COMPREHENSIVE PROJECT PROFILE

I. PROJECT DESCRIPTION

1. Project Title:
Supporting environmentally sustainable agribusiness: A proposal for a mechanical rice dryer and rice mill (including separator and blower)

2. Project Type:
This project is a capital forming project as the acquisition of equipment is required.

3. Project Components:
The acquisition of a mechanical rice dryer and rice mill (including separator and blower) for ensuring environmental sustainability and the economic competitiveness of BIAD 5's organic rice sector is the sole component of the project.

4. Project Location:
The mechanical rice dryer and rice mill (with separator and blower) will be located in the municipality of Carmen, but will serve all members of BIAD 5, including Batuan, Bilar, Dagohoy, Danao, Pilar, Sagbayan and Sierra Bullones.

II. PROJECT STATUS

The strengthening of the organic rice value chain is an ongoing project, funded by the Canadian International Development Agency's (CIDA) Local Governance Support Program for Local Economic Development (LGSP-LED).

Unfortunately, funding from CIDA's LGSP-LED program does not extend to capital investments. Essential equipment, such as a mechanical rice dryer and rice mill cannot be procured through CIDA.

III. PROJECT JUSTIFICATION

1. Project Background
The mechanical rice dryer and rice mill (with separator and blower) will serve the members of BIAD 5, an area where 44.5% of households live below the income threshold and 28.7% of households are below the food threshold.

This area is a predominantly agricultural region, composed of smallholder farmers. The mechanical rice dryer and rice mill (with separator and blower) will be installed in an established farmers' Cooperative, Carmen Samahang Nayon Cooperative ("the Cooperative") which buys and sells organic rice, and is eager to scale up its operations.

Currently, the Cooperative buys farmers 'palay,' unhusked rice that has yet to be dried, milled and separated, allowing farmers to easily earn income from their produce. The Cooperative then processes

the rice and sells it to customers such as hotels, shopping malls and hospitals, and profits from the process are then redistributed to farmers.

Ultimately, the Cooperative works to improve the lives of smallholder farmers. Assisting in increasing their incomes means they can then purchase potable water for consumption, afford electricity for their households, send their kids to school, and in general, lead better lives. More importantly, the great majority of countries have only risen out of poverty by first addressing the needs of their agricultural sector, and assisting the Cooperative will help Bohol and the greater Philippines in doing so.

At present, the Cooperative lacks a mechanical dryer, meaning they have no control over the moisture content of the palay they receive. The Cooperative also lacks an organic rice mill, and must outsource milling to the one rice mill in the area. Unfortunately, this rice mill does not meet quality standards for organic rice. The rice mill currently processes inorganic rice, meaning there is a risk of inorganic materials contaminating the organic rice. Also, broken pieces of rice are not separated from regular pieces, decreasing the quality of the rice, and resulting in the loss of customer relationships and revenue streams. At the same time, the current rice mill does not thoroughly separate rice husks from the rice, increasing the likelihood of pests eating rice, as eggs are laid on rice husks.

Extensive research has identified the lack of a mechanical dryer and rice mill (with separator and blower) as a key constraint. Therefore, funding for this equipment is very much needed.

2. Project Linkages

The project ties in with the overall strengthening of the organic rice value chain. Already, efforts are underway to improve the growth, processing and marketing of organic rice. A Centre for Agribusiness and Sustainable Agriculture (CASA) is currently being established to train farmers in environmentally sustainable organic rice farming methods and climate change adaptation. At the same time, Vermicast Production is being undertaken to ensure organic fertilizer is readily available and affordable for BIAD 1's organic rice farmers. The Cooperative's operations are being scaled up to improve the processing of organic rice, and a rice centre, called Balay Sa Humay, has been established as a marketing outlet for organic rice and also as a rice museum to attract tourists.

What remains in the strengthening of the organic rice value chain is the procurement of an organic rice dryer, mill and separator.

3. Project Objectives

The desired results of the procurement of mechanical rice dryer and rice mill (with separator and blower) are manifold. At the highest level, it will improve the incomes of smallholder farmers in the BIAD 1 region, thereby addressing poverty in the area.

It will also support the production of rice using environmentally sustainable farming methods. Currently, the use of chemicals is causing rice fields to become acidic and deteriorate, resulting in low rice production. Organic rice farming does not involve chemicals and will restore soil fertility, ensuring the preservation of the environment for future land use and food production.

On a more granular level, the organic rice dryer, mill and separator will address the key equipment constraints within the Cooperative. Specifically, it will allow for the processing of quality organic rice. The dryer will allow for the control of moisture levels of the palay, a necessary action for the effective

milling of rice and the control of pests. The rice mill will be used solely for organic rice, preventing contaminants from inorganic materials and allowing the rice to be sold as 'organic,' which commands a higher market price. The rice separator, which is a feature that comes attached to the rice mill, will ensure that broken pieces of rice are separated from the good rice, maintaining the quality of the overall product. The blower will also remove non-edible rice husks from the final product. In the past, orders have been cancelled and revenues lost because of broken rice and rice husks. With the proper equipment for the production of high quality organic rice, the Cooperative is confident that it will be able to reacquire lost relationships and expand to new markets.

IV. PROJECT FINANCING

1. **FUNDS NEEDED**

Funds are needed for a mechanical dryer and a rice mill with a separator and blower. This will cost PhP 669,800 and PhP 1,800,000 for the respective pieces of equipment, totalling **PhP 2,469,800**.

The specific cost breakdown for the mechanical dryer is as follows:

Item	Particular	Quantity	Unit	Unit Cost	Total Cost
I	**Flooring:**				
	Cement	45	bags	250.00	11,250.00
	Washed Sand	6	cu.m	950.00	5,700.00
	3/4 gravel	4	cu.m	950.00	3,800.00
	Deformed Bar 10 mm Øx 6m	23	length	230.00	5,290.00
				Sub-total	**26,040.00**
II	**Drying Bin:**				
	Cement	40	bags	250.00	10,000.00
	Washed Sand	6	cu.m	950.00	5,700.00
	3/4 gravel	6	cu.m	950.00	5,700.00
	Channel Bar 4"	12	length	3,660.00	43,920.00
	Angle Bar 2x2x1/4	12	length	2,215.00	26,580.00
	MS Plate 2.0mm	1	pc.	2,287.00	2,287.00
	Perforated screw 2.5 mm	9	pcs.	2,875.00	25,875.00
	Bolt Assorted	1	lot	15,776.00	15,776.00
	Flat Bar 1 & 1/2 x 1/4	9	length	590.00	5,310.00
	Flatbar 1 x 3/16	9	length	175.00	1,575.00
	1.2mm ms plate	4	pcs.	1,500.00	6,000.00
				Sub-total	**148,723.00**
III	**Blower and Engine Base amtec tested:**				
	MS Plate 4mm/shafting/pillow blocks	1	lot	29,800.00	29,800.00
	12.0 Water Cooled Diesel Engine	1	pc.	64,000.00	64,000.00
	Moisture Meter	1	pc.	12,500.00	12,500.00
				Sub-total	**106,300.00**
IV	**Furnace**				
	Fire bricks SK32 17 10C	135	pcs.	68.00	9,180.00

	Angle Bar 3x3/16	2	pcs.	2,300.00	4,600.00
	MS Plate 2.0mm Ø	1	pc	2,287.00	2,287.00
	Flat Bar 1/4	6	pcs.	558.00	3,348.00
	Cement	3	bags	250.00	750.00
	Refractory Cement	1	bags	1,500.00	1,500.00
	Washed Sand	1	cu.m	950.00	950.00
	3/4 gravel	1	cu.m	950.00	950.00
	Assorted Bolt	1	lot	24,000.00	24,000.00
				Sub-total	**47,565.00**
V	**Roofing:**				
	C Purlins 4"	30	pcs.	586.00	17,580.00
	C Purlins 3"	42	pcs.	430.00	18,060.00
	BI Pipe	6	pcs.	1,067.00	6,402.00
	G.I Sheet 26x10 corrigated	40	pcs.	297.00	11,880.00
				Sub-total	**53,922.00**
			Total Material Cost		**382,550.00**
Summary:					
A	Total Material Cost				367,262.00
B	Delivery Cost				25,000.00
C	Labor Cost (35% of A)				128,541.70
D.			***Total of A, B & C***		**520,803.70**
E.	Tax (10% of D)				52,080.37
F.	Profit (10% of D)				52,080.37
G.	Contingency				44,835.56
			Total Bid Price		**669,800.00**

The Rice Mill is a multi pass rice mill with fifty (50) cavans per hour (2.5 tons/hr) palay. The Rice Mill, with a complete set of components and accessories, will be installed at the site. The specific components include the following:

1 unit	Paddy Husker
1 unit	Aspirator
1 unit	Paddy Separator
1 unit	Stone Separator
1unit	Abrasive whitening separator
1 unit	friction rice whitening machine
5 units	steel bucket elevator
1 unit	paddy sifter
1 lot	ducting
1 lot	bases/frames/catwalks

1 lot	steel bases for polishes
3 units	cyclones
4 units	centrifugal fan
4 units	surge fan
1 unit	rice sifter
1 unit	bagging tank

The following electrical equipment is also needed:

- Electric motor, 3 phase, 220 volts, 60hz, and electrical wiring
- Magnetic starter/ circuit breaker main circuit, in mill wirings control panel board and material belts, pulley and misc. steel bars, electro mechanical installation services.

The PhP 1,800,000 cost will cover the procurement and installation of the rice mill.

2. PROJECT FINANCING
The project financing will cover the procurement and installation of the mechanical dryer and rice mill.

Following this, the Cooperative will operate based on internal funds, as the initial funding for equipment will allow the organization to expand its operations and effectively increase its sales volume. Profits will then be reinvested into the project to sustain operations.

3. FUNDING SOURCE
Funding donors, national government agency, local government units, NGOs, and local partner communities.

4. COUNTERPART FUNDING
Counter parting will be the land where the project site is to be situated.

5. FINANCIAL VIABILITY
Financial projections for the Cooperative have been created to determine the financial feasibility of the project. It is expected that by Year 4, the Cooperative will be operating at a profit, earning PhP 235,822. In the following year, this is expected to increase to PhP 554,192.

The details of these calculations are included in Annex 1 and 2, which can be found at the end of this proposal.

V. PROJECT BENEFITS and COSTS

1. Beneficiaries
The direct beneficiaries of this project will be the Cooperative's smallholder farmers as they will gain from an increased volume of organic rice sold.

The indirect beneficiaries will be the farmers' families, as their increased incomes will allow them to enjoy better standards of living. In BIAD 5, a region where 44.5% of households live below the income

threshold and 28.7% of households subsist below the food threshold, a small increase in income can make a significant difference.

2. Social Benefits
The social benefits will, as mentioned in the Beneficiaries section, affect the lives of smallholder farmers through improved income.

At the same time, the social benefits include the preservation of the environment. By supporting the organic sector and providing farmers with an opportunity to earn a good income, this will act as an incentive for more farmers to pursue organic farming methods. This would help the environment as the use of chemicals results in inorganic farming has slowly degraded the land, undermining farmers' ability to grow food. Organic farming, on the other hand, is free from the use of chemicals, and will ensure environmental sustainability.

3. Economic Benefits
There are several positive benefits for the economy. This includes immediate benefits, such as higher incomes and greater spending power in the BIAD 5 economic zone, and long-term benefits, such as future land productivity.

VI. PROJECT IMPLEMENTATION
1. Responsible Agencies
The agency responsible for operating the rice dryer, mill and separator is the Carmen Samahang Nayon Cooperative.

2. Implementation Schedule
The project implementation schedule is as follows:

Project Components	Month 1	Month 2	Month 3	Expected Outputs
RICE DRYER				
1. Purchase of rice dryer and procurement of rice mill parts from Cebu				-By the end of the first month, project parts will be procured
2. Installation of rice dryer				-By the end of the third month, the rice dryer will be up and running
RICE MILL				
1. Purchase of rice mill and procurement of rice mill parts from Cebu				-By the end of the first month, project parts will be procured
2. Installation of rice mill				-By the end of the third month, the rice mill will be up and running

3. Administrative Feasibility

The organization to implement the project is the Carmen Samahang Nayon Cooperative, with the assistance of the Local Governance Support Program for Local Economic Development (LGSP-LED).

4. Legal and Political Feasibility
No legal impediments or political opposition can be foreseen.

5. Environmental Clearance
No environmental clearance is needed.

6. Social Acceptability
No opposition from the community is anticipated.

VII ADDITIONAL DOCUMENTS

Annex 1: Assumptions (used for the Income Statement in Annex 2)

1. Production

1. Conversion efficiency from palay to rice is 66%.
2. Conversion efficiency from palay to rice bran is 20%.
3. Sales volume are: 50%, 30%, 20% and 20% for white rice, red rice, black rice and rice bran respectively.
4. Sales is expected to increase by 20% per year.

PALAY PRODUCT	PALAY (per year / per kilo)	CONVERSION EFFICIENCY	SALES VOLUME (%)	PRODUCTION (per kilo)				
				100%			120%	144%
				year 1	year 2	year 3	year 4	year 5
White Rice	65400	66%	50%	21,582.00	21,582.00	21,582.00	25,898.00	31,078.00
Red Rice	65400	66%	30%	12,949.00	12,949.00	12,949.00	15,539.00	18,647.00
Black Rice	65400	66%	20%	8,633.00	8,633.00	8,633.00	10,359.00	12,431.00
Rice Bran	65400	20%	20%	2,616.00	2,616.00	2,616.00	3,139.00	3,767.00

2. Selling Price

1. Selling price for the palay products are: P35, P39, P50 and P5 peso white rice, red rice, black rice and rice bran respectively.
2. Selling price is expected to increase 5% per year.

PALAY PRODUCT		year 1	year 2	year 3	year 4	year 5
	White Rice	35	37	39	41	43
	Red Rice	39	41	43	45	47
	Black Rice	50	53	56	59	62
	Rice Bran	5	5	5	5	5

3. Gross Sales

PALAY PRODUCT	year 1	year 2	year 3	year 4	year 5
White Rice	755,370.00	798,534.00	841,698.00	1,061,818.00	1,336,354.00
Red Rice	505,011.00	530,909.00	556,807.00	699,255.00	876,409.00
Black Rice	431,650.00	457,549.00	483,448.00	611,181.00	770,722.00
Rice Bran	13,080.00	13,080.00	13,080.00	15,695.00	18,835.00
TOTAL SALES	**1,705,111.00**	**1,800,072.00**	**1,895,033.00**	**2,387,949.00**	**3,002,320.00**

4. Salary Expenses - Administration

POSITION	QTY	SALARY RATE	year 1	year 2	year 3	year 4	year 5
ADMINISTRATION							
Project Manager	1	10000	130,000.00	143,000.00	157,300.00	173,030.00	190,333.00
Marketing Officer	1	7000	91,000.00	100,100.00	110,110.00	121,121.00	133,233.10
Supervisor	1	7000	91,000.00	100,100.00	110,110.00	121,121.00	133,233.10
Cashier	1	5000	65,000.00	71,500.00	78,650.00	86,515.00	95,166.50
(Retainer)	1	5000	60,000.00	66,000.00	72,600.00	79,860.00	87,846.00
SUB-TOTAL			437,000.00	480,700.00	528,770.00	581,647.00	639,811.70

5. Salary Expenses – Operations

POSITION	QTY	SALARY RATE	year 1	year 2	year 3	year 4	year 5
Certifier	1	175 per day	54,600.00	60,060.00	66,066.00	72,672.60	79,939.86
Laborer	2	150 per day	93,600.00	102,960.00	113,256.00	124,581.60	137,039.76
SUB-TOTAL			148,200.00	163,020.00	179,322.00	197,254.20	216,979.62
TOTAL			**585,200.00**	**643,720.00**	**708,092.00**	**778,901.20**	**856,791.32**

6. Operating Expenses

PARTICULARS	PER MONTH	year 1	year 2	year 3	year 4	year 5
VARIABLE COSTS						
Packaging	10,000.00	120,000.00	132,000.00	145,200.00	159,720.00	175,692.00
Light and Water	1,000.00	12,000.00	13,200.00	14,520.00	15,972.00	17,569.20
Repairs and	1,500.00	18,000.00	19,800.00	21,780.00	23,958.00	26,353.80
Milling Charges	3,000.00	36,000.00	39,600.00	43,560.00	47,916.00	52,707.60
SUB-TOTAL	15,500.00	186,000.00	204,600.00	225,060.00	247,566.00	272,322.60
FIX COSTS						
Postal and	1200	14400	15840	17424	19166.4	21083.04
Office Supplies	1500	18000	19800	21780	23958	26353.8
Travel and	5000	60000	66000	72600	79860	87846
SSS and Medicare	1500	18000	19800	21780	23958	26353.8
Utilities	1000	12000	13200	14520	15972	17569.2
SUB-TOTAL	10200	122400	134640	148104	162914.4	179205.84

Annex 2: Income Statement (PhP)

	Year 1	Year 2	Year 3	Year 4	Year 5
Total Gross Income (based on Assumptions)	1,705,111.00	1,800,072.00	1,895,033.00	2,387,949.00	3,002,320.00
Less: Variable Cost					
Cost of goods sold	737,712.00	737,712.00	737,712.00	885,240.50	1,062,302.50
Payroll - Operations	148,200.00	163,020.00	179,322.00	197,254.20	216,979.62
Variable - Operating Exp	186,000.00	204,600.00	225,060.00	247,566.00	272,322.60
Total Variable Cost	1,071,912.00	1,105,332.00	1,142,094.00	1,330,060.70	1,551,604.72
Contribution Margin	633,199.00	694,740.00	752,939.00	1,057,888.30	1,450,715.28
Less: Fix Cost					
Salary/honorarium Expenses	437,000.00	480,700.00	528,770.00	581,647.00	639,811.70
Fix - Operating Exp	122,400.00	134,640.00	148,104.00	162,914.40	179,205.84
Depreciation Expenses	77,504.76	77,504.76	77,504.76	77,504.76	77,504.76
Total Fixed Cost	636,904.76	692,844.76	754,378.76	822,066.16	896,522.30
Net Profit	**(3,705.76)**	**1,895.24**	**(1,439.76)**	**235,822.14**	**554,192.98**