Library Progress International *Print version ISSN 0970 1052*
Vol.44 No. 3, Jul-Dec 2024: P. 16951-16961 *Online version ISSN 2320 317X*

Original Article *Available online at www.bpasjournals.com*

A Proposed Framework for Sustainable Cacao-Agribased Marketing System in Lagawe, Ifugao, Philippines

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How to cite this article: Client William M. Malinao (2024) A Proposed Framework for Sustainable Cacao-Agribased Marketing System in Lagawe, Ifugao, Philippines. *Library Progress International,* 44(3), 16951-16961

ABSTRACT
One of the Philippines' most lucrative exports, cacao, is traded all over the world. To increase its output, productivity, value-added, and competitiveness, several initiatives were made. However, those initiatives in some way threaten long-term sustainability. Thus, this study explored the current potentials and challenges of cacao producers from inputs to processing and trading. This study used a qualitative-descriptive research design among all registered cacao producers in Lagawe, Ifugao, Philippines. Inductive analysis was used to analyze the gathered data among four cacao producers/ entrepreneurs through key informant interviews and observations. Findings revealed that the cacao industry in the municipality has the potential to be sustainable and be an agent for rural development through initiatives made to build up the said industry. Cacao producers have maintained their farming practices, continuously improving critical factors towards greater access to market share domestically. However, areas for improvement were identified to strengthen the cacao industry from inputs to processing and trading. With this, a comprehensive framework was forwarded as a tool for sustainable cacao production and processing in Lagawe, Ifugao, Philippines. The synchronization of all those aspects is vital to reach sustainability in the cacao agribusiness system in the locality.
KEYWORDS: Cacao Production, Cacao Potentials, Challenges, Sustainability

1. Introduction

Combating poverty and other forms of deprivation requires policies that enhance health and education, lessen inequality, promote economic growth, combat climate change, and fight to protect our seas and forests are at the center of 17 Sustainable Development Goals (United Nations, 2023).

The Ambisyon Natin by 2040 in the Philippines is based on the Sustainable Development Goals. By 2040, the Philippines would have had a prosperous middle-class society with no one living in poverty (National Economic Development Authority [NEDA], 2017).

In the Philippines, the agricultural, forestry, and fisheries (AFF) sector plays a crucial role in creating jobs for approximately a third of the labor force and lowering poverty and inequality for the three-fourths of the poor who live in rural regions. To encourage more inclusive development, efforts to revive the AFF and capitalize on its growth potential must be stepped up. Based on vulnerability, appropriateness, and value chain studies of the Department of Agriculture (DA), the Philippines can grow a variety of commodities, including mango, coffee, dairy cattle, calamansi, abaca, rubber, banana, and cacao (NEDA, 2023).

Due to the growing supply and demand gap for cocoa beans in recent years, the cacao industry has become more well-known in both the domestic and international markets (Voora et al., 2019). The expanding middle class, rising income levels in emerging nations, novel and inventive applications of cocoa in the culinary, cosmetics, and pharmaceutical sectors, and the positioning of cacao as a health food are some of the main factors driving this growth (Tothmihaly et al., 2019). According to data from the Philippine Statistics Authority (PSA), the production of cocoa in the Philippines is growing slowly but steadily, averaging 2,743 hectares more annually from 2013 to 2020. Area expansion and the seed/seedling dissemination activities of the various government entities may be responsible for this growth. Nevertheless, despite the rising trend in output, local and international market demand continues to outpace supply. Due to high planting material mortality and producers' ignorance, production is low in the cocoa industry (Department of Agriculture - Bureau of Agricultural Research, 2022)

According to the DA, the nation's cacao fields, like those of the majority of cacao-growing nations, are modest holdings that are run and owned by farmers. According to a 2017 survey by the Food and Agriculture Organization, the Philippines

is ranked 24th among the top producers of cocoa beans. However, with a little than 0.01% worldwide market share, the nation came in at number 72 in terms of exports. With an average import value of USD 168.3 million but a meager export value of USD 22.1 million, the Philippines is a net importer of cocoa. Major chocolate producers in the nation, who seldom purchase domestic cocoa beans, are attributed to the significant import of cocoa powder and the high export value of chocolate. Instead, they make their products with imported cocoa butter and powder. According to the most current Philippine Cacao Industry Forum, by 2020, the Philippines' worldwide demand is anticipated to be between 4.7 million and 5 million metric tons (MT). Nevertheless, a 1 million metric ton (MT) cocoa shortfall is also expected. Although the local supply is just about 10,000 metric tons (MT), the yearly local consumption exceeds 50,000 MT.

Local farmers and exporters are increasingly interested in pushing for a more dynamic and competitive cacao industry that can compete with other major cacao-growing nations. The Philippines' climate, soil, and location are favorable for cacao production and accessible to domestic and international trade (Department of Agriculture—Bureau of Agricultural Research, 2022).

Lagawe, Ifugao, is one of the rural places in the Philippines that aims for sustainable economic development. Lagawe, Ifugao, is improving the Philippines' Cordillera region's commercial center. The municipality makes use of local resources, goods, and services to enhance the welfare of the neighborhood. Utilizing local resources, including people, raw materials, commodities, technology, and local culture, with innovation and productivity is essential to community members' commercial operations (Malinao, 2021; Malinao & Fernando, 2021). According to Philippines News (2018), the region's height and temperature are perfect for cocoa growth. The Department of Science and Technology advised farmers to establish Ifugao as a cacao-producing region to benefit all industries. The agency has launched an intensive drive to enhance cocoa production in Ifugao, which includes the establishment of nurseries, plantations, and processing facilities. To better educate cacao farmers about the industry, the DOST conducts a techno-demo on cacao post-harvest processing and training on tablea production. Given the growing demand for cocoa beans and goods manufactured with cocoa, which has the potential to relieve poverty and promote economic growth, particularly in rural regions, government agencies and the private sector are combining their efforts to boost the nation's cacao industry.

Numerous governmental organizations support and monitor initiatives in the municipality that give local farmers and producers more authority. The municipality still has a long way to go before it can indeed expand. The government's interferences with its constituent institutions have rendered the venture's success rate virtually unrecognizable. Despite initiatives to reduce ignorance in business management, manufacturers nevertheless encounter development barriers.

Santiago (2016) claims that several government agencies, institutions, and business and civic groups have persisted in launching attempts to deal with the accumulation issues that are only worsening. However, given their limitations and the nature of those who solely want short-term benefit rather than long-term gain, they are only able to do so much to address the issue. To establish a complete framework for a sustainable rural development plan, it is crucial to examine the potential and difficulties faced by local cacao farmers as a source of income. This would enable several governmental agencies in the municipality to create policies and practices to support cocoa farmers. The numerous cacao stakeholders (Farmers, Producers, and Traders) from each barangay might use this as a starting place to get the training and information they need, as well as mentorship in the areas that require it.

2. Objectives

This study aims to determine the potentials and challenges of Cacao producers/entrepreneurs, from inputs, processing, and operation to trading as input for the proposed Cacao agri-based system in Lagawe, Ifugao, Philippines.

3. Scope and Methodology

This study employed a qualitative research technique. Specifically, the potentials and difficulties faced by cocoa growers from input through processing and trading were identified using a qualitative-descriptive study approach with producer participant interviews. The capital of Ifugao Province and a fourth-class municipality in the Cordillera Administrative Region is Lagawe, Ifugao, also referred to as Burnay served as the research environment of the study. God-loving and civically motivated Lagawe, Ifugao is aiming to develop a sensitive and resilient business community while residing in a prosperous and ecologically sound setting. Lagawe, the capital of Ifugao, serves as the region's economic and financial hub in the province. Even yet, the town's primary industry is agriculture, which also produces vegetables, sweet potatoes, rice, and cocoa. The area is rich in culture, native raw resources, and enterprising individuals who are inbred with abilities and talents that are harnessed to create unique goods deserving of both local and international markets, such as the manufacturing of culinary products, handcraft items, and wooden furniture. Lagawe is the perfect location for the study

because of these qualities (Malinao, 2023).

A list of registered businesses operating in Lagawe, Ifugao, was supplied by the Department of Trade and Industry. In the area, 256 enterprises have been registered. In this study, the research group was determined using criterion sampling and purposive sampling. The four (4) registered cacao growers in Lagawe, Ifugao, Philippines, were the primary research subjects based on the assessment criteria. The One Village One Product program of Japan served as inspiration for the selection criteria utilized to choose the research participants. In the research of Malinao (2022), the semi-structured interview form was employed to collect critical responses that clarified the study's stated objectives. However, to better grasp the participants' perspectives, additional probing questions that were not on the interview form were also asked. When creating the interview form, the stages for constructing a qualitative data collection instrument were adhered to. Before expert views were gathered, the item pool was first developed. The questions that the expert and researcher both thought were troublesome were eventually removed from the instrument. The interview guide was also translated into the Tuwali language of the region. Open coding was done initially with the possibilities and difficulties of cacao growers, and subsequently, product descriptions were documented. Based on the critical results of the potential and constraints from inputs through processing and trading, comprehensive solutions to improve the cacao sector as a strategy for sustainable rural development were offered.

4. Literature Review

Potentials of Locally Made Products

Having the potential for locally made products means creating globally accepted products that reflect the pride of the local culture. Like the OVOP of Japan, the success of local products lies in using three principles: local yet global, self-reliance and creativity, and human resource management.

The local but global (quality of products) idea establishes a framework for developing new goods. According to this idea, utilizing the local resources is a vital component of goods. It also entails developing appealing items locally and worldwide while preserving the flavor of local culture. As a result, a product with distinct "local tastes and culture" might be aggressive in trading if its value develops rapidly. To achieve this goal, local resources in OVOP can take many different shapes and components as long as they include the importance of "local."

The OVOP movement's goal is to create, develop, and promote a single product that locals can be proud of, especially one that can be sold locally and globally. This implies a development of goods and services that may represent a sense of place and pride while still meeting global standards and demands. Creating internationally acceptable goods representing local culture's ownership, pride, and unity is "local yet global." Using the flavors and the vibrancy of the local culture, producers can develop specialty goods that can be sold across the country and beyond the world. Because of its local distinctiveness, an original local product of outstanding quality can become renowned or global (Parilla, 2013).

However, when businesses try to expand their products to international markets, standardization and adaptation must be considered to formulate their global product strategy. Product quality is critical since it determines a company's market share. Quality has been regarded as a technique to improve the competitiveness of operations in emerging countries, and it is becoming increasingly significant. Supporting local, regional, and national organizations that assist small businesses has the potential to improve quality. When government departments are dedicated to quality, the government encourages economic progress and privatization, not interfering with private operations, and the result can be quality improvement. In the case of smaller businesses, they have a smaller consumer base; thus, they must protect themselves against mistakes and waste by ensuring quality. This is critical because consumers increasingly demand certification from International Standards Organizations (ISO) since they serve as quality indicators, health and safety, and environmental best practices (Ngugi & Bwisa, 2013).

The second factor is the combination of self-reliance and creativity, which emphasizes local people's self-reliance and the authority's stance on it. The government only provides additional assistance, such as technical assistance and promotion, rather than direct assistance to the community. As such, local people's initiatives are the real driving force behind the OVOP movement. The local community is expected to recognize its competitive edge by utilizing its potential and local expertise to generate an innovative product using its accessible resources. The OVOP concept aligns with the neoliberal view of "small government" if self-reliance happens when choices and movements occur at all stages and are based on self-confidence and self-determination. This campaign could then be implemented by themselves, possibly with government assistance. The local community is expected to discover its competitive edge by utilizing its potential and local expertise to develop a unique product using its accessible resources. These are voluntary initiatives that use the capabilities of local communities and small businesses.

Meanwhile, human resource development requires that local inhabitants are supposed to relieve poverty concerns independently, which means they will not rely on the government to produce and develop their goods. The takeaway from this concept is that human resource development occurs as part of developing an OVOP product; alternatively, OVOP goods can be produced by devoted and talented people motivated to contribute to their fields. As a result, it is critical to develop and empower local leaders who can inspire and drive the community to realize their full potential and think creatively. Establishing networks and transmitting information and skills are also included in the aim of achieving these goals (Mukai & Fujikura, 2015).

Challenges of Locally Made Product Producers

Challenges refer to the difficulties or barriers entrepreneurs face in running their business, from conceptualization to commercialization. Business barriers have been identified as stumbling blocks in the growth of SMEs all over the world. For example, the most extensive restrictions impacting SMEs in Tanzania include insufficient business training, cash, and an anti-entrepreneurial attitude. In contrast, financial restrictions are the most significant hindrance to SMEs in Pakistan, India, and South Asian countries. It is not surprising, though, as external financing has been identified as a substantial stumbling block to SMEs' expansion in developing countries.

Meanwhile, the main obstacles affecting Algerian SMEs are the business climate, legal and regulatory frameworks, access to external financing, and human resource capacities. Causes such as consumer theft and security issues, a failure to adapt to the latest technology, a lack of access to capital, ineffective marketing strategies, and a shortage of skilled labor prevent Namibian SMEs from thriving. Political, economic, and regulatory hurdles hamper SME expansion in Russia.

In contrast, SME expansion in the UK is hampered by a lack of people-based capabilities, a lack of competence, a lack of skills, and information technology (Nkwabi & Mboya, 2019; Malinao & Hernando, 2021). In the Baltic Sea Region, innovative enterprises cite a shortage of skilled workers and better-educated managers as significant impediments to fully exploiting the potential of innovations. At the same time, non-innovative firms place a higher value on financial support. Soft innovations such as processor organizational improvements are becoming the focus of companies as their level of innovation rises. These organizational innovations have the most potential because they can benefit any company, regardless of its industry (Hogeforster, 2014).

Additionally, lack of capital, lack of access to finance, lack of collateral, bureaucratic loan procedures, poor repayment habits and corruption, inadequate business training, poor demand for products, lack of raw materials, poor infrastructure and ICT, poor partnership, insufficient human capacity, business informality, poor network coverage, export competencies, poor production, lack of business successors, equipment & electricity for processing, tight restrictions, poor market accessibility, and competition, inborn individual attributes, changing business environments, competitive activities, and location, lack of technical and management skills, poor access to market information are the identified problems and challenges among businesses (Nkwabi & Mboya, 2019).

Due to geographic distance and isolation, these problems are exacerbated in rural areas. In light of the previous, the challenges and difficulties faced by rural entrepreneurship in developing countries must be overcome to implement self-employment successfully (Sharma et al., 2013).

5. Result and Discussion

5.1. Potentials of Cacao Production

Cacao Inputs

Table 1. Identified Potentials of Registered Cacao Producers in Lagawe, Ifugao, in terms of Inputs

Cacao Inputs
With existing farming practices – Organic and Shed Grown Farming
With access to backward linkages (manpower, raw and processing materials)

Cacao plants are frequently cultivated in the shelter of other trees. In organic farming, natural solutions are used to grow cocoa instead of synthetic pesticides and fertilizers. Except for seedling preparation, fertilizer treatment, and trimming, cultural management procedures have mostly stayed constant. The excellent quality of cacao beans is ensured through careful bean selection to ensure the quality of products. Cacao producers shared that they harvest cacao from their farms to ensure that good quality cacao is used to make the final products. Cacao usage as the primary ingredient, locally grown in the locality, makes the product culturally connected. Accordingly, finished products start with harvesting cacao fruit from the farm. Cacao fruit picking is done by hand. Only cacao beans are being processed. Cacao fruits can be harvested

when their color tends to be yellow and orange. The cacao seeds are processed and placed in a container to ferment and remove the pulp. During the fermentation, the container is covered with banana leaves. In this state, the pulp undergoes sweating, and the thick pulp liquefies. Then, they are washed with water and dried. After this, the beans are roasted and ground. Cocoa is then separated from cocoa butter. Tempering or heating and cooling happen to stabilize the product, and then it is molded and packaged, ready for distribution.

According to Pierrette et al. (2021) and Corpuz (2023), crops cultivated in sheds can help to lessen soil erosion, boost carbon sequestration, and provide habitat for animals. More specifically, post-harvest processing involves enhancing the quality of crops after they have been harvested by utilizing modern technology and best practices. Examples of such techniques include fermentation, dry processing, and wet processing. Lagawe, Ifugao uses an agrisilvipastoral agroforestry farming system, according to Latap (2013). It involves the raising of livestock, tree crops, and crops. It consists of three parts that are all situated on the same plot of ground. The system is more ecologically and socio-economically friendly.

On the other hand, the recognized environmental conditions, such as the availability of a supply of raw materials and people, typically had a significant impact on the continuation of their operations. To ensure the manufacturing of final goods to a considerable extent, all research participants have collaborated with various suppliers for raw materials as well as for processing aids and machinery. The production of cacao has joined forces with logistics for both inbound and outbound shipping. Finally, all firms now have appropriate personnel to continually meet client needs since operations resumed following the severe lockdown. Participants in an interview stated that having a long-term relationship with suppliers helps companies obtain high-quality raw materials, which is crucial for creating high-quality end products. Partnerships with outward logistics, meanwhile, guarantee that the goods go to customers, both actual and potential.

Cacao Processing and Operations

Table 2. Identified Potentials of Registered Cacao Producers in Lagawe, Ifugao, in terms of Cacao Processing and Operations

Cacao Processing and Operation
With consistent product performance
With 1-2 shelf lives
With a good quality control system from bean to finished products
With existing remarkable product design, product branding, secured and safe packaging, and visible and prominent labels.
Consistent production
With production and storage centers
Simple monitoring of income and expenditures
Regular conduct of inventory
Enough production technologies
With access to social infrastructures (Health, Transportation Networks, water and electricity, sanitation and waste, communication utilities)

Cacao chocolate is known to be a good antioxidant. More so, it serves as a stress reliever. Cacao producers in the municipality only sell finished products to consumers, such as chocolates and tables, and these have high requirements for storage conditions. The best storage environment is to keep the temperature between 15 and 17 degrees, which provides a cool and dry place ideal for storing chocolates and tablets. If unopened and stored correctly, chocolate lasts two years from the day it was made. If opened but stored correctly, the rule of thumb is one year. For tablea generally last for two years.

Each chocolate product is unique on its own. All chocolates and tableas have different product designs, making each product equally attractive. Most products are rectangular and similar in color and design, integrating native-inspired designs to ensure distinction from existing chocolate products in the market. The designs for chocolate products do not differ, and flavorings and added ingredients are indicated. Blue-violet dark-colored packaging was used for chocolates, while brown paper packaging was for tablea. Notably, tribal patterns added beauty to the overall product design. The packaging of chocolate bars is done using many layers. Aluminum foil serves as the primary layer of packaging for chocolate bars, while a box serves as the secondary layer. As a result, the product is secure and safe. The tablea, on the other hand, employs an airtight sealed doypack or stand-up pouch. For cacao by-products, specific product labels are accessible, prominent, and conspicuous. All goods are marked with their net weights, brand name, and company name. Notably, tablea goods have dates on them that indicate when they expire. Meanwhile, the flavor of the chocolate and other additives are present in chocolates. However, neither product has the nutrition labels or the storage instructions mentioned.

The target market for tablea and chocolates are the locals, tourists, chocolate lovers, and health-conscious consumers. Chocolate products are attractive to people of all ages. The businesses use more cacao and fewer emulsifiers to maintain

the products' taste and attract customers. This also serves as their competitive advantage over their direct and indirect competitors. The production cost per unit is the basis for their selling price. Businesses supply directly to consumers through their physical stores, like their production centers at home. Cacao producers have also partnered with retailers and wholesalers to distribute the product within the municipality and in Baguio City. Aside from word-of-mouth, cacao producers promote their products through social media (Facebook). Businesses actively participate in trade fairs organized by different government agencies in the province. Each product has a brand identity (brand name). All have unique brand names containing the business name and the raw materials used. The business name is registered with DTI. The production capacity of the business depends on the availability of cacao beans. The cacao beans are harvested in the place and processed by an Integrated Farm. Usually, for all products, the business produces 30-50 packs per product variety and distributes once a month to partner retail stores, depending upon the order. They deliver products with additional fees through couriers. The storage area is the manufacturing core.

All businesses use family funds to produce products continuously. To monitor and track the income and expenses of the business, they maintain a record book to record transactions per production. The owners are still in the process of learning different financial statements and budget plans. Though a budget is not present, they allocate funds to improve the texture of the products. Inventory is done twice a month, beginning and ending inventory. At the start of operations, problems with texture were present. The participants shared that there was a problem before with the texture of the chocolates. With the training attended, the texture improved). Different machines, tools, and equipment are being used to improve the production and quality of products. Specifically, the melange, roaster, oil extractor, chocolate machine, and dryer help produce products efficiently. The owners personally use the different technologies, and one employee works on molding the products. The local community's pride in the product is seen as a critical component in guaranteeing business survival. The use of native, organic cacao by cacao producers, even in the creation of the finished product, is said to give it a cultural connection. Their method for gathering customer input is to collect Facebook reviews and postings. If a customer is unhappy with a product, the company accepts returns and provides refunds or replacements.

Finally, players have access to the physical components of networked systems that have a significant impact on how business is conducted. Consumers can purchase goods and services from businesses, allowing them to sustain and enhance their offers considerably. In particular, the operation has been impacted by access to social infrastructures, including healthcare facilities, transportation networks like roads, and utilities like power and sewage. This may be explained by the fact that these social infrastructures, such as public roads, electricity, and sewage systems, are essential to the day-to-day operations of the company. Access to medical facilities also guarantees that the labor force is equipped to do its job. The local government of Lagawe, Ifugao, is taking initiatives to manage waste.

Cacao Trading

Table 3. Identified Potentials of Registered Cacao Producers in Lagawe, Ifugao, in terms of Trading

Cacao Trading
With an identified local market access (Forward linkages)

Participants in the research who are registered cacao producers have access to various government initiatives and initiatives that have a significant impact on businesses that sell goods across regional and international borders. Findings specifically show that firms have been significantly impacted by support with cross-border and domestic product sales, online product promotion, and mentoring and coaching of producers during the product creation process. This suggests that government agencies involvement in the province guarantees that Lagawe and Ifugao products are available and visible in several towns, raising brand recognition and reaching a broader market. The Go Lokal Philippines and OTOP Hub Philippines programs of OTOP.PH, another initiative run by the Department of Trade and Industry, also benefits all study participants. Go Lokal Philippines provides support with product development to create marketable items as well as market access to stores or spaces offered by retail partners, including malls and retail operators.

5.2. Cacao Producers Challenges

Table 4. Identified Challenges of Registered Cacao Producers in Lagawe, Ifugao

Challenges
Lack of access to finance or inaccessibility to credit facilities

Products not registered (FDA)
Brand names not registered (IPOPHIL)
Insufficient or limited marketing strategies (Product, Price, Distribution, promotion, positioning, and differentiation)
No financial statements prepared
No business, budget, and marketing plans were prepared.
Limited customer feedback mechanisms
Limited-service recovery strategies
No post-sales service was provided
Weak cultural connection
Limited quality improvement initiatives
Poor internet connectivity
Limited domestic market linkages and no exporting activities?

The study's participants indicated that they never got any financial assistance from the government to support their company operations, as can generally be inferred from the table. Different governmental organizations do not provide manufacturers with monetary aid for startup costs or to maintain business operations. The help comes in the shape of instruction, supplies, and tools.

Even makers of chocolate and tablea are not FDA-approved, registered, or in compliance with the required product labeling. Strategies for promotion, market penetration, distinctiveness, and positioning are insufficient. Brand identities are not duly registered. Limited networks are established outside the municipality, which means there is limited distribution of products. No one from the business prepares and analyses financial statements. No additional improvements in product quality were made. There is also a weak cultural connection in the development and production process. The business does not have a standardized feedback mechanism or after-sales service. Market linkages are limited to local consumers and nearby municipalities and provinces.

5.3. Proposed Comprehensive Framework for Cacao Agribased System for Sustainable Rural Development

Based on the study's findings, a comprehensive framework for the cacao industry as a sustainable rural development strategy is proposed. This framework represents the critical drivers for cacao stakeholders (Farmers, Producers, and Traders) to become sustainable. The framework's components are based on the study's results, which consist of the identified potentials and challenges of cacao producers in Lagawe, Ifugao, Philippines, from input to trading.

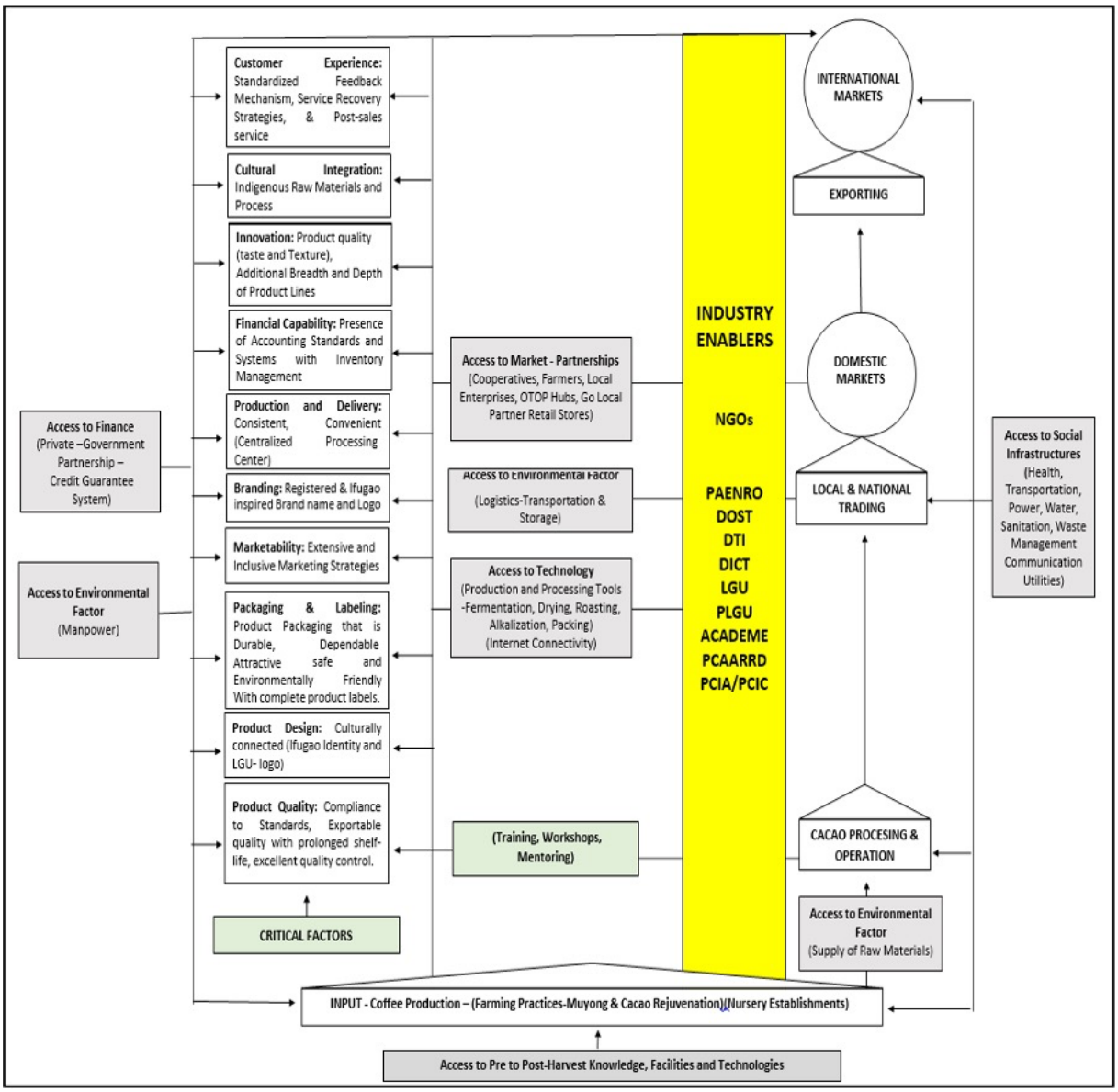

Fig.1. Proposed Cacao Agribased System in Lagawe, Ifugao, Philippines

Patterned from

The sustainability triad, which includes generating ecologically sound, socially desired, and commercially successful cocoa development in all proposed initiatives, is the framework's central tenet. The thorough structure directs all parties involved in the cacao sector to accomplish rural development in Lagawe, Ifugao. This makes it possible for those involved in the cacao business to experience economic growth, higher and more consistent yields and incomes, better production and processing, and the development of their capacities and skills for both the present and the future.

In the context of the environment, the framework aims to produce and process cacao with particular attention to the environment. Strategies for improving cocoa production are, therefore, in line with environmental conservation and preservation. To ensure human resource development, socioculturally desirable initiatives for the growth of the cacao community are also outlined. Along with this, there are economically sound techniques that promote equitable and lucrative distribution to achieve inclusive company growth with a strong focus on the financial security of the stakeholders in the cacao industry.

Four (4) different operations are engaged in the cacao industry: cacao production, processing, local commerce, and exporting. For cacao participants to ensure the availability and sustainability of the goods needed at their level, there are matching sustainable solutions for each activity level.

As shown in Figure 1, several government and non-government organizations support the cocoa business. According to their specific responsibilities, these enablers offer support services in the form of technical and financial interventions, including the provision of facilities, social infrastructures, and markets, as well as environmental elements (inbound and

outbound) access. In general, they help the industry grow and become stronger. Specifically, the cacao industry needs support from industry enablers from seed to cup or from input to local and national trading (domestic), including reaching international markets (exporting). These factors include access to finance, social infrastructures, and environmental factors (workforce). The development of a credit guarantee system, the resolution of collateral issues, the provision of processing and bureaucracy from start-up, continuous production, the acquisition of raw materials and technology, process improvements, certifications, quality assurance, and market development are all possible ways to increase access to finance. How social infrastructure facilities like those for health, transportation, power, water, sanitation, waste management, and communication must be built, improved, and expanded to guarantee the firm runs well. Corporate operations must have access to local resources, such as adequate people.

Cacao growing is a vast economic activity, although three areas are mainly regarded as three cacao-producing municipalities in Ifugao Province– Asipulo, Lagawe, and Kiangan. Farmers in the municipality and the surrounding areas must first enhance output and productivity for the cocoa business in Lagawe, Ifugao, to be economically viable (Input). According to the Department of Agriculture (n.d.), cacao farmers should have access to pre- to post-harvest knowledge, resources, and technologies from soil preparation and seed selection to drying and storage to increase production and productivity. To prevent cacao plantations from being converted to other purposes, cacao stakeholders should cooperate to identify and create expansion regions for cacao production. They should also encourage intercropping of cacao with high-value crops. For many centuries, cacao growers have used "Muyong" as a location for cultivating cacao. The Ifugao indigenous groups in the Philippines use the "Muyong" traditional knowledge system to manage their natural resources. This untouched indigenous forestry method aids in attaining economic advancement and sustainable forest management in the province. A privately owned, communally maintained, or traditionally inherited forest is Muyong. The muyong is a component of the entire mountain ecosystem. It functions as a rainfall and filtration system. It is saturated with irrigated water year-round, making it perfect for cacao cultivation—the muyong form distinctive clusters of a micro watershed. Boosting cocoa bean output is the perfect method of managing forests. If they are readily available, inexpensive, and easy to get, these naturally growing seedlings may be the most excellent option for planting materials.

According to the Department of Agriculture, organic agricultural practices, including weeding, pruning, rehabilitation, and rejuvenation, must also be used to boost output. The Department of Agriculture describes cocoa rejuvenation as the chopping of aged plants' vertical stems to encourage the emergence of new sprouts. It is better than replanting and a generally acknowledged method for reviving cocoa crops. Cacao rejuvenation may increase cacao green bean output to 100% while slashing labor expenditures by half. Establishing cacao nurseries and raising seedlings might help with the issue of having high-quality cacao beans for processing.

The raw material for processing and operation is cocoa beans from cacao-producing locations. Production of goods will continue if the firm has a steady supply of raw materials (Environmental Factor-Inbound). The final goods (chocolates, tablea, and other by-products) will be created by processing these essential ingredients.

Based on an examination of goods produced locally in Lagawe, Ifugao, Philippines. The techniques and elements listed below are essential to maintaining cocoa processing in Lagawe, Ifugao. The development will be able to stand out from the market thanks to the strategies and crucial success aspects that will set the cacao product in Lagawe, Ifugao, apart from its direct and indirect rivals.

Lagawe cacao products will stand out by maintaining excellent taste and aroma with prolonged shelf life, consistently maintaining exportable product quality reflecting local touch and pride, and applying standardized and excellent quality control from cacao beans to commercialization. The incorporation of its own identity as Ifugao, reflecting local touch and pride, will facilitate easier product recall from its identified markets. Examples include the use of Inabol, LGU-Logo, bul-ul/tinagtaggu, or any other image that will represent the unique culture of the municipality in its product designs. Product packaging and labeling are crucial components to succeed in a cutthroat business environment when entering a larger market. Therefore, making sure that items are packaged in reliable, trustworthy, beautiful, safe, protected, and environmentally responsible ways will ensure that they last and reach their intended consumers safely and sound.

Additionally, one of the critical predictors of buying intentions is whether a product's label complies with established standards. Additionally, having a clear roadmap for the organization's development is crucial; consequently, keeping a business plan that includes marketing plans will allow the company to monitor and assess its success. When the correct product, price, and location are combined with comprehensive and extensive advertising tactics, more people will become aware of the brand. The success of a business depends on several factors, including consistent product production and availability, the establishment of centralized processing centers with modern production and processing technologies, delivery mechanisms, storage capacity, network infrastructure, and the presence of accounting standards and systems with

inventory management within the company. Product development activities are crucial and should emphasize the advantages of the plentiful local resources (cacao). Investigating additional taste and shape possibilities may provide the product a competitive edge. A product that has a unique local taste and culture may be traded aggressively. Maintaining the use of native cacao beans that have been processed using Ifugao techniques will raise the value of the finished product. Finally, to compete in the global market, locals must constantly develop their distinctive ideas and values in the spirit of independence, confidence, and creativity while considering the standardization of feedback mechanisms, product recovery techniques, and post-sales services provided as an added value to its products.

The impact of industry enablers on the creation of final products is critical for the success and sustainability of the business and becomes a strategy for rural development. Access to technology (Production and Processing Tools and Internet Connectivity), capability building (training, seminars, and mentoring) to cacao stakeholders, and establishment of active linkages (Partnerships -Local, national, international) should cover farm-to commercialization of products globally.

6. Limitations and Research Gaps

The study focused on four registered cacao producers/entrepreneurs, which limits the generalizability of findings. Future researchers may consider covering the whole province to generally represent the cacao producers/entrepreneurs, both registered and unregistered. Augmentation of respondents might help compare responses. The business performance of participants may be included in the study. A mixed-method approach may be used to provide comprehensive and in-depth results.

7. Conclusion

Generally, local producers in Lagawe Ifugao have the potential to produce products that can compete within and outside the locality. The Cacao Industry in Lagawe, Ifugao, has product potential based on maintained farming practices, existing strategies for processing and operations, and an established domestic market. To help local farmers construct a sustainable industry-viable product that may reach a broader market and spur rural development, a complete framework for a sustainable cocoa Agri-based system has been presented. This includes the current situation in terms of product quality, design, packaging, and labeling, marketability, branding, production and delivery capacity, financial capability, innovation, cultural value, and customer experience, as well as external factors affecting producers like access to capital, technology, the market, social infrastructures, and environmental factors. Finally, the framework is based on the triple bottom line to design strategies for sustainable rural development.

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