



SUPPORT 1,000 COCONUT LOCAL AND INDIGENOUS FARMERS IN THE PHILIPPINES

A Mid-scale Coconut Processing Phase 1 Project

Foundation for Agrarian Reform Cooperatives in Mindanao, Inc.
FARMCOOP

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1. Project Summary

Mindanao's indigenous and local coconut farmers are among the most impoverished farmers, earning only \$5 a day. Whereas before their coconuts are processed into a single product: cooking oil. Now their coconuts are being processed into food, pharmaceutical, and industrial products but the farmers are still poor because their coconuts are bought at a very low price. To augment their income, many raise livestock and other crops to make ends meet, but their farm income is not enough. In collaboration with the organic coconut farming cooperatives, FARMCOOP, through its production and trading arm, will buy their coconuts at a better price and process them into various products in which the farmers will receive at least 30% of the net profits of the processed products. Funds raised will be used to build a processing facility, hire staff, purchase a truck to transport coconuts, and marketing. The rest of the proceeds will be used for community development programs. This document provides more information about the project, itemization of cost, and financial projections.

1.1. Project Proponent: FARMCOOP's Organic Marketing and Trading Arm

In collaboration with the Coconut Farmers Cooperatives/Organizations in Davao Region, FARMCOOP's Organic Marketing and Trading Arm will manage the implementation of the project particularly the processing operations, business management, and marketing aspects of the processed products. It will be supported by FARMCOOP's community development team who will mobilize the smallholder coconut farmers, support organizational development and management of the SCFOs, legal services, and in the transfer of organic technology to the coconut farmers.

1.2. FARMCOOP's Organic Marketing and Trading Arm (OPEC)

The experiences of FARMCOOP's Organic Production, Marketing and Trading Arm (OPEC) include:

- 17 years consolidating and exporting the certified organic bananas produced by two indigenous farming cooperatives from Davao City to Japan.
- 6 years producing and marketing certified organic vegetables at SM Supermarkets in Davao City. FARMCOOP's organic marketing arm is the first to bring certified organic local produce in the Davao supermarket.
- 17 years operating a composting plant in Panabo City to produce organic compost and foliar fertilizers which are used to supply FARMCOOP's partner cooperatives in the banana industry.

2. Project Phases

The target geographic area consists of the farmlands of coconut producing farmers and small coconut farmers' organization and/or cooperatives in Davao de Oro, Davao Oriental, Davao del Norte, and Davao City.

The overall project is designed to be progressive and is divided in three phases:

- PHASE 1 is a medium-scale project which shall only cover specific geographical areas (1,000 farmers) and production of organic virgin coconut oil.
- PHASE 2, another set of areas shall be added in the coverage and more farmers (>1300farmers), the facility will be scale larger to produce coconut water, coconut juice, coconut aminos, coconut blossom tea
- PHASE 3 will cover all more partner farmers/farms (>1900 farmers) and processing of husks into coco peat and coco fiber derivatives as additional products.

Our Global Giving fundraising campaign will cover Phase 1 and prototyping of the post-harvest to virgin coconut oil production to market process. Participatory community consultations with farmers will also be conducted throughout the collaborative effort. We aim to reach close to 10000 farmers over time.

3. Project Rationale

Coconut (*Cocos nucifera*) is one of the most important crops grown by more than 11 million farmers, mostly low income smallholders from 90 countries. About 80% of coconut production comes from the Asia-Pacific countries (Adkins, 2005). Due to its many uses, coconut is known as “Tree of Life”. Every part of the coconut palm can be utilized into several products with high economic value such as copra, virgin coconut oil, flour, sugar, coco water, coconut milk powder, desiccated coconut, coconut milk/cream, coconut shell charcoal-based activated carbon, among others.

The Philippines is the biggest exporter of 38 coconut-based primary and downstream product and by-products, mainly CNO (60%), desiccated coconut, coco cream/milk, and coco water beverage (15%). The remaining **25% goes to domestic consumption.** From 2009 to 2011, average production was estimated at 14.743 billion nuts or equivalent to 2.813 million metric tons copra.

Coconut areas in Philippines are estimated at 3.564 million hectares. Of this, 1.759 or **49.34% are in Mindanao and Davao region is the top producer.** In 2013 total harvested coconut with husk was almost 15% of the national production. Coco oil, desiccated coconut, activated carbon, copra meal, coco coir, coco shell, and coco chemical are exported to The Netherlands, Germany, United Kingdom and Belgium.

The 3.4 million coconut farmers and farm workers in the Philippines along with their families constitute more than 20 million people dependent directly or indirectly on the coconut industry (Faustino, 2006). **In Mindanao, statistics show that the top coconut producing provinces are the ones experiencing high poverty, having poverty incidence that exceed the national average.** The poorest provinces are Maguindanao and Zamboanga del Norte where more than 60% of the population are below the poverty threshold (NSCB, 2006). As such, most coconut farmers belong to the marginalized sector and live below the poverty line. Real wage of coconut farmers was reported to decline from PhP 120.71 (**\$2.40**) in 2001 to PhP 111.13 (**\$2.22**) in 2010. Daily nominal wage was also reported to have decreased from 2007 to 2010 (DA Report).

Due to poverty, coconut farmers in general are not capable or interested in improving their aging coconut farms, resulting in decreasing yields (Batugal, et.al., 2008). However, they continue to maintain existing coconuts as these provide regular income, although marginal, in every 45 days and require low farm maintenance. Over 90% of them are smallholders tending four hectares or less and are considered not bankable by the formal banking sector.

Particularly in Davao Region, coconut farmers are confronted with compelling challenge of income sustainability and economic progression. They are the top producers of coconut in the country but at the end of profit chain. The Davao Regional Development Plan 2011-2016 cited that Davao’s coconut productivity (0.7 tons/ha.) is 72% behind other ASEAN countries (2.5 tons/ha.) According to a study (Villaruel/PCA), farmers are struggling with low buying prices of copra dictated by world market trading. The study suggested setting up of a trading firm owned by coconut farmers’ cooperatives. The organizations of coconut farmers in the region also articulated their need for a community-based coconut processing hub so that they can also share the profits from the sales of coconut products and by-products. Currently, the ones who truly benefit from the coconut industry are the few capitalists, middlemen, and the multinational companies who have the capacity to invest in millions in consolidating and processing coconut of poor farmers.

4. Project Plan (PHASE 1 only)

4.1 OBJECTIVES

Main Objective:

1. To contribute to the development of the coconut industry and alleviate economic status of small and local coconut farmers in the Davao Region.

Specific Objectives:

1. To augment the farm income of small and local coconut farmers by a significant percentage from their current/base year income;
2. To help the small and local coconut farmers develop capabilities for the sustainability of their farms through organic farming;
3. To provide better income opportunities for the small and local coconut farmers by converting their farm produce into value-added products, especially virgin coconut oil (VCO); and
4. To help coconut cooperatives in managing market-oriented enterprises for their products;

4.2 Phase 1 Project Cost, Facility Lay-out and Management

a. Funding raised from the Global Giving campaign will be used for the following:

- Building construction of medium-scale coconut processing plant (Figure 1)
- Purchase of Equipment and Utensils.
- Purchasing materials consumable materials (including raw materials),
- Facility and labor overhead operating cost for the first three months of operation wherein no return is expected
- Advance payment to the inevitable (due to existing farming culture) cash advances of the local and small farmers to convince them to commit all their produced solely for the VCO commissary's consumption.

The summary of labor, material, facility, and overhead cost are shown on Table 1 below. Please Appendix 1 below for detailed cost of equipment, labor, utensils, initial purchase of whole coconuts, transportation for hauling coconuts.

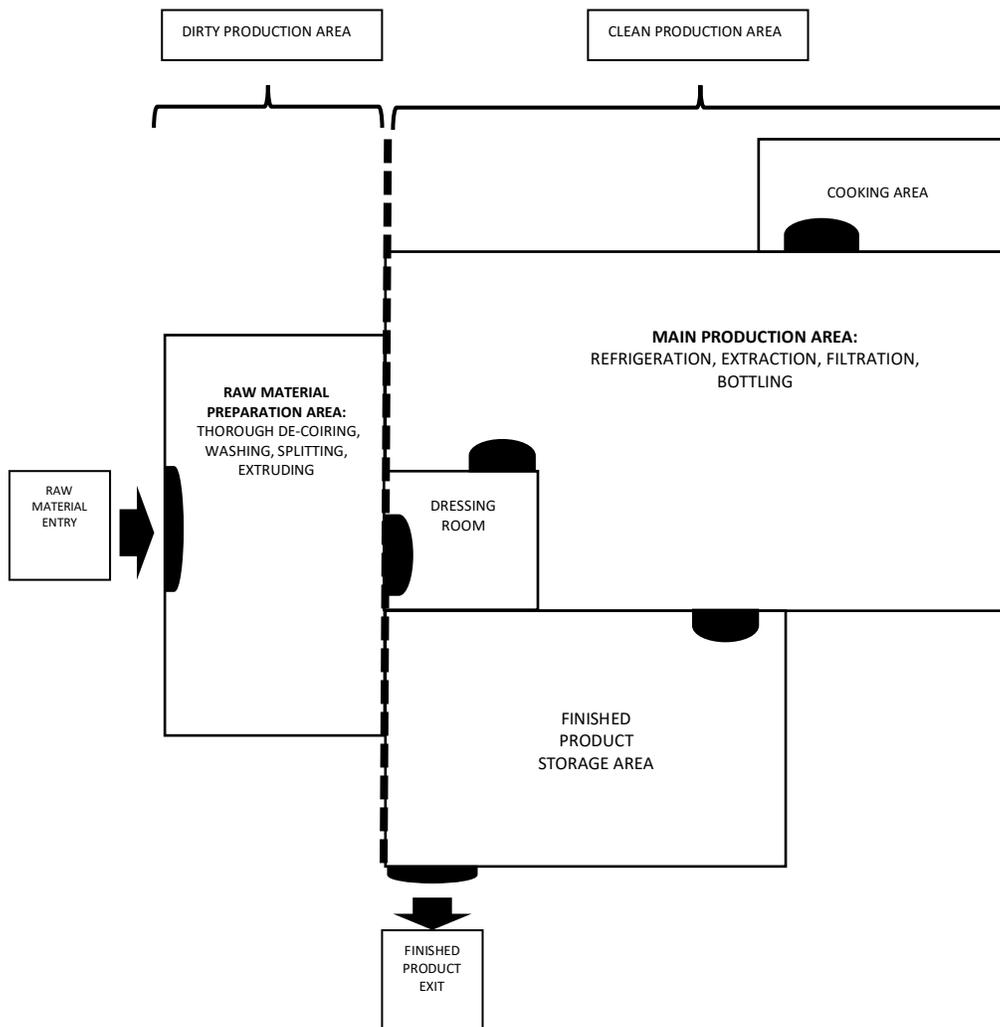
Table 1: Summary Cost to Build and Initiate Processing

Summary		
Particulars	Cost, Philippine Peso	Cost, US Dollar
1 Equipment	₱ 2,008,500	\$ 40,251
2 Utensils	₱ 88,600	\$ 1,776
3 Commissary edifice construction	₱ 200,000	\$ 4,008
4 Certification cost	-	
4.1 International organic certification (including recognition for local organic certification)	₱ 300,000	\$ 6,012
4.2 Local FDA Certification	-	
4.2 Certification	₱ 30,000	\$ 601
5 Operational expenses for the first three months of operation (26 days/mo)	-	
5.1 Consumable Material Input	₱ 955,300	\$ 19,144
5.2 Electricity	₱ 60,000	\$ 1,202
5.3 Farm Maintenance Support Labor of 8 staff for 3 months	₱ 6,000	\$ 120
5.4 Transportation expenses	₱ 392,575.	\$ 7,867
5.5 Miscellaneous Production	₱ 78,000	\$ 1,563
5.6 Operational Expenses	₱ 15,000	\$ 301
GRAND TOTAL	₱ 4,133,975	\$ 82,845

Considerations for the above projections are:

- There are 26 days of production per month (No Operation on Sundays).
- We will be processing 300 coconut fruits per day.
- 13 coconut fruits will yield 1 Liter of VCO.
- Only VCO will be produced in the facility.
- This costing includes only the PHASE 1 (of 3) of the entire project.
- PHASE 2 shall include a larger scale production of VCO and production of cocowater juice, coco sugar, coco nectare, coco aminos, and coco blossom tea.
- PHASE 3 shall include processing of husks into coco peat and coco fiber derivatives.

Figure 1. Diagram of Facility Layout



5. Project Post-harvest to Marketing Work Flow

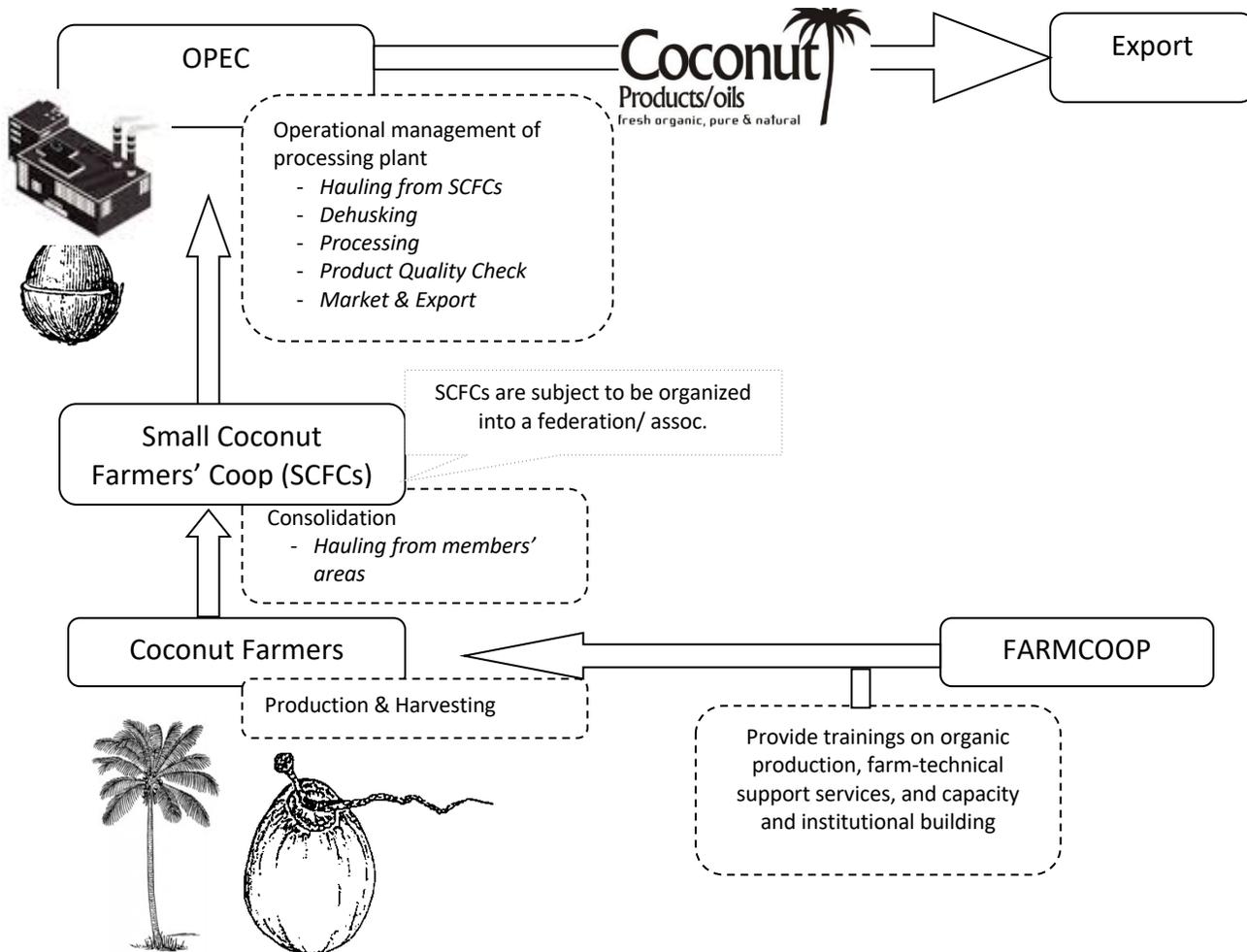
The Figure 2 diagram below illustrates the operational flow from selling, processing and marketing of coconuts into different by-products from farm to market.

The coconut-based cooperative beneficiaries will consolidate and buy the whole coconuts of the farmers. The whole coconuts will be delivered and processed in an integrated coconut processing plant with a maximum initial capacity to process 300 pieces of coconut fruits per day. Funding raised from the Global Giving campaign will be used to fund the establishment of the facility. The processing plant will house post-harvest facilities and other processing equipment needed to process coconut into different by-products, but on the PHASE 1, the equipment for VCO production only, will be utilized.

For further organizational support, coconut farmer beneficiary cooperatives will be organized into a secondary cooperative or a federation to unify the cooperatives. Establishment of good and competitive market for finished products on the other hand, shall be facilitated by FARMOOP's organic marketing and trading arm – Organic Producers and Exporters Corporations (OPEC). Returns from the processing and export of products will be distributed annually

as patronage refund to cooperatives who will sell their coconuts to the federation for processing. To ensure sustainability, part of the returns will also be retained as maintenance cost for the processing plant's operations and for continuous capacity building of beneficiaries. Moreover, aside from selling of products, success of this project also hopes to eventually generate additional income services in selling quality seedlings and organic farm inputs by the federation to the primary small coconut farmer cooperatives.

Figure 2. Concept for Sustainable Coconut By-product Processing Chain in Davao Region



6. Long-Term Project Impact and Sustainability and Financial Projections

The suitability of site location was confirmed based on the favorable result of the Environmental Compliance Certificate (ECC) initially issued last 2018 and is renewed this year. Further, the viability of the coconut production commissary project according to brief study and analysis of necessary variables stipulated in this document such as production, marketing, and rough financial analysis is showing a good feasibility. Commencing the project by PHASE 1, with VCO as the flagship product, should be a great jump start especially that the Virgin Coconut Oil (VCO) is now gaining international attention due to its vast potential in being a healthy oil option. The organic classification of the VCO that will be produced shall also be a major factor to win our bid in both local and international markets.

Table 4 shows the monthly income estimate and three year estimate with projected sharing of income for the farmers and investment on FARMCOOP's capacity to sustain services to small scale local and indigenous farmers in the region. We project over time that the project will have the following immediate and long-term impact:

Social-economic:

- Avail of a premium price of whole nut (₱ 2.00 pesos higher than the prevailing market price for every nut).
- Profit sharing of at least 30% from net income directly goes to coconut farmers-supplier.
- Capacity building of the Small-scale farmer organizations and farmers.
- Technical assistance on coconut processing technologies, good manufacturing practices (GMP), promotion of quality standards and access to markets should be provided to ensure the viability and sustainability of the value-added processing.
- Focus on high value coconut products and by-products with healthy and environmentally- friendly applications.
- Funds allocation from the net income of the coconut processing for maintaining the yearly organic certification.
- Workers /staff development program
- Increase in farm productivity and income to farmers are one of the the outputs that this project would like to generate.

Overtime, 10,000 small coconut local and indigenous farmers with 4,500 women farmers will benefit from upscaling of this project.

Environmental:

- Organic farming will help improve the health conditions of family farming communities
- Develop diversified farming and improve biodiversity in coconut farms
- The long-term economic viability of diversified, organic small-scale family farm-to-market development will encourage more family farmers to transition to organic practices.
- Organic farming livelihood, farmer and indigenous land stewardship will strengthen sustainability

FINANCIAL PROJECTIONS

Assumptions:

- First year of operation comprise of nine months excluding 3 months of organizational operation which include staffing, updating and consulting with partner farmer cooperatives and associations, groundwork, testing, monitoring and assessing of prototype and market set-up;
- Daily delivery of 315 quality nuts is assured including 5% rejection for the first year;
- Twenty five percent (25%) increase in production on the 2nd year
- Thirty percent (30%) increase in production on the 3rd year
- Virgin Coconut Oil recovery of one liter per 13 nuts;
- Existing facility constructed to Commissary Edifice with rehabilitation cost of P200,000;
- Necessary processing facility and equipment acquired;
- Cash Advance for 3 months harvest provided to coconut farmers;
- Ten (10) project staff and processing crew including one marketing were hired;
- Annual increment of 5% for salaries and wages and materials
- VCO 250ml bottle priced at P250 per bottle
- De husked coconut is priced at P10 per nut which is P2 above the prevailing market price
- Packaging bottle purchased at P47 per bottle
- Packaging sticker purchased at P2 per piece
- 30 days term on purchase of packaging materials
- One month allowance for receivable collection
- 10% of total monthly production allotted for stock inventory
- Annual Organic Certification fee is P300,000
- Food and Drug permits and licenses is P30,000
- Annual income tax rate is 20%
- Commission cost of 3% for marketing operation
- Business permit is 1% of gross sales

- Projected budget of \$82,845.20 was acquired through Global Giving fundraising with forex rate of P50/\$1
- Estimated life of utensils, equipment and truck are estimated at 3, 5 and 10 years respectively
- Profit sharing distribution: 30% for farmers, 10% for the farmers' cooperative or association and 60% for FARMCOOP's organic marketing and trading arm to sustain services and community development for small-scale farmer cooperatives and associations as well as maintain facilities

Table 4: PROJECTED INCOME STATEMENT

	<u>YR1</u>	<u>YR2</u>	<u>YR3</u>
Gross Sales	\$97,395	\$129,860	\$ 168,818
Less: Cost of Sale			
Direct Materials	\$31,802	\$41,137	\$ 52,026
Direct Labor	\$23,966	\$25,164	\$ 26,422
Overhead	\$12,192	\$16,600	\$ 19,294
Total cost of Goods Sold	\$67,960	\$82,901	\$ 97,743
Gross Margin	\$29,435	\$46,958	\$ 71,075
Less: Marketing Cost			
Marketing Staff Salaries & Wages	\$2,971	\$3,120	\$3,276
Commission (3% of gross sales)	\$2,922	\$3,896	\$5,065
Sub-total Marketing Cost	\$5,893	\$7,016	\$8,340
Administrative Cost			
Share with total Admin Cost (5%)	\$7,014	\$7,014	\$7,014
Permits and registration	\$1,503	\$1,503	\$1,503
Taxes & Licenses	\$6,613	\$7,311	\$7,700
Insurance	\$1,002	\$1,002	\$1,002
Amortization of organizational cost	\$2,004	\$2,004	\$2,004
Sub-total Admin Cost	\$18,136	\$18,834	\$19,223
Net Income before tax	\$5,405	\$21,109	\$43,511
Income tax (20%)	\$1,081	\$4,222	\$8,702
Net income after tax	\$4,324	\$16,887	\$34,809
Profit sharing - Coconut Farmers (30%)	\$1,297	\$5,066	\$10,443
Farmers Cooperative (10%)	\$432	\$1,689	\$3,481
FARMCOOP Organic Marketing and Trading Arm*- 60%	\$2,595	\$10,132	\$20,885
TOTAL	\$4,324	\$16,887	\$34,809

** FARMCOOP's Organic Marketing and Trading Arm will use income earned to sustain FARMCOOP's services to small-scale family farmer cooperatives, small family farming community development and maintain the processing facilities*

Appendix 1: Organic Coconut Processing Project Itemization of Medium-Scale Coconut Facility Cost, Labor, Purchase of Coconut

Table 1: Cost of Equipment for Medium-Scale Coconut Facility

Equipment					
Item		Price per unit	Quantity Needed, pcs	Cost (Philippine Peso)	Cost (US Dollar)
1	Extruder	₱110,000	1	₱ 110,000.00	\$ 2,204
2	LPG tanks (3000kg)	₱8,000	1	₱ 8,000.00	\$ 160
3	Hi pressure Burner	₱2,000	1	₱2,000.00	\$ 40
4	Stainless table for burner	₱25,000	1	₱ 25,000.00	\$ 501
5	Stainless preparation table (center)	₱60,000.	1	₱ 60,000.00	\$ 1,202
6	Dehydrator	₱30,000.	3	₱ 90,000.00	\$ 1,804
7	Heat gun	₱1,500	1	₱1,500.00	\$ 30
8	Forward (6 wheelers)	₱1,500,000	1	₱ 1,500,000.00	\$ 30,060
9	Upright stainless freezer/chiller (6 door)	₱106,000	2	₱ 212,000.00	\$ 4,249
GRAND TOTAL				₱2,008,500.00	\$ 40,250.50

Table 2: Cost of Utensils for Medium-Scale Coconut Facility

Utensils					
Item		Price per unit	Quantity Needed, pc/s	Cost (Philippine Peso)	Cost (US Dollar)
1	Kalawa	₱7,000.00	1	₱7,000.00	\$140
2	Stainless scoop	₱500.00	10	₱5,000.00	\$100
3	Stainless Funnel	₱300.00	5	₱1,500.00	\$30
4	Funnel brush	₱100.00	2	₱200.00	\$4
5	Wok	₱1,500.00	1	₱1,500.00	\$30
6	Wide-shallow stainless pan	₱1,500.00	30	₱45,000.00	\$902
7	Stainless spoons	₱50.00	10	₱500.00	\$10
8	Stainless Strainers	₱1,500.00	5	₱7,500.00	\$150
9	Bolo	₱1,000.00	2	₱2,000.00	\$40
10	stainless pitcher	₱1,800.00	4	₱7,200.00	\$144
11	Stainless cup	₱1,800.00	4	₱7,200.00	\$144
12	Stainless measuring cup set	₱2,500.00	1	₱2,500.00	\$50
13	Stainless measuring spoon set	₱1,500.00	1	₱1,500.00	\$30.06
GRAND TOTAL				₱88,600.00	\$1,775.55

Table 3: Cost of Coconuts Purchased from Partner Small-scale Family Farmer Cooperatives and Associations

Consumable Input Material Capital						
Item		Particulars	Cost	Budget allocation for farmers' cash advances	Total (Philippine Peso)	Total (US Dollar)
1	Dehusked coconut fruit	Needed Capital for the first 3 months (26 days per month) of production, at ₱ 10.00 per nut and 300 nuts per day production	₱ 468,000	₱ 134,500	₱ 602,500	\$12,074
2	Packaging material	250mL Glass Bottles priced at ₱ 47.00 per piece	₱ 338,400	-	₱ 338,400	\$6,782
3	Sticker labels	Bottle sticker labels priced at ₱ 2.00 per piece.	₱ 14,400	-	₱ 14,400	\$289
GRAND TOTAL (3 MONTHS)					₱ 955,300	\$19,144

***Note:**

Cash advance budget were computed with the following assumptions:

- We shall be needing 7000 coconut trees per year.
- There are 50 participating farmers.
- Every farmer shall allocate one (1) hectare of his farm for FARMCOOP's coconut fruit requirement only.
- Cash advances shall be needed by farmers on the first quarter in which their contracted harvest is still at 50% completion.

Table 4: Cost of three months Labor for the Medium-Scale Coconut Processing Facility (9 Staff)

Staff Labor							
Position		Task	Daily wage	Daily benefits cost	Number of personnel needed	Daily Cost of labor (Philippine Peso)	Daily Cost of labor (US Dollar)
1	Driver	*Areas: Sap-malitbog, nuts-malitbog, maco, sibulan. -Delivery, hauling, transfer of materials	₱ 500	₱ 100	1	₱ 600	\$12
2	Production Dirty Area Crew	Tidtid' dehusked nuts, wash, Split open nuts, Collect coconut water, Grate the cocomeats or extract cocomeat from cocoshell, Extrude/Press cocomeat	₱ 396	₱ 79	3	₱ 1,425	\$29
3	Production Clean Area Crew	Ferment/refrigerate extracted cocomilk, Dehydrate Refrigerated crude curd, Harvest VCO (Or cook (slow heat) crude curd to harvest VCO, Filter VCO, Age VCO, Bottle VCO, label bottle	₱ 396	₱ 79	3	₱ 1,425	\$29
4	Production Supervisor	Holistically supervises the production; manpower scheduling; payroll management, In-plant HR duties	₱ 500	₱ 100	1	₱ 600	\$12
5	Quality Assurance Personnel	Makes and runs the quality management system to proactively ensure conformance of products to quality standards.	₱ 818	₱ 164	1	₱ 982	\$20
TOTAL DAILY						₱ 5,033	\$101
TOTAL MONTHLY (26 DAYS)						₱ 130,859	\$2,622
GRAND TOTAL (3 MONTHS)						₱ 392,575	\$7,867

*From our communities to yours,
Thank you
for supporting our partner coconut and
small-scale family farming
communities in the Philippines!*