

Value Chain Analysis of Abaca (*Musa textiles*) Fiber in Northern Samar, Philippines¹

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Abstract

Abaca, otherwise known as “Manila Hemp, is an important economic crop for smallholders in Northern Samar, yielding an average net income of PhP20,000 (US\$425.00) per hectare per harvest. The province is well positioned as a dominant abaca production hub in Eastern Visayas. Eighty five (85%) percent of the world abaca fiber supply comes from the Philippines. Unified effort among the players in the value chain should be waged to achieve competitive advantage. The initiative should focus with a defined priorities, targets and strategies to fortify the industry as the county is one of the leading exporters. The Philippine Fiber Industry Development Authority (PhilFIDA) should strengthen their extension delivery system to be adaptive to the challenges faced by the abaca farmers toward improving productivity.

Key words: value chain, stripper, grades, “all-in”, traders, grading and baling establishments

1.0 INTRODUCTION

1.1 Background and Rationale

The establishment of the Abaca Techno-Demonstration Farm (ATDF) in the settlements/barangays of Cablangan, Flormina and Nenita serves as the platform for learning that is designed to produce and use conservation-compatible and socially desirable farming systems and technologies. The ATDF will serve as learning sites to upscale the abaca production and other non-timber forest products under the project on “*Creating a Model on Social Fencing for SINP Through Establishment of Organized Production and Marketing System for Abaca and Other CBFM Produce*”.

The project covers a community-based forest management (CBFM) area managed by the Centralized Farmers Association (CEFA), a people’s organization (PO), which is around 1,050 hectares of forestland nestled within the municipality of Mondragon, Northern Samar. The area is within the buffer zone of the bigger key biodiversity area—the Samar Island Natural Park (SINP). The project holders believe that effective management of these CBFM areas as protection zone would serve as a strong “biodiversity fence” that will shield the SINP protected areas from further encroachment and degradation.

The abaca (*Musa textiles*) value chain mapping and analysis is intended to create value for the farmers that exceeds the cost of providing the product and generates a profit margin. As suggested by Porter (1985) “value chain depicts how buyer value accumulates along a chain of activities that lead to an end product or service”. Porter wrote, “the value chain as the internal processes or activities a producer performs to design, produce, market, deliver and support its product”. Assessing therefore the profitability of value-adding initiatives in relation to the production, processing and marketing interventions provided by the project is deemed important to identify effective strategies in the production, marketing, processing and supply sourcing aspects. The findings will contribute to the crafting of future strategic management and policy directions for the abaca industry.

¹ Part of the deliverables under the project “*Creating a Model on Social Fencing for SINP Through Establishment of Organized Production and Marketing System for Abaca and Other CBFM Produce*”, funded through the UNDP-Global Environmental Fund—Small Grants Programme and implemented by the Eastern Visayas Partnership for Rural Development (EVPRD). Inc.

1.2 Objectives

Contribute to the process of effectively linking smallholders to market and optimize their benefits from the value chain.

Specifically, the study aims to:

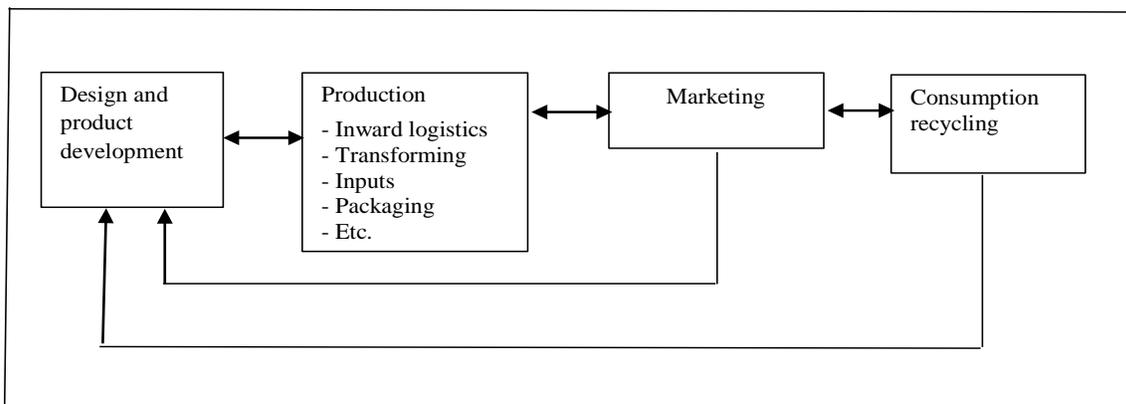
1. describe the various actors, their functions and nature of inter-firm relations;
2. identify the key constraints or issues that hinder or promote the meaningful participation of farmers, sustainability of the chain and its competitiveness;
3. formulate and prioritize interventions needed to overcome constrictions throughout the chain that would foster value chain competitiveness;
4. explore how to link farmers with industry players in the abaca industry to spur inclusive growth; and
5. identify investment opportunities that will be the basis of the Provincial Government Investment Plan.

1.3 Limitations of the Study

The study would have been more substantive and far-reaching if it was able to draw from the Grading and Baling Establishment (GBEs) their viewpoint as a player of the value chain.

1.4 Theoretical Framework

The value chain, wrote Kaplinski (2000), “describes the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use. Considered in its general form, it takes the shape”. As can be seen from this, production *per se* is only one of a number of value added links. Moreover, there are ranges of activities within each link of the chain as illustrated in Figure 1.



Source: Kaplinski (2000)

Figure 1. Four Links in a Simple Value Chain

Porter as cited by Kaplinski (2000) complements this discussion of intra-link functions with the concept of the multi-linked value chain itself, which he refers to as the “*value system*”. The value system basically extends Porter’s idea of the value chain to inter-link linkages.

Value chains, Rodrigue (2013) wrote, “come in two major categories depending on which actor have the most significant influence. This can be either the producer (farmer/manufacturer) or the buyer: *Producer-driven* tends to have high barriers of entry since many commodity chains require capital/technology intensive production and economies of scale”. Rodrigue asserted, “these are mostly coordinated by the producers and the value chain to inter-link linkages, and *Buyer-driven* where producers are bound to the decisions of buyers through the functions of design and marketing, notably when retailing and brand names are concerned”.

There are three main sets of reasons why value chain analysis is important in this era of rapid globalization. They are: 1) the growing division of labor and the global dispersion of the production of components, systemic competitiveness has become

increasingly important; 2) efficiency in production to successfully penetrate global markets; and 3) entry into global markets requires an understanding of the dynamic factors within the whole value chain (Kaplinski (2000).

1.5 Methodology

The study begins with a review of literature through e-reports/studies by extracting the salient characteristics of value chain for abaca; collecting and summarizing information from currently available reports to aid the researchers in field research. The field work component of the study was conducted using qualitative research techniques, particularly Key Informant Interview (KII). The respondents consist of the members of the CEFA, traders, and representatives from relevant government agency—PhilFIDA. The KII was used for collecting data on individuals' perspectives, experiences, including quantitative data to generate broad overview of issues that matter to the association.

Iterative and inductive analysis was used to gather constraints and interventions which were further elaborated based on the responses during the KII, and taking views from the following perspectives:

- Third party observation, i.e. the PhilFIDA was important for eliciting important issues and to substantiate the results of the KII.
- Secondary data/information on the experiences of other major abaca producing areas in the Philippines.

1.6 The Respondents

A total of 12 abaca farmers (sex disaggregated) were interviewed from three abaca-producing barangays in Mondragon, Northern Samar. A guide questionnaire was used detailing the farm activities, duration (man-days/hours involved), quantity and type of inputs used, cost of production, number of years in farming, farm size, other crops planted, membership to organizations, reasons for adopting the farming method and barriers to entry in the abaca value chain: *what works and what did not*. The information gathered has been aggregated, triangulated, validated and analyzed. It looked at the main actors and their role on the value chain, implementation issues, constraints, opportunities and institutional support. To substantiate the data from the KII, secondary data was collected through desk information review.

1.6.1 Farmers' Profile

According to Calonga (2000), abaca farmers' in Northern Samar have an average age of 25 years old, with a household of 8 members and 28 years of abaca-farming experience. An owner-cultivator Calonga wrote, has an average area of 4.0 hectares. Abaca farmers grew native varieties such as *Laylay, Inosa, Linawaan, Linlay, Putian, Laguis, Linlib and Linino* which they intercrop under coconut. Hand stripping and sundrying of abaca are done by the farmer. Suckers from the farmers' own plant are used as planting materials. On the average, abaca farmers produced 338.86 kg of abaca fibers per harvest valued roughly at PhP20,331.00 (US\$432.00). The household members were utilized such that the father and the elder sons were mainly involved in production activities while the mother had a prevalent participation in the marketing activities. A typical abaca farmer earned an average income of PhP39,454.00 (US\$839.00) annually derived mainly from intercropped or combination of coconut and abaca farming.

The value chain study involved the CEFA which was conducted in February to July 2016. The selection of samples (n) included both women and men. With the large geographical area of the project sites, the samples have been randomly selected to provide adequate representation of the population (N).

1.7 Data Analysis and Interpretation

Data analysis consisted of a number of stages, i.e. examining, categorizing, and tabulating/triangulation or recombining the responses from stakeholder consultations, i.e. KII to address the goal of the study. This type of (qualitative) research may have subjectivity to a certain extent. However, care has been put into the research to minimize subjectivity in the analysis of qualitative data. The data were analyzed using mapping and interpretation to make sense of the stakeholders' responses but also to be imaginative and analytical to see the relationship between the responses and the links within the data as a whole.

Descriptive statistics was used to substantiate any quantitative and qualitative data that have been obtained from the samples.

2.0 OVERVIEW OF THE INDUSTRY

2.1 Product Description

2.1.1 Commodity Profile of Abaca

Abaca (*Musa textiles*), known internationally as Manila Hemp, is endemic in the Philippines. It is similar to banana and *pacol*. However, it can be distinguished by the formation and coloration, as well as by the size and shape of its leaves, heart, trunk and fruit. The roots of the plants are added externally—not becoming an essential part. It arises from the stalk lying between 15 to 25 cm below the surface of the soil. The leaves are tapering, narrow and glossy-green with pointed end petioles. The trunk, heart and fruit of the plant are smaller than those of banana and *pacol*. Its height reaches an average of 2.44 meters.

Abaca fiber is one of the sturdiest natural fiber. Its quality (tensile strength) is one major factor that gives the commodity highly competitive among other natural hard fibers in any given market. The fibers of abaca are utilized as raw materials in the pulp and paper, cordage and twine, yarns and threads, and fiber craft business. This plant is mostly found in upland areas and interior parts of the country. Recommended varieties include *Tinawagan Puti*, *Tinawagan Pula*, *Sogmod* and *Lausigon* for Region V; *Laylay*, *Inosa*, *Linawaan*, *Linlay*, *Putian*, *Laguis*, *Linlib* and *Lininofor* Region VIII; and *Inosa*, *Tangongon* for the Mindanao Regions.

2.1.2 Forms of Abaca

Abaca is mostly grown in the upland areas and interior parts of the country. It is traditionally planted by using suckers. The use of corms and suckers is simple and results in high germination and survival, but these materials are bulky and costly in terms of labor and transport. Traditionally, the practice of farmers is that suckers are taken from existing abaca plantation which is ideally the best protection to prevent introduction of extrinsic varieties which is normally the carrier of the deadly disease of *bunchy top*.

Abaca grows in clay loam and sandy clay loam types of soil. It is more productive in areas where the soil is volcanic in origin, rich in organic matter, loose, friable and well-drained. Soil pH level must be about 6.0 to 7.0 and an elevation of less than 1,000 meters above sea level.

Table 1 shows the different varieties of abaca grown in the Philippines. For major abaca producing areas, the PhilFIDA recommends the following varieties.

Table 1. Recommended abaca varieties, Philippines

Visayas	Bicol	Mindanao
1. Linawaan	1. Musa Tex 51	1. Maguindanao
2. Inosa	2. Abuab	2. Bongolanon
3. Laylay	3. Tinawagan Puti	3. Tangongon

The quality of abaca fiber is determined by strength, cleaning, color, texture and length of the fiber. In terms of cleaning (which is a direct result of the stripping apparatus or knife used), the standard grades for hand—and spindle—stripped are:

EXCELLENT—S2, S3
FAIR—JK, M1

GOOD—I, G, H
RESIDUAL—Y, O, T

2.1.3 Uses of Abaca

The abaca fiber is extracted from the stalk of the plant, specifically from the outer covering of the leaf sheath. The stalk is the source of the abaca fiber, retrieved through the extraction of tuxies from the outermost portion of the leaf sheath. Fibers are then extracted through hand stripping or through a stripping machine (RP-SPAIN, SAIS-BC Project).

The dried outer leafsheath, also known in the industry as Abaca-bacbac is used in making handicraft items. It is skinny on the upper side of the leaf, but soft and fleshy on the other side. It is not receptive to penetration of colorants and has a low tensile strength. Bacbac is sometimes called Havana hemp or Havana skin.

The third and fourth layers of the leafsheath, or lupis as others call it, are brown in color and skinny on the other part of the stripped fiber. It is bigger compared to fine abaca. Like the bacbac, this part of the plant is also used for handicraft items. It may also be used in making fashion accessories, furniture, packaging materials, tabletop accessories and other decors.

It is considered the strongest of natural fibers being three times stronger than cotton and two times stronger than sisal fibers. Abaca is far more resistant to salt water decomposition than most of the vegetable fibers, making it suitable for rope and cordage manufacture. Considering its prime qualities, abaca is also an excellent choice over other natural fibers for producing thin papers of high porosity and high strength. Abaca can also substitute for wood pulp in the manufacture of a general line of paper products, a usage that could contribute immensely to the conservation of the world’s diminishing forest resources.

Like most commodities, official standards of quality have been set and are being strictly enforced for abaca. The PhilFIDA’s official standard grades of abaca fiber are divided into three (3) classes depending on the manner of extraction, namely: hand-stripping, spindle-stripping and decortication.

According to PhilFIDA website, the quality of abaca is determined by strength, cleaning, color, texture and length of the fiber. Table 2 presents the terms of cleaning (which is a direct result of the stripping apparatus or knife used), using the standard grades for hand-and spindle-stripped are:

Table 2. Standard Grades of Hand-and Spindle Stripped, Philippines

Classification	Grade
Excellent	S2, S3
Good	I, G, H
Fair	JK, M1
Coarse	L
Residual	Y1, Y2, O, T, WS

Spindle-stripped abaca fibers are indicated by the letter “S” before the official grade, i.e., S-S2, S-I, and so on.

For decorticated abaca, the official grades are AD-1, AD-2 and AD-3. Abaca is processed into cordage, pulp and specialty paper and fiber crafts, including handwoven fabric. Below is a summary table on the uses of abaca and their corresponding grade requirements:

2.1.4 Uses of Abaca Grades and Types

Cordage products – ropes, twines, marine cordage, binders, cord	S2, S3, I, G, JK, M1, Y S2, I, G, G, JK, M1, Y, OT, S2, I, G, JK,
Pulp and paper manufactures –tea bags, filter paper, mimeograph stencil, base tissue, sausage skin, base paper Cigarette paper, currency paper, chart, file folders, envelops, time cards, book binders and parchment paper Microglass air filters media, x-ray negative, optical lens wiper, vacuum filter, oil filter	S2, I, G, JK
Nonwovens –medical gas masks and gowns, diapers, hospital linens, bed sheets	S2, I, G, JK
Handmade paper – paper sheets, all-purpose cards, lamp shades, balls, dividers, placemats, bags, photo frames and albums, flowers, table clock,	All grades including waste stationeries
Fibercrafts – handbags, hammocks placemats, rugs, carpets, purses and wallets, fishnets, door mats	S2, G
Handwoven fabrics –sinamay, pinukpok, tinalak, dagmay Sacks, hotpads, hemp coasters	High grades S3, H

Baskets, furniture, *lupis* and *bacbac*

Wall paper, wall cover

Others–wire insulator and cable Automobile components/composites

S2, G, JK, Y

JK, M1, Y, OT

2.1.5 Potential Uses of Abaca Grades/Types

Fiberboards – roofing tiles, floor tiles, OT and other waste hollow blocks, boards, reinforcing fiber concrete and asphalt

Miscellaneous application – wigs, All grades grass skirts

2.1.6 Production Trend

Bicol region is the largest producer of abaca in the Philippines, coming in next is Eastern Visayas which produces 33.15% of the total national abaca production. Eastern Visayas accounts for 29.69% and Davao region 15.23%. Together, these three regions accounted for 78.07% of the total national abaca production for 2010 (Table 3).

Table 3. Volume of production in metric tons, Philippines, 2010

REGION	January 2009	March 2010
PHILIPPINES	16,937	16,645
CAR	2	2
Ilocos Region	-	-
Cagayan Valley	-	-
Central Luzon	20	24
CALABARZON	2	0.4
MIMAROPA	13	13
Bicol Region	5,229	5,519
Western Visayas	297	280
Central Visayas	203	130
Eastern Visayas	5,445	4,944
Zamboanga Peninsula	58	59
Northern Mindanao	397	402
Davao Region	2,496	2,535
SOCCKSARGEN	207	209
CARAGA	1,384	1,373
ARMM	1,184	1,161

Source: PhilFIDA Website

In CY 2010 Bicol produced 33% and Eastern Visayas 30%, respectively, making for 63% of the total national abaca production. The drop in abaca production in Eastern Visayas can be attributed to the frequent occurrence of typhoon in the region, not to mention infestation of pest and diseases, which greatly reduces abaca production. In addition, production is greatly affected by demand for abaca fiber and allied products in the world market.

Bicol region’s abaca area remained virtually the same from 1999-2008 averaging an annual increase of 0.05%. Abaca production is greatly affected by the demand from the world market. In 2000 to 2001, a considerable drop was observed which coincided with the terrorist attack at the World Trade Center in New York, USA, resulting in a decrease in the demand for abaca products at the world market. The drop in the area harvested in 2004 could be attributed to the effects of typhoons and other natural calamities that impacted the abaca-producing regions during the said period.

From 2009 to 2013, the volume of production in metric tons for abaca in the Philippines grew by an average of 2.49 percent. In 2008, Eastern Visayas region (comprised of Samar and Leyte) stays on top in terms of area harvested at 44,943.2 hectares. This figure accounted for 32.68% of the total area harvested in the Philippines. This was followed closely by Bicol region with 42,662 hectares (31.02%) of the national total. Davao region and ARMM harvested 9,912 and 7,914.3 hectares, respectively.

2.1.7 Domestic production

In terms of regional production, Bicol accounted for 34% of the country’s production in 2012, followed by Eastern Visayas 28% and Davao 13%, respectively. Catanduanes (28%) consistently remained as the biggest abaca-producing province, coming in next is Northern Samar (11%) outstripping Leyte (10%) which came down to third place as the top abaca producing provinces in the Philippines (Table 4).

Table 4. Top 5 Producers of Abaca, Philippines, CY 2012

Top 5 Regions	Volume (MT)	% to RP	Top 5 Producing Provinces	Volume (MT)	% to RP
Bicol	23,086.11	34%	Catanduanes	19,044.99	28%
Eastern Visayas	19,190.87	28%	Northern Samar	7,329.89	11%
Davao	8,839.16	13%	Leyte	6,606.88	10%
Caraga	5,965.03	9%	Davao Oriental	4,732.11	7%
ARMM	4,887.75	7%	Surigao del Sur	3,920.00	6%

Source: PSA

2.1.8 Area Planted and Harvested

In Northern Samar, the top producing municipalities as to the area planted is Las Navas which accounted for 30% of the area planted to abaca. Coming in next is Silvino Lobos 25% and Mondragon 20%, respectively. Altogether, the four (4) major abaca producing municipalities farmed some 8,833 hectares with about 7,700 farmers. Over the years, Las Navas remained as the top producer of abaca. Abaca production is divided into two (2) districts. District 2 ranked first in terms of area planted with annual average production of 0.55 metric tons per hectare, followed by District 1 with an average annual production of 0.45 metric tons per hectare (Table 5).

Table 5. Top abaca producing municipalities in Northern Samar, 2009-2013

Municipality	Area Planted (in hectares)	Percent to Total	Number of Farmers
Las Navas	2,718	0.30	2,700
Silvino Lobos	2,252	0.25	2,000
Mondragon	1,800	0.20	1,500
Pambujan	1,578	0.17	1,200
Lope de Vega	485	0.05	300
Total	8,833	100.00	7,700

Source: Provincial PhilFIDA

2.1.8 Productivity

In terms of productivity, the average annual yield of abaca in Northern Samar is 0.45 metric tons per hectare. It also showed that productivity of the farms in the province continues to be unpredictable due to prevalence of typhoons in the area. It is noteworthy to mention that the peak productivity of abaca production was attained in the years 2009 and 2013 in District II with an annual average of 0.55 metric tons per hectare by about 11,000 farmers (Table 6).

Table 6. Area planted to Abaca, Northern Samar, 2009-2013

District of Production	AREA PLANTED TO ABACA (in hectares)							% Share	No of Farmers
	2009	2010	2011	2012	2013	Ave. Yield/Hectare			
District 1	3,009	2,800	2,900	2,950	3,020	0.45%	50	3,000	
District 2	8,100	8,100	7,100	7,000	7,270	0.55%	50	8,000	
Total	11,109	10,900	10,000	9,950	10,290		100	11,000	

Source: Provincial PhilFIDA

As to the annual average fiber yield, District 2 remains practically the top abaca producer in the province with an average of 5,582 metric tons per year, followed by District 1 at 1,410 metric tons per year (Table 7).

Table 7. Annual average fiber yield, Northern Samar, 2005-2013

District of Production	ANNUAL AVERAGE FIBER YIELDS/HA (in metric tons)						
	2009	2010	2011	2012	2013	Ave.	% Share
District 1	1,350	1,350	1,400	1,450	1,500	1,410	20
District 2	6,110	6,000	5,500	5,800	4,500	5,582	80

Source: Provincial PhilFIDA

2.1.9 Supply by District

There are ten (10) municipalities in Northern Samar that supply abaca. The data shows that for CY 2016, the top producing municipalities is in Las Navas 1,200 hectares and Silvino Lobos 900 hectares. Mondragon has 890 hectares (Tables 8 and 9).

Table 8. Area planted to abaca in District I, 2016

District I	Effective Area (has)
1. Mondragon	890
2. Lavezares	780
3. Victoria	700
4. Lope de Vega	618
5. Catarman	380
6. San Jose	280
7. Rosario	201
8. Bobon	196
9. San Isidro	120
10. Allen	70
Total	4,244

Source: Provincial PhilFIDA

Largely, the total provincial production will come to about 3,381,600 kg. or 3,381 metric tons per year. In Region VIII alone, the Leyte-based demand for abaca fiber by the Specialty Paper Manufacturing, Inc. (SPMI), 90 metric tons per day; Pulp Specialty Paper, Inc. (PSPI), 60 metric tons per day and Chrysler and Daimler, 5 metric tons per day.

Table 9. Area planted to abaca in District II, 2016

District II	Effective Area (has)
1. Las Navas	1,200
2. Silvino Lobos	900
3. Pambujan	746
4. Lapinig	740
5. Catubig	704
6. San Roque	186
7. Palapag	176
8. Gamay	80
9. Laoang	60
10. Mapanas	18
Total	4,210

Source: Provincial PhilFIDA

The combined annual demand by these manufacturers is about 37,200 metric tons. The regional production (i.e. Samar and Leyte) is 37,200 metric tons only with a shortfall of 33,884 metric tons. This suggests that there is still a wide window of opportunity for farmers to take advantage of this demand.

3.0 NATURE AND STRUCTURE OF THE INDUSTRY

3.1 Value Chain Mapping

The abaca industry sector in the Philippines is composed of abaca nursery operators (in Northern Samar there are no nurseries and processors), farmers, farmworkers, traders, trader—exporters, GBEs, manufacturers (i.e. pulp and paper,

cordage and ropes, textiles) and fiber craft processors. All the players, except farmers, are required to secure a permit from the FIDA.

Presented in figure 2² is the abaca value chain map in Northern Samar.

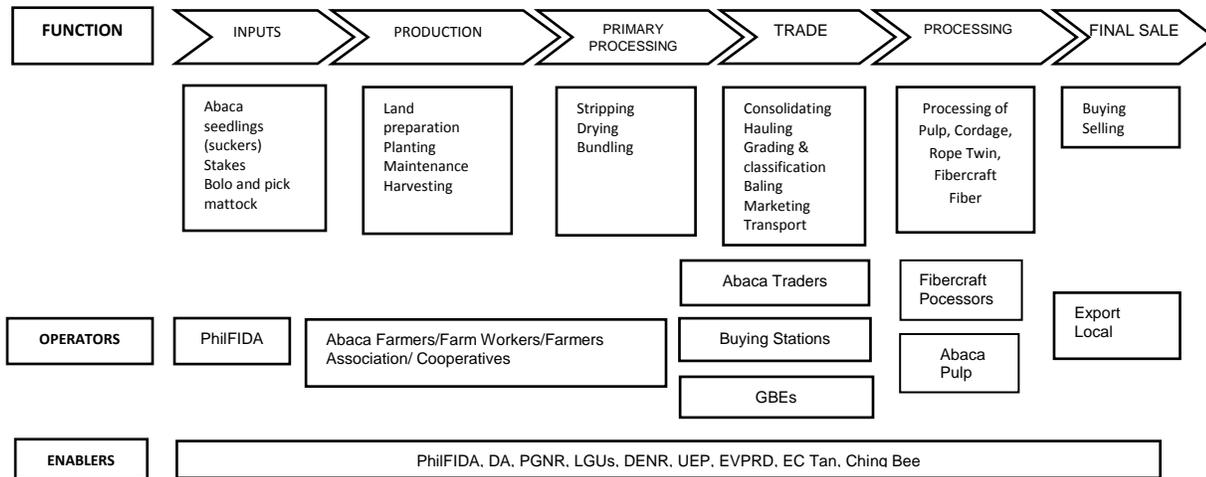


Figure2. Northern Samar Abaca Value Chain Map

Key Players and Functions

Industry Players

The abaca industry is made up of six major groups of industry players: farmers, strippers, classifiers, traders, fiber exporters and processors and manufacturers (cordage, pulp millers, fibercraft and other processors).

Farmers

As of 2013, there were 11,000 abaca farmers cultivating a total area of 10,290 hectares or an average of about 2.0 hectares per farmer.

Strippers

Strippers extract the fibers, either by hand or mechanical means. Included in the stripping work are harvesting of stalks, tuxying and drying of fibers. The strippers are paid on a pre-determined system wherein they receive 50 or 70 per cent of the harvest depending on the prevailing practice agreed upon.

Classifiers

Classifiers sort and grade the fibers based on the standards set by the government.

Traders/GBEs

Trading is done by about 36 traders, with 4 GBEs mostly found in Catarman, Northern Samar and Calbayog, Western Samar. The traders are found at different levels depending on the location of the farmers and where the consolidation of the fiber takes place. It is worthy of notice that there are no abaca processors in Northern Samar despite its large volume of abaca fiber. The Ching Bee Trading which is the largest abaca export trading in the Philippines has a buying station in Catarman—the economic hub in the province. There are also traders in the barangay, town, province and region (Figure 3). In each level, the pricing system includes mark-up attributable to the service provided by the trader.

PhilFIDA classifies traders according to the volume of fibers being traded. Class A trader sells more than 75,000 kilos of fiber per year; Class B trader—more than 50,000 kilos per year; Class C trader—more than 25,000 kilos per year and Class D trader—25,000 kilos and below.

² Adopted with modifications from the Abaca Value Chain Analysis of the Philippine Department of Agriculture.

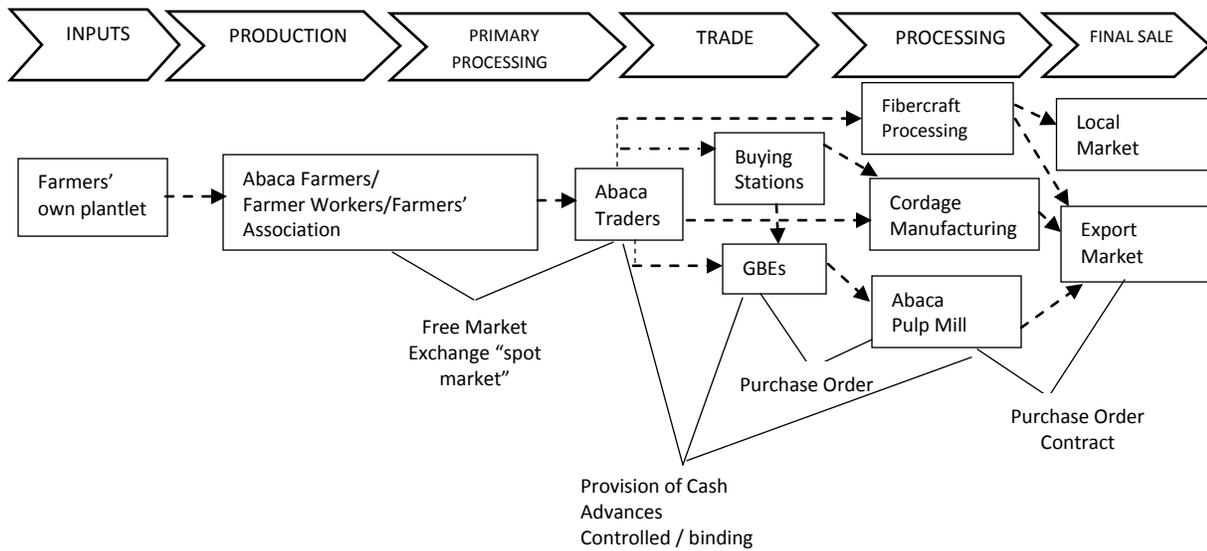


Figure 3. Northern Samar Abaca Linkages and Value Chain Governance Map

3.3 Trading

Table 10 shows the number of local traders that are operating in Northern Samar. Pambujan has a high concentration of traders at 12. This suggests that they cater to two (2) municipalities producing about 0.25% and 0.20%, respectively, of the total abaca production in Northern Samar. The municipalities of Las Navas (ranked as the number one producer of abaca) and Mondragon share at five (5) traders each, followed by Lope de Vega, 4, while two (2) GBEs are in Catarman and one (1) in Mondragon.

Table 10. Number of Abaca Traders and GBEs per Municipality, Northern Samar, 2009-2013

Municipality	LOCAL TRADERS AND GBEs	
	No. of Local Traders	No. of GBEs
Pambujan	12	
Las Navas	5	
Mondragon	5	1
Lope de Vega	4	
Catarman	3	3
Lavezares	2	
San Isidro	1	
Victoria	1	
San Jose	1	
Catubig	1	
San Roque	1	
Total	36	4

Source: Provincial PhilFIDA

The raw fibers are mostly consolidated by the barangay or municipal traders who sell to GBEs and Class A traders. In Northern Samar there are no abaca processors. For abaca farms situated in remote areas, barangay-based traders consolidate the raw fibers of neighboring farmers before selling them to municipal or provincial traders. The traders usually conduct the classification of the fibers. Oftentimes, this is the source of mistrust between the buyer and the farmer. In practice, fibers are generally sold “all-in” (i.e. one price for all grade of abaca fibers). Transportation, on the other hand, is the main cost incurred by traders. The more remote the areas, the more important volume becomes to a trader. This situation can reduce economic attractiveness because in many cases farmers and consolidators in remote areas receive a lower net price due to high marketing costs.

As regards market price information, lower level-traders are mainly dependent on the higher-level traders on price information. GBEs, therefore, possess more market knowledge because they can rely on other traders for information on prices and the general demand and supply conditions in the market. There is limited sharing of information among these traders, particularly those that relate to price and supply and demand conditions. The traders share basic information but usually insuring that they are protecting their own self-interest.

3.2 Grading and Baling Establishments

There are four (4) GBEs in Northern Samar. These traders along with the licensed abaca certifiers (LAC) are the only duly authorized personnel by the PhilFIDA to sort, grade and distribute baled fibers. These GBEs operate pressing machines for baling of fibers intended for trading in both domestic and export markets. The standard bale of fiber is equivalent to 125 kilograms and measures about 100 cm. x 55 cm. x 60 cm. Ironically, Northern Samar ranks second to Catanduanes in terms of fiber production with 7,329.89 metric tons or 11%, yet there are relatively few GBEs that operate in the province.

4.0 NATURE AND INTER-FIRM RELATIONSHIPS

On the whole, abaca players in Northern Samar are fragmented. The only functionally active association of abaca growers with large membership is the CEFA which envisions to develop the abaca industry in the province. The PhilFIDA is the government agency mandated to promote and develop the abaca industry.

The relationship that exists between the farmers and traders is only based on supply and demand. In areas where there are several abaca traders, farmers shifts to any buyer who offers a premium price. There are however semblances of 'long-term' relationships through a "credit marketing" where farmers regularly sell their produce to the same buyer. These kind of relationships have been built through the years just as farmers can avail of credit either in cash or in-kind from the trader.

An abaca farmer who is a regular patron or "suki" of the trader is often reinforced by the provision of credit by the latter or by buyer/GBE to local trader. Local traders are the main source of loans and/or cash advances. Farmers who sell their fiber on a regular basis to one particular buyer are able to turn to the buyer for loans for production. The buyer is also a source of family emergencies such as "in-kind" (basic food stuff from store owned by traders). The extension of loans is a way for buyers to catch up with and insure allegiance of supplier vis-à-vis their supply. This practice is disadvantageous to the farmer as the price paid by the trader to the farmer with debts is sometimes lower than the prevailing market price just to cover the "cost of money" (interest rates). In a sense, buyers exert monopolistic control over prices paid to suppliers with debts.

The flow of market information is wanting in the abaca marketing system. There is no organized market information and dissemination system in the industry. Just like other crops, the farmers' exclusive source of market information is the abaca trader whom they sell their product to. Other farmers learn about price information from fellow farmers. Pricing of abaca fibers are generally set by the GBEs.

As mentioned earlier, abaca farmers in Northern Samar is generally disunited. There were no efforts to organize farmers for collective marketing, including value-adding activities. The only farmers' group organized by the Provincial Environment and Natural Resources Office (PENRO) of the provincial government of Northern Samar was the CEFA. The association was provided with common service facilities such as abaca stripping machines, drying area, small farm tools, etc. The initiative was a collaborative approach with the PhilFIDA provincial office. The GBEs in Northern Samar do not buy machine stripped abaca fibers because quality is not good and recovery is low. As a result, farmers discontinued using the machines they were provided with. It is uncommon or seldom happens that there is a cooperation between and among abaca farmers. Even for CEFA, collective marketing and buying of inputs among members is not a common practice. As a result, farmers have low bargaining power and are not able to access better prices or obtain a more lucrative markets such as directly selling to the GBEs. Likewise, trader-to-trader relationship is informal and any form of cooperation is not present. So too, cooperation among the GBEs is not present. The GBEs do not provide technical services to farmers. It is, therefore, safe to assume that in other abaca-producing regions GBEs are not engaged with farmers.

5.0 PRICE AND COST STRUCTURE

5.1 Income and Profits

5.1.1 Farm Production

An abaca farmer in Northern Samar earns on the average about Php20,000 (US\$425.00) per year per hectare. Harvesting will commence on the second year of planting abaca. For a start-up capital of Php46,000 (US\$978.00) a farmer would be able to fully recover his investment on the third or fourth year. This figure can be lowered, however, depending on the cultural management practices of farmers in the area.

Abaca farmers in the province mostly get supply of abaca plantlets from within their farms or from their neighbors. Depending on the requirement, some farmers can get plantlets from neighbors/relatives for free. Price of abaca plantlets in the province is Php15.00 (US\$ 0.31) per piece. Most farmers do not apply fertilizers in their abaca farms. By tradition farmers just used local varieties as source of abaca plantlets. Seldom that they source abaca plantlets from the National Abaca Research Center (NARC) in the Visayas State University (VSU), Baybay, Leyte or Caraga State University (CSU) in Ampayon, Butuan City as the key suppliers of abaca tissue culture. Price of tissue cultured plantlets ranges from Php8.00/piece to Php10.00 per piece for newly dislodged plantlets and Php25.00/piece for potted ready for field planting.

Presented in figure 4 below is the cost and return analysis for a one (1) hectare abaca farm in Northern Samar.

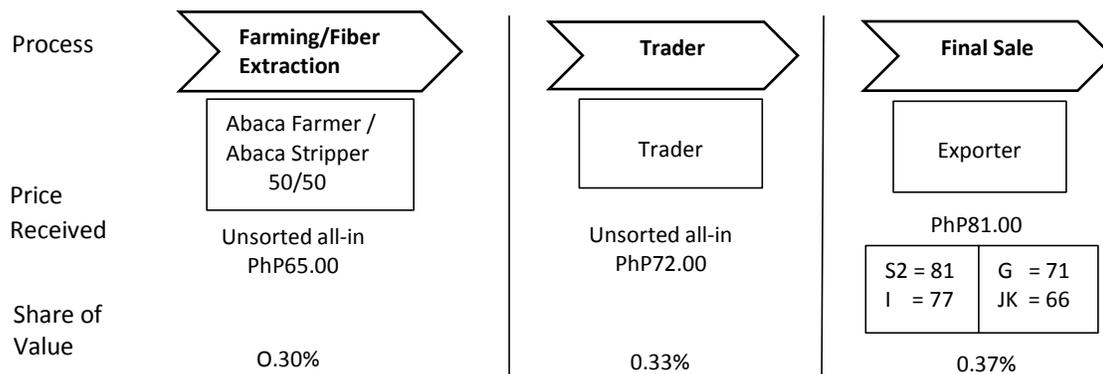


Figure 4. Cost and return of a one hectare abaca farm

Looking at the income sharing scheme, the abaca farmer and abaca stripper share the income equally at 50%. However, in other areas the sharing scheme is 60:40 where 60% goes to the abaca stripper and 40% belongs to the abaca farmer.

As can be seen in the value map, there are quite a number of intermediaries at the municipality level; hence, the market for abaca fiber is still generally monopolistic (a market characterized as having exclusive control over a commercial activity). Large producers, i.e. the GBEs, pulp and cordage processors of abaca products generally have the control of the market and have set-up their networks in major abaca producing areas. For instance, the Ching Bee Trading, the largest operator in Northern Samar (with affiliate company, Specialty Pulp Manufacturing, Inc. (SPMI), controls about 60% of the market in the Philippines, while a local GBE, E. C. Tan, is also operating in Northern Samar. In principle, the large buyers generally are the price makers while smallholders are price-takers. Based on the price set by the large producers, the traders at various levels set their buying price. In fact, the “all-in” procurement does not only reduce income generation potential of farmers but also provides disincentives for upgrading their production systems.

5.1.2 Income and Profits

Assumptions:

- a. Land preparation – “*pakyaw*” or contract per hectare
- b. Labor cost – PhP200.00 per man-day
- c. For newly opened areas the seed requirements per hectare is 1,500 and 1,200 if intercropped with coconut plus 10% allowance for replanting
- d. Labor cost for maintenance is shouldered by harvesters and strippers who get 50% of the total fiber produced except on year 2 where the owner partly shoulders the labor cost for ring weeding and underbrushing
- e. Harvesting and stripping cost is shouldered by the harvesters
- f. Only one or two harvests are done in the second year, usually 18 to 20 months after planting. Three to four harvesting operations per year shall be done thereafter with an average yield of 450 kg per hectare.
- g. Replanting is done every ten (10) years.

Although the abaca industry has been in existence for so many decades, the chains continue to operate under market-based governance. These transactions are typically conducted at arm's length under the auspices of “spot contracts,” with no other alliances existing between the parties before or after the transaction except for credit provision. The incentive system in market governance revolves around price. Accordingly, the Philippines has a well-established grading system which provides a clear definition of the distinguishing quality attributes of abaca fibers, as well as provide the framework for the price of a specific lot of abaca fiber. Regrettably, the grading system is not strictly imposed at the local trading given the dominance of “all-in” procurement. This system of procurement may be partly profitable as the fiber supplied by the farmer regardless of the grades are still being paid off.

In Northern Samar, abaca farms do not apply inputs such as fertilizer and pesticides. An estimate using a low input abaca farm of the CEFA yielded an average net income of PhP16,000 (US\$340) to PhP20,000 (US\$425) per hectare per quarter per year (Table 11). However, farms that use high inputs will yield about 70% increase in income per hectare.

Table 11. Cost and Return for Low Input Abaca Farm, Northern Samar 2016

Particulars	Year 1	Year 2	Year 3	Year 4
Yield, kilograms @ PhP450.00 per kilo@PhP72.00/kg	32,400	40,500	50,625	63,281
Sale (in Pesos)				
Share of stripper (in addition to labor cost)				
Development Cost	21,000	-	-	-
Land preparation, 5 MD @ PhP200/day				
Farm Inputs	22,000	-	-	-
Abaca Seed Pieces (1,200) @ PhP10.00/pc				
Maintenance	3,000	3,000	3,000	3,000
Round Weeding, 15 MD @ PhP200/day				
Harvesting/Tuxying/Stripping/Drying/Maintenance		20,250	25,313	31,641
Marketing/Transportation		900	1,400	2,800
Total Cost	46,000	24,150	29,713	37,441
Net Income of Farmer	[13,600]	16,350	20,912	25,840

For abaca plantation that has been established or has been cultivated for over 4-6 years, harvesting is practiced on a quarterly basis. Replanting will commence on the 10th year of operation. At the farmer and stripper level, studies show that the total cost incurred in producing one kilogram of abaca fiber is about PhP17.00 (US\$0.36) to PhP22.00 (US\$0.46). Postharvest operations, i.e. tuxying, stripping, and drying is about 50% of the total cost of production. Increasing the efficiency of fiber extraction and the corresponding production income of the farmer and stripper is correlated with improving the tuxying and stripping practices.

Transportation and hauling costs amount to about 4% to 5% of the total cost. In more remote areas where road conditions are very poor, hauling costs comprise 20% to 25% of the total cost. In Northern Samar, often products have to be piggybacked over a long distance and difficult terrain from the farm to the road.

6.0 MARKETS AND MARKETING TREND

6.1 Abaca Export Market

Based on the PhilFIDA records, for the period 2008 to 2012, the Philippines generated an average of US\$104.2 million annually from the export of abaca products. Sixty seven percent (67%) of the total average earnings is generated from the export of abaca pulp valued at US\$69.9 million. Export of abaca cordage, ropes and twine generated an average earning of US\$14.6 million or 14% of the export earnings. The country’s earning for the export of abaca fiber averaged US\$12.9 million or 12% of the export earnings. The average abaca fiber craft exports amounted to US\$5.9 million or 6% of the export earnings. Export of abaca yarns and fabrics for the same period averaged US\$.97 million or 1% of abaca earnings.

For the period 2008–2012, annual export earnings growth rate for abaca fiber and manufactures is negative four percent (-4%). Having the highest decrease is the abaca fiber export earnings with 61% and an export earnings plunging from US\$22 million in 2008 to only US\$12 million in 2012.

Abaca pulp exports also has an average drop of 1% over the 5-year period. Export earnings from abaca pulp exports dipped from US\$104.1 million in 2011 to only US\$74.7 million in 2012. Over the 5-year period, export earnings from abaca cordage, ropes and twines up by 2%, while export earnings from abaca yarns and fabrics fell by 2%. Export earnings from abaca fiber crafts increased by 12%.

Presented in table 12 below are the amounts of export earnings of abaca products generated for the period 2008–2012.

Table 12. Annual Export Earning from Abaca Fiber and Manufactures, 2008 – 2012 (in FOB US\$)

YEAR	TOTAL	FIBER	PULP	CORDAGE, ROPES & TWINE	YARNS & FABRICS	FIBER CRAFTS
2008	99,462,995	22,232,835	57,346,582	13,824,592	1,110,558	4,948,428
2009	68,508,909	9,802,084	42,174,835	11,224,537	766,331	4,541,122
2010	104,534,310	13,431,420	71,243,330	14,769,942	816,248	4,273,370
2011	140,113,595	13,428,641	104,140,707	16,957,861	988,925	4,597,461
2012	108,278,294	5,462,185	74,667,343	16,249,598	1,149,872	10,739,296
AVERAGE	104,179,621	12,871,433	69,914,559	14,605,306	966,387	5,819,935
% GROWTH RATE	-4%	-61%	-1%	2%	-2%	12%

Source: PhilFIDA Website

The overall drop in export earnings, as well as export volumes of abaca products from the country can be attributed to the foreign exchange (FOREX): Peso—Dollar exchange rate which fell by 1% over the same period. The highest steep was for the period 2009 to 2010 from an annual average of Php47.64 to Php45.11 (US\$1.01). The falling demand from the country’s major markets such as United Kingdom, Germany, Japan and the USA was also one of the factors that affect the decrease in abaca products export earnings.

Abaca Fiber

The data used in this study will focus only on the abaca fiber as this is the lone product of Northern Samar which contributes significantly to export. The province has no presence of pulp mill, cordage manufacturers and fiber craft processors that will stimulate the processing. Bicol is the center of abaca by-products processing.

Europe, in particular, the United Kingdom, is the prime destination of the country’s abaca fiber export (Table 13). The total value of export will come to about 44% (3,985 metric tons) of the 2008–2012 average abaca fiber exports that were shipped to this country. Asia, particularly Japan, placed second in abaca fiber import which accounts to 37% (3,327 metric tons). The drop of the annual abaca fiber export volume and country of destination from 2008 to

2012 was a result of global economic downturn as several importers reduced their volume of imports.

Table 13. Annual Abaca Fiber Exports, Philippines, 2008 – 2012 (in metric tons)

DESTINATION	2008	2009	2010	2011	2012	AVERAGE
United Kingdom	6,326	3,329	4,216	3,579	2,477	3,985.40
Japan	5,287	1,502	4,680	3,867	1,297	3,326.60
China	1,384	1,770	2,068	2,094	406	1,544.40
India	7	146	175	90	56	109.20
Indonesia	75	78	21	0	83	51.40
South Korea	-	-	12	-	-	12

Source: PhilFIDA Website

6.2 Abaca Imports

To cover for the deficiency in local supply of the specific abaca grades, pulp processors in the Philippines fell back to importing abaca fibers from Ecuador. Ecuador is the only country apart from the Philippines that commercially produces abaca fiber. Importation of abaca fibers started in 1991. For the period 2003 to 2012, the average importation of abaca fiber from Ecuador is 325 metric tons per year with an average import valued at US\$390,481.00.

Based on the Food and Agriculture Organization (FAO) 2012 data, abaca fiber from the Philippines get a better price compared to Ecuador. In 2011, the average all-in price of abaca fiber from Ecuador is valued at F.O.B. US\$168.80/bale. Conversely, F.O.B. Manila price of abaca fibers produced from the Philippines, particularly S2, JK and JK are valued at US\$211.90, US\$192.10 and US\$170.20/bale, respectively. Using the average price of the three grades of abaca from the Philippines suggests that export price for the Philippines abaca is higher by US\$22.60/bale than Ecuador.

6.2 Domestic Markets

For the period 2009 to 2013, according to reports, the farm gate price of abaca fiber in the country has increased at a rate of 1%. The average farm gate price of abaca fiber in Northern Samar is PhP60.00 per kilo higher than the national average. This is attributed to high quality tensile strength of the fiber produced in the province.

The farther the distance of abaca production from the market, the lower the buying price. Although 92% of abaca production in Northern Samar are able to get better buying prices—on the average Php65.00 per kilo based on the 2016 price. There are no abaca processors in the province. Processing is condensed in Leyte, Albay and Mindanao. With the physical geography and strategic location of Northern Samar as the entryway from Bicol, to Leyte and Mindanao there is access to the delivery of supply to these provinces by truck and ship.

7.0 SUPPORT SERVICES

7.1 Financial Services

A number of financial institutions such as government and private banks, including microfinance institutions (MFIs) are operating in Northern Samar. Yet, none of them provide financial products to support abaca production, in that farmers are always marginalized as far as government support and services are concerned.

Although there are some traders that provide cash advance to abaca farmers, the amount is limited. In addition, the amount of cash advances is also limited by buyers to minimize risk. Based on the interview with abaca traders, their potential to expand operations to serve more farmers and earn more income is constrained by lack of funds. On the part of the abaca farmers, no bank will allow them to borrow production loan, as farmers are generally not bankable to guarantee profit to the banks. Should a functional group of farmers' association is able to collectively borrow from the banks, they are often overwhelmed with the difficulty in complying with the banks' requirements. There appears also a lack of business development service providers to assist them in completing the requirements such as financial data needed by the

banks.

Agriculture Credit Support Project (ACSP)

The Land Bank of the Philippines (LBP) through the Agriculture Credit Support Project (ACSP) is a potential facility that provides financial services to organized farmers' association. The ACSP aims to increase investments, create new job opportunities, and improve agricultural productivity in the rural areas by providing loan funds and contributing to the government's goal of "Poverty Reduction". The loan funds can be provided directly from the LBP or through its conduits to the agricultural clientele, i.e. small farmers and fisherfolks (SFF) individuals/groups, small or medium enterprises (SMEs) and large agribusiness enterprises (LAEs).

7.2 Other Services

The PhilFIDA's mandate is to promote, develop and accelerate the growth of the Philippine fiber industry in all facets, including research, production, processing, marketing and trade regulation. However, they lack the capacity to carry out this mandate due to lack of resources. The services offered by the PhilFIDA are as follows: 1) production support, 2) market development, 3) infrastructure and post-harvest development, 4) extension support, education and training, 5) research and development, 6) regulatory, 7) information support, and 8) policy formulation, planning and advocacy. As it is, the abaca industry in Northern Samar will take long to attain its full development. To date the farmers have no access to any support or assistance from this enabler except the short-term initiative made by a local NGO of assisting the CEFA in their abaca production system to help them improve their farming practices.

There are no established abaca nurseries in Northern Samar to provide quality abaca planting materials to further improve the abaca production.

University of Eastern Philippines (UEP)

The University as a public higher education institution (HEI) in Northern Samar is mandated to provide outreach or extension delivery programs to its clientele in its service area. For the most part, the services it offers are along the lines of agricultural development, capacity building, marketing, agribusiness/ enterprise development and management, to cite a few.

8.0 ENABLING ENVIRONMENT

There are existing rules, regulations and policies in place that foster and promote the development of the abaca industry. Notwithstanding, there is a necessity to continually hold dialogues among the government (PhilFIDA, including the provincial government) and the players to distill issues and concerns of the farmers on how to go about improving their productivity and income.

The key issues raised by players are as follows:

1. The barrier to entry by the players into the value chain is the high costs of investment for processing. Farmers or the CEFA as an association lack the capacity and working capital to set-up its own common storage, baling and warehouse facilities. Given the broad membership of the CEFA, they need to be equipped with the know-how on the GBE operations and the concomitant documentation for accreditation requirements to level up their operations.
2. The grading system at the farm gate level is not transparently enforced by traders. Oftentimes, procurement is "all-in" (i.e. there is no uniform classification of the fibers based on the various grades but the price paid is for all fiber grades), thereby resulting in disincentives for upgrading farming practices. With this, farmers could not revalue and assure the economic benefits accruing from adopting new and improved production and stripping practices as there is no premium price associated with good quality fiber. Traders generally classify the abaca fiber according to its quality when selling to GBEs, while the PhilFIDA certifies only the quality/grade of abaca at the GBE level.

3. Poor accessibility due to inadequate farm-to-market roads broadly contributes to high cost of transportation. Farmers become dependent on the traders, resulting in low bargaining power for them. Worse, farmers have to piggyback the abaca fibers for sale from the farm to the barangay center thus affects the efficiency of the chain and quality of the fiber.

9.0 STRATEGIC DIRECTIONS

To achieve competitive advantage, the CEFA shall revisit their organizational vision, if any, program priorities and strategy using the framework that is anchored on the value chain. It should endeavor to have a strong collaborative efforts toward the industry players, as well as the government. The CEFA should position itself well with the following priority development thrusts: i) to increase collectively the volume of fibers; ii) strong association with players that are unified for a shared vision; iii) progressive members of the CEFA and other abaca industry players who are earning better incomes from abaca enterprise and thus contribute to development of the local economy

10. CONSTRAINTS AND OPPORTUNITIES

To improve the abaca productivity in Northern Samar, it will necessitate a unified front among mandated government agencies to face the many challenges and capitalize on the opportunities that are available in the industry.

First-things-first, the PhilFIDA, along with the provincial government should and must deliberately take action to define their program priorities and strategies. A dialogue or consultations among abaca farmers will provide a venue for exchange of information and analysis of the industry. The process will allow farmers to open up a subject to widespread discussion of issues of interest that affect their production and marketing. In hindsight, the stakeholders have identified key constraints that are systemic and significantly affecting the competitiveness of Northern Samar abaca industry. It therefore needs to deal with some of these key issues in order to take advantage of opportunities available for the industry.

Lack of industry champions

The province of Northern Samar lack champions who can take the cudgels to stimulate the fragmented abaca industry players into structured and united front to improve the entrepreneurial skills. A private-led abaca industry organization is wanting to lead in the entrepreneurial skills development efforts. The organization should function both for advocacy, as well as provision of neglecting support services from the government that the industry needs.

Non-existence of post-harvest facilities

There is a need to provide a common service facilities for drying as it affects the quality of fiber. During the wet season, the volume and quality of fiber drops due to difficulty of removing the moisture from the fiber by drying. Hence, harvesting and processing of abaca seriously affects operations of the chain due to lack of supply.

Inadequate support services by PhilFIDA

The PhilFIDA, an attached agency of the Department of Agriculture (DA), is the agency mandated to take the lead in the provision of professional services and support to abaca farmers. It is wanting that their function should be felt by the industry players.

Inadequate market and technological information

Players normally limit information sharing to those that are absolutely necessary to bring transactions to completion and with utmost consideration that information shared does not work against their interest. The more distant their farms are from the trader's buying areas, the less knowledgeable are the farmers of the prevailing market price. The traders generally get their information from higher level buyers. For instance, abaca farmers should have access to disease-resistant high yielding breeds. Oftentimes, farmers have low cost benefit appreciation on the use of good quality disease free planting materials.

There is also low uptake of technological capacity, including access to providers/services to improve sustainable farming and agronomic practices thus reduce incidence of insects, pests and diseases.

Lack of price incentives

The present practice of procurement using the “all-in” (i.e. there is no uniform classification of the fibers based on grades but the price paid is for all fiber grades) has resulted in disincentives among farmers to upgrade their farming systems. Farmers should be able to harvest the benefits of adopting improved production and stripping technologies through offering of premium price that is associated with good quality fiber.

11. CONCLUSION AND RECOMMENDATIONS

Northern Samar being an important abaca production hub in Eastern Visayas needs to fortify itself to enhance its competitive advantage as one of the country’s leading abaca producer. To achieve a competitive advantage, the abaca industry calls for a clear and defined set of targets, program priorities and strategy. The government agencies mandated to provide support and services to abaca farmers should and must take an active and unified action to promote the development of the abaca industry in the province.

The PhilFIDA’s mandate of providing support services to farmers is fundamental to the promotion and development of the abaca industry in Northern Samar. The PhilFIDA’s provincial office should be energized or fortified to meet the many challenges faced by the abaca industry. Their extension delivery services should be adaptive to provide assistance to organize and mobilize stakeholders toward improving productivity and income of the players. The function of the private sector in this effort is equally important and wanting—their role has been seen in other industries/commodities such as coffee, banana and cacao to have worked well.

To jumpstart the abaca industry in Northern Samar, a strategic plan should be crafted that defines: i) development of target areas for expansion and areas for rehabilitation in Districts I and II; ii) setting up of nurseries in strategic sites; iii) provision of technical assistance and support services and training, including common service facilities such as post-harvest equipment; iv) financial assistance in the form of production loans; v) marketing/promotion of abaca fiber; vi) setting up of ATDF managed by the PhilFIDA and farmers; and vii) define R&DE programs and priorities.

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