



PROVINCIAL DEVELOPMENT COUNCIL

EXCERPT FROM THE MINUTES OF THE MEETING OF THE PROVINCIAL DEVELOPMENT COUNCIL EXECUTIVE COMMITTEE (PDC-EXECOM) MEETING HELD ON APRIL 20, 2022 VIA ZOOM TELECONFERENCING.

In Attendance:

Gov. Arthur C. Yap.....Chairman, Presiding Officer
and
Majority of the Members of the PDC Executive Committee

PDC EXECOM RESOLUTION NO. 48-2022

A RESOLUTION FAVORABLY ENDORSING THE PROPOSED BOHOL FOOD TERMINAL (BFT) TO THE REGIONAL DEVELOPMENT COUNCIL – REGION VII (RDC-7) FOR SUPPORT AND FURTHER ENDORSEMENT TO THE DEPARTMENT OF AGRICULTURE (DA) FOR INCLUSION IN THE PHILIPPINE RURAL DEVELOPMENT PROJECT (PRDP) FOR FUNDING ASSISTANCE

WHEREAS, the Bohol Food Terminal (BFT) project envisions contributing towards improved food security, increased productivity and income, resilience to climate change and growth of the agriculture sector particularly the upland communities;

WHEREAS, the project promotes inclusive and equitable opportunities to people in the countryside to contribute to the intensification of the cultivation of crops, fruits and coconut; increase in fishery production, boost in raising livestock and poultry to support the province's local agricultural and sustenance needs;

WHEREAS, the proposed project entitled Bohol Food Terminal (BFT) has four (4) components that involve the establishment of infrastructures/ building equipped with necessary tools, facilities and equipment, namely: the Bohol Fishery Terminal; Bohol Livestock and Poultry Enterprise; the Bohol Crop Package Manufacturing and Food Terminal; and, the Bohol Coconut Integrated Facility;

WHEREAS, the components are to be established for the sustainable production, processing, preservation, marketing and development of PRDP I-REAP PCIP-identified commodities specifically cassava, coconut, cacao, dairy, native chicken, seaweeds and highland vegetables along with fishery and seaweed in coastal and island barangays;

WHEREAS, the Bohol Fishery Terminal will hold seaweed drying and processing plant; fishery processing, storage, packaging and distribution comprised of cold storage, ice plant and fishery waste management; seaweed tissue culture laboratory, and salt making and repacking;

WHEREAS, the Bohol Livestock and Poultry Enterprise Hub shall be an integrated product development facility for livestock and poultry and the following sub-project components: Dairy Processing and Packaging including an area for milk and milk product showcase area; AA-accredited

Slaughterhouse; Meat Processing and Marketing area; Training Facility with laboratory; and Feed Production and Marketing Enterprise.

WHEREAS, the Bohol Crop Processing, Package Manufacturing and Food Terminal shall have the following sub-components: Cassava Production, Processing and Marketing; Highland Vegetables Production, Processing and Marketing; Cacao Processing and Marketing; and Product Package Manufacturing Plant.

WHEREAS, the Bohol Coconut Integrated Processing Facility is a fully integrated processing plant that will have the following sub-components: coconut oil manufacturing; coconut vinegar processing; and coconut briquette manufacturing;

WHEREAS, after review and deliberation, the proposed Bohol Food Terminal (BFT) project, has been found by this Body to be supportive to the attainment of Bohol's development goals and objectives towards agricultural productivity, and therefore worthy of support and endorsement to the Regional Development Council (RDC);

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


To favorably endorse the proposed Bohol Food Terminal (BFT) to the Regional Development Council – Region VII (RDC-7) for support and further endorsement to the Department of Agriculture (DA) for inclusion in the Philippine Rural Development Project (PRDP) for funding assistance.

RESOLVED FURTHER, to furnish a copy of the same Resolution to the Department of Agriculture (DA) Regional Office-7 for appropriate action and assistance.

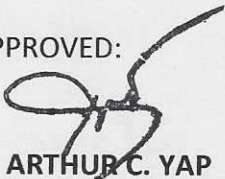
UNANIMOUSLY ADOPTED.

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I hereby certify to the correctness of the foregoing Resolution.


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

APPROVED:



ARTHUR C. YAP

Governor 

Chairman, PDC-Bohol



BOHOL FOOD TERMINAL (BFT)



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PROJECT PROFILE

BOHOL FOOD TERMINAL (BFT)

Province of Bohol, Philippines

PROJECT DESCRIPTION

The Bohol Food Terminal (BFT) is a component of the Bohol Island Livelihood Initiatives (BILI), an island-based project that aims to reach Bohol's poorest and most deprived population in terms of provision of basic needs and livelihood assistance residing in isolated lands from the mainland.

The Proposed Project entitled Bohol Food Terminal (BFT) has four (4) components that involves establishment of infrastructures/ building equipped with necessary tools, facilities and equipment. They are the (1) Bohol Fishery Terminal to be lodged in Talibon; (2) Bohol Livestock and Poultry Enterprise to be established in Ubay; (3) Bohol Crop Processing, Package Manufacturing and Food Terminal in Carmen; and, (4) Bohol Coconut Integrated Processing Facility in Balilihan. The components are to be established for the sustainable production, processing, preservation, marketing and development of PRDP I-REAP PCIP-identified and additional potential commodities specifically seaweeds, cassava, dairy, native chicken, swine, carabao and cow's meat, and highland vegetables along with coconut, cacao and fishery in coastal and island barangays. The project focuses on support production and post-production including processing, packaging and marketing.

Agricultural marketing covers the services involved in moving an agricultural product from the farm to the consumer. These services involve the planning, organizing, directing and handling of agricultural produce in such a way as to satisfy farmers, intermediaries and consumers. Numerous interconnected activities are involved in doing this, such as planning production, growing and harvesting, grading, packing and packaging, transport, storage, agro- and food processing, provision of market information, distribution, advertising and sale. Effectively, the term encompasses the entire range of supply chain operations for agricultural products, whether conducted through *ad hoc* sales or through a more integrated chain.¹

Sustainable rural development is vital to the economic, social and environmental viability of nations. It is essential for poverty eradication since global poverty is overwhelmingly rural. A healthy and dynamic agricultural sector is an important foundation of rural development and always generates strong linkages to other economic sectors. The provision of livelihood opportunities in rural areas empowers people therein, particularly women and youth, including organizations such as local cooperatives. Supporting the participation of the members of the rural communities in the management of their own social, economic and

¹ https://en.wikipedia.org/wiki/Agricultural_marketing

environmental affairs trains them to be self-sufficient. Close economic integration of rural areas with neighboring urban areas and the creation of rural off-farm employment can narrow rural-urban disparities, expand economic opportunities and encourage the retention of skilled people, including youth, in their respective rural areas. There is considerable potential for rural job creation not only in farming, agro processing and rural industries but also in building infrastructures and in sustainable management of government-operated and -funded PPAs and establishments.

Specifically, the project envisions contributing towards improved food security, increased productivity and income, resilience to climate change and growth of the agriculture sector particularly the upland communities. Upland agriculture poses a huge potential in the production and supply of high value crops, which will later contribute, to an increase in productivity and profitability of the agriculture sector. Further, this project will accelerate infrastructure development in the uplands, which will induce economic activities, improve product quality and reduce transportation costs of farm products. The project will also enhance the access of upland communities to quality health, nutrition, education, and training services that will promote the conservation, protection and rehabilitation of natural resources through sustainable farming practices.

This project will be implemented by the Office of the Provincial Agriculturist (OPA) and the Office of the Provincial Veterinarian (OPV) in partnership with the Agricultural Training Institute (ATI), the Department of Trade and Industry (DTI), Bohol Island State University (BISU), Bureau of Fisheries and Aquatic Resources (BFAR), Department of Agriculture (DA), Bohol Integrated Development Foundation Inc. (BIDEF) and other agencies working on agriculture research and development.

MARKETING OPPORTUNITIES

With the devastation of Typhoon Odette on local agricultural crops, livestock, swine and poultry, the Provincial Government has to work double time to attain agriculture and fishery supply sustainability. The program will support the PGBh and NGAs' initiatives on increasing the volumes of farm production in the province to, eventually, attain oversupply to be able to provide live, fresh and processed agri-fishery products to other parts of the region or the country.

PROJECT SUB-COMPONENTS

BOHOL FISHERY TERMINAL
with fish and seaweed processing, storage and packaging
(Talibon, Bohol)

To be established in Talibon. The center shall serve as the unloading area for salt, seaweeds and other marine resources produced and harvested from District 2 coastal areas, islands and islets particularly from Talibon, Buenavista, Getafe, Bien Unido, CPG and Inabanga. The center's complex will also have areas for (a) seaweed drying and processing plant; (b) fishery processing, storage, packaging and distribution comprised of cold storage, ice plant and

fishery waste management; (c) seaweed tissue culture laboratory, and (d) salt making and repacking.

The center is projected to process 566.15 metric tons of harvested fish, 165 metric tons of seaweeds, 200 metric tons of salt and 1,680.50 metric tons of other fishery products in Year 1. Volume of fishery products for packing/ packaging and processing is expected to increase after agri-fishery intervention from the PGBh, other concerned government agencies and the NGOs.

BOHOL LIVESTOCK AND POULTRY ENTERPRISE HUB

(Ubay, Bohol)

To be situated in Ubay, the same town where Ubay Stock Farm, Bohol Organic Agricultural Centre (BOATECH), National Dairy Farm (NDF) and Philippine Carabao Center (PCC) are located. The hub will house (a) Dairy Processing and Packaging including an area for milk and milk product showcase area; (b) AA-accredited Slaughterhouse; (c) Meat Processing and Marketing area; (d) Training Facility with laboratory; and, (e) Feed Production and Marketing Enterprise.

Livestock, swine and native chicken coming from production areas in Ubay and all PRDP Dairy and Livestock Projects. Map in Component 1's pages 19 and 20 show the exact locations of local livestock and poultry meat sources.

The hub is expected to process an estimated volume of 306.21 metric tons of carabeef, 697.65 metric tons of beef, 80 metric tons of chevon and 3,180.78 metric tons of chicken meat in Year 1. The volume is projected to increase once government and NGO supports to local farmer breeders are provided.

BOHOL CROP PROCESSING, PACKAGE MANUFACTURING AND FOOD TERMINAL

(Carmen, Bohol)

The Bohol Crop Processing, Package Manufacturing and Food Terminal for locally-produced cacao, highland vegetables, cassava and other crops will be situated in Carmen, Bohol. The center will include - (a) Cassava Production, Processing and Marketing; (b) Highland Vegetables Production, Processing and Marketing (c) Cacao Processing and Marketing; and, (d) Product Package Manufacturing Plant.

Packing	Packaging
Definition	
Packing is building a container or box for a product for transport and storage but not for a display	The packaging is a process of designing and manufacturing container for protection and also for display
Process	
Only protecting and transportation of the product	It includes transportation, marketing, and sales
Purpose	
To ensure safety	Attract customers
Materials	
Protective wrappers used to protect the product and safe transport	The protective wrapper used to transport with the display to a logo, names, product information, and marketing of the product
Stages of Packing	
Packing is the secondary part of packing items. This involves only transportation	The packaging is the first step of the packing process

Highland vegetables can go through numerous types of processing, including canning, drying, and juicing. The processing facility shall conduct product dehydration, fermentation, pickling, freezing, grinding, juice and oil extraction. The food terminal will also provide a facility for processing, packaging and development of new products from the Bohol's high value cacao seeds for local and export market. The Food Terminal shall also hold a manufacturing area for packing and packaging containers like wooden, carton and Styrofoam boxes, tetra packs, cellophanes and vacuum packs for processed products.

The Crop Processing Center is projected to process as estimated 2,498.47 metric tons of highland vegetables, 28,150 metric tons of cassava, and 42.39 metric tons of cacao in the first year of implementation. Volume is expected to increase in the succeeding years.

BOHOL COCONUT INTEGRATED PROCESSING FACILITY

(Balilihan, Bohol)

The Bohol Coconut Integrated Processing Facility for locally produced coconuts will be situated in Balilihan, Bohol. The center will serve as a coconut integrated processing and marketing facility with the following components (a) Coconut Oil Manufacturing; (b) Coconut Vinegar Processing; and, (c) Coconut Briquette Manufacturing.

The coconut is a very useful plant with a wide range of products being sourced from it. Coconut products are used to make everything from clothing to animal feed to beauty creams. Its kernel is harvested for its edible flesh and delicious water, while its husk is used for its strong fibers. Most important, however, are its oil, that are extracted, processed, and marketed for culinary, medicinal and cosmetic uses alike. Such trendy products come from young green coconuts, fresh coconut and the trees' flowers. Coconut that are exported includes coconut (fresh and dried), copra, palm kernel, coconut desiccated, crude oil and fractions, oil-cake and oilcake meal expeller variety of coconut or copra, coconut coir (raw), hookah of coconut shell, flower carvings of coir, etc.

The Processing Facility is projected to process as estimated 134,373 metric tons of coconut in the first year of implementation. Volume is expected to increase in the succeeding years.



PROJECT LOCATIONS

Component 1. MUNICIPALITY OF TALIBON for the **Bohol Fishery Terminal**. Talibon is a first class municipality in the Province of Bohol. According to the 2020 census, it has a population of 71,272 people. It is located 115 kilometers (71 mi) from Tagbilaran. Islands in Talibon including Nocnocan, Calituban, and Guindacpan are considered to be one of the most densely populated islands in the world. The town of Talibon is located on the northern side of Bohol. It is bounded on the east by Bien Unido, on the south by Trinidad on the north by Camotes Sea and on the west by Getafe. Talibon has a land area of 140.46 square kilometers (54.23 sq. mi) of which about 7.97 square kilometers (3.08 sq. mi)(5.7%) is classified as urban, while the remaining 132.49 square kilometers (51.15 sq. mi) is rural.

It is accessible by land from capital Tagbilaran via western or eastern exits of Bohol Circumferential Road, which are 115 and 150 kilometers (71 and 93 mi) respectively, or through the interior road via Loboc which is 109 kilometers (68 mi). It can be accessed by boat direct from Cebu City or via Tubigon then by land from Tubigon to Talibon. It comprises 25 barangays: 17 mainland and 8 island barangays.

Component 2. MUNICIPALITY OF UBAY for the **Bohol Livestock and Poultry Enterprise Hub**. Ubay a first class municipality located in the northeastern part of the province. It has a total land area of 335 square kilometers, with 61 kilometers of coastline. It is the largest and most populated municipality in Bohol. The town is situated east of Trinidad, north of Alicia and Mabini, and northeast of San Miguel. It is 124 kilometers (77 mi) northeast of Tagbilaran, 636 kilometers (395 mi) southeast of Manila and 71 kilometers (44 mi) east

of Cebu City. According to the 2020 Census, total population is 81,799 with density of 240/square kilometer and households of 16,509.

Component 3. MUNICIPALITY OF CARMEN for the **Bohol Crop Processing, Package Manufacturing and Food Terminal**. Carmen is a second-class municipality in the province of Bohol. According to the 2020 census, it has a population of 49,191 people with a density of 210/square kilometers and 10,264 households. Carmen is located in the heart of Bohol Island. The Chocolate Hills, composed of 1,776 cone-shaped karst hills, are a major geographic landmark in Carmen. Carmen comprises 29 barangays with a poverty incidence rate of 29.22% as of 2015.

Component 4. MUNICIPALITY OF BALILIHAN for the **Bohol Coconut Integrated Processing Facility**. Balilihan is a fourth class municipality in the province of Bohol with, according to the 2020 census, has a population of 18,694 people. It is located 22 kilometers (14 mi) northeast of Tagbilaran through Cortes (via CPG North Avenue), or 20 kilometers (12 mi) northeast through Corella (via J.A. Clarin Street). It has the fourth largest land area of the province, with 127.27 square kilometers (49.14 sq. mi) of land.

COMPONENT	PROJECT AND LOCATION	SUPPORT AREAS (sources of commodities for processing)	STATUS OF OWNERSHIP OF PROJECT SITE
I. Bohol Fishery Terminal with Fishery and Seaweeds Processing, Storage and Distribution Center	Talibon, Bohol	Talibon, Buenavista, Getafe, Bien Unido, CPG and Inabanga	Government owned property
II. Bohol Livestock and Poultry Enterprise Hub	Ubay, Bohol	Ubay and PRDP dairy and livestock projects	Government owned property
III. Bohol Crop Processing, Package Manufacturing and Food Terminal	Carmen, Bohol	Carmen and other local farm sources of vegetables and other crops	Government owned property
IV. Bohol Coconut Integrated Processing Facility	Balilihan, Bohol	Balilihan, Catigbian, Antequera, Corella and Sikatuna	Government owned property

PROJECT OBJECTIVES/PURPOSE

The project promotes inclusive and equitable opportunities to people in the countryside to contribute to the cultivation of coconuts, crops, fruits, raise livestock, and poultry with the assistance of the provincial government, with a greater goal of being able to support the province's local agricultural and sustenance needs. For poverty alleviation, the facilities shall provide livelihood option and employment for farmers, small enterprises, idle or unemployed individuals and to enable them to contribute to the national goal of food security and supply sustainability. With the projects, opportunities will not be exclusive to educated and young members but also to backyard farmers and other agriculturists of rural communities.

The overall goal and objectives of the Bohol Food Terminal (BFT) is to advance equitable livelihoods and value distribution to rural areas and island barangays. Processing and

packaging of products locally will also decrease overhead expenses hence will be favorable to local consumers.

INTENDED BENEFICIARIES

Intended beneficiaries are farmers, fishers, seaweed growers, food processors and agricultural and agro-industry frontliners. At the same time, local consumers/ buyers will benefit from more affordable cost of processed foods produced, packed and distributed locally.

RELEVANCE TO THE REGIONAL DEVELOPMENT PLAN (RDP)

The BFT is in consistent with the Regional Development Plan (RDP) and the national Development Plan on their goals of revitalizing and strengthening the rural economy. Both national and regional development agenda recognize the vitality of farms and rural enterprise in achieving food security and more equitable economic growth, worthy of reinvestment for sustained productivity. The Philippine and Regional Development Plans are geared towards good governance and anti-corruption in achieving inclusive growth, which creates massive employment opportunities and significantly reduces poverty. The programs support the two strategic pillars, namely,

- (1) **Pillar 2.** Inequality- Reducing Transformation (*Pagbabago*) where greater opportunities coming from domestic market and the rest of the world. The sub-projects directly provide local Boholano disadvantaged sub-sectors and people's groups' access to agricultural and industrial livelihood opportunities.
- (2) **Pillar 3.** Increasing Growth Potential (*Patuloy na Pag-unlad*) is supported through adoption of modern technology, specifically in agriculture, agri-fishery and agro-industry development; harmonized research and development; continuous economic growth through human capital development and extension of financial and in-kind assistance to rural communities.

CONTRIBUTION TO THE BOHOL DEVELOPMENT PILLARS

Both projects aim to target the basic and substantial priorities of the current administration – care for the poor, cultural awakening and tourism development.

Pag-atiman sa mga Makaluluoy/Kabus by providing farm workers, farm experts, landowners, artisans and industrial workers the necessary knowledge, skills, employment and added assistance to enable them to provide sustenance to their respective families and eventually subsidize their own healthcare, children's education and other basic needs.

Pagpukaw sa Kultura targets strong alliance with the church and other stakeholders in showcasing the province's distinct culinary arts and local traditions in farming and food preparation/ processing.

The third pillar, *Pagpalambo sa Turismo*, recognizes the importance of the environment that geared the province towards being one the country's prime destinations hence the need to

protect, conserve and rehabilitate the surviving natural environment and its resources and boosting farming while simultaneously providing the necessary support tourism and agriculture infrastructures, utilities and services. With the increase in foreign and local transitory visitors, tourism is expected to prosper hence the opening of the BFT will serve as additional site for visiting guests where they can learn and participate in food production/ packaging and purchase and try products produced in the center.

TOTAL PROJECT COST

Annual Breakdown of Funding Requirement for Components 1, 2 and 3.

YEAR	COST			
	BOHOL FISHERY TERMINAL	BOHOL LIVESTOCK AND POULTRY ENTERPRISE HUB	BOHOL CROP PROCESSING, PACKAGE MANUFACTURING AND FOOD TERMINAL	BOHOL COCONUT INTEGRATED PROCESSING FACILITY
1	30 Million	148 Million	101 Million	11 Million
2	2 Million	60 Million	58 Million	6 Million
3	2 Million	12 Million	70 Million	
	Cost includes a building structure with seaweed drying and processing plant; fishery processing, storage, packaging and distribution comprised of cold storage, ice plant and fishery waste management; seaweed tissue culture laboratory, and salt making and repacking with necessary equipment and tools	Cost includes a building structure with areas for the establishment of Dairy Processing and Packaging including an area for milk and milk product showcase area; AA-accredited Slaughterhouse; Meat Processing and Marketing area; Training Facility with laboratory; and, Feed Production and Marketing Enterprise provided with necessary equipment and tools	Cost includes a building structure with areas for Cassava Production, Processing and Marketing; Highland Vegetables Production, Processing and Marketing, Cacao Processing and Marketing; and, Product Package Manufacturing Plant provided with necessary equipment and tools	Cost includes building structure for the coconut integrated processing and marketing with areas for Coconut Oil Manufacturing; Coconut Vinegar Processing; and, Coconut Briquette Manufacturing with transport vehicle and other necessary equipment and tools
TOTAL ANNUAL	P 34 Million	P 220 Million	229 Million	17 Million
TOTAL PROJECT COST				PHP 500 MILLION

ENVIRONMENTAL CLEARANCE

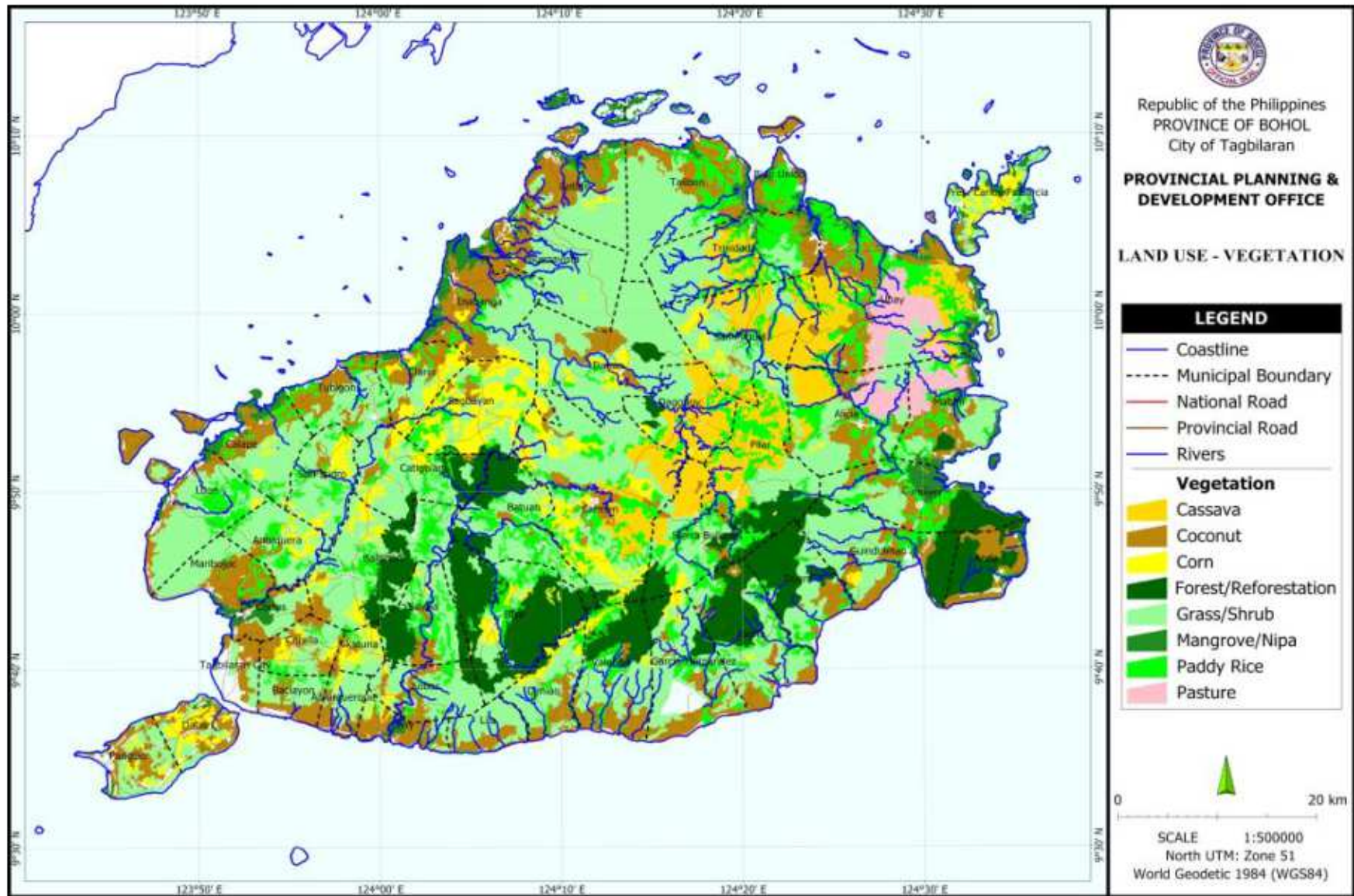
The project is NOT located within an Environmentally Critical Area (ECA) but since the project is considered an Environmentally Critical Project (ECP), it shall undergo the required processing procedures, to wit:

1. Request for inspection of the DENR for qualification;
2. Identify appropriate area for Sewerage Treatment Plant (STP);
3. Determine volume of wastes to determine if ECC or CNC will be required; and
4. Prepare necessary documentary requirements.

SOCIAL ACCEPTABILITY

- The project shall follow the required community consultation on the PAP to determine any actual or potential opposition from the community.
- No gender-related issue and concern the PAP is aimed to be addressed by the project. In fact, it is expected to enhance the economic independence of women and out-of-school youth.
- Endorsement from the concerned local development council will be requested once approved.

LAND-USE VEGETATION MAP

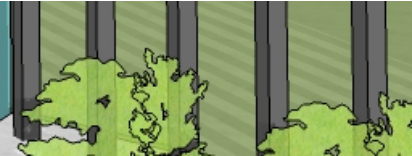


BOHOL FISHERY TERMINAL

with Fishery and Seaweeds Processing, Storage and Packaging area
(Talibon, Bohol)

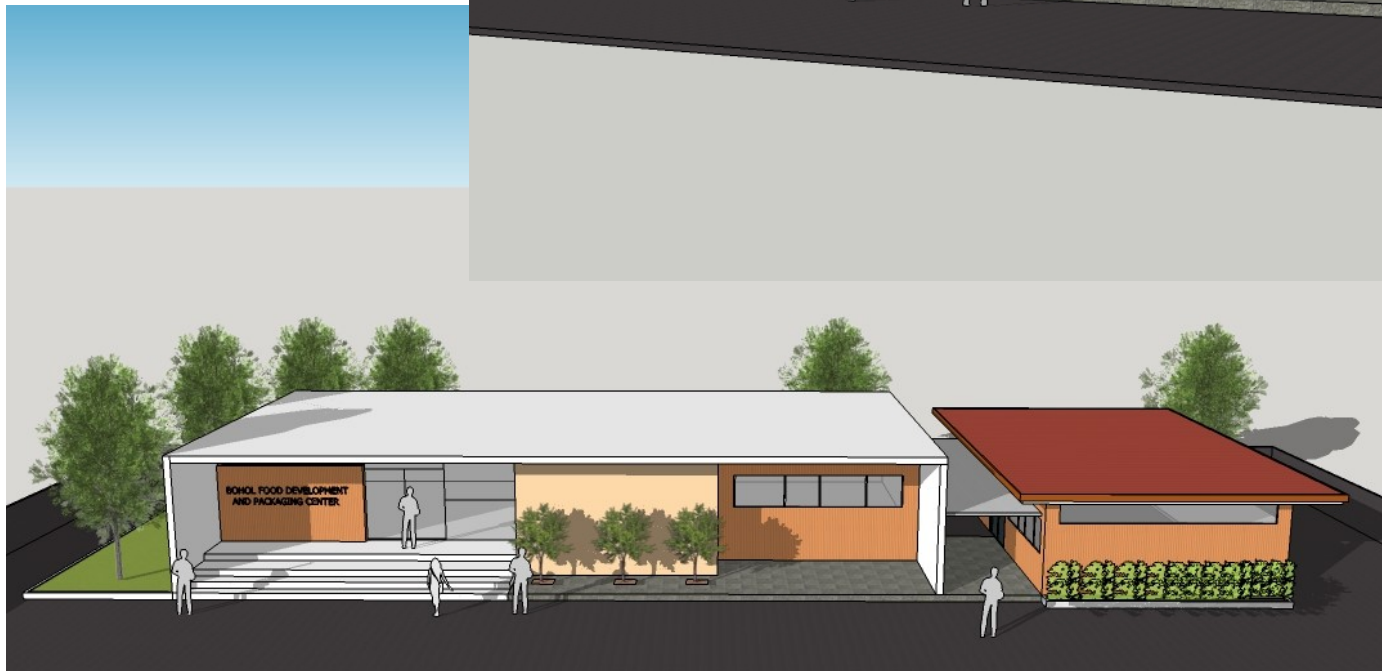
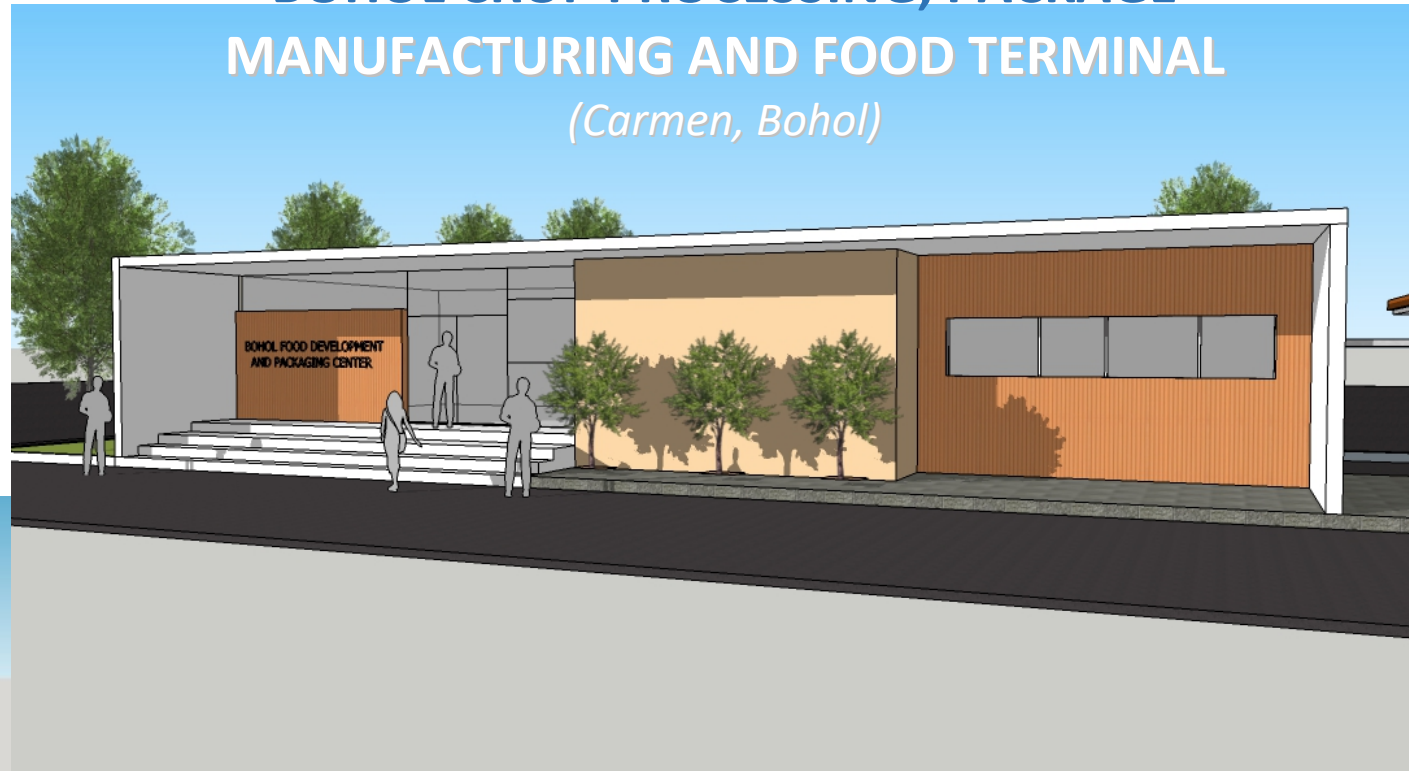


BOHOL LIVESTOCK AND POULTRY ENTERPRISE HUB (Ubay, Bohol)



BOHOL CROP PROCESSING, PACKAGE MANUFACTURING AND FOOD TERMINAL

(Carmen, Bohol)



BOHOL COCONUT INTEGRATED FACILITY *(Balilihan, Bohol)*



Not actual photo



COMPONENT 1 Bohol Fishery Terminal - Talibon

PROJECT DESCRIPTION

The construction of the Bohol Fishery Terminal in Talibon is linked with the government's commitment to deliver precise interventions and promote inclusive growth in the fishery sector. It will contain post-harvest equipment and tools to help fisher folks to preserve the freshness and good quality of their fish and fishery products, to enable them to sell for a higher price. Local consumers will also benefit from the terminal, as they will be provided better access to safe and quality fishery commodities. The facilities will also serve as venue for skills trainings on disaster-resilient fisheries-based livelihoods and resource management such as monitoring fish catch and stock assessment. The terminal will be the unloading and reloading site for marine resources and related processed products to and from Bohol for distribution locally or transport to nearby provinces.

The terminal will hold (a) seaweed drying and processing plant; (b) fishery processing, storage, packaging and distribution comprised of cold storage, ice plant and fishery waste management; (c) seaweed tissue culture laboratory, and (d) salt making and repacking.

The location shall also serve as drop off and distribution point for all farm, fishery and handicraft products coming from BILLI beneficiary islands and for distribution to Ubay Livestock and Poultry Enterprise Hub and Bohol Crop Processing, Package Manufacturing and Food Terminal for further processing and distribution/ sale.

PROJECT COMPONENTS

The Bohol Fishery Terminal is located at the coastal area of Talibon where bulk of fishery resources coming from the second congressional district islands' and nearby coastal town fishers are delivered and unloaded. The center will include the following sub-component projects:

- 1. SEAWEED DRYING AND PROCESSING FACILITY.**

Seaweed is a very versatile product widely used for food. It is also an ingredient for the global food and cosmetics industries and is used as fertilizer and as an animal feed additive. Guso is also used as raw materials for the production of carrageenan. The Bohol PRDP PCIP has identified seaweed production among the priority commodities.



A seaweed processing area requires a space for solar drying, food processing (mixing or baking) and packaging. Seaweeds produced in Calape and Panglao (District 1); Getafe, Buenavista, Bien Unido, Pres CPG, Ubay and Talibon (District 2); and, Mabini and Candijay (District 3) will be deposited in the fish landing for drying, processing and



Kappa Carrageenan Powder from Eucheuma Conttonii

packaging. Processing may be further dehydration or processing into powder form.

2. FISHERY PROCESSING, STORAGE, PACKAGING AND DISTRIBUTION FACILITY.

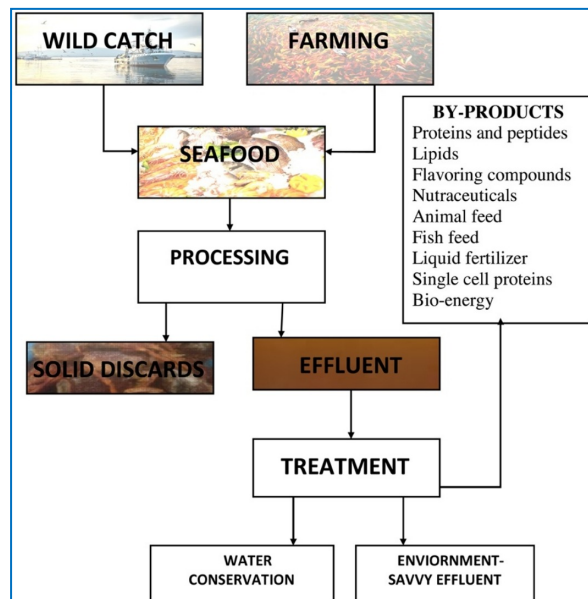
Fishes and other marine resources harvested from the 7 coastal towns in District 2 will also be unloaded in the terminal for (a) segregation and for packing in wooden crates and distribution fresh in the nearby market; (b) for packing in Styrofoam with ice for transport to more distant market; (c) for storage for eventual drying, blast freezing, processing, packing in bottles and plastics and storage for future sale. Processed fish products may be dried, salted, cured and smoked for packaging. Processed clams, shrimp, squid and other marine resources will be packed salted and dried or salted and bottled / packaged.



Photo No. 11. Fish Processing – guinamos and fish drying

Supporting the Fishery Facility are a cold storage, ice plant and a fishery waste management system.

- **COLD STORAGE** for preserving the freshness of fish and other marine products by chilling with ice distributed uniformly around the product to keep them moist and in an easily stored form suitable for transport.
- **ICE PLANT.** The Talibon Ice Plant will be equipped with blast freezer and blocked icemaker with ice storage. The ice plant will provide



the needed supply for commercial, medium and small-scale fishermen to keep the chilled fish cold, moist and glossy and prevents dehydration that could accompany other methods of cooling, such as refrigerated storage without ice.

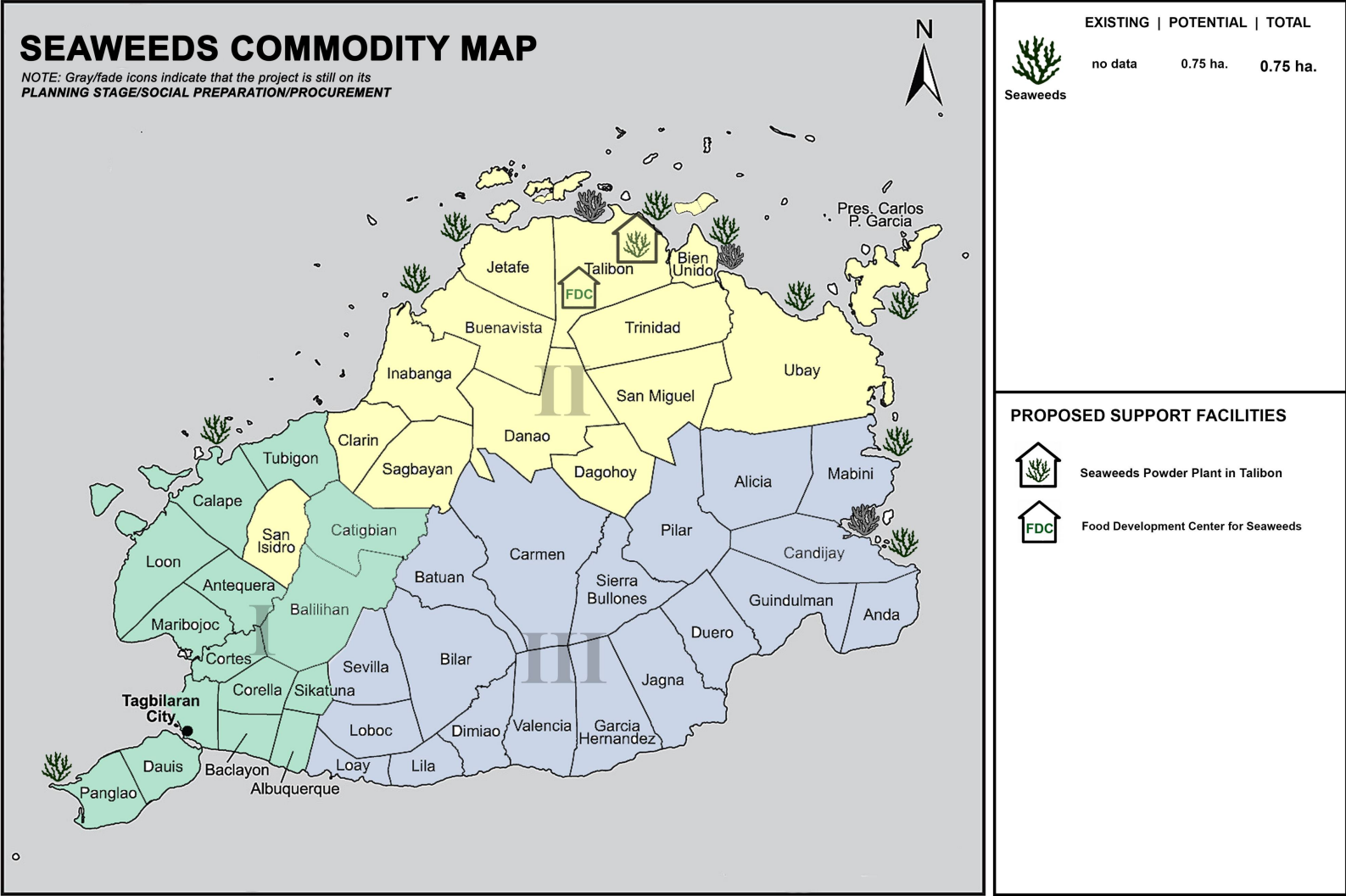
An ice plant involves complete installation for the production and storage of ice, including the icemaker together with the associated refrigeration machinery, harvesting and storage equipment, and the building. The plant will also supply the fishing industry on their transport of excess harvest to different parts of the province and region. It will have its support ice storage van for the transport of frozen products and ice.

- **FISHERY WASTE MANAGEMENT SYSTEM.** Appropriate treatments of the effluents are essential before they are discharged or disposed of to mitigate the environmental problems. Besides, there are good potentials to recover various ingredients from the effluents for uses as food additives, nutraceuticals, nutritional supplements, flavoring agents, fertilizers, plant bio-stimulants, animal and aqua feed. This process is still for further study. Fishery waste like fish scales, gills, intestines and other waste parts may be dried or processed into animal and fish feeds.

3. SEASALT REPACKING AND DISTRIBUTION.

Under BILLI, salt harvest in island barangays and islets will be supported to provide island inhabitants additional income aside from farming, fishing and tourism. Harvested bulks of salt will be transported to Talibon Fishery Terminal for further processing (mixing with iodine), packing or repacking and transport. The sea salt will also be used for food processing in other PGBh-food development centers that require use of the product.





PROJECT LOCATION

This capital-forming project will be established in a land owned by the municipal local government of Talibon, Bohol. The site is accessible being in the center of commercial activities in the second district.

MUNICIPALITY OF TALIBON. Talibon is a first class municipality in the Province of Bohol. According to the 2020 census, it has a population of 71,272 people. It is located 115 kilometers (71 mi) from Tagbilaran. Islands in Talibon including Nocnocan, Calituban, and Guindacpan are considered to be one of the most densely populated islands in the world. The town of Talibon is located on the northern side of Bohol. It is bounded in the east by Bien Unido, in the south by Trinidad on the north by Camotes Sea and in the west by Getafe. Talibon has a land area of 140.46 square kilometers (54.23 sq mi) of which about 7.97 square kilometers (3.08 sq mi)(5.7%) is classified as urban, while the remaining 132.49 square kilometers (51.15 sq mi) is rural.



It is accessible by land from the province's capital, Tagbilaran, via western or eastern exits of Bohol Circumferential Road, which are 115 and 150 kilometers (71 and 93 mi) respectively, or through the interior road via Loboc which is 109 kilometers (68 mi). It can be accessed by boat direct from Cebu City or via Tubigon then by land from Tubigon to Talibon. It comprises 25 barangays: 17 mainland and 8 island barangays

PROJECT OBJECTIVES/ PURPOSE

1. To establish a drop off site for fishery products, sea salt and other products from the islands under BILI and PRDP with ready ice plant, cold storage van, transport and processing facilities available for immediate storage, packing, freezing and transport;
2. To develop and produce fishery value-added products to increase the income of local fishers, farmers and entrepreneurs;
3. To provide poor island communities additional income to enable them to contribute to sustainable economic growth.

INTENDED BENEFICIARIES

The priority beneficiaries of the project are fishermen, seasalt makers and seaweed growers in District 2 and nearby island barangays; fishery food processors and middlemen including the members of Provincial Government Seaweed Growers Association that work on the

production of crackers made from seaweed powder, and other POs and cooperatives and wholesale buyers that export carrageenan powder. With continuous product development and increase in fishery production, new POs and cooperatives are expected to enter into food processing and marketing.

RELEVANCE TO REGIONAL DEVELOPMENT PLAN (RDP)

The project supports the development agenda on reducing inequality in access to development opportunities & attaining high and sustainable economic growth.

COMPATIBILITY TO PHYSICAL PLAN

The project is very much consistent with the Land Use Plan, approved zoning ordinances of the municipality.

IMPLEMENTATION PERIOD

Proposed start date is on March 2023 with target completion date on the last month of the same year - December 2023.

PROJECT COMPONENTS	PROPOSED TIME LINE			
	Q1	Q2	Q3	Q4
1. Seaweed Drying and Processing Facility				
2. Fishery Processing, Storage, Packaging and Distribution Center				
Cold Storage				
Ice Plant				
Fishery Waste Management System and Feed Mill				
3. Seaweed Tissue Culture Laboratory				
4. Sea salt Repacking and Distribution Area				

TOTAL PROJECT COST

YEAR	COST	DETAILS
1	30 Million	Includes a building with an area of 780 sq.m. with fish landing area, cold storage and ice plant, seaweed drying, processing and laboratory, packing/packaging area complete with necessary facilities and equipment; budget required for capacity-building of the management personnel in also considered
2	2 Million	
3	2 Million	

SOURCES OF FUNDS

PROPOSED SOURCE OF FUNDING	ESTIMATED COST (P)
DA - PRDP	34 Million
Total >>	34 Million

ENVIRONMENTAL CLEARANCE

The project is located within an Environmentally Critical Area (ECA).

Since the project is considered an Environmentally Critical Project (ECP), it shall undergo the required processing procedures, to wit:

1. Request for inspection of the DENR for qualification;
1. Identify appropriate area for Sewerage Treatment Plant (STP);
2. Determine volume of wastes to determine if ECC or CNC will be required; and
3. Prepare necessary documentary requirements.

SOCIAL ACCEPTABILITY

- The project shall follow the required community consultation on the PAP to determine any actual or potential opposition from the community.
- No gender-related issue and concern the PAP is aimed to address by the project.
- Endorsement from the concerned local development council will be requested once approved.

PROJECT MONITORING

To ensure that the Bohol Fishery Terminal attains its objectives, regular monitoring will be conducted by the Management Committee guided by the indicators below:

INDICATORS TO BE MONITORED	SOURCE OF INFORMATION
Types of processed food produced and sold	BFAR / PSA
No. & type of trainings conducted	OPA/BFAR
Impact of trainings	OPA / BFAR
Sustainability/ availability of raw/ fresh products	LGU AND POS
Volume of different types of fishery products processed	BFAR / PSA
No. of new POs, cooperatives and other entrepreneurs encouraged to participate and market goods	OPA
Income generated out of the enterprise	POS

PRODUCTION PROJECTION: BOHOL FISHERY TERMINAL *(with fish processing, storage and packaging area)*

Volume Projection, process cycle and requirements

FISH AND MARINE RESOURCE PRODUCTION/ SOURCE SITES: Buenavista, Getafe, Bien Unido, CPG, Talibon and Inabanga						
COMMODITIES INCLUDED: Fishes, seaweeds, salt and other seafoods						
Breakdown of Product Volume						
COMMODITY	VOLUME OF PRODUCTION PER YEAR			EST VOLUME TO REACH PROCESSING		
	YEAR 1	YEAR 2	YEAR 3	YEAR 1	YEAR 2	YEAR 3
FISHES	11,323.13	12,455.45	13,700.99	566.15	622.77	685.04
SEAWEEDES	62,370.86	68,607.95	75,468.75	165	200	250
SALT	200	200	200	200	200	200
OTHER SEAFOODS	1,388.84	1,527.73	1,680.50	69.44	76.38	84.02



COMPONENT 2 Livestock and Poultry Enterprise Hub - Ubay

PROJECT DESCRIPTION

The Livestock and Poultry Enterprise Hub shall be an integrated product development facility for livestock and poultry. It will have 5 sub-project components: (a) Dairy Processing and Packaging including an area for milk and milk product showcase area; (b) AA-accredited Slaughterhouse; (c) Meat Processing and Marketing area; (d) Training Facility with laboratory; and, (e) Feed Production and Marketing Enterprise.

PROJECT COMPONENTS

1. **DAIRY PROCESSING AND PACKAGING.** Dairy Processing and packaging is an on-going enterprise in Bohol. With 2 existing processing facilities operated by the PCC and NDA, it has a combined capacity of 3,500 liters of raw milk per day. Ongoing project on Dairy Buffalo Processing and Marketing Enterprise has been funded by PRDP with various products like RTDs (pasteurized milk, flavored milk), pastries, yogurt, ice cream, white cheese and mozzarella.



However, the devastation brought about by typhoon Odette has resulted to the damages of the facilities. While NDA and PCC respectively addressed these concerns, there is also a need to enhance its operation to better respond to market demands and ensure sustainability of its production. Among the identified element, which is much needed, is the establishment of a sterilization facility, a thermal process that seeks to

eliminate all microorganisms and spores in the milk. The facility will also have an area for dairy retort.

With sterilized milk, shelf life of milk products can be extended, maximize the use of raw milk during production peak of the year and be able to supply areas with no stable electricity and even market our products safely outside the province.

2. **ESTABLISHMENT OF AN AA ACCREDITED SLAUGHTERHOUSE.** A slaughterhouse with an AA accreditation is a semi-mechanized operation based on NMIS standards and complete with facilities like waste treatment facility, water and electrical systems, dispatching area, ice maker, fully fenced with CCTV or monitoring cameras. Meat coming from this type of slaughterhouse can be exported and sold to other provinces and can qualify for processing into other product formats.

3. **MEAT PROCESSING AND MARKETING AREA.** The facility (includes packaging unit & cold storage). Meat fabrication facility begins with (a) an ante room, to temporarily hold the animals. Next area is the (b) chain conveyors for placing the whole carcass. The next step is to begin (c) disassembling the carcass into components such as quarters or primal pieces.



This is where the process on cutting the carcass down into cut up components and are packed into desired weight. With poultry, a separate room is provided where the carcass is further disassembled with specialized machinery to break the carcass down into saleable components. Cut up meat products are vacuum-packed to prolong shelf life. The room is maintained with a temperature required for holding of meat products.



The meat fabrication area for goats, swine, carabao and cattle should be separated with chicken to avoid cross-contamination and to ensure food safety.

- **Ruminant and Swine, Processing and Packaging Facility.** For ruminants and swine, processing equipment/tools for operations includes. Railings for hanging of carcass, band saw/meat cutter, stainless cutting tables, digital weighing scale, vacuum-packed machine, trolleys for meat transfer, butcher's knife, plastic crates, Personal Protective Equipment (PPE's), and Stainless Racks (for storage of meat inside the freezing/chilling rooms), and thermometers (to be installed in the storage room and for temperature monitoring). Products include processed meat, either, breaded, cured, marinated or canned products that are ready to cook. Finished products are placed on plastic foam trays and covered with a thin plastic film or vacuum-packed in

plastic bags. Shelf life of product either frozen or canned is established to ensure stability for storage, transport and distribution. Storage of fresh or raw products is met according to the required temperature requirement for chilling, freezing and storage of finished products, from receiving up to display.

- Poultry, Processing and Packaging.** For poultry, processing equipment/tools for operations includes conveyor for carcass, meat cutter, stainless working tables, digital weighing scale, vacuum-packed machine, trolleys for meat transfer, butcher's knife, plastic crates, chilling vat (for holding of ice) Personal Protective Equipment (PPE's), Stainless Racks (for storage of meat inside the freezing/chilling rooms), and thermometers (to be installed in the storage room and for temperature monitoring). Processing of poultry includes for raw whole or individual parts of birds may be packed for direct sale or generally cut into a number of pieces, which are placed on plastic foam trays and covered with a thin plastic film or vacuum-packed in plastic bags and kept a chiller or frozen in a blast freezer. The meat is stored in the cold storage until ready for distribution. Processed poultry products may be breaded, cured or marinated and packed by desired weight.



Storage of raw or finished product are met according to the required temperature requirement of each product either in a chiller for chilling and freezers for frozen finished.

- Cold Storage.** Temperature control is one method of preservation to prolong the shelf life of a perishable product like meat and meat products. Cold Storage is one of the tools used for temperature control at the same for bulk handling, taking consideration the relative humidity, air circulation and maintenance of space between containers for adequate ventilation. Products stored should not be mixed up and cleanliness of the cold storage must be well-maintained to avoid cross-contamination and placed on a slatted stainless rack or a covered plastic crates or containers.



- TRAINING FACILITY.** This facility includes a meat laboratory where R & D and product development will be done. It shall also have a lecture room with complete ICT and other training equipment and training quarters to accommodate locals, students, academe, LGUs, POs and cooperatives especially processors;

5. **FEED PRODUCTION AND MARKETING ENTERPRISE.** Areas of production should be supported to increase production and productivity. Feeds and feeding should be given foremost consideration together with breeds and breeding and animal health as these factors affect production. Farm equipment and machineries like tractor, forage choppers, incubators and mobile feed mill may be provided to assist raisers in their farming activities. Animals may be covered with insurance to sustain production even after untoward and unpredictable events.

The area where dairy products ranging from RTDs, ice cream, cheese, breads and pastries as well as non-food products like soap, shampoo and others will be exhibited and sold. Other products for sale include processed, cured, cooked, fresh meat, choice cuts of beef, carabeef, chevon, pork and chicken in vacuum packed or meat in a box.

An area for silage production will also be provided in support to the local livestock industry.



OTHER SUPPORT INITIATIVES

ENTERPRISE CAPITALIZATION. Investment is needed for an enterprise to begin and sustain. The enterprise management can avail the capitalization for as long as they qualify based on the set criteria.

TRANSPORTATION SUPPORT. Vehicles are necessary for the enterprise operation especially for hauling and delivery of products. Particularly in slaughterhouse operation, an accredited chiller or reefer van is needed for delivery of meat. Hauling vehicles may be provided to farmers or raisers to collect live animals for pre-abattoir inspection at the holding pen. This will oblige the farmers to undergo proper slaughtering and inspection ensuring the safety of the meat for consumption. The vehicle will also allow a number of animals for slaughter to support the demand for meat.

PROJECT LOCATION

MUNICIPALITY OF UBAY. Ubay is in the northeast of the province, and has an area of 335 square kilometers, with 61 kilometers of coastline. It is the largest and most populated municipality in Bohol. The town is situated east of Trinidad, north of Alicia and Mabini, and northeast of San Miguel. It is 124 kilometers (77 mi) northeast of Tagbilaran, 636 kilometers (395 mi) southeast of Manila and 71 kilometers (44 mi) east of Cebu City. According to the 2020 Census, total population is 81,799 with density of 240/square kilometer and households of 16,509. Lomangog is a barangay in the municipality of Ubay, in the province

of Bohol. Its population as determined by the 2020 Census was 2,839. This represented 3.47% of the total population of Ubay. The population of Lomangog grew from 1,352 in 1990 to 2,839 in 2020, an increase of 1,487 people over the course of 30 years. The latest census figures in 2020 denote a growth rate of 1.46%, or an increase of 189 people, from the previous population of 2,650 in 2015.

For Swine & native chicken-based project, slaughter may be done in a dressing plant in Barangay Sta. Catalina located in the Municipality of Sagbayan. However, separate areas for the slaughter of ruminants and swine and for poultry dressing will still be installed in the facility to cater to nearby farmers.

STATUS OF OWNERSHIP OF PROJECT SITE

All sites for the proposed project are located in government-owned properties.

The project site is in Lomangog, Ubay and is along the national highway, approximately 10 kilometers from the commercial center of Ubay where two ports and a district hospital are situated. It is beside the National Dairy Authority (NDA) Processing Center, the Philippine Carabao Center (PCC) and is 1.5 kilometers away from Ubay Stock Farm. Other government-operated facilities are also present nearby like the NDA dairy multiplier farm, the SWRDS, FIDA, PCA nursery and CENVIARC.

PROJECT OBJECTIVES/PURPOSE

1. To develop and process meat and dairy-based food products as an enterprise;
2. To strengthen existing and train new livestock-based entrepreneurs;
3. To contribute to the attainment of sustainable economic growth in the areas of Districts 2 and 3.

INTENDED BENEFICIARIES

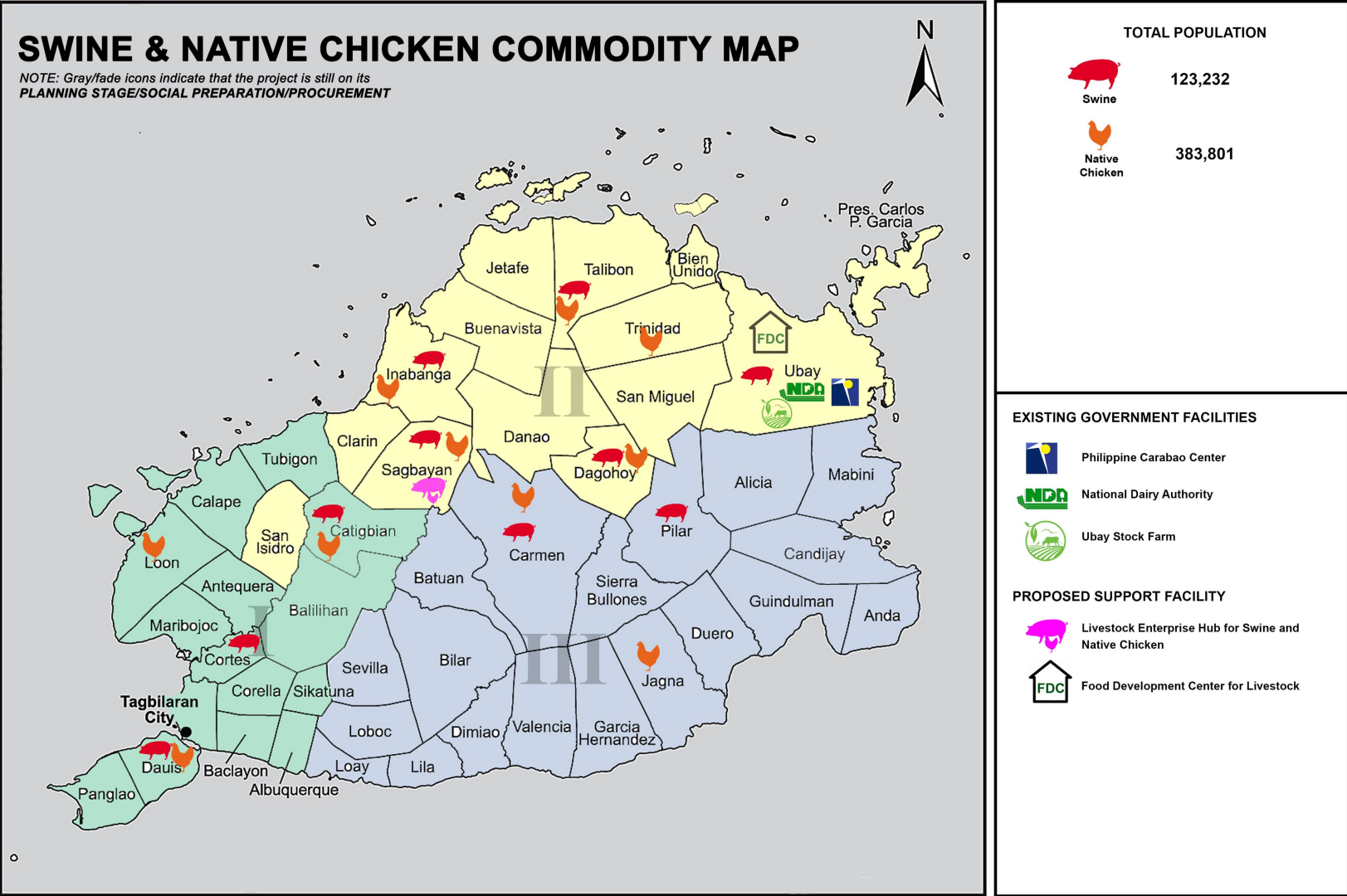
Business entrepreneurs; agriculture students, academe and researchers; farmers and food processing Peoples' Organizations/ associations/ cooperatives and government employees & private individuals will benefit from the project.

RELEVANCE TO THE REGIONAL DEVT PLAN (RDP)

The project supports the development agenda on reducing inequality in access to development opportunities & attaining high and sustainable economic growth.

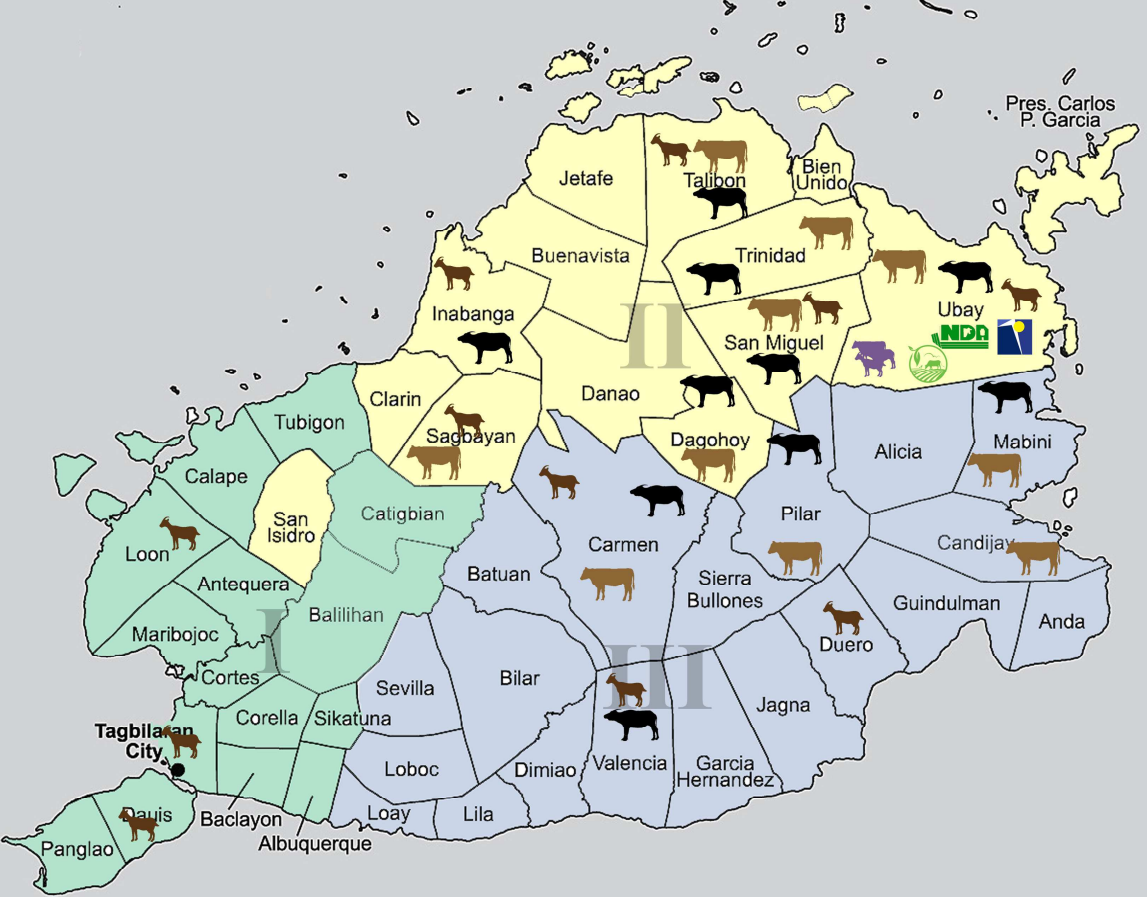
COMPATIBILITY TO PHYSICAL PLAN

The project is very much consistent with the Land Use Plan, approved zoning ordinances of the municipality.






RUMINANTS COMMODITY MAP

NOTE: Gray/fade icons indicate that the project is still on its PLANNING STAGE/SOCIAL PREPARATION/PROCUREMENT




TOTAL POPULATION

	31,897
Cattle	
	28,478
Carabao	
	27,222
Goat	

EXISTING GOVERNMENT FACILITIES

-  Philippine Carabao Center
-  National Dairy Authority
-  Ubay Stock Farm

PROPOSED SUPPORT FACILITY

-  Livestock Enterprise Hub for Ruminants

IMPLEMENTATION PERIOD

Proposed start date is year 2023 with target completion date on December 2025.

PROJECT COMPONENTS	PROPOSED TIME LINE BY YEAR		
	2023	2024	2025
1. Dairy Processing and Packaging			
Milk and Milk Product Showcase Area			
2. AA Accredited Slaughterhouse			
3. Meat Processing and Marketing area			
4. Training Facility with laboratory			
5. Feed Production and Marketing Enterprise			

TOTAL PROJECT COST

YEAR	COST	DETAILS
1	148 Million	Support to livestock & Poultry Production includes procurement of 2 tractors, 20 bio shredder & 2 mobile feed mill; Establishment of AA accredited slaughterhouse; Dairy Processing & packaging enhancement particularly procurement & establishment of retort facility; & establishment of Meat Cutting/Fabrication & Processing Plant
2	60 Million	Provision of capitalization for enterprise; construction of Training Center; & Meat & Dairy Food Terminal
3	12 Million	Provision of Transportation Support particular procurement of reefer/chiller van & hauling trucks

SOURCES OF FUNDS

PROPOSED SOURCE OF FUNDING	ESTIMATED COST (P)
DA - PRDP	220 Million
TOTAL	220 Million

ENVIRONMENTAL CLEARANCE

The project is NOT located within an Environmentally Critical Area (ECA) but, since the project is considered an Environmentally Critical Project (ECP), it shall undergo the required processing procedures, to wit:

1. Request for inspection of the DENR for qualification;
2. Identify appropriate area for Sewerage Treatment Plant (STP);
3. Determine volume of wastes to determine if ECC or CNC will be required; and
4. Prepare necessary documentary requirements.

SOCIAL ACCEPTABILITY

- The project shall follow the required community consultation on the PAP to determine any actual or potential opposition from the community.
- No gender-related issue and concern the PAP is aimed to address by the project.
- Endorsement from the concerned local development council will be requested once approved.

PROJECT MONITORING

To ensure that the Ubay Livestock and Poultry Enterprise Hub is attaining its objectives, regular monitoring will be conducted by the Management Committee guided by the indicators below:

INDICATORS TO BE MONITORED	SOURCE OF INFORMATION
No. of trainees by training category & by gender	Livestock Ent. Hub (LEH)
No. & type of trainings conducted	LEH
Impact of trainings	LEH
Type of products developed & sold (food & non-food)	LEH
Meat samples examined	LEH
Volume of meat processed	LEH
Income generated out of the enterprise	LEH

PRODUCTION PROJECTION: UBAY LIVESTOCK AND POULTRY ENTERPRISE HUB

Volume Projection, Process Cycle and Requirements

LIVESTOCK AND POULTRY PRODUCTION SITES:

Sources of meat and dairy are Ubay and other PRDP Dairy and Livestock Projects, namely:

<ul style="list-style-type: none"> • Swine in 10 towns – (3) District 1- Cortes, Daus and Catigbian; (5) District 2 – Sagbayan, Inabanga, Ubay, Dagohoy and Talibon; (2) District 3 – Pilar and Carmen • Native Chicken in 10 towns – (3) District 1- Loon, Daus and Catigbian; (5) District 2 – Sagbayan, Inabanga, Trinidad, Dagohoy and Talibon; (2) District 3 – Jagna and Carmen • Cattle in 10 towns – (6) District 2 – Sagbayan, Trinidad, San Miguel, Ubay, Dagohoy and Talibon; (4) District 3 – Mabini, Candijay, Pilar and Carmen • Carabao in 10 towns – (6) District 2 – Inabanga, Trinidad, San Miguel, Dagohoy, Talibon and Ubay; (4) District 3 – Mabini, Valencia, Pilar and Carmen • Goat in 11 towns - (3) District 1- Loon, Daus and Tagbilaran; (5) District 2 – Sagbayan, Inabanga, Ubay, San Miguel and Talibon; (3) District 3 – Valencia, Duero and Carmen 						
COMMODITIES INCLUDED: Dairy, ruminants and poultry meat						
BREAKDOWN OF PRODUCT VOLUME						
COMMODITY	VOLUME OF PRODUCTION PER YEAR			EST VOLUME TO REACH PROCESSING		
	YEAR 1	YEAR 2	YEAR 3	YEAR 1	YEAR 2	YEAR 3
Pork	52,770.52	58,047.57	63,852.33	5,277.05	5,804.76	6,385.23
Carabeef	3,062.13	3,368.34	3,705.17	306.21	336.83	370.52
Beef	6,976.46	7,674.10	8,441.51	697.65	767.40	844.12
Chevon	799.87	879.86	967.85	80	88	97
Chicken Meat	31,807.76	34,988.54	38,487.39	3,180.78	3,498.85	3,848.74
PROCESSING AREA: Bohol Livestock and Poultry Enterprise Hub						
COMMODITIES INCLUDED: Ruminants and poultry meat, dairy						
Processes involved						
COMMODITY	PROCESSING METHODS					
	CLEANING / DRESSING	CUTTING	PACKING	PROCESSING	CHILLING	FREEZING
PORK (meat)	Stunning, bleeding	Skinning and cut into parts	Boxes, vacuum packs, styros, plastic packs	drying, curing and salting	Whole or cut (raw or processed)	Whole or cut

BUFFALO (meat)	Stunning, bleeding	Skinning and cut into parts	Boxes, vacuum packs, styros, plastic packs	drying, curing and salting	Whole or cut (raw or processed)	Whole or cut
(dairy)			Glass bottles, tetra, plastics (bottles and packs)	Heating	Packed	Packed
(hides)			Plastic packs	Drying, heating		
COW	Stunning, bleeding	Skinning and cut into parts	Boxes, vacuum packs, styros, plastic packs	curing	Whole or cut (raw or processed)	Whole or cut
GOAT	Stunning, bleeding	Skinning and cut into parts	Boxes, vacuum packs, styros, plastic packs	Not applica ble	Whole or cut (raw or processed)	Whole or cut
NATIVE CHICKEN	Stunning, bleeding	Defeathering and cut into parts	Boxes, vacuum packs, styros, plastic packs	curing	Whole or cut (raw or processed)	Whole or cut

PROCESSING FACILITIES AND EQUIPMENTS NEEDED

COMMODITY	PROCESSING METHODS				
	PROCESSING	DRYING	PACKAGING	STORAGE	TRANSPORT
PORK	Meat Grinders, weighing scale, meat mixer, food processor, stainless tables, stuffer, meat slicer, steamer, pressure cooker, sausage linker, silent cutter, chopper, meat tumbler	Solar dryer	Sealer, Vacuum pack machine	Cold storage, chillers, freezers	Meat van
CARABEEF	Meat Grinders, weighing scale, meat mixer, food processor, stainless tables, stuffer, meat slicer, steamer, pressure cooker, sausage linker, silent cutter, chopper,	Solar dryer	Sealer, Vacuum pack machine	Cold storage, chillers, freezers	Meat van

	meat tumbler				
DAIRY	Retort machine, mixer, pasteurizer,		Bottles, tetra packs	Chillers, freezers	Chiller van, mobile milk parlor
HIDES	Pressure cooker, brine injector machine, hide processing machine				
BEEF	Meat Grinders, weighing scale, meat mixer, food processor, stainless tables, stuffer, meat slicer, steamer, pressure cooker, sausage linker, silent cutter, chopper, meat tumbler	Solar dryer	Sealer, Vacuum pack machine	Cold storage, chillers, freezers	Meat van
CHEVON	Meat Grinders, weighing scale, meat mixer, food processor, stainless tables, stuffer, meat slicer, steamer, pressure cooker, sausage linker, silent cutter, chopper, meat tumbler	Solar dryer	Sealer, Vacuum pack machine	Cold storage, chillers, freezers	Meat van
NATIVE CHICKEN MEAT	Meat Grinders, weighing scale, meat mixer, food processor, stainless tables, stuffer, meat slicer, steamer, pressure cooker, sausage linker, silent cutter, chopper, meat tumbler		Sealer, Vacuum pack machine	Cold storage, chillers, freezers	Meat van
CARABEEF	Meat Grinders, weighing scale, meat mixer, food processor, stainless tables, stuffer, meat slicer, steamer, pressure cooker, sausage linker, silent cutter, chopper, meat tumbler	Solar dryer	Sealer, Vacuum pack machine	Cold storage, chillers, freezers	Meat van



COMPONENT 3 **Bohol Crop Processing, Package Manufacturing and Food Terminal - Carmen**

PROJECT DESCRIPTION

The Bohol Crop Processing, Package Manufacturing and Food Terminal will be located in a lot in Carmen, Bohol. It shall focus on innovative preparation, and continuous improvement and process development of food products based on cassava; cacao; and highland vegetables produced by PRDP I-REAP beneficiaries as well as other farmers, cooperatives and business entrepreneurs willing to supply similar raw products. This further includes the production of silage and feeds for ruminants and native chicken.

It shall have the following sub-components: (a) Cassava Production, Processing and Marketing; (b) Highland Vegetables Production, Processing and Marketing (c) Cacao Processing and Marketing; and, (d) Product Package Manufacturing Plant.

PROJECT COMPONENTS

The Bohol Crop Processing, Package Manufacturing and Food Terminal shall focus on innovative preparation, and continuous improvement and process development of food products based on cassava, cacao and other highland crops produced by PRDP I-REAP beneficiaries. In the development, researches and studies shall be conducted to generate original food concepts.

Linked to product and process development is a multi-crop processing and marketing center that will develop new food products, reformulate an existing product, identify new ingredient usage and evaluate new ingredients and suppliers. The objectives of are (a) to build up/train a group of entrepreneurs/trainees in food processing sector including possible mentors for other commodity sub-centers in various areas in the province; (b) to train the entrepreneurs on I-REAP commodity processing, packaging and preservation, marketing, exportation and quality control of raw as well as packaged and processed products; and, (d) to generate employment directly or indirectly.

- 1. THE CASSAVA PRODUCTION, PROCESSING AND MARKETING.** This component focuses on the intensification on production of the root crops; researches and experiments on its processing into



chips and starches for domestic distribution and export. Further studies will be conducted on other cassava by-product processing. Chopping, grinding area and dehydration facility are necessary. Cassava processing will encourage more farmers to venture into production.

2. **HIGHLAND VEGETABLES PRODUCTION, PROCESSING AND MARKETING.** A building should have enough space for all production processes to take place without congestion and for storage of raw materials, packaging materials and finished products. Vegetable processing includes cleaning to ensure that no pests or bacteria is brought or spread during transport and distribution.



Processed highland vegetables may be pickled, jammed, dried, candied, juiced, powdered and made into syrup. The area will need a separate containment area for hard and soft vegetables and fruits while awaiting processing and packaging. A room with large racks for bottles, boxes and crates is also necessary.

3. **CACAO PROCESSING AND MARKETING.** To boost and revive cacao farming, a cacao processing facility will be established to develop and enhance the local *tablea* used for baking and liquid chocomilk and make other products like chocolate spread, cocoa butter, cacao nibs and cocoa powder.
4. **PRODUCT PACKAGE MANUFACTURING PLANT.** Use of biodegradable bags, crates, hampers, baskets, cartons, bulk bins, and palletized containers that are convenient containers for handling, transporting, and marketing fresh produce and processed goods will be adopted during product distribution and sale. Sufficient water supply and electricity are required for food safety and sanitation as well as for proper storage.

A package manufacturing plant that will develop and fabricate compostable and eco-friendly food packaging including compostable corrugated, chipboard and paperboard

boxes will also support the Food Terminal. Polybags lined with plant-based Polylactic Acid (PLA) made from certified biodegradable raw materials will be considered for research. Environmentally friendly food boxes made from bagasse (non wood fiber), a natural, sustainable and renewable resource, that are completely biodegradable will be used for packaging in the food terminal. The manufacturing plant will also supply packaging materials to all local food establishments, food processing enterprises and the local market while at the same time protecting the environment and reducing residual wastes.

The packaging area shall accommodate both raw and processed farm products. The packaging center aims to protect raw and processed contents from any damage that could happen during transport, handling and storage. Similar to Bagsakan or KADIWA, the area is also involved in preparing for transport packed products to different markets in Bohol or to the Special Economic Zone in Loon and other exit ports for shipment to other regions in the province.

The food terminal for Bohol crop products will include a washing, packaging and product display area. There is a need to organize and implement strategies and innovations to access dynamic markets in Bohol and other parts of the region, particularly fast food outlets, supermarkets and vegetable processors. Aside from being a showcase area for raw and processed foods, the display center shall also serve as the marketing arm of the whole Bohol Food Terminal and is tasked to facilitate the trading of the vegetables and other by-products produced by participating farmers and SMEs.

Cassava and cacao by-products like those that peels, pulps, pods and other wastes used as a roughage and as an energy feed for ruminants, swine and poultry and will be forwarded to the Bohol Livestock and Poultry Enterprise Hub.

PROJECT LOCATION

MUNICIPALITY OF CARMEN. To be located in the Municipality of Carmen, Bohol. It serves as the center of highland vegetable, cacao and cassava production in three congressional districts of Bohol. Refer to the attached commodity production maps for reference.

Carmen is a 2nd class municipality in the province of Bohol. According to the 2020 census, it has a population of 49,191 people with a density of 210/square kilometers and 10,264 households. Carmen is located in the heart of Bohol Island. The Chocolate Hills, composed of 1,776 cone-shaped karst hills, are a major geographic landmark in Carmen. Carmen comprises 29 barangays with a poverty incidence rate of 29.22% as of 2015.

PROJECT OBJECTIVES/ PURPOSE

The Proposed Project aims to:

1. To improve the capacity and productivity of cacao, cassava and highland vegetable farmers for value-added crop produce in the province;

2. To promote sustainable and location specific modern farming technologies developed in partnership with the traders and other sectors of the agricultural industry;
3. To produce market-driven agricultural enterprises integrated and sustainable farming systems models that can be adapted by local government units and farmers.

INTENDED BENEFICIARIES

The beneficiaries of the project are vegetable farmers, cacao growers, cassava growers; food processors and intermediaries including associations, POs, cooperatives, and wholesale buyers that export abroad. With continuous product development and increase in crop production, new POs and cooperatives are expected to enter into food processing and marketing.

RELEVANCE TO REGIONAL DEVELOPMENT PLAN (RDP)

The project supports the development agenda on reducing inequality in access to development opportunities & attaining high and sustainable economic growth.

COMPATIBILITY TO PHYSICAL PLAN

Project Sites are all situated in agricultural land and within the scope of areas open for agriculture and farming activities.

IMPLEMENTATION PERIOD

Proposed Start Date: July 2023

Target Completion Date: December 2023

PROJECT COMPONENTS	PROPOSED TIME LINE BY YEAR					
	JULY	AUG	SEP	OCT	NOV	DEC
1. Cassava Production, Processing and Marketing						
2. Highland Vegetables Production, Processing and Marketing						
3. Cacao Processing and Marketing						
4. Product Package Manufacturing Plant						

TOTAL PROJECT COST

YEAR	COST	DETAILS
1	101 Million	Includes a building with an area of 800 sq.m. as Cassava Production, Processing and Marketing; Highland Vegetables Production, Processing and Marketing, Cacao Processing and Marketing; and, Product Package Manufacturing Plant provided with necessary equipment and tools
2	58 Million	
3	70 Million	

SOURCES OF FUNDS

PROPOSED SOURCE OF FUNDING	ESTIMATED COST (P)
Department of Agriculture	229 Million
Total >>	229 Million

ENVIRONMENTAL CLEARANCE

The project is located within an Environmentally Critical Area (ECA).

Since the project is considered an Environmentally Critical Project (ECP), it shall undergo the required processing procedures, to wit:

1. Request for inspection of the DENR for qualification;
2. Identify appropriate area for Sewerage Treatment Plant (STP);
3. Determine volume of wastes to determine if ECC or CNC will be required; and
4. Prepare necessary documentary requirements.

SOCIAL ACCEPTABILITY

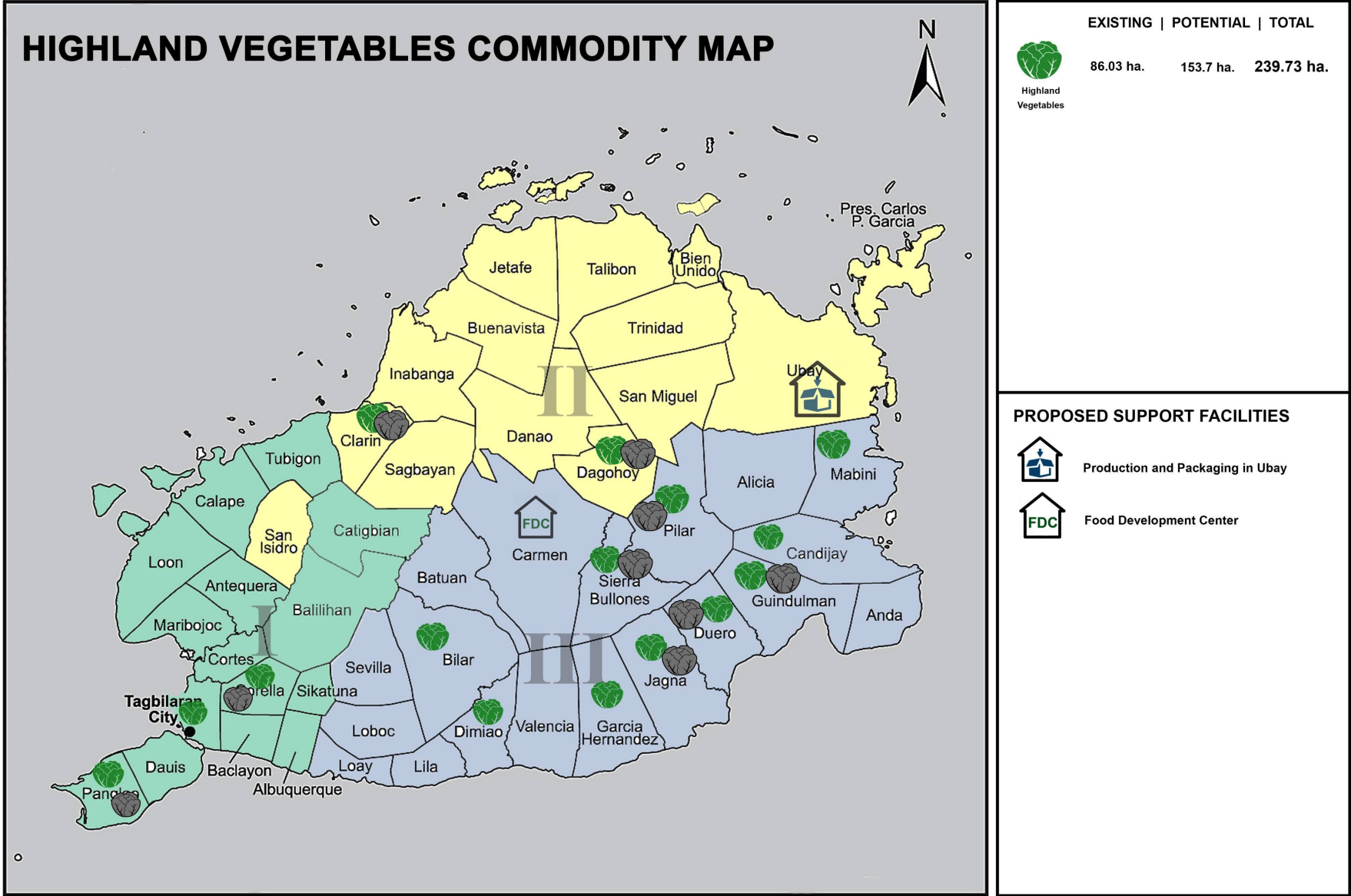
- The project shall follow the required community consultation on the PAP to determine any actual or potential opposition from the community.
- No gender-related issue and concern the PAP is aimed to address by the project.
- Endorsement from the concerned local development council will be requested once approved.

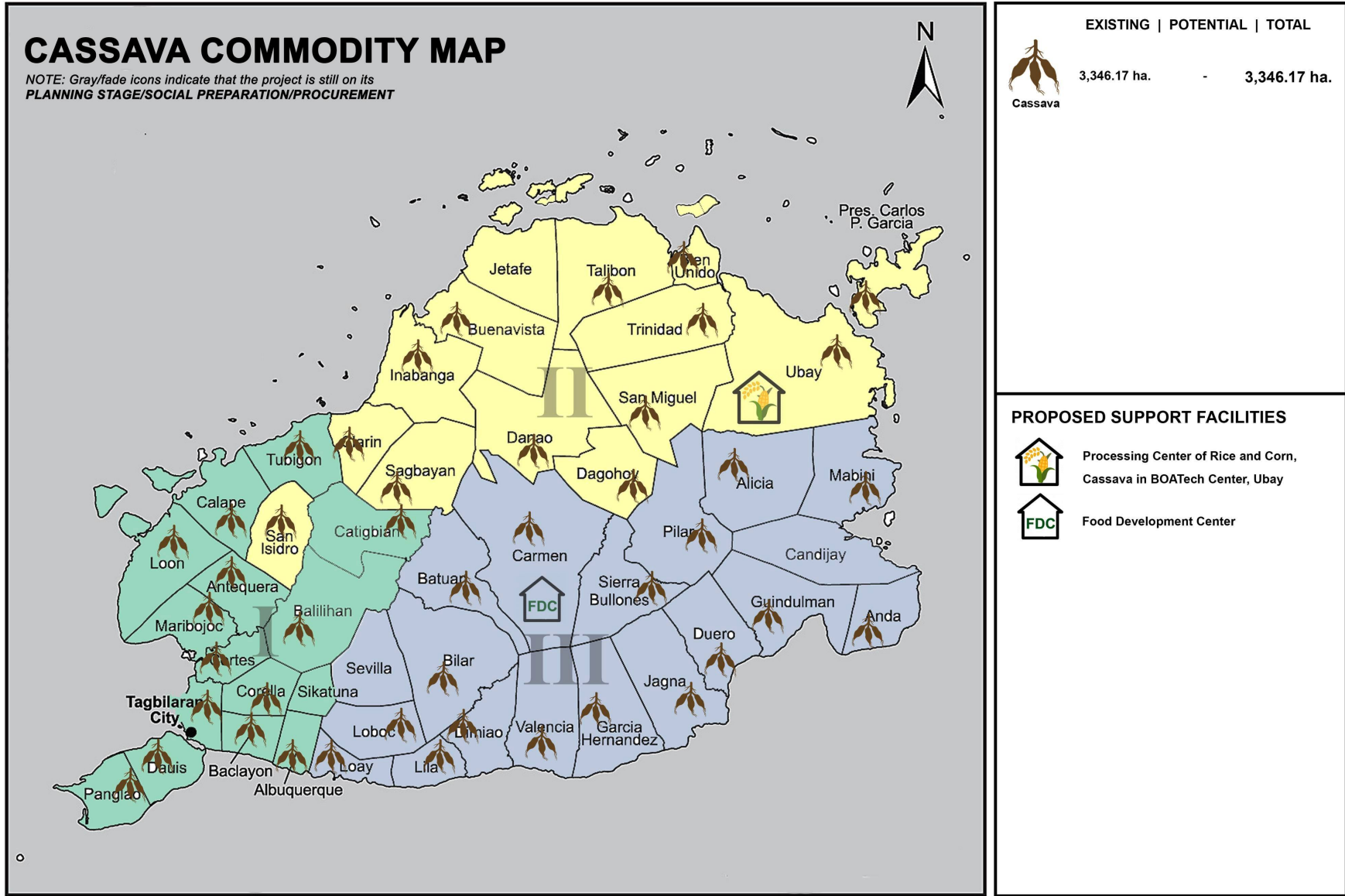
PRODUCTION PROJECTION: BOHOL CROP PROCESSING, PACKAGE MANUFACTURING AND FOOD TERMINAL

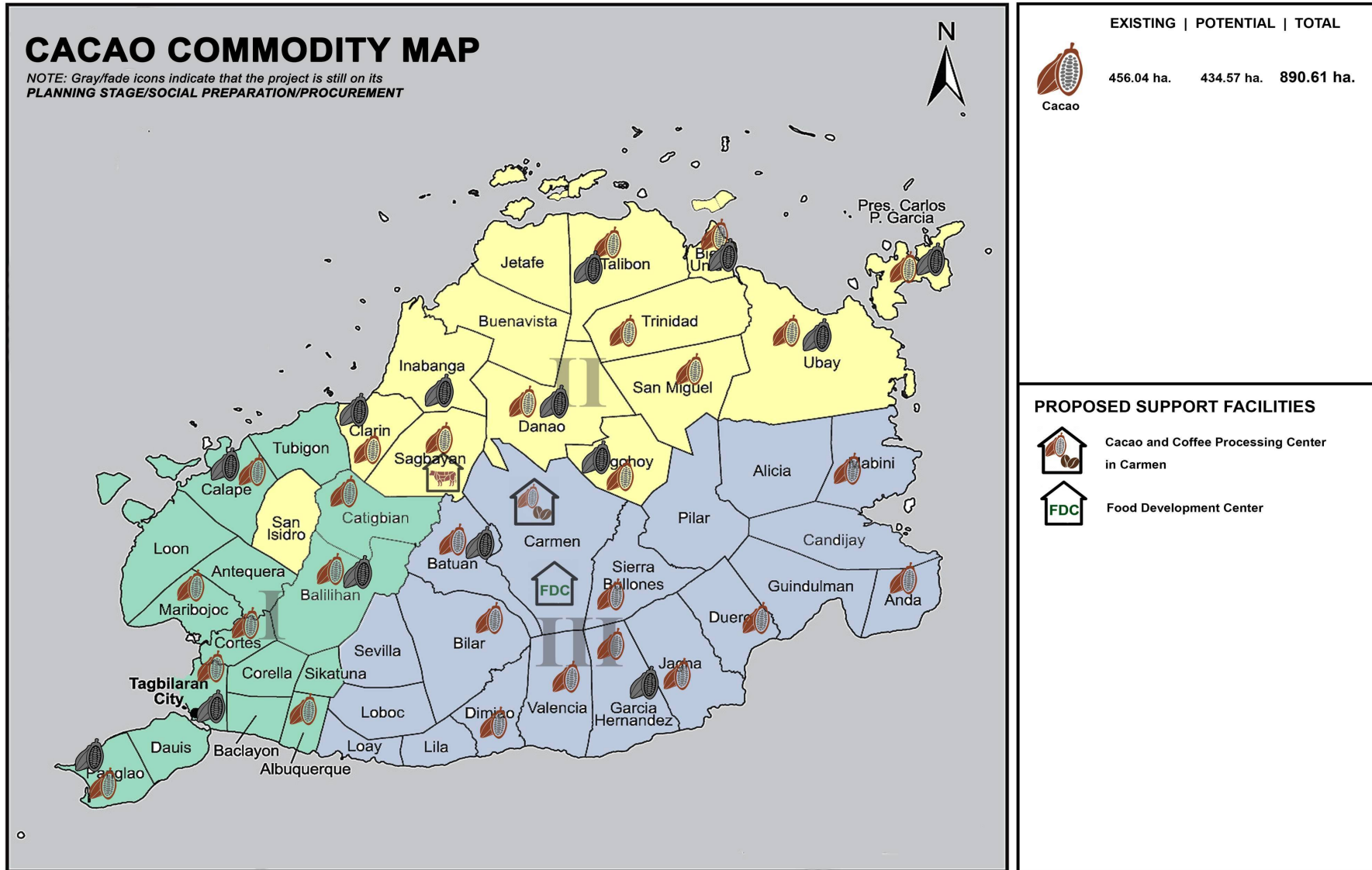
PRODUCTION/ SOURCE SITES: Carmen and other local farm sources of the subject crops						
COMMODITIES INCLUDED: Cassava, highland vegetables and cacao						
Breakdown of Product Volume (in metric tons)						
COMMODITY	VOLUME OF PRODUCTION PER YEAR			EST VOLUME TO REACH PROCESSING		
	YEAR 1	YEAR 2	YEAR 3	YEAR 1	YEAR 2	YEAR 3
Highland Vegetables	12,492.35	13,741.59	15,115.75	2,498.47	2,748.32	3,023.15
Cassava	40,213.86	44,235.25	48,658.77	28,149.70	30,964.67	34,061.13
Cacao	67.29	74.02	81.42	42.39	46.63	51.29

PROCESSING AREA: Bohol Crop Processing, Package Manufacturing and Food Terminal					
COMMODITIES INCLUDED: Cassava, highland vegetables, and cacao					
Processes involved					
COMMODITY	PROCESSING METHODS				
	CLEANING	CUTTING	PROCESSING	PACKING	CHILLING
Highland Vegetables	Washing, peeling and drying	Slicing, grinding, mincing	Solar drying, juice extraction, fermentation, noodles and chips making	Boxes, reused bottles, vacuum packs, styros, plastic packs	Whole or cut (raw or processed)
Cassava	Washing, peeling and drying	Washing, peeling and drying	Solar drying and chips making	Boxes, vacuum packs, styros, plastic packs	
Cacao	Washing, peeling and drying	Washing, peeling and drying	Solar drying, cutting into nibbles and chips, tableya and cocoa spread making	Boxes, vacuum packs, styros, plastic packs	
PROCESSING FACILITIES AND EQUIPMENTS NEEDED					

COMMODITY	PROCESSING METHODS				
	PROCESSING	DRYING	PACKAGING	STORAGE	TRANSPORT
Highland Vegetables	Juice extractors, slicers, peelers, washing tubs, food processor, stainless tables, steamer, slice speed washers	Solar dryer	Sealer, vacuum pack machine	Chiller	Transport van
Cassava	Juice extractors, slicers, peelers, washing tubs, food processor, stainless tables, steamer, chopper	Solar dryer	Sealer, vacuum pack machine	Storage room	Transport van
Cacao	Presser and grinder, chopper	Solar dryer	Sealer, vacuum pack machine	Storage room	Transport van









COMPONENT 4 Bohol Coconut Integrated Processing Facility

PROJECT DESCRIPTION

Small-scale production of products from the coconut palm makes an important contribution to food security. At the industrial level, the coconut industry is an important source of employment and income in rural communities. The coconut produces a variety of products which are consumed in the region and internationally. These include fresh green and dry nuts, copra, coconut oil and coconut water among others. Coconut oil is consumed as food while a significant amount goes into the oleo-chemical industry. It is also used in food preparation. Additionally, the shell is used for various fibers, charcoal, and other products not yet fully commercialized.

The Bohol Coconut Integrated Processing Facility shall be established to determine the viability of coconut production, processing and marketing in the Province of Bohol. Coconut is a versatile product and has multiple uses. Almost all the parts of a freshly grown coconut, eatable or otherwise, are used in some or the other manner. The coconut processing facility is envisioned producing (5) products, namely, cooking oil, coir, briquette, vinegar, copra meal where cooking oil is the main product.

The **BOHOL COCONUT INTEGRATED PROCESSING FACILITY** is a fully integrated processing plant producing high-value products that is mechanized at 5,000 nuts per day, covering 500-600 hectares of coconut lands in Balilihan and nearby towns of Catigbian, Antequera, Corella, Cortes and Sikatuna proven to be included in the list of top producing municipalities of coconuts in the province. A pro-farmer integrated coconut processing plant where strong farmers' organization and/or cooperative exist with active support services from DA, PCA, DTI, the Local Government Unit of Balilihan and the Provincial Government of Bohol.

This enterprise will address the constraints identified under the segment on lacking machineries for coconut oil production, coconut vinegar and others. Absence of hauler trucks to transport whole nuts from farmer-suppliers to production facility, and lacks of delivery van to transport products to market outlets. In order to achieve its target volume and quality, provision of these additional machineries and equipment is vital. The enterprise will also provide coconut hauling truck for hauling of whole coconuts from the coconut farmers at the above mentioned municipalities; delivery vehicle, operating capital machineries and other supplies and materials required by the enterprise.

To ensure sustainability of the enterprise and increase in income of PGs members, a 5% should be set aside for general reserved fund; 5% for the education and training fund; 3%

for the community development fund; 7% for the optional fund; 30% for allocation for interest and share capital and 50% divided equally by the partner LGU and the Proponent Group's members directly involved of the enterprises.

Coconut and By-products. As results of the food development studies and researches, most viable and successful processed coconut meat and other by-products will be made under the Bohol Coconut Integrated Processing Facility. Proposed products will originate from coconut meat, juice, shell and husk. Processed products from the palm juice and meat are coconut vinegar, oil, packed fresh juice, dried coconut meat, sugar, desiccated coconut, coconut milk and VCO.

Virgin coconut oil is obtained by pressing the fresh meat of the coconut. It is extracted by a mechanical process without chemical changes. The oil remains in its most natural form.



Virgin coconut oil is derived from the fresh and mature kernel (flesh) of the coconut. Coconut Vinegar is an important ingredient for many food preparations for enhancing their tastes and keeping qualities. Besides, it is also used in canned and packed food products like pickle, meat products etc. The vinegar available at present is mainly synthetic origin. Product diversification and by product utilization of coconut for food products have attained remarkable achievements and its promotion have significantly attributed to the present level of price stability in coconut. In the field of byproduct utilization, only the coir industries have made significant stride in the economy.

PROJECT COMPONENTS

The **BOHOL COCONUT INTEGRATED PROCESSING FACILITY** that will lead and manage product research and development will be equipped with highly trained manpower and latest available technologies on coconut processing in coordination with government and private sector research initiatives on emerging and value added coconut products. The enterprise of coconut production, processing and marketing is in the process of transformation from a government coconut research project to an association-based coconut production and marketing operated and identified organization or cooperatives closely assisted by LGU-Balilihan. This will



assist the 65,777 coconut growers in Balilihan, which is targeted as the main source of raw materials.

The Bohol Coconut Integrated Processing Facility will have the following sub-components:

1. **COCONUT OIL MANUFACTURING.** An area for copra drying and storage will be provided. Machineries or equipment for and manpower to extract and manufacture VCO and cooking oil will be included in the plan. A packaging area is included. Packages may be reused/ recycled bottles or in tetrapacks for easy transport.
2. **COCONUT VINEGAR PROCESSING AREA.** The facility will process vinegar from both the coconut water and from the sap of the coconut blossoms (tuba). Water extracted from the coconut to be dried into copras for producing coconut oil will be processed into vinegar. Farmer producers of tuba can sell their raw harvest from coconut sap or their excess tuba that are soon turning sour to the facility - provided that their tuba were processed according to the requirements of the facility's authorized vinegar maker to ensure high quality products. A bottling or packaging area for vinegar is included. Packaging maybe in bottles or tetra packs.



3. **COCONUT BRIQUETTE MANUFACTURING.** An area for coconut shell charcoal making will be included in the facility. This is where coconut shells will be burned in a limited supply of oxygen to carbonize it first then the coconut shell charcoal is crushed into powder and mixed with adhesive to manufacture different shapes and size of charcoal briquettes. An area for packing and storage of briquettes is needed as well.



The facility will also include an office, display area and information center for product showcase and marketing transaction all in one.

The by-product of oil extraction from fresh coconut flesh is a good feed for ruminants and can be used fresh or dried. It provides an acceptable and very useful protein and energy supplement. The coconut integrated processing facility waste will be dried in open air for transport and distribution to farmers raising ruminants and swine.

PROJECT LOCATION

MUNICIPALITY OF BALILIHAN. Balilihan is a 4th class municipality in Bohol, Philippines that is comprised by 31 barangays. It is located 22 kilometers (14 mi) northeast of Tagbilaran through Cortes (via CPG North Avenue), or 20 kilometers (12 mi) northeast through Corella. It has the fourth largest land area of the province, with 127.27 km² (49.14 sq. mi) of land which constitutes 2.67% of Bohol's total land area. According to the 2020 census, it has a population of 18,694 people. This represented 1.34% of the total population of Bohol province, or 0.23% of the overall population of the Central Visayas region. Based on these figures, the population density is computed at 147 inhabitants per square kilometer or 380 inhabitants per square mile having 4,080 households.



STATUS OF OWNERSHIP OF PROJECT SITE

Project site is owned by the Local Government Unit of Balilihan.

PROJECT OBJECTIVES/PURPOSE

Generally, the project aims to increase the production capacity and expand market reach to benefit farmers and processors in the locality and ultimately to improve the economic condition.

Enterprise Level Objectives

- 1 To increase production capacity to 500 nuts/hour or 12,500 nuts/day at 5 hours operation/day, operating only (3) days a week on its first year of operation.
- 2 To increase the enterprise income by 10 % from Year 1 to Year 2 from PhP 4,099,021.37 to PhP 4,501,417.97.
- 3 To construct an FDA compliant processing facility, gender responsive complete with the needed machineries and equipment.

- 4 To provide employment opportunities of the members and the locality.

Farmer Level Objectives

1. To increase the income of coconut farmers/growers by 10 % annually starting From Year 1 to Year 10 from an average monthly income of Php 15,600.00.

INTENDED BENEFICIARIES

The beneficiaries of the project are coconut growers, food processors and intermediaries including associations, POs, cooperatives, and wholesale buyers that export abroad. With continuous product development and increase in crop production, new POs and cooperatives are expected to enter into coconut processing and marketing.

RELEVANCE TO THE REGIONAL DEVT PLAN (RDP)

The project supports the development agenda on reducing inequality in access to development opportunities & attaining high and sustainable economic growth.

COMPATIBILITY TO PHYSICAL PLAN

The project is very much consistent with the Land Use Plan, approved zoning ordinances of the municipality.

IMPLEMENTATION PERIOD

Proposed Start Date: July 2023

Target Completion Date: June 2024

PROJECT COMPONENTS	PROPOSED TIME LINE BY YEAR	
	2023	2024
1. Coconut Oil Manufacturing		
2. Coconut Vinegar Processing		
3. Coconut Briquette Manufacturing		

TOTAL PROJECT COST

YEAR	COST	DETAILS
1	11 Million	Includes a processing facility /building with an area with electrical/water connections, copra dryer, pre-oil processing warehouse, temperature controlled oil press, plate press filter, oil refinery machine,

		fermentation machine, screw conveyor, coconut fiber removing machine, coconut deshelling machine, stainless oil containers, and kitchen utensils and other fixtures
2	6 Million	Includes transport vehicle, other fixtures, working capital and contingency

SOURCES OF FUNDS

PROPOSED SOURCE OF FUNDING	ESTIMATED COST (P)
DA - PRDP	17 Million
Total >>	17 Million

ENVIRONMENTAL CLEARANCE

The project is not located within an Environmentally Critical Area (ECA).

Since the project is considered an Environmentally Critical Project (ECP), it shall undergo the required processing procedures, to wit:

1. Request for inspection of the DENR for qualification;
2. Identify appropriate area for Sewerage Treatment Plant (STP);
3. Determine volume of wastes to determine if ECC or CNC will be required; and
4. Prepare necessary documentary requirements

SOCIAL ACCEPTABILITY

- The project shall follow the required community consultation on the PAP to determine any actual or potential opposition from the community.
- No gender-related issue and concern the PAP is aimed to address by the project.
- Endorsement from the concerned local development council will be requested once approved.
- This project will also contribute unto the overall yield of prime agriculture and fishery commodities of the Province especially we are currently experiencing global pandemic that requires more food supply and ensure food security while providing livelihood and alternative income to coconut farmers.

PROJECT MONITORING

To ensure that the Bohol Coconut Integrated Processing Facility is attaining its objectives, regular monitoring will be conducted by the Management Committee guided by the indicators:

INDICATORS TO BE MONITORED	SOURCE OF INFORMATION
No. of trainees by training category & by gender	OPA & Coconut Farmer/Organization
No. & type of trainings conducted	OPA & Coconut Farmer/Organization
Impact of trainings	OPA & Coconut Farmer/Organization
Number of equipment procured	OPA
Income generated by beneficiary per month/year	OPA & Coconut Farmer/Organization
No. of tons coconut yield processed using equipment	Farmer Beneficiaries

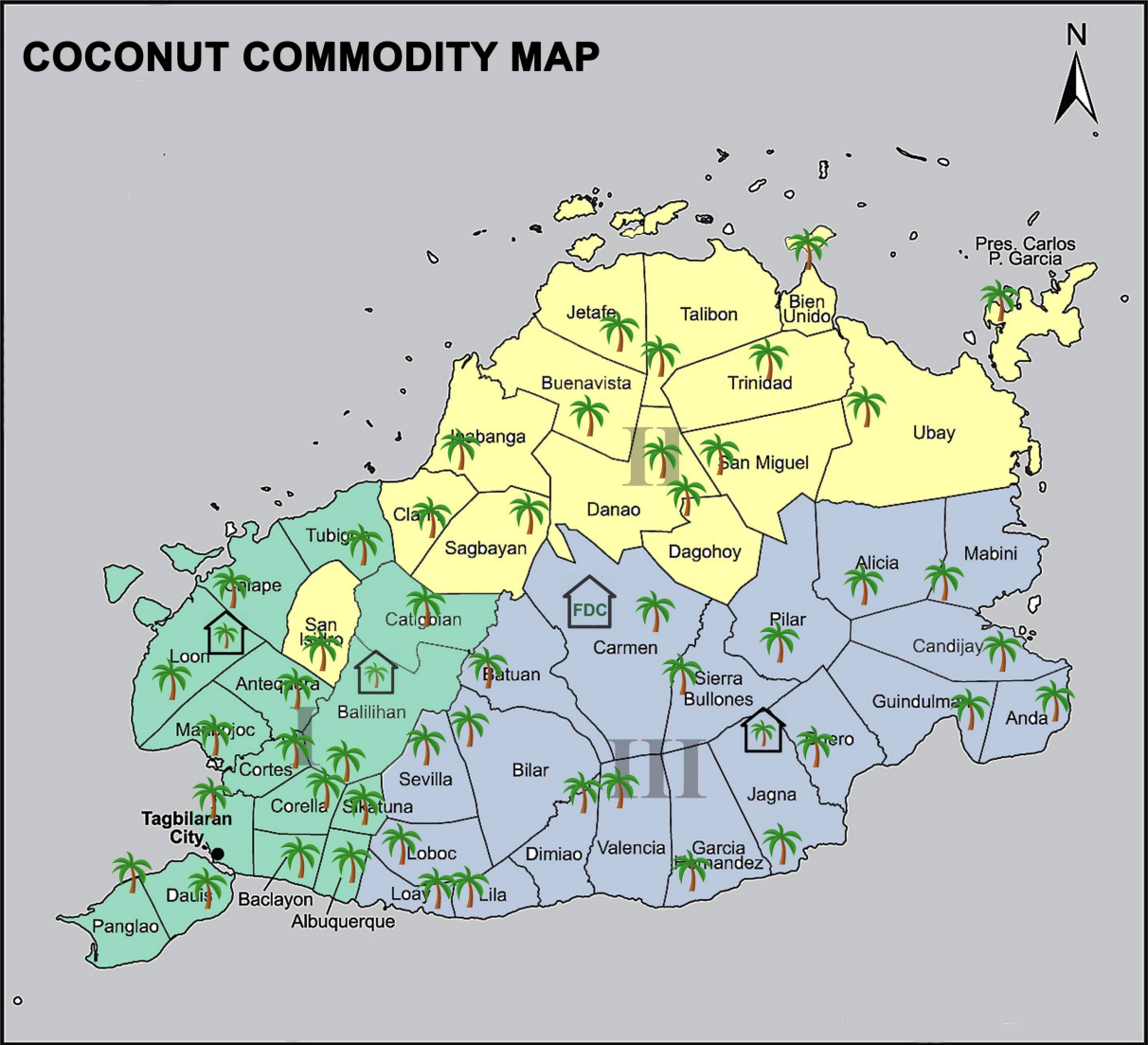
PRODUCTION PROJECTION: BOHOL COCONUT INTEGRATED PROCESSING FACILITY


PRODUCTION/ SOURCE SITES: Balilihan Catigbian, Antequera, Corella and Sikatuna						
COMMODITIES INCLUDED: coconut – fruit, shell, water, sap of the coconut blossoms						
Breakdown of Product Volume (in metric tons)						
COMMODITY	VOLUME OF PRODUCTION PER YEAR			EST VOLUME TO REACH PROCESSING		
	YEAR 1	YEAR 2	YEAR 3	YEAR 1	YEAR 2	YEAR 3
Coconut	167,965.86	184,762.44	203,238.68	134,372.69	147,809.95	162,590.94

PROCESSING FACILITIES AND EQUIPMENTS NEEDED


Coconut processing facility – warehouse, drying equipment, copra dryer (landahan), temperature-controlled oil press, plate press filter, oil refinery machinery, self-suction back sealing liquid packing machine, fermentation machine/ fermenting equipment for vinegar, screw conveyor, coconut fibre removing machine, coconut DE shelling machine, stainless tables

COCONUT COMMODITY MAP



EXISTING POTENTIAL TOTAL		
	104,136.30 ha.	- 104,136.30 ha.
Coconut		

PROPOSED SUPPORT FACILITIES

-  VCO Facility
-  Food Development Center