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Sampaguita Production and Marketing in Lubao amidst the COVID-19 Pandemic

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Abstract

This study aimed to (1) identify the participants who create various utilities for sampaguita buds in Lubao, Pampanga; (2) determine whether bud production is profitable; and (3) describe the problems that the enterprise is facing especially during the COVID-19 pandemic. The data needed for the study were obtained through interviews of two barangay officials, 30 growers, and 15 middlemen. The study found that (1) the participants include growers, runners and *biyaheros*, and wholesalers and retailers who create form, place, and possession utilities; (2) bud production is profitable (growers earn, on average, P294,222 in the rainy season and P969,222 in the dry season; marketing margin is P400 per *tabo* in the rainy season and P200 per *tabo* in the dry season); and (3) the enterprise is facing high input costs, whitefly infestation, and strict COVID-19 quarantine periods. The study recommends (1) purchasing inputs through their federation and consolidating their farms to avail of volume discount from suppliers and benefit from economies of scale; (2) practice IPM to decrease dependence on pesticide for whiteflies; and (3) shifting to food crop production during strict COVID-19 quarantine periods.

Keywords: *COVID-19 pandemic, marketing channel, marketing margin, sampaguita*

1. Introduction

On February 1, 1934, sampaguita (*Jasminum sambac*) was declared by the United States Governor General Frank Murphy as the national flower of the Philippines (Traveler on Foot, 2019). This declaration was fitting because, for decades, the flower has been used in the country in making garlands for special occasions such as religious festivities and graduations, and in welcoming guests. In recent years, it has also been used in manufacturing essential oil, perfume, and tea. Hence, it is understandable why sampaguita growing and the sale of sampaguita garlands have become important sources of income in various provinces of the country.

Laguna leads in sampaguita growing as shown by Bacud, Cardenas, and Velasco (2014), Bacud (2018), and Reodica and Delos Reyes (2018). Bulacan, Pangasinan, and Pampanga, however, are also known for sampaguita growing (Cardiñoza, 2016; Mapiles, 2017; Orejas, 2019; Tuazon, 2012). In Pampanga, sampaguita growing is an important industry and the efforts of both national government agencies and local government units to help it are converging. For instance, the Pampanga Provincial Government and the Department of Labor and Employment Region III Office have given funds for the purchase of fertilizers and farm equipment of sampaguita growers in the towns of Lubao, Guagua, and Floridablanca (Mapiles, 2017). The Department of Science and Technology, meanwhile, has given technical assistance for the development of sampaguita perfume in the said localities (Tuazon, 2012).

The sampaguita growers in Lubao, Guagua, and Floridablanca are organized into the Sampaguita Growers Federation and they are currently facing two problems. Firstly, the prices of sampaguita buds are dictated by Manila-based middlemen using a network of local runners. Secondly, the prices of sampaguita buds are affected by the volume of output in Laguna and Bulacan. These problems have serious implications not only on the profitability and sustainability of the sampaguita industry in Pampanga, but also on the employment and material well-being of the people in the province who depend in the industry (Orejas, 2019).

The above-mentioned problems may have been compounded by the outbreak of the Coronavirus Disease 2019 (COVID-19). On January 30, 2020, the Department of Health (DOH) reported the first COVID-19 case in the Philippines. On March 7, 2020, meanwhile, the DOH confirmed the first local transmission of COVID-19 in the country. The next day (March 8, 2020), a state of public health emergency was declared throughout the country. By March 16, 2020, the entire Luzon was placed under Enhanced Community Quarantine (ECQ). A wide range of industries including manufacturing, transportation, services, construction, agriculture, and fisheries were gravely affected by the COVID-19 pandemic and the ECQ declaration. In Central Luzon, the economic losses from a 60-day ECQ enforcement amounted to P174,000,000,000. This figure includes the losses of the agriculture and fisheries sector which amounted to P1,488,307,731. The sector suffered that huge loss because of the restrictions in movement that prevented products from being sold and consequently being spoiled (National Economic and Development Authority Region III Office, 2020).

The very few pieces of literature on sampaguita production and marketing as well as the absence of available literature on the effects of the COVID-19 pandemic on the sampaguita industry provided a rationale for this study. The study investigated: (1) the participants who create various utilities for sampaguita buds in Lubao, Pampanga; (2) whether sampaguita bud production is profitable; and (3) the problems the enterprise is facing especially during the COVID-19 pandemic. This study aimed to (1) identify the participants who create various utilities for sampaguita buds in Lubao, Pampanga; (2) determine whether sampaguita bud production is profitable; and (3) describe the problems that the enterprise is facing especially during the COVID-19 pandemic.

2. Framework

The institutional approach to the study of marketing, and the concepts of profit and marketing margin were used for the study's framework. The institutional approach to the study of marketing was used because it identifies the participants who create utilities for a particular product. These participants are the middlemen who may be considered parasitic if the marketing margins they receive are not justified by the utilities they create for the product (Casavant, Infanger, & Bridges, 1999). The most common middlemen are the following: (1) processors who create form utility; (2) merchant middlemen who are either wholesalers or retailers that create possession utility; (3) agent middlemen such as brokers and commission men who create place utility; (4) speculative middlemen who create possession utility; and (5) facilitators who provide the necessary market information, grading, and standardization.

The second element of the framework was the basic profit concept taught in general economics. Profit or loss is simply the difference between total revenues (TR) and total costs (TC). TR is obtained by multiplying the quantity of output sold by the price per unit of output. TC, on the other hand, is

obtained by multiplying the quantity of inputs by the price per unit of input. If TR is greater than TC, there is a profit. But if TC exceeds TR, there is a loss.

The third and final element of the framework was the marketing margin concept. Casavant, Infanger, and Bridges (1999) defined marketing margin as the difference in the price the producer receives for the raw product and the price the consumer pays for the final product. It represents the costs of providing marketing services, and, alternatively, the costs of the creation of form, time, place, and possession utilities. It is given by the formula MM = RP – FP, where MM is marketing margin, RP is retail price, and FP is farm price.

3. Methodology

The study used primarily a quantitative research approach and a survey research design. The units of analysis were the sampaguita growers and middlemen in Lubao, Pampanga. The primary data needed for the study were obtained through interviews of two barangay officials, 30 sampaguita growers, and 15 middlemen in the sampaguita growing barangays of Lubao, namely: Santo Domingo and San Francisco. These interviewees were chosen randomly by the officials of the said barangays. The interviews were conducted with the aid of a guide questionnaire from the 15th to the 28th of July 2022. The barangay officials were asked how sampaguita growing started and spread in their locality. The sampaguita growers, on the other hand, were asked primarily how sampaguita is grown or what their production management practices are. They were also asked about the quantities and prices of inputs and outputs. Finally, the middlemen were asked about the services they provide and the fees they receive. The data from the interviews were summarized in a spreadsheet and subsequently used in answering the study's research questions.

The institutional approach to the study of marketing was used to meet the study's first aim, which is to identify the participants who create various utilities for sampaguita buds. The profit and marketing margin concepts, meanwhile, were used to meet the second aim of the study, which is to determine whether sampaguita bud production is profitable. In lieu of thematic analysis, the modal or most frequent responses of the interviewees were used to meet the third and final aim of the study, which is to describe the problems that the sampaguita enterprise is facing especially during the COVID-19 pandemic.

4. Results and Discussion

Origin and Geographic Distribution

Sampaguita growing in Lubao, Pampanga started in the 1980s. It used to be a hobby of a few pioneers of the town, but it quickly spread as an alternative livelihood of the farmers. In Barangay Santo Domingo, about five hectares are planted with sampaguita, while in Barangay San Francisco, around four hectares are planted with the shrub. There are an estimated 500 sampaguita growers in Santo Domingo and 700 in San Francisco.

There are two other sampaguita growing barangays in Lubao, namely: San Roque Dau Uno and San Roque Dau Dos. However, many sampaguita growers in these two barangays have recently converted their sampaguita farms to vegetable farms due to food security concerns since the outbreak of COVID-19 in 2020.

Half of the 30 sample sampaguita growers or interviewees of this study were from Santo Domingo and the other half were from San Francisco. The sizes of their sampaguita farms ranged from 500 square meters to 2,000 square meters. The mean size of the farms was 1,000 square meters.

Market Participants and the Utilities They Create

Three types of sampaguita market participants reside in Santo Domingo and San Francisco. They are the growers, runners, and *biyaheros* or transporters. The growers are farmers who plant and nurture the shrubs, and harvest the buds. They create form and possession utilities because they transform the sampaguita stem cuttings into buds after at least six months, and sell their harvests to the wholesalers in Camachile, Quezon City through the runners and *biyaheros* who are based in Lubao, Pampanga.

The runners are agents who measure, pack, and deliver the harvested buds to the *biyaheros*. They do not take title to the buds and only create place utility. The *biyaheros* pay the runners P100 per delivery or trip and reimburse their tricycle fares.

The *biyaheros*, meanwhile, measure, consolidate, pack, and deliver the buds to wholesalers in Camachile, Quezon City. They usually transport the buds in air-conditioned buses such as Genesis or Bataan Transit. They also do not take title to the buds and only create place utility. The wholesalers pay the *biyaheros* P500 per delivery or trip, and reimburse their bus fares and the fees they had paid previously to the runners.

The wholesalers create possession and place utilities by buying in bulk the buds from Lubao and selling them to various retailers in Metro Manila and Laguna. These retailers, in turn, create possession and form utilities by purchasing the buds from the wholesalers, making them into leis or garlands and wreaths, and ultimately selling them to end-users or consumers. Table 1 summarizes the participants and the utilities they create for sampaguita buds.

Table 1. Sampaguita Market Participants and the Utilities they Create

Participants	Activities Performed	Utilities Created
Growers	Planting and nurturing the shrubs, harvesting the buds and selling them to the wholesalers through the runners and *biyaheros*	Form and possession
Runners	Measuring, packing, and delivering the buds to the *biyaheros*	Place
Biyaheros	Measuring, consolidating, packing, and delivering the buds to the wholesalers	Place
Wholesalers	Buying the buds in bulk and selling them to retailers	Possession and place
Retailers	Buying the buds from wholesalers, making them into leis or garlands and wreaths, and selling them to end-users or consumers	Possession and form

Production Management Practices

The sampaguita growers in Santo Domingo and San Francisco follow six sequential steps in producing sampaguita buds, namely: (1) transplanting the stem cuttings that serve as seedlings; (2) watering; (3) fertilizing; (4) spraying pesticide; (5) weeding; and (6) harvesting. They usually buy their seedlings from Bataan and Batangas. The price of the seedling ranges from P15 to P20 per piece. At least six months after transplanting, the sampaguita shrubs start bearing buds or flowers. They will continue to bear

buds or flowers up to a maximum of 20 years. Even though sampaguita shrubs are a perennial plant, they usually die after that length of time.

Watering is frequent during the dry season (from December to May), but is rarely done during the rainy season (from June to November). They apply urea fertilizer at least once or twice a month, and spray pesticide at least once a week. According to the sample growers or interviewees, spraying pesticide is necessary because their sampaguita shrubs and buds are usually infested with whiteflies. Finally, they remove the weeds that compete for soil nutrients by hand, and they also harvest the buds manually.

Profitability of Sampaguita Bud Production

According to the sample growers or interviewees, sampaguita bud production is generally divided into the rainy and dry seasons. The rainy season is from June to November, while the dry season is from December to May of every year. The study used this production seasons in calculating the costs, returns, and profits of the 30 sample sampaguita growers or farms.

In the rainy and dry seasons, for a mean farm size of 1,000 square meters, the growers use on average, six sacks of urea fertilizer which are bought at an average price of P2,940 per sack. Hence, the mean fertilizer expense per season for the 30 growers or farms is P17,640.

The growers use on average, six gallons of pesticide which are bought at an average price of P1,963 per gallon. This brings the mean pesticide expense per season for the 30 growers or farms to P11,778.

All 30 sample sampaguita growers do the farm work themselves. For each season, they work an average of 90 days in the field. They do not pay themselves for this length of farm work. But the minimum daily wage for non-plantation agriculture in the region at the time of the study (July 2022) was P404 (National Wages and Productivity Commission, 2022). Hence the implicit labor cost for the 30 sample farms per season is P36,360.

Since there is plenty of rain in the rainy season, the growers do not spend for watering in this season. But in the dry season, they rent a water pump to irrigate their fields for 90 days. The cost of the rent is P500 per day. Hence, in the dry season, the growers have watering expense of P45,000.

The total costs (TC) in the rainy season for the 30 sample growers or farms is P65,778, while in the dry season, the TC is P110,778. The TC in the dry season is bigger than the TC in the rainy season by P45,000 because of the watering expense in the former.

In Lubao, the unit of measure for the harvest is the tabo. The tabo is a metal or plastic container that holds approximately 1,000 buds. In the rainy season, the growers on average, harvest 900 *tabos* of buds which are bought by the wholesalers through the runners and biyaheros at an average price of P400 per *tabo*. This brings the average total revenues (TR) in the rainy season to P360,000.

In the dry season, the growers harvest, on average, 5,400 *tabos* of buds. These are bought by the wholesalers also through the runners and *biyaheros* at an average price of P200 per *tabo*. This much lower price of buds in the dry season is attributed to the abundance of harvest or supply during this season. The average TR for the 30 growers or farms in the dry season is P1,080,000.

The average profit for the 30 growers or farms per season is calculated following the simple formula: Profit = TR – TC. Average profit in the rainy season is P294,222. In the dry season, on the other hand, it is much bigger at 969,222.

If the abovementioned average profits were divided by six, it would translate to P49,037 per month in the rainy season and P161,537 per month in the dry season. These figures are much bigger than the P3,000 to P26,000 monthly income range of sampaguita growers in Laguna, Quezon, and Pampanga which was reported by Sanchez, Santiago, and Khe in 2010.

In the rainy season, profit as percentage of TR is 82%, while in the dry season, it is 90%. Generally, for every peso of TR, the growers get 82 centavos of profit in the rainy season and 90 centavos of profit in the dry season.

Meanwhile, profit as percentage of TC is 447% in the rainy season and 875% in the dry season. This means that for every peso of TC, the growers get P4.47 of profit in the rainy season and P8.75 of profit in the dry season.

Since the abovementioned profits in both seasons are much bigger than the prevailing interest rate per annum on passbook savings account in most universal banks in the country (e.g., 0.0625% at BDO, Metrobank, and BPI), the sampaguita bud production enterprise is deemed profitable. In this case, the interest rate on passbook savings account is used as the opportunity cost of capital. Table 2 shows the costs, returns, and profits of 30 sampaguita growers or farms in Lubao, Pampanga in the rainy and dry seasons.

Table 2. Costs, Returns and Profits of 30 Sampaguita Growers in Lubao

	Rainy Season (P)	Dry Season (P)
Returns		
Sales of buds	360,000	1,080,000
TR	360,000	1,080,000
Costs		
Fertilizer	17,640	17,640
Pesticide	11,778	11,778
Labor - implicit	36,360	36,360
Watering	0	45,000
TC	65,778	110,778
Profit	294,222	969,222
Profit as % of TR	82	90
Profit as % of TC	447	875

Marketing Margin and Marketing Channel

The farm prices (FP) of the sampaguita buds that the growers receive from the wholesalers through the runners and *biyaheros* are P400 per *tabo* in the rainy season and P200 per tabo in the dry season. The retail prices (RP), on the other hand, are P800 per *tabo* in the rainy season and P400 per *tabo* in the dry season. Following the formula for marketing margin, that is MM = RP – FP, the MM of the growers in the rainy season is P400 per *tabo*, while in the dry season, it is P200 per *tabo*. The bigger RP, FP, and MM in the rainy season as compared to those of the dry season may be attributed to the

perennial shortage of buds in the rainy season. Table 3 summarizes the RP, FP, and MM of the growers in both seasons.

Table 3. Retail and Farm Prices and Marketing Margins of 30 Sampaguita Growers in Lubao

Retail & Farm Prices/Marketing Margin	Rainy Season	Dry Season
RP	P800/tabo	P400/tabo
FP	P400/tabo	P200/tabo
MM	P400/tabo	P200/tabo

Seventy percent of the sampaguita buds produced by the growers in Santo Domingo and San Francisco, Lubao, Pampanga pass through runners, while 30% are sent directly to the *biyaheros*. All runners and *biyaheros* are based in Lubao. One hundred percent of the buds are delivered by the biyaheros to the wholesalers in Camachile, Quezon City. These wholesalers, in turn, sell 80% of the buds to the retailers in Metro Manila and 20% to the retailers in Laguna. Ultimately, the end-users or consumers in Metro Manila and Laguna buy 100% of the buds which have already been transformed by the retailers into leis or garlands and wreaths. Figure 1 is an illustration of the marketing channel of sampaguita buds produced in Lubao.

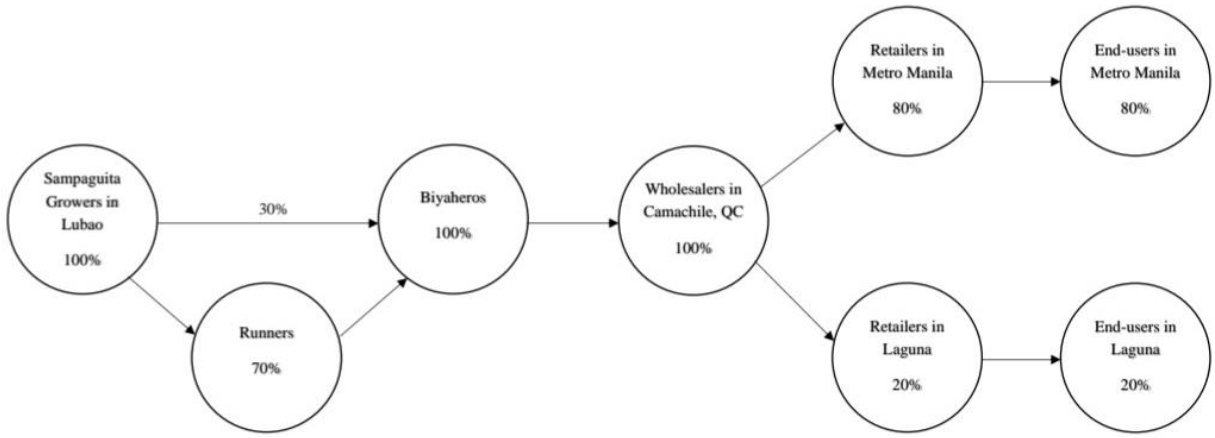

Figure 1. Marketing Channel of Sampaguita Buds Produced in Lubao

Problems Being Faced by the Enterprise Especially during the COVID-19 Pandemic
According to the growers, they are facing three problems, especially during the COVID-19 pandemic. These problems are: (1) high input costs; (2) whitefly infestation; and (3) strict COVID-19 quarantine restrictions.

As discussed earlier, the growers, on average, have TC of P65,778 in the rainy season and P110,778 in the dry season. In both seasons, they spend almost P18,000 for urea fertilizer and P12,000 for pesticide.

The cost of urea fertilizer ranges from P2,500 to P3,000 per sack. In general, sampaguita growers with farm sizes less than 1,000 square meters pay P3,000 per sack, while those whose farms are at least

1,000 square meters are able to buy fertilizer at less than P3,000 per sack. The price difference is attributed to the volume discount given by suppliers to growers with relatively bigger farm sizes. Economies of scale is at work in this case.

The cost of pesticide, meanwhile, ranges from P1,800 per gallon to P2,000 per gallon. Just like in urea fertilizer, growers with bigger farms are able to purchase pesticide at a lower cost due to economies of scale.

The high costs of fertilizer and pesticide may be attributed to two things. Firstly, both products are petroleum-based and are imported. With a highly depreciated peso, imported fertilizer and pesticide become more expensive. Secondly, for the period under consideration, the inflation rate was running between five to six percent. With inflation running this high, all inputs become more expensive.

The growers incur huge pesticide expense every season because their sampaguita shrubs and buds are often infested with whiteflies. To control whiteflies, they need to spray pesticide for at least once a week.

When the government enforced strict COVID-19 quarantine such as during the Enhanced Community Quarantine (ECQ) in the year 2020, the sampaguita growers could not sell their buds. The runners and *biyaheros*, on the other hand, were prohibited from transporting the very few buds that they were able to obtain from the growers. During the ECQ, only food and other essential items were allowed to be transported. Unfortunately, sampaguita buds were not considered essential by the government. Because of the failure to sell and transport the buds, the growers incurred losses of around P65,778 in the rainy season of 2020 (June-November 2020) alone. Table 4 shows the details of these losses.

Table 4. Losses of 30 Sampaguita Growers in Lubao in the Rainy Season of 2020

Returns	
Sales of buds	0
TR	0
Costs	
Fertilizer	17,640
Pesticide	11,778
Labor - implicit	36,360
Watering	0
TC	65,778
Losses	65,778

6. Summary and Conclusion

In sum, the participants who create various utilities for sampaguita buds in Lubao, Pampanga are: (1) the growers; (2) the runners and *biyaheros*; and (3) the wholesalers and retailers. By planting and nurturing the shrubs, harvesting the buds and selling them to the wholesalers through the runners and *biyaheros*, the growers create form and possession utilities. By measuring, packing, and delivering the buds to the *biyaheros*, the runners create place utility. The *biyaheros* also create place utility by measuring, consolidating, packing, and delivering the buds to the wholesalers. The wholesalers, in turn, create possession and place utilities by buying the buds in bulk and selling them to retailers. Finally, the

retailers create possession and form utilities by buying the buds from wholesalers, making them into leis or garlands and wreaths, and selling them to end-users or consumers.

Sampaguita bud production is deemed profitable because on average, growers earn P294,222 in the rainy season, and P969,222 in the dry season. Profit as percentage of TR is 82% in the rainy season and 90% in the dry season. Meanwhile, profit as percentage of TC is 447% in the rainy season and 875% in the dry season. These percentages are much bigger than the 0.0625% interest rate per annum of passbook savings account in universal banks of the country.

MM in the rainy season is P400 per *tabo*, while in the dry season, it is P200 per *tabo*. The bigger MM in the former is attributed to the shortage of sampaguita buds in the rainy season, and corollary to this, the much higher retail and farm prices in the said season.

The problems that the sampaguita enterprise is facing, especially during the COVID-19 pandemic, are: (1) high cost of inputs, particularly urea fertilizer and pesticide; (2) whitefly infestation; and (3) inability to sell and transport the buds during strict COVID-19 periods which leads to huge financial losses.

The institutional approach to the study of marketing is useful in identifying the participants who create various utilities for sampaguita buds. The profit and marketing margin concepts, on the other hand, are useful in determining whether sampaguita bud production is profitable. Finally, the modal or most frequent responses of the growers or interviewees reveal the problems they face, especially during the COVID-19 pandemic.

7. Recommendations

To address the problem of high input costs, the study recommends buying inputs through the federation of sampaguita growers and consolidating their farms. If they buy fertilizer and pesticide through their federation, they will be able to avail of volume discount from the suppliers. By consolidating their farms, they will be able to benefit from economies of scale. Long-run average costs will decrease as they increase the size of their farms.

To decrease dependence on pesticide for whiteflies, the growers can practice integrated pest management (IPM). Eusebio and Labios (2001) have discussed extensively the benefits of IPM. For instance, instead of spraying pesticide, which is bad for the health and the environment, the growers can simply introduce farm animals that will serve as biological control to whiteflies.

Finally, to avoid incurring huge financial losses during strict COVID-19 periods such as during ECQ, the growers can shift to food crop production. Field crops such as rice and corn, and vegetables are always considered essential by the government. They are allowed to be sold and transported even during ECQ. Shifting to food crop production not only addresses food security concerns but also allows growers to earn better income. The sampaguita growers of San Roque Dau Uno and San Roque Dau Dos, Lubao, Pampanga have already shifted to vegetable production since the outbreak of COVID-19 in 2020.

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