00			
24 San Antonio CIS	Sagbayan	50.00					12,500,000.00		
25 Batuan (Quilaton-Loctob)CIS	Batuan	20.00					3,750,000.00		
26 Logarita (Riverside) CIS	Bilar	10.00					2,500,000.00		
27 Payao CIS	Duero	5.00					1,250,000.00		
28 Dita CIS	Ubay	10.00						2,500,000.00	
29 La hacienda-Sudlon CIS	Alicia	7.00						1,600,000.00	
30 Buayahan CIS	Carmen	20.00							3,125,000.00
Sub-Total		294.00		-	8,200,000.00	29,025,000.00	20,000,000.00	4,100,000.00	3,125,000.00
TOTAL (CIP)		619.00		-	72,250,000.00	29,025,000.00	20,000,000.00	4,100,000.00	3,125,000.00
C. Rehab/Resto of Existing CIS (RRECIS)									
1 Busay CIS	Cortes	10.00			1,000,000.00				
2 Cahayag CIS	Tubigon	20.00			2,500,000.00				
3 Tinangnan CIS	Tubigon	5.00			500,000.00				
4 Tinangnan-Ubujan-Cabulihan CIS	Tubigon	5.00		1,200,000.00					
5 Villanueva CIS	Tubigon	30.00		3,000,000.00					
6 Talinseras CIS	Tubigon	20.00			3,500,000.00				
7 Cabog CIS	Clarin	25.00			4,125,000.00				
8 Cambaol CIS	Alicia	12.00			1,500,000.00				
9 Abasan (Alicia) CIS	Batuan	8.00			1,000,000.00				
10 Owac CIS	Bilar	8.00			1,000,000.00				
11 Guadalupe (Panagsagan) CIS	Carmen	8.00			1,000,000.00				
12 Montesuerte CIS	Carmen	12.00			1,500,000.00				
Sub-Total		163.00	-	4,200,000.00	17,625,000.00	-	-	-	-

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
Sub-Sector : Water and Irrigation
Office / Agency : NIA - Bohol (Province)

Programs / Projecs	Location ¹	Estimated Area Involved/Required ² Has.	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
13 Lobogon CIS	Duero	40.00			5,250,000.00				
14 Napo CIS	Garcia Hernande	20.00			3,000,000.00				
15 Lombog CIS	Guindulman	12.00			2,100,000.00				
16 Bagumbayan CIS	Loboc	4.00			500,000.00				
17 Buenavista_Cambanse CIS	Loboc	8.00			1,000,000.00				
18 Loboc Groundwater IS	Loboc	5.00			625,000.00				
19 Cambugason CIS	Jagna	10.00			4,000,000.00				
20 Datag CIS	Jagna	6.00			900,000.00				
21 Danicop CIS	Sierra Bullones	10.00			1,750,000.00				
22 Dusita CIS	Sierra Bullones	24.00			3,450,000.00				
23 Napo (Sierra Bullones) CIS	Sierra Bullones	10.00			1,750,000.00				
24 Lantang CIS	Valencia	20.00			3,500,000.00				
25 Omjon-Marawis CIS	Valencia	57.00			7,500,000.00				
26 Badiang CIS	Anda	16.00				2,300,000.00			
27 Lok-an CIS	Batuan	30.00				4,350,000.00			
28 Bonifacio CIS	Bilar	5.00				875,000.00			
29 Calago CIS	Bilar	8.00				1,400,000.00			
30 Ilaud (Bilar) CIS	Bilar	8.00				1,400,000.00			
31 Himatao CIS	Carmen	54.00		3,000,000.00		3,000,000.00			
32 Montevideo CIS	Carmen	15.00				2,125,000.00			
33 Nueva Fuerza CIS	Carmen	20.00				2,500,000.00			
34 Pangog CIS	Carmen	10.00				1,350,000.00			
35 Gabayan CIS	Candijay	40.00				5,200,000.00			
36 Mambool CIS	Duero	6.00				800,000.00			
37 Caperta-Lower Cahalop CIS	Garcia Hernande	62.00		3,367,000.00		8,250,000.00			
38 Catyana CIS	Garcia Hernande	12.00				1,500,000.00			
39 Copa CIS	Garcia Hernande	5.00				625,000.00			
40 East poblacion & Carohon CIS	Garcia Hernande	37.00				4,875,000.00			
41 Mangnan CIS	Garcia Hernande	30.00				4,000,000.00			
Sub-Total		299.00	-	6,367,000.00	35,325,000.00	44,550,000.00	-	-	-

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
Sub-Sector : Water and Irrigation
Office / Agency : NIA-Provincewide

Programs / Projects	Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
42 Victoria-Antipolo SIP	Garcia Hernandez	40.00				9,900,000.00			
43 Bato CIS	Guindulman	45.00				5,625,000.00			
44 Pansol CIS	Guindulman	9.00				1,425,000.00			
45 Cansumbang CIS	Pilar	20.00				3,500,000.00			
46 San Vicente-Inaghuban CIS	Pilar	10.00				1,750,000.00			
47 Bugsoc Integrated CIS	Sierra Bullones	50.00				6,250,000.00			
48 San Isidro CIS	Sierra Bullones	8.00				1,000,000.00			
49 La Victoria CIS	Valencia	8.00				1,400,000.00			
50 Ubojan CIS	Antequera	19.00					2,575,000.00		
51 Nahawan CIS	Clarín	9.00		1,000,000.00			500,000.00		
52 Ilaya SRIS	Ubay	44.00					5,500,000.00		
53 Bagasico CIS	Alicia	20.00					2,500,000.00		
54 Oghop CIS	Batuan	40.00					5,100,000.00		
55 Camballiano CIS	Bilar	10.00					1,250,000.00		
56 Can-agnay CIS	Bilar	15.00					1,875,000.00		
57 Cansumbol CIS	Bilar	10.00					1,750,000.00		
58 Dagohoy CIS	Bilar	5.00					625,000.00		
59 Mayana (Bilar) CIS	Bilar	15.00					2,025,000.00		
60 Ubojan-Binantay CIS	Bilar	40.00					5,000,000.00		
61 La Paz CIS	Carmen	3.00					525,000.00		
62 Sitio (Luyo) CIS	Carmen	10.00					1,250,000.00		
63 Socon CIS	Carmen	25.00					3,125,000.00		
64 Gabayan CIS	Candijay	40.00					5,200,000.00		
65 Mahangin-Cabigohan CIS	Candijay	29.00		1,100,000.00			3,000,000.00		
66 Adlawan CIS	Dimiao	12.00					1,500,000.00		
67 Malilao CIS	Dimiao	19.00		1,500,000.00			500,000.00		
68 Anibongan CIS	Duero	22.00					2,950,000.00		
69 Danao CIS	Duero	17.00					2,475,000.00		
70 Ampo CIS	Garcia Hernandez	30.00					3,900,000.00		
71 Cambansay (Datag) CIS	Garcia Hernandez	13.00					1,775,000.00		
Sub-Total		637.00		3,600,000.00		30,850,000.00	54,900,000.00		

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
Sub-Sector : Water and Irrigation
Office / Agency : NIA-Provincewide

Programs / Projects	Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
72 Datag (Garcia Hernandez) CIS	Garcia Hernandez	22.00					3,100,000.00		
73 Hinagdanan CIS	Garcia Hernandez	10.00					1,350,000.00		
74 Upper Cahalop CIS	Garcia Hernandez	8.00					1,050,000.00		
75 Lombog SN CIS	Guindulman	18.00					2,500,000.00		
76 Lower Cansuhay CIS	Jagna	20.00					2,500,000.00		
77 Upper Cansuhay CIS	Jagna	15.00					1,875,000.00		
78 Basak-Daku CIS	Loboc	20.00					2,500,000.00		
79 Oppus CIS	Mabini	13.00					2,275,000.00		
80 Tabunoc CIS	Mabini	30.00		3,000,000.00					
81 Ilaud CIS	Pilar	18.00					3,500,000.00		
82 Mabanha CIS	Sierra Bullones	10.00					1,750,000.00		
83 Abachanan Ilaud CIS	Sierra Bullones	45.00					5,875,000.00		
4 Abehilar CIS	Sierra Bullones	25.00					3,125,000.00		
85 Guba CIS	Sierra Bullones	5.00					875,000.00		
86 Panangatan CIS	Valencia	27.00		1,500,000.00					
87 Dait Sur CIS	Buenavista	15.00						2,625,000.00	
88 Ilaya SRIS	Ubay	40.00						5,000,000.00	
89 Cabaknitan CIS	Batuan	7.00						1,225,000.00	
90 Locsoon CIS	Bilar	50.00						6,250,000.00	
91 Gabayan CIS	Candijay	40.00						5,200,000.00	
92 Abejilan CIS	Garcia Hernandez	40.00						6,000,000.00	
93 Pasong CIS	Garcia Hernandez	10.00						1,450,000.00	
94 Siling-Pondol-Anito CIS	Garcia Hernandez	8.00						1,400,000.00	
95 Bugaong-Cantuba CIS	Buenavista	20.00		1,000,000.00					1,350,000.00
96 Ilaya SRIS	Ubay	40.00							5,000,000.00
97 Cadapdapan CIS	Candijay	45.00							5,700,000.00
98 Gabayan CIS	Candijay	40.00							5,200,000.00
99 Sapa CIS	Candijay	10.00		2,000,000.00					
100 Tugas CIS	Candijay	75.00							9,300,000.00
101 Lobogon-La Roca CIS	Duero	25.00							3,500,000.00
Sub-Total		751.00		7,500,000.00		-	32,275,000.00	29,150,000.00	30,050,000.00

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
Sub-Sector : Water and Irrigation
Office / Agency : NIA-Provincewide

Programs / Projects	Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
102 Sakaon CIS	Garcia Hernandez	8.00							1,400,000.00
103 Bugang CIS	Guindulman	10.00							1,750,000.00
104 Mabago CIS	Guindulman	10.00							1,450,000.00
105 Tabunoc CIS	Mabini	56.00							7,000,000.00
106 Bunga_Ilaya CIS	Jagna	10.00							1,500,000.00
107 Bayong CIS	Pilar	11.00							1,925,000.00
108 Tugas-Can-olin CIS	Candijay	10.00		1,000,000.00					
109 Cadapdapan CIS	Candijay	15.00		3,300,000.00					
110 Tangohay CIS	Dimiao	15.00		1,500,000.00					
111 San Rafael SWIP	Mabini	-		-					
112 Bonkokan CIS	Lila	15.00		1,500,000.00					
113 Mambool CIS	Duero	12.00		3,000,000.00					
Sub-Total		172.00		10,300,000.00					15,025,000.00
Total RRECIS									
D. CARP - IC									
1 Bugnag Sur & Norte CIP (Cambigsi-Cabacnitan AR	Bilar	80.00			10,000,000.00				
2 Bugnag Sur CIP	Bilar	52.00		6,000,000.00					
3 Calingganay CIS IP (Del Untaga ARC)	Alicia	20.00				3,500,000.00			
4 Tugas CIS RP (Tugas ARC)	Candijay	30.00					3,000,000.00		
5 Bayong CISEP (PBO Pilar ARC)	Pilar	20.00						3,500,000.00	
6 Bugsoc Integrated CISEP (San Juan-San Agustin A Pobs Cantam's N Las Villas ARC)	Sierra Bullones	45.00							7,000,000.00
Sub-Total		247.00		6,000,000.00	10,000,000.00	3,500,000.00	3,000,000.00	3,500,000.00	7,000,000.00
SUMMARY:									
A. Small Irrigation Project (SIP)		1,483.00		54,280,000.00	81,563,000.00	42,750,000.00	35,000,000.00	108,000,000.00	88,500,000.00
B. CIS Extension Projects		619.00		-	72,250,000.00	29,025,000.00	20,000,000.00	4,100,000.00	3,125,000.00
C. Rehab/Resto of Existing CIS (RRECIS)		2,307.00		31,967,000.00	52,950,000.00	75,400,000.00	88,675,000.00	29,150,000.00	45,075,000.00
D. CARP - IC		247.00		6,000,000.00	10,000,000.00	3,500,000.00	3,000,000.00	3,500,000.00	7,000,000.00
TOTAL BOHOL		4,656.00		92,247,000.00	216,763,000.00	150,675,000.00	146,675,000.00	144,750,000.00	143,700,000.00

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
Sub-Sector : Water and Irrigation
Office / Agency : NIA - Region VII

Programs / Projects	Location	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
First District:									
1. LINE Project (SRIP)				300,000,000.00	513,000,000.00	300,000,000.00			
2. SIP				19,350,000.00		3,750,000.00			
3. CIS Extension				23,500,000.00	35,375,000.00	27,650,000.00			
4. FSDE					225,000.00	5,696,000.00			
5. IMTSS						1,500,000.00			
6. RRECIS				9,700,000.00	5,125,000.00				
		Total for First District		352,550,000.00	553,725,000.00	338,596,000.00			
Second District:									
1. LINE Project (SRIP)				185,000,000.00	831,000,000.00	477,355,000.00			
2. SIP				59,500,000.00	75,625,000.00	171,809,000.25			
3. NIS Extension						15,000,000.00			
4. RRENIS				234,600,000.00	279,625,000.00	155,000,000.00			
5. FSDE				80,000,000.00	34,950,000.00	40,240,000.00			
6. RRECIS				4,000,000.00	2,500,000.00	2,000,000.00			
6. Climate Change						15,000,000.00			
7. ISR (NIS)						11,000,000.00			
8. IMTSS				2,812,900.00	2,812,900.00	2,812,900.00			
9. CIS Extension (Cabog)				33,500,000.00	6,000,000.00				
		Total for Second District		599,412,900.00	1,232,512,900.00	890,216,900.25			
Third District:									
1. LINE Project (SRIP)				310,000,000.00	345,000,000.00	389,834,000.00			
2. SIP				163,575,000.00	11,250,000.00	90,750,000.00			

Programs / Projects	Location	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
3. CIS Extension				56,500,000.00	57,775,000.00	19,000,000.00			
4. RRENIS				60,000,000.00	126,942,000.00	50,000,000.00			
5. RRECIS				77,100,000.00	63,225,000.00	82,250,000.00			
6. FSDE				8,000,000.00	15,305,000.00	36,768,000.00			
7. Climate Change				2,300,000.00		10,000,000.00			
8. ISR(NIS & CIS)						11,000,000.00			
9. CARP – IC						3,500,000.00			
10. IMTSS				2,187,100.00	2,187,100.00	2,187,100.00			
11. . FMR (Farm to Market Road)					6,000,000.00				
		Total for Third District		679,662,100.00	627,684,100.00	695,289,100.00			
TOTAL				P 1,631,625.00	P 2,413,922,000.00	P 1,924,102,250.00			

LOCAL DEVELOPMENT INVESTMENT PLAN
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure
Sub-Sector : Transport and Access
Office / Agency : Provincial Engineer's Office (PEO)

Programs / Projects		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
I.	Provincial Roads Development and Rehabilitation Program:									
1.	Concreting of Balilihan - Cabad Road			20% D.F.	5,000,000.00					
2.	Concreting of Aliguay - Anislag Road, Maribojoc			20% D.F.	5,000,000.00					
3.	Asphalt Overlay of Access Road to Bohol Cultural Center connecting Dr. Cecilio Putong National High School (DCPNHS), Tagbilaran City			20% D.F.	2,000,000.00					
4.	Asphalting of Sambog - Caumbang - Tanday Road, Corella			20% D.F.	2,000,000.00					
5.	Concreting of Poblacion (Talibon) - San Isidro Road			20% D.F.	3,000,000.00					
6.	Asphalting of Road leading to Cabawan (Jail), Tagbilaran City			20% D.F.	15,000,000.00					
7.	Opening of Access Road to PGBh Property, Malayo Sur, Cortes			20% D.F.	5,000,000.00					
8.	Concreting of San Miguel-Tomoc-Getafe Road (San Miguel Side)			20% D.F.	3,000,000.00					
9.	Concreting of Nahawan - Dongoan Road, Clarin			20% D.F.	2,000,000.00					
10.	Concreting of Jct. (TER)-Pob.(Val.)-Anoyon-Omjon Road			20% D.F.	5,000,000.00					
11.	Concreting of Jagna-Cabungaan-Lonoy Road			20% D.F.	4,000,000.00					
12.	Rehabilitation of Tiguis (Lila) - Cambanse (Loboc)			20% D.F.	3,500,000.00					

Programs / Projects		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
13.	Rehabilitation of Tabuan to Togbongon Spillway (Garcia Hernandez)			20% D.F.	3,000,000.00					
14.	Asphalting of Pob. Casbu Circumferential Road (Bato Section), Guindulman			20% D.F.	3,000,000.00					
15	Concreting of Jct. (J-SB)-Malbog-Calabacita Road, Jagna			20% D.F.	2,000,000.00					
16	Concreting of Canhaway Circumferential Road, Guindulman			20% D.F.	2,000,000.00					
17	Const. of Box Culvert along Jct.(TER)-Bunga Mar-Kinagbaan-Balili Road (Kinagbaan Section), Jagna			20% D.F.	3,000,000.00					
18	Concreting of Jct.(Jagna-SB)-Canipol-Odiong Road			20% D.F.	2,000,000.00					
19	Concreting of Jct. (Mabini-Cabulao)-Aguipo Road			20% D.F.	2,000,000.00					
20	Concreting of Sta. Cruz - Minol - Banlas- Tambo Road, Mabini			20% D.F.	2,000,000.00					
21	Rehab and Minor Improvement (RMI) of Roads and Bridges			20% D.F.	30,000,000.00					
22	Procurement of Equipment to Support Road Rehabilitation/ Development Program of the Provincial Engineer's Office (PEO)			20% D.F.	3,800,000.00					
23	Monetary and in Kind (i.e., equipment and labor) Counterpart for the KALSADA Program			20% D.F.	30,909,065.60					
24	Waste Water treatment for Capitol Commercial Complex & Old Provincial Capitol			20% D.F.	15,000,000.00					
25	Const. of Reinforced Concrete Deck Girder (RCDG) along Catigbian - Clarin via Bogtongbood Rd			Other Funds	18,000,000.00					
26	Rehabilitation/ Upgrade of the Southwestern Sea Wall, Bagongbanwa, Tubigon, Bohol			Other Funds	543,000.00					
KALSADA Program:										
1	Concreting of Sikatuna-Balilihan via Badiang Road (KALSADA Program)			KALSADA Program	150,000,000.00					
2	Concreting of Baucan (Balilihan) - Cambague (Sevilla) Road (KALSADA Program)			KALSADA Program	150,000,000.00					
3	Concreting of Alegria (Catigbian) - Baang Jagbuaya Hanopol Road (KALSADA Program)			KALSADA Program	150,000,000.00					

Programs / Projects		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
4	Concreting of Catigbian - Clarin via Bogtongbod Road (KALSADA Program)			KALSADA Program	150,000,000.00					
5	Concreting of Canmanico-Anonang Road (Valencia) (KALSADA Program)			KALSADA Program	150,000,000.00					
DOT-DPWH Convergence Project:										
1	Upgrading (Gravel to Concrete) Antequera-Balilihan via Dorol Road			DOT-DPWH	30,000,000.00					
2	Improvement of La Paz (Carmen)-Nueva Vida-Montehermoso-Omjon (Valencia) Road			DOT-DPWH	225,000,000.00					
I.	Provincial Roads Development and Rehabilitation Program									
1	Concreting of Cabad Road, Balilihan			20% D.F.		5,000,000.00				
2	Concreting of Pob. (Cortes) - Jct. (Corella - Balilihan) Road, Cortes			20% D.F.		5,000,000.00				
3	Concreting of Catigbian - Ambuan - Sagasa Road			20% D.F.		5,000,000.00				
4	Concreting & Widening of Road leading to New Capitol Building, Tagbilaran City			20% D.F.		20,000,000.00				
5	Concreting of Aliguay - Anislag Road, Maribojoc			20% D.F.		5,000,000.00				
6	Concreting of Oneway Traffic, Inabanga			20% D.F.		5,000,000.00				
7	Concreting of Guinsularan - Lobogon Road, Duero			20% D.F.		4,000,000.00				
8	Concreting of Santa Cruz - Minol - Tambo Road, Mabini			20% D.F.		5,000,000.00				
9	Asphalting of Access Road to Provincial Assessor's Office, Tagbilaran City			20% D.F.		400,000.00				
10	Concreting at Cambangay (San Miguel) - Soom (Trinidad) Road, Trinidad			20% D.F.		3,000,000.00				
11	Concreting of Poblacion CPG to Aguning Road			20% D.F.		5,000,000.00				
12	Box Culvert and approaches along Garcia Hernandez - Tabuan - Datag Road			20% D.F.		5,000,000.00				
13	Concreting of Road Leading to Magsaysay Park (Bilar)			20% D.F.		3,000,000.00				
14	Concreting of Canhaway Circum. Road, Guindulman			20% D.F.		3,000,000.00				

Programs / Projects		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
15	Conversion of Timber Bridge to Box Culvert at Catigbian - Clarin via Bogtongbood (Kauswagan & Cabog)			20% D.F.		4,000,000.00				
16	Upgrading at Batuan - Quezon - Omjon Road, (Batuan & Valencia)			20% D.F.		7,500,000.00				
17	Concreting of Tiguis (Lila) - Cambanse (Loboc) Road (Loboc Side)			20% D.F.		5,000,000.00				
18	Asphalt Overal of Jct (LIR) Quinoguitan - Sevilla Hanopol Road			20% D.F.		7,000,000.00				
19	Concreting of Road Leading to Tarsier Sanctuary, Corella, Bohol			20% D.F.		5,000,000.00				
20	Concreting of Road leading to Ubay Stock Farm			Other funds		5,000,000.00				
21	Concreting of Jct. (TER) Bien Unido Road			Other funds		4,000,000.00				
22	Concreting of Mahayag - Katipunan Road, Alicia & Pilar			Other funds		4,000,000.00				
23	Asphalting at Pob. (Casbu) Circumferential Road, Guindulman			Other funds		3,000,000.00				
24	Acquisition of Road Right of Way for the Widening of Hangos Street, Tagbilaran City			20% D.F.		30,000,000.00				
25	Rehab and Minor Improvement (RMI) of Roads and Bridges			20% D.F.		30,000,000.00				
26	Improvement of the PEO Office Building (including construction of PWD Facilities and Facilities for Water Conservation)			Other funds			2,500,000.00			
KALSADA Program:										
1	Concreting of Alegria (Catigbian)- Baang-Hagbuaya-Hanopol (Balilihan) Road (KALSADA PROGRAM)			CMGP/ Kalsada		121,000,000.00				
2	Concreting of Canmanico - Anonang (Valencia) Road (KALSADA PROGRAM)			CMGP/ Kalsada		142,000,000.00				
3	Concreting of Maribojoc-Pagnitoan-Candavid-Basak (Loon) Road (KALSADA PROGRAM)			CMGP/ Kalsada		98,000,000.00				
4	Concreting of Jct. (TER) Dimiao-Oac-Bilar Road (KALSADA PROGRAM)			CMGP/ Kalsada		75,000,000.00				
DOT-DPWH Convergence Project:										
1	Upgrading Gravel to Paved/Widening of Biking-Tinago-Bingag Road	Dauis, Bohol		DOT-DPWH		112,518,000.00				
2	Concreting/Widening of Jct. (TNR) Sandingan Island Circumferential Road	Loon, Bohol		DOT-DPWH		85,914,000.00				

Programs / Projects		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
3	Concreting/Improvement/Widening of Maribojoc Pagnitoan-Candavid-Tubuan-Basak (Loon) Road			DOT-DPWH		416,313,000.00				
4	Concreting/Improvement/Widening of Cahayag (Tubigon)-Causwagan Sur (San Isidro) Catigbian Road			DOT-DPWH		157,977,000.00				
5	Concreting/Improvement /Widening of Antequera-Balilihan via Dorol Rd			DOT-DPWH		303,601,000.00				
6	Concreting/Improvement/Widening of Albuquerque-Sikatuna Road			DOT-DPWH		249,993,000.00				
7	Concreting/Improvement/Widening of Baclayon-Corella Road			DOT-DPWH		50,000,000.00				
8	Jct. TNR leading to Punta Cruz Watch Tower, Maribojoc			DOT-DPWH		20,000,000.00				
9	Concreting/Improvement/Widening of Tangnan - Acasia Road	Panglao		DOT-DPWH		50,000,000.00				
10	Concreting of Jct. (LIR) Mahayag (San Miguel) - Danao Road (Access to Danao Adventure Park)			DOT-DPWH		510,000,000.00				
11	Concreting of Lapacan Sur (Bugtong Lubi) Inabanga- Magtangtang (Danao) Road (Access to Danao Adventure Park)			DOT-DPWH		510,000,000.00				
12	Jct. (TER) Guindulman - Anda - Badiang - Cogtong Road leading to Beaches & Resorts, Anda	Anda, Bohol		DOT-DPWH		147,600,000.00				
13	Jct. (TER) Pob. Candijay - Cogtong Road leading to Beaches & Resorts, Anda	Anda, Bohol		DOT-DPWH		15,000,000.00				
14	Jct. (TER) La Union - Mabini - Cabulao - Ubay Road (leading to beach areas at Anda & Ubay) Mabini, Bohol	Mabini		DOT-DPWH		30,000,000.00				
15	Pob. (Valencia) - Anoyon - Omjon Road			DOT-DPWH		250,000,000.00				
CY 2018										
1	Concreting of Cabad Road, Balilihan			DOT-DPWH			5,000,000.00			
2	Concreting of Pob. (Cortes) - Jct. (Corella - Balilihan) Road, Cortes			DOT-DPWH			5,000,000.00			
3	Concreting of Catigbian - Ambuan - Sagasa Road			DOT-DPWH			5,000,000.00			
4	Concreting of San Isidro - Catigbian via Caimbang Road (Catigbian Side)			DOT-DPWH			5,000,000.00			
5	Concreting of Cahayag (Tubigon) Causwagan Sur (San Isidro) Road			DOT-DPWH			5,000,000.00			
6	Concreting of Baclayon - Corella via Tunga Road			DOT-DPWH			5,000,000.00			
7	Concreting of Oneway Traffic, Inabanga			DOT-DPWH			5,000,000.00			
8	Concreting of Road leading to Ubay Stock Farm			DOT-DPWH			5,000,000.00			

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Programs / Projects		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
1	Concreting of Antequera - Balilihan via Dorol Road	Antequera & Balilihan		DTI ROLL-IT			100,000,000.00			
2	Concreting of Abatan - Agahay - Busao - Aghao Road	Maribojoc		DTI ROLL-IT			37,500,000.00			
3	Concreting of Tangnan - Acasia Road, Panglao	Panglao		DTI ROLL-IT			52,080,000.00			
4	Concreting of Tinago - Biking Road, Dauis	Dauis		DTI ROLL-IT			54,880,000.00			
5	Concreting of Baucan (Balilihan) - Cambague (Sevilla) Road	Balilihan & Sevilla		DTI ROLL-IT			191,180,000.00			
6	Concreting of Jct. (TER) Albur - Sikatuna Road	Albur & Sikatuna		DTI ROLL-IT			192,750,000.00			
7	Concreting of Jct. (CBCMR) Pob. (Cortes) - Jct. Corella - Balilihan Road			DTI ROLL-IT			126,000,000.00			
8	Concreting of Jct. (TNR) to Punta Cruz Tower, Maribojoc	Maribojoc		DTI ROLL-IT			36,000,000.00			
9	Concreting of Tajang - Sandingan Road, Loon	Loon		DTI ROLL-IT			35,000,000.00			
10	Concreting of Maribojoc - Pagnitoan - Candavid - Basak (Loon) Road			DTI ROLL-IT			188,600,000.00			
11	Concreting of Jct. (TNR) Pondol - Pananguilon Jct. (Antequera-Catagbacan) Road			DTI ROLL-IT			240,000,000.00			
12	Concreting of Cabad (Balilihan) Road			DTI ROLL-IT			39,000,000.00			
13	Concreting of La Paz (Cortes) - Cabaguan - Lourdes - Corella Road			DTI ROLL-IT			178,250,000.00			
14	Concreting of Maribojoc - Antequera via Tinibgan Road			DTI ROLL-IT			148,350,000.00			
15	Concreting of Jct. (LIR) Mahayag (San Miguel) - Danao Road			DTI ROLL-IT			328,580,000.00			
16	Concreting of Lapacan Sur (Bugtong Lubi) Inabanga- Magtangtang (Danao) Road			DTI ROLL-IT			287,500,000.00			
17	Concreting of Katipunan (Alicia)- Jct. (LIR) Mahayag (San Miguel) Road			DTI ROLL-IT			210,300,000.00			
18	Concreting of Mabuhay (Ubay) - Bulilis - Bayongan San Miguel Road			DTI ROLL-IT			394,100,000.00			
19	Concreting of Bagumbayan - Estaca (Pilar) - Caluasan - Dagohoy Road			DTI ROLL-IT			213,200,000.00			
20	Concreting of San Miguel-Tomoc-Getafe Road			DTI ROLL-IT			684,810,000.00			
21	Concreting of Jct (TER) Ubay - Tapal Wharf Road			DTI ROLL-IT			190,620,000.00			

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Programs / Projects		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
1	Baucan (Balilihan) Cambague (Sevilla) Road			CMGP			174,940,000.00			
2	Alburquerque - Sikatuna Road			CMGP			193,200,000.00			
3	Catigbian - Clarin via Bogtongbod Road			CMGP			168,920,000.00			
4	Pob. (Corte) - Jct. (Corella - Balilihan) Road			CMGP			127,660,000.00			
5	San Miguel -Bayongan -Bulilis- Mabuhay (Ubay) Road			CMGP			334,500,000.00			
6	Maribojoc - Pagnitoan - Candavid - Basak (Loon) Road			CMGP			80,000,000.00			
7	Dimiao - Oac - Bilar Road			CMGP			180,000,000.00			
8	Jct. (TER) Candijay - Cogtong Road			CMGP			162,700,000.00			
9	Jct. (TER) Pob. (Valencia) - Anoyon - Omjon Road			CMGP			120,000,000.00			
Department of Tourism (DOT)										
1	Upgrading Gravel to Paved/Widening of Biking-Tinago-Bingag Road, Daus			DOT			112,518,000.00			
2	Concreting/Widening of Jct. (TNR) Sandingan Island Circumferential Road, Loon			DOT			85,914,000.00			
3	Concreting/Improvement/Widening of Maribojoc Pagnitoan-Candavid-Tubuan-Basak (Loon) Road			DOT			416,313,000.00			
4	Concreting/Improvement/Widening of Cahayag (Tubigon) -Causwagan Sur (San Isidro) Catigbian Road			DOT			157,977,000.00			
5	Concreting/Improvement /Widening of Antequera-Balilihan via Dorol Road			DOT			303,601,000.00			
6	Concreting/Improvement/Widening of Alburquerque-Sikatuna Road			DOT			249,993,000.00			
7	Concreting/Improvement/Widening of Baclayon-Corella Road			DOT			50,000,000.00			
8	Jct. TNR leading to Punta Cruz Watch Tower, Maribojoc			DOT			20,000,000.00			
9	Concreting/Improvement/Widening of Tangnan Acasia Road			DOT			50,000,000.00			
10	Concreting of Aliguay - Anislag Road			DOT			150,000,000.00			
11	Concreting of Jct. (LIR) Mahayag (San Miguel) - Danao Road (Access to Danao Adventure Park)			DOT			510,000,000.00			
12	Concreting of Lapacan Sur (Bugtong Lubi) Inabanga- Magtangtang (Danao) Road (Access to Danao Adventure Park)			DOT			510,000,000.00			
13	Jct. (TER) Guindulman - Anda - Badiang - Cogtong Road leading to Beaches & Resorts, Anda			DOT			147,600,000.00			
14	Jct. (TER) Pob. Candijay - Cogtong Road leading to Beaches & Resorts, Anda			DOT			150,000,000.00			

Programs / Projects		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
15	Jct. (TER) La Union - Mabini - Cabulao - Ubay Road (leading to beach areas at Anda & Ubay) Mabini, Bohol			DOT			30,000,000.00			
16	Pob. (Valencia) - Anoyon - Omjon Road			DOT			250,000,000.00			
Philippine Rural Development Plan (PRDP)										
1	Del Carmen Weste via Tugbas Road, Balilihan	Balilihan		PRDP		26,000,000.00				
2	Mahayag Norte - Bagtic - Baang Road, Catigbian	Catigbian		PRDP		25,200,000.00				
3	San Agustin-Canmaya Centro-Kagawasan - Canmaya Diot Road, Sagbayan	Sagbayan		PRDP	48,190,000.00					
4	Alegria - Cabadingan - Candasag - Bugho Road, Loboc	Loboc		PRDP	56,120,000.00					
5	Campagao - Cabacnitan FMR, Bilar	Bilar		PRDP			179,580,000.00			
6	Desamparados (Calape) - Tabuan (Antequera) FMR	Calape & Antequera		PRDP			365,352,000.00			
7	Pondol - Candaigan FMR, Loon	Loon		PRDP			71,550,000.00			
8	Dagnawan - Dagohoy FMR, Inabanga	Inabanga		PRDP			117,855,000.00			
Provincial Road Network Development Plan (PRNDP)										
Intervention: Maintenance										
Project Management Division -I (PMD-I)										
1	Pob. Panglao)-Doljo Road	Panglao		Gen. Fund	340,000.00	370,000.00	410,000.00	450,000.00	490,000.00	
2	Tinago-Biking Road	Dauis		PRMF	250,000.00	270,000.00				
				Gen. Fund	30,000.00	40,000.00	40,000.00	50,000.00	50,000.00	
3	Tinago-Bingag Road	Dauis		PRMF	260,000.00	280,000.00				
				Gen. Fund	40,000.00	40,000.00	40,000.00	50,000.00	50,000.00	
4	Tinago-Dao-Beach Road	Dauis		Gen. Fund	480,000.00	520,000.00	570,000.00	630,000.00	690,000.00	
5	Tangnan-Acacia Road	Panglao		Gen. Fund	270,000.00	290,000.00	320,000.00	350,000.00	390,000.00	
6	Road-to- Hinagdanan Cave	Dauis		Gen. Fund	70,000.00	70,000.00	80,000.00	80,000.00	90,000.00	
7	Cahayag (Tubigon)- Cabanugan-San Isidro-Catigbian	2.33 kms.		Gen. Fund	220,000.00	240,000.00	260,000.00	290,000.00	320,000.00	
				PRMF	270,000.00	290,000.00				
		3.521 kms.		Gen. Fund	40,000.00	40,000.00	40,000.00	50,000.00	50,000.00	
				PRMF		430,000.00				

Programs / Projects		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
				MBA/Gen. Fund		60,000.00	70,000.00	70,000.00	80,000.00	
8	Corella-Balilihan Road			Gen. Fund	1,200,000.00	1,290,000.00	1,419,000.00	1,560,900.00	1,717,000.00	
9	Road to Pres. Carlos P. Garcia Memorial Park (Tagbilaran City)			Gen. Fund	0	0	0	0	0	
10	Antequera- Balilihan via Dorol Road			Gen. Fund	1,600,000.00	1,720,000.00	1,890,000.00	2,081,000.00	2,290,000.00	
11	La Paz (Cortes)-Cabaguan-Lourdes- Corella Road			Gen. Fund	730,000.00	790,000.00	870,000.00	956,000.00	1,050,000.00	
12	Calape- Cabayugan-Tabuan (Antequera) Road				1,570,000.00	1,690,000.00	1,860,000.00	2,044,000.00	2,250,000.00	
13	San Isidro- Catigbian via Caimbang Road			PRMF	580,000.00					
				12% LGU	80,000.00	90,000.00	100,000.00	109,000.00	120,000.00	
14	Alburquerque- Sikatuna Road			Gen. Fund	1,450,000.00	590,000.00	650,000.00	714,000.00	790,000.00	
15	Tagbilaran- Baclayon Old Prv'l. Rd			Gen. Fund	1,200,000.00	440,000.00	480,000.00	532,000.00	590,000.00	
16	Baclayon-Corella Road			Gen. Fund	670,000.00	2,200,000.00	2,420,000.00	2,662,000.00	2,930,000.00	
17	Catigbian- Canmano Road	10.767 kms.		Gen. Fund/MBA	1,470,000.00	550,000.00	1,550,000.00	2550000.000 M	3,550,000.00	
		3.593 kms.		Gen. Fund/MBC	180,000.00	70,000.00				
18	Alegria(Catigbian)- Baang-Jagbuaya- Janopol Road			Gen. Fund/MBA	1,090,000.00	1,210,000.00	1,330,000.00	1,464,000.00	1,610,510.00	
Project Management Division -II (PMD-II)										
1	San Miguel- Tomoc-Getafe Road (Getafe side)			Gen. Fund	760,000.00	800,000.00	960,000.00	1,060,000.00	800,000.00	
2	Inabanga- Sagbayan via Lapacan- Magtangtang Road			Gen. Fund	830,000.00	870,000.00	920,000.00	960,000.00	800,000.00	
3	Cabulao- Ondol(Mabini)- Union(Ubay) Road			Gen. Fund/MBA	820,000.00	840,000.00	880,000.00	930,000.00	800,000.00	
				Gen. Fund/MBC		1,500,000.00	1,500,000.00	1,500,000.00		
4	Pob.-Bonot- Bonot-Tiguman- Overland Road			Gen. Fund	1,230,000.00	1,170,000.00	1,230,000.00	1,590,000.00	1,000,000.00	
5	Catigbian- Clarin via Bogtongbod Road			Gen. Fund	1,150,000.00	1,200,000.00	1,380,000.00	1,480,000.00	1,000,000.00	
6	Jct.(LIR)- Mahayag-Danao Road			Gen. Fund	1,150,000.00	1,210,000.00	1,270,000.00	1,330,000.00	1,000,000.00	
7	Popoo-Tugas Road			Gen. Fund	980,000.00	1,000,000.00	2,130,000.00	2,330,000.00	1,500,000.00	
8	Pob.-San Francisco Road, Talibon			Gen. Fund	-	-	-	-		
9	San Miguel- Bayongan- Bulilis- Mabuhay(Ubay) Road			Gen. Fund	850,000.00	890,000.00	940,000.00	980,000.00	1,030,000.00	
10	Pitogo- Aguing Road			Gen. Fund	860,000.00	1,000,000.00	1,260,000.00	1,460,000.00	1,200,000.00	
11	San Miguel- Tomoc-Getafe Road (San Miguel Side)			Gen. Fund	890,000.00	900,000.00	1,520,000.00	1,720,000.00	1,000,000.00	

Programs / Projecs		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
12	Jct.(LIR)- Mahayag- Katipunan Rd			Gen. Fund	430,000.00	480,000.00	520,000.00	560,000.00	600,000.00	
13	Dagohoy Caluasan Road			Gen. Fund	960,000.00	1,000,000.00	1,160,000.00	1,260,000.00	1,000,000.00	
14	Jct.(TER)-San Pascual(Ubay)- Mahayag (San Miguel) Rd			Gen. Fund	350,000.00	390,000.00	430,000.00	470,000.00	510,000.00	
15	Pob.-San Isidro Road, Talibon			Gen. Fund	580,000.00	650,000.00	720,000.00	790,000.00	860,000.00	
16	Pob.(Inabanga)- Lawis Road			Gen. Fund	850,000.00	950,000.00	1,030,000.00	1,110,000.00	1,190,000.00	
17	Cambangay (San Miguel)- Soom(Trinidad) Road			Gen. Fund	770,000.00	1,000,000.00	1,190,000.00	1,300,000.00	1,140,000.00	
18	Pob.(Sagbayan)- Sagbayan Sur- Kabasakan Road			Gen. Fund	300,000.00	320,000.00	330,000.00	350,000.00	360,000.00	
19	Cabulao- Ondol(Mabini)- Union(Ubay) Road			Gen. Fund/MBA	1,170,000.00	850,000.00	1,330,000.00	1,410,000.00	1,490,000.00	
				Gen. Fund/MBC	1,500,000.00	2,000,000.00	2,000,000.00	2,000,000.00	2,000,000.00	
Project Management Division -III (PMD-III)										
1	Dimiao-Oac- Bilar Road			Gen. Fund	1,200,000.00	1,200,000.00	1,200,000.00	1,200,000.00	1,300,000.00	
2	G-Hernandez- Tabuan Datag Road			Gen. Fund	200,000.00	300,000.00	200,000.00	900,000.00	300,000.00	
3	Jct.(Bilar- Dimiao) Oac- Omjon Road			Gen. Fund	200,000.00	300,000.00	200,000.00	800,000.00	300,000.00	
4	Jct.(TER)- Pob.Valencia- Anoyon-Omjon Road			Gen. Fund	200,000.00	300,000.00	200,000.00	600,000.00	300,000.00	
5	Jct(LIR)- Quiniguitan- Sevilla-Janopol Road			Gen. Fund	200,000.00	300,000.00	200,000.00	800,000.00	300,000.00	
6	Carmen- Valle Hermoso Road			Gen. Fund	200,000.00	300,000.00	200,000.00	500,000.00	300,000.00	
7	Buenos Aires-Nueva Vida-Monte Hermoso Road			Gen. Fund	200,000.00	300,000.00	200,000.00	500,000.00	300,000.00	
8	Roxas Park- Abijilan- Togbongon- Tabuan Road			Gen. Fund	200,000.00	300,000.00	200,000.00	800,000.00	300,000.00	
9	Guadalupe- Monte video			Gen. Fund	200,000.00	300,000.00	200,000.00	600,000.00	300,000.00	
10	Canmanico- Anonang Road, Valencia			Gen. Fund	200,000.00	600,000.00	200,000.00	1,300,000.00	300,000.00	
11	Hinawanan- Concepcion- Jct.(Loboc- Sikatuna Road)			Gen. Fund	200,000.00	300,000.00	200,000.00	1,300,000.00	300,000.00	
12	Bilar-Sevilla Road			Gen. Fund	200,000.00	300,000.00	200,000.00	1,300,000.00	300,000.00	
13	Jct.(TER)- Gindulman- Catungawan- Mayuga- Lombog- Lundag Road			Gen. Fund	1,500,000.00	1,500,000.00	1,700,000.00	1,700,000.00	1,800,000.00	
14	Jct.(TER)- Guindulman- Anda-Badiang Rd-			Gen. Fund	200,000.00	300,000.00	200,000.00	1,300,000.00	300,000.00	
15	Jct.(TER)- Mabini- Cabulao- Lungsodaan- Pook Road			Gen. Fund	200,000.00	300,000.00	200,000.00	800,000.00	300,000.00	
16	Jct.(TER)- Guioang- Cogtong Road			Gen. Fund	200,000.00	300,000.00	200,000.00	800,000.00	300,000.00	
17	Jct.(TER)- Candijay- Cogtong Road			Gen. Fund	200,000.00	300,000.00	200,000.00	500,000.00	300,000.00	

Programs / Projects		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
18	Cogtong(Candij ay):-Panas-Pangpang-Badiang Road			Gen. Fund	200,000.00	300,000.00	200,000.00	1,146,000.00	300,000.00	
19	Itum-Duay- Payao Road			Gen. Fund	1,200,000.00	1,300,000.00	1,400,000.00	1,500,000.00	1,600,000.00	
20	Jagna- Cabungaan- Lonoy Road			Gen. Fund	200,000.00	300,000.00	200,000.00	1,300,000.00	300,000.00	
21	Pob.- Casbu- Circumferential Road			Gen. Fund	200,000.00	300,000.00	200,000.00	1,300,000.00	300,000.00	
Intervention: Upgrading										
Project Management Division -I (PMD-I)										
1	Road to Pres. Carlos P. Garcia Memorial Park (Tagbilaran City)			20% DF	-	-	-	-	-	
2	Corella-Balilihan Road			20% DF	-	-	-	6,000,000.00	-	
3	Antequera-Balilihan via Dorol Rd			20% DF	3,000,000.00	3,780,000.00	6,000,000.00	5,000,000.00		
4	Sikatuna-Balilihan via Badiang Rd			20% DF	-	7,140,000.00	-	-	-	
5	Pob. (Cortes)-Jct. (Corella)-Balilihan Road			20% DF	5,000,000.00	-	5,000,000.00	5,000,000.00	5,000,000.00	
6	Baucan (Balilihan)- Cambague (Sevilla) Road			20% DF	4,000,000.00	3,360,000.00	80,000,000.00	-	-	
7	Tangnan-Acacia Road			20% DF	2,000,000.00	3,780,000.00	4,000,000.00	5,000,000.00	4,880,000.00	
8	Cahayag (Tubigon)- Cabanugan-San Isidro- Catigbian Road			20% DF	-	3,780,000.00	4,000,000.00	4,000,000.00	4,840,000.00	
9	Calape-Pangangan Road			20% DF	2,000,000.00	-	-	-	-	
10	Tagbilaran-Baclayon Old Provincial Road			20% DF	4,310,000.00	-	-	-	-	
11	Baclayon-Corella Road			20% DF	5,000,000.00	5,660,000.00		4,160,000.00	3,000,000.00	
12	Alburquerque- Sikatuna Rd			20% DF	3,000,000.00	4,390,000.00		3,000,000.00	3,000,000.00	
13	Catigbian-Canmano			20% DF	-	-	5,000,000.00	6,000,000.00		
14	Alegria (Catigbian)- Baang-Jagbuaya-Janopol Road			20% DF	-	6,700,000.00	-	-	-	
15	Maribojoc – Pagnitoan – Candavid – Basak (Loon) Road			20% DF	2,000,000.00	4,000,000.00	4,000,000.00	-	-	
Project Management Division -II (PMD-II)										
1	San Miguel- Tomoc-Getafe Road (Getafe Side)			20% DF	-	3,000,000.00	-	3,000,000.00	-	
2	Inabanga- Sagbayan via Lapacan- Magtangtang Road			20% DF	-	-	5,000,000.00	-	3,000,000.00	
3	Cabulao- Ondol (Mabini)- Union (Ubay) Road			20% DF	3,000,000.00	-	-	3,000,000.00	-	
4	Pob.- Bonot-Bonot- Tiguman- Overland Road			20% DF	-	3,000,000.00	-		3,000,000.00	
5	Catigbian- Clarin via Bogtongbood Road			20% DF		3,000,000.00	8,200,000.00			

Programs / Projects		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
6	Jct.(LIR)- Mahayag- Danao Road			20% DF	3,000,000.00				3,000,000.00	
7	Popoo- Tugas Road			20% DF	-	3,000,000.00	-	-	3,000,000.00	
8	Pob.-San Francisco Road, Talibon			20% DF	3,000,000.00	-	-	3,000,000.00	-	
9	San Miguel- Bayongan- Bulilis- Mabuhay (Ubay) Rd			20% DF	3,000,000.00	-	4,000,000.00	3,000,000.00	4,000,000.00	
10	Pitogo- Aguning Road			20% DF	-	5,000,000.00	-	-	3,000,000.00	
11	San Miguel- Tomoc- Getafe Road (San Miguel			20% DF	-	5,000,000.00	-	-	3,000,000.00	
12	Jct.(LIR)- Mahayag- Katipunan Road			20% DF	1,000,000.00	4,000,000.00	4,000,000.00	3000000.000 M	4,000,000.00	
13	Dagohoy- Caluasan Road			20% DF	3,000,000.00	-	2,000,000.00	3000000.000 M	-	
14	Pob.-San Isidro Road, Talibon			20% DF	-	5,000,000.00	-	-	3,000,000.00	
15	Pob.(Inabanga)-Lawis Road			20% DF	3,000,000.00	5,000,000.00	-	-	3,000,000.00	
16	Pob.(Sagbayan)-Sagbayan Sur- Kabasakan Road			20% DF	-	5,000,000.00	-	-	3,000,000.00	
17	Bagumbayan - Estaca Road	Pilar		20% DF	3,000,000.00	-	-	3,000,000.00	-	
18	Jct.(LIR)-Mahayag- Katipunan Road (Pilar-Alicia Side)			20% DF			4,000,000.00	3,000,000.00	5,000,000.00	
Project Management Division -III (PMD-III)										
1	Hinawanan- Concepcion- Jct.(Loboc- Sikatuna Road)			20% DF			2,000,000.00	2,000,000.00	2,000,000.00	
2	Canmanico- Anonang Road, Valencia			20% DF	5,000,000.00	5,000,000.00	5,000,000.00	3,000,000.00	5,000,000.00	
3	Jct.(TER) Pob.(Valencia)- Anoyon-Omjon Road			20% DF	5,000,000.00	1,160,000.00	5,000,000.00	5,000,000.00	5,000,000.00	
4	Dimiao-Oac- Bilar Road			20% DF	3,000,000.00	3,000,000.00	5,000,000.00	3,000,000.00	3,000,000.00	
5	Jct.(TER)- Gindulman- Catungawan-Mayuga-Lombog- Lundag Road			20% DF	3,000,000.00	3,000,000.00	5,000,000.00	2,000,000.00	2,000,000.00	
6	Road to Jagna Wharf			20% DF	-	-	-	-	-	
7	Road Around Jagna Market			20% DF	-	-	-	-	-	
8	Jct.(TER)- Guioang-Cogtong Road			20% DF	3,000,000.00	3,000,000.00	5,000,000.00	4,000,000.00	4,000,000.00	
9	Jct.(TER)- Candijay-Cogtong Road			20% DF	3,000,000.00		4,000,000.00		4,000,000.00	
10	Cogtong (Candijay)-Panas- Pangpang-Badiang Road			20% DF	3,000,000.00		3,000,000.00		5,000,000.00	
11	Lungsodaan(Candijay)- Tambongan (Sierra Bullones)Road			20% DF	3,000,000.00		5,000,000.00		5,000,000.00	
12	Jagna- Cabungaan-Lonoy Road			20% DF		3,000,000.00		3,000,000.00		
13	Jct.(Jagna- Sierra Bullones)- Malbog- Calabacita Road			20% DF	3,000,000.00		3,000,000.00		3,000,000.00	

Programs / Projects		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
4	Buenos Aires- Nueva Vida-Monte Hermoso Road			Gen, Fund/MBC		3,000,000.00				
5	Jct.(TER)- Gindulman- Catungawan-Mayuga- Lombog-Lundag Road									
6	Pob.-Casbu- Circumferential Road									
7	Lungsodaan (Candijay)-Tambongan (Sierra Bullones)Road									
8	Pilar-Bagacay Road			20% DF/Contract		2,000,000.00				
Intervention: Bridge Maintenance										
Project Management Division -I (PMD-I)										
1	Magsija Bridge (Km. 16.480)			Gen Fund/MBA	30,000.00	40,000.00	40,000.00	42,000.00	50,000.00	
2	Kinobcoban Bridge (Km. 44.728)			Gen Fund/MBA	30,000.00	40,000.00	40,000.00	44,000.00	50,000.00	
3	Pagsihagon Bridge (Km. 46.435)			Gen Fund/MBA	70,000.00	70,000.00	80,000.00	85,000.00	90,000.00	
4	Labuon Bridge (Km. 42.242)			Gen Fund/MBA	60,000.00	60,000.00	70,000.00	76,000.00	80,000.00	
5	Benogawan II Bridge (Km. 43.336)			Gen Fund/MBA	60,000.00	60,000.00	70,000.00	76,000.00	80,000.00	
6	Cabayugan Bridge (Km. 47.685)			Gen Fund/MBA	50,000.00	50,000.00	60,000.00	60,000.00	70,000.00	
7	Banlasan I Bridge (Km. 51.388)			Gen Fund/MBA	40,000.00	50,000.00	50,000.00	50,000.00	60,000.00	
8	Banlasan II Bridge (Km. 52.223)			Gen Fund/MBA	40,000.00	50,000.00	50,000.00	50,000.00	60,000.00	
9	Caimbang Bridge (Km. 35.095)			Gen Fund/MBA	60,000.00	60,000.00	70,000.00	80,000.00	80,000.00	
10	Rizal Bridge (Km. 37.312)			Gen Fund/MBA	40,000.00	40,000.00	50,000.00	50,000.00	60,000.00	
11	Borja & Bacsanan Bridge-			Gen Fund/MBA	180,000.00		200,000.00	220,000.00	240,000.00	
12	Baang & Jagbuaya Bridge			Gen Fund/MBA	820,000.00	-	900,000.00	990,000.00	1,090,000.00	
Project Management Division -II (PMD-II)										
1	Canmundo I & Canmundo II				-	-	-	-	-	
2	Gatosan Bridge			20% DF/MBA	720,000.00	790,000.00	860,000.00	930,000.00	1,000,000.00	
3	Biabas & Pasanan Timber Bridge			20% DF/MBA	750,000.00	830,000.00	900,000.00	970,000.00	1,040,000.00	
4	Causwagan & Cabog Bridge			20% DF/MBA	510,000.00	570,000.00	630,000.00	690,000.00	750,000.00	
5	Bayongan & Bugang Bridge			20% DF/MBA	-	-	-	-	-	
6	Aguining Bridge			20% DF/MBA	790,000.00	850,000.00	910,000.00	970,000.00	1,030,000.00	
7	Ondol Bridge			20% DF/MBA	1,500,000.00					

Programs / Projects		Location ¹	Estimated Area Involved/Required ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
					2016	2017	2018	2019	2020	2021
8	Mahagbu Bridge			20% DF/MBA	210,000.00	270,000.00	330,000.00	390,000.00	450,000.00	
Project Management Division -III (PMD-III)										
1	Antipolo Bridge			Gen. Fund/MBA	300,000.00	200,000.00	300,000.00	300,000.00	300,000.00	
2	Anoyon Bridge			Gen. Fund/MBA	300,000.00	200,000.00	300,000.00	300,000.00	300,000.00	
3	Curimo Bridge			Gen. Fund/MBA	300,000.00	200,000.00	300,000.00	300,000.00	300,000.00	
4	Sipatan, Manlawe, Cantikbo, Cantikbo II, Marcos, Janopol 2 Bridge			Gen. Fund/MBA	300,000.00	200,000.00	300,000.00	300,000.00	300,000.00	
5	Monte Video Bridge			Gen. Fund/MBA	300,000.00	200,000.00	300,000.00	300,000.00	300,000.00	
6	Sapang Gamay, Sapang Daku, Socon Bridge			Gen. Fund/MBA	300,000.00	200,000.00	300,000.00	300,000.00	300,000.00	
Intervention: BridgeUpgrading/Rehabilitation										
Project Management Division -II (PMD-II)										
1	Hibunawan Bridge			20% DF/ Congressional Fund	20,000,000.00					
2	Biabas Bridge			20% DF/ Congressional Fund	18,000,000.00					
3	Pasanan Bridge			20% DF/ Congressional Fund		10,000,000.00				
4	Gatosan Bridge			20% DF/ Congressional Fund		25,000,000.00				
Project Management Division -III (PMD-III)										
1	Awihao Bridge			20% DF/Contract		15,000,000.00				
2	Tumuran Bridge			20% DF/Contract				8,000,000.00		
3	Suba Bridge									
4	Talisay Bridge									
5	Alang-alang Bridge			20% DF/Contract	7,000,000.00					
6	Badiang Bridge									
TOTAL					1,471,722,065.60	3,791,086,000.00	13,759,362,000.00	178,215,900.00	167,367,510.00	-

PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector	:	INFRASTRUCTURE DEVELOPMENT
Sub-Sector	:	Communication
Office / Agency	:	PHLPOST

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PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
 Sub-Sector : Communication
 Office / Agency : PLDT

Programs / Projects	Location ¹	Possible Funding Source ³	Investment Requirement (Pesos)					
			2016	2017	2018	2019	2020	2021
1. FTTH (Fiber to the Home) Rollout	Albuquerque (East Poblacion							
2. FTTH (Fiber to the Home) Rollout	Baclayon (Brgy. Sta. Cruz & Laya)							
3. FTTH (Fiber to the Home) Rollout	Cortes (Brgy. La Paz)							
4. FTTH (Fiber to the Home) Rollout	Panglao (Brgy. Bolod & Royal Palm Area)							
5. FTTH (Fiber to the Home) Rollout	Tagbilaran (Camella Homes)							
6. FTTH (Fiber to the Home) Rollout	Tagbilaran (Brgy. Dao District)							
7. FTTH (Fiber to the Home) Rollout	Tagbilaran (Brgy. Taloto Dist.)							
8. FTTH (Fiber to the Home) Rollout	Tagbilaran (Brgy. Tiptip)							
9. FTTH (Fiber to the Home) Rollout	Valencia (Badiang Spring Resort Area)							
10. FTTH (Fiber to the Home) Rollout	Tubigon (Brgy. Poblacion)							
11. FTTH (Fiber to the Home) Rollout	Jagna (Brgy. Poblacion)							
12. FTTH (Fiber to the Home) Rollout	Calape (Brgy. Poblacion)							
Total Investment Requirement			-	-	-	-	-	-

Sector	:	Infrastructure Sector
Sub-Sector	:	Transport and Access
Office / Agency	:	Provincial Motor Pool Office

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PROVINCIAL DEVELOPMENT AND PHYSICAL FRAMEWORK PLAN (PDPFP)
PROPOSED PROGRAMS AND PROJECTS
CY 2016- 2021

Sector : Infrastructure Development
Sub-Sector : Transport and Access
Office / Agency : Philippine Ports Authority (PPA)

Programs / Projects	Location	Estimated Area Involved/Requir ed ² m ²	Possible Funding Source ³	Investment Requirement (Pesos)					
				2016	2017	2018	2019	2020	2021
Port of Tagbilaran									
1. Extension (Construction) of Passenger Terminal Building									
Construction of Welcome center and Additional Fastcraft									
Berthing Facilities									
a. Extension (Construction) of Passenger Terminal Building	Port of Tagbilaran	1,480.00	PPA	75,000,000.00					
Construction of Welcome Center									
b. Additional Fastcraft Berthing Facilities	Port of Tagbilaran	720.00	PPA		32,000,000.00				
2. Widening of Causeway, Improvement of Guardhouses, Welcom	Port of Tagbilaran	2,000.00	PPA	35,000,000.00					
Arch, Center Island and Provision of Covered Walkway and									
Sidewalk									
3. Improvement of Covered Walkway and Replacement of Fender	Port of Tagbilaran		PPA	32,000,000.00					
System at Fastcraft Berth and the Provision of Covered Shed at									
back of Passenger Terminal Building									
4. Construction of Port Integrated Collection Office (PICO)	Port of Tagbilaran		PPA		10,000,000.00				
5. Reclamation Project for Motorpool, Office Storage, Ticketing O	Port of Tagbilaran		PPA		35,000,000.00				
6. Construction of Patio de Pantalan	Port of Tagbilaran		PPA			25,000,000.00			
Port of Getafe									
1. Construction of Passenger Terminal Building	Port of Getafe	625.00	PPA			20,000,000.00			
Port of Tubigon									
2. Widening of Causeway, Improvement of Guardhouses, Welcome	Port of Tubigon	1,420.00	PPA	35,000,000.00					
Arch, Center Island and Provision of Covered Walkway and									
Sidewalk									
Port of Ubay									
1. Construction of Passenger Terminal Building	Port of Ubay	625.00	PPA		20,000,000.00				
2. Dredging Works	Port of Ubay		PPA			60,000,000.00			
Port of Loon									
1. Construction of Passenger Terminal Building	Port of Catagbacan	625.00	PPA		20,000,000.00				
2. Port Development Project	Port of Catagbacan	3,413.97	PPA	249,757,808.31					
TOTAL				426,757,808.31	82,000,000.00	105,000,000.00			

Chapter VIII

RESULTS BASED MONITORING AND EVALUATION

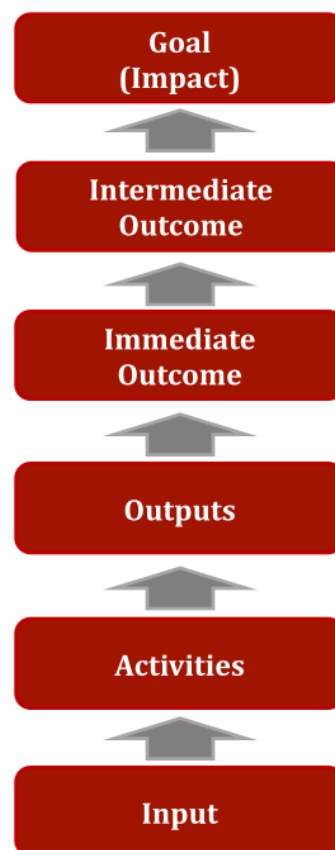
Monitoring and evaluation (M&E) shall be results-based oriented to focus on the objectives and goals set in the PDPFP. Results based monitoring and evaluation (RBME) is a management strategy focusing on performance and achievement of outputs, outcomes and impacts (OECD, 2002). It focuses on external results (outcomes) rather on internal processing to drive change. It integrates strategy resources, performance measurement, learning and adjusting to improve decision-making. The results information gathered through the M&E process is used for learning and decision making as well as reporting and accountability.

The M&E process is specifically stated to be included in all undertakings by government institutions as specified by Memorandum Circular No. 1-94 by the National Project Monitoring Committee, a joint circular issued by the National Economic and Development Authority, Department of Interior and Local Government, Department of Budget and Management and the Presidential Management Staff – Office of the President. This circular adopts the Revised Regional Project Monitoring and Evaluation System (RPMES) Manual of Operations, a system established under EO 93, amending EO 376.

Monitoring and evaluation shall be guided by the M&E Performance Measurement Framework which describes the hierarchy of objectives of the PDPFP, the key performance indicators of the objectives, the means of verification of the performance indicators, and the major assumption of the PDPFP in terms of achieving its targets, objectives and goals.

Monitoring shall involve the systematic collection of data on specified indicators, such as the disaster risk reduction and management (DRRM) and climate change adaptation (CCA) benchmark and impact indicators, to determine the extent of progress and achievement of objectives/ targets as well as the use of allocated funds. Assessment methods and procedures will include project performance analysis, impact analysis on the social, economic and environmental aspects.

Evaluation shall focus on the objective assessment of the identified priority projects by the Provincial Government of Bohol (PGBh) and the results, outcome and impact to people and society.



M&E MONITORING TEAM, AND MONITORING AND EVALUATION STRATEGIES

A PGBh M&E Team led by the Provincial Planning and Development Office (PPDO) has already been organized and is operating with a structure composed of M & E Officers of relevant offices within the Provincial Government, with civil society / private sector representation. The implementation of local and foreign-funded projects shall be monitored through the Provincial Monitoring and Evaluation Committee (PMEC) within the Provincial Monitoring and Evaluation System (ProMES), which was established through Executive Order No. 25 in 2010. The Provincial Monitoring and Evaluation Committee (PMEC) will conduct the Results- Based Monitoring and Evaluation (RBME) for priority projects. The PMEC is a multi-sectoral team composed of the private sector, civil society, national government agencies and the PGBh (refer to EO27 of 2009 re PME Team and EO 25 of 2010 re PMEC). The committee elects a chair (and a vice chair) to preside over committee meetings and to represent the team at the Provincial Development Council (PDC) Project Management Team. The main functions of the PMEC are the following: a) oversees the conduct of the roads monitoring and evaluation, b) initiates formation of monitoring teams, and c) formulates monitoring tools and guidelines adopted by the roads sector partners and implementers. The PMEC shall report to the PDC Project Management Team.

The monitoring and evaluation strategies of the PMEC shall include participatory methods such as Focus Group Discussions, Key Informant Interviews, Multi-stakeholders' observation and others. The PMEC shall make use of the monitoring tools developed under the Province of Bohol Provincial Road Network Development Plan (PRNDP), the Philippine Rural Development Project (PRDP) and the tools development under the ProMEIS.

The PGBh M&E organizational structure shall be linked with the monitoring and evaluation units of the Municipal/ City LGUs and other community-based monitoring and evaluation systems.

Monitoring Template

The monitoring team shall use the existing monitoring and evaluation templates of the Provincial Monitoring and Evaluation System (ProMES). ProMES (output) Form 3 will be used to track the financial and physical accomplishments of each offices involved in the roads sector. Here is a sample of the ProMES Form 3.

SUMMARY OF FINANCIAL AND PHYSICAL ACCOMPLISHMENTS BY OFFICE/UNIT

As of

OFFICER/ UNIT:

[illegible]

Prepared by:
Designation :
Date:

FINANCIAL STATUS

- [illegible]

Furthermore, a set of monitoring and evaluation tools and techniques to generate information to measure development results, outcomes and impact shall be utilized and employed under the PROMES. Among which is a Community-level Evaluation and Recommendation Form. Sample shown below:

Mga Kausbanan ug Benepisyo nga na Kamtan Tungod sa Proyekto	Mga Hitabo nga Nakita o Naobserbahan sa Proyekto	Unsa o Kinsa ang Hinungdan sa Hitabo	Mga Kasulbaran nga Gihimo	Rekomendasyon	Kinsa ang Angay Mohimo	Kanus-a Kinahanglan Buhaton

M & E Schedules and Reporting

The conduct of M&E activities shall follow the M&E calendar set by applicable directives that are consistent with the ProMES framework. It should be a policy that M&E reports will be prepared and communicated to appropriate management levels to ensure that appropriate and timely information are relayed and that management decisions are properly guided in relation to the plan and project implementation of various plans and projects implemented by the PGBh.

M&E reports shall be formally reported to the Governor, the Management Executive Board (MEB), the Provincial Development Council, the Sangguniang Panlalawigan, and if appropriate, to other local special bodies of the province of Bohol.

The public shall also be informed on the implementation of priority plans and projects, including results of the M & E reports, through print and broadcast media and the official website of the Provincial Government.

The monitoring and evaluation reports shall be used in assessing the status of implementation as well as the impact of the programs and projects being pursued under the PDPFP. Such report will become an important document in the review and updating process of the PDPFP as well as the LDIP.

