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PROCESSING AND MARKETING OF SALINAS *TUYO* AND *TINAPA* IN BALANGA CITY, BATAAN

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ABSTRACT – This paper aimed to: (1) identify the participants who create various utilities for two products that Balanga City is known for, namely, dried and smoked Salinas or Tunsoy (*Sardinella fimbriata*), locally known as *tuyo* and *tinapa* respectively; (2) determine the costs and returns of these two products; (3) compute for their gross margins or marketing margins and assess whether their sizes are justified by the utilities created for them; (4) describe and illustrate the marketing channels of the two products; and (5) discuss the problems being faced by the participants. The primary data that the study required were obtained through interviews with the aid of a questionnaire. All the 50 participants of the study were identified by the officials of Puerto Rivas Ibaba – the *barangay* or village in Balanga City where all the *tuyo* and *tinapa* in the city are made. The study found that: (1) there are 30 *tuyo* and *tinapa* processors/wholesalers and 20 retailers in the city, the former create form, possession, and time utilities while the latter create possession utility only; (2) when gross margins as percentages of total returns and marketing/variables costs are computed, *tuyo* processing/wholesaling turns out to be more profitable than *tinapa*; processing/wholesaling, however, is a more profitable enterprise than retailing; (3) the gross margin or marketing margin of *tuyo* is P60/kg while that of *tinapa* is P40/kg. The bigger marketing margin of *tuyo* as compared to that of *tinapa* is justified by the longer shelf life or time utility that is created by the sun drying process of *tuyo*; (4) the marketing channels of *tuyo* and *tinapa* in Balanga City, Bataan, are identical. Sixty seven percent of these products pass through the 20 retailers at the Balanga City Public Market while 33% are handled by the retailers from the other provinces of Luzon; and (5) the problems being faced by the participants are mostly about their compliance with government regulations and their perceived lack of support from their local government unit.

Keywords: *tuyo* (dried fish), *tinapa* (smoked fish), utility, marketing margin

INTRODUCTION

Drying and smoking are two simple and inexpensive methods of fish preservation. Even with the introduction of freezing and canning, a large volume of fish catch is still preserved either by drying or by smoking (Guerero et al., 1976). Between these two methods of fish preservation, drying was found to be the more profitable enterprise in terms of earnings per peso of sales and investment. Smoking, on the other hand, has the greater potential of absorbing the unemployed because it is more labor intensive than drying per 100 kilograms

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of fish processed (Mabanag & Iglesia, 1980, p. 50). This finding, however, was only true for the Southern Tagalog and Central Luzon regions.

Filipinos have always preferred eating dried and smoked fish. As early as 1975, the Department of Agriculture had estimated the annual dried and smoked fish consumption per capita in the country at 4.1 kg, and in Central Luzon at 3.5 kg (Santos et al., 1975). To some people, however, eating dried and smoked fish is not a matter of preference. They eat these foods because they are the only viands affordable to them.

Balanga City, Bataan is known for dried and smoked fish which are locally known as *tuyo* and *tinapa*, respectively. They are the city's One Town One Product (OTOP). According to the officials of Puerto Rivas Ibaba – the *barangay* (village) where all the *tuyo* and *tinapa* in the city are made – Salinas or Tunsoy (*Sardinella fimbriata*) is the most widely used fish for drying and smoking. Salinas is sourced from the coastal waters of the nearby municipalities of Orion and Limay.

Despite the economic importance of *tuyo* and *tinapa* industry for Balanga City and the Province of Bataan, little is known on the industry's participants, the utilities they create, and the marketing margin they charge for each of the two products. Hence, this paper aimed to: (1) identify the participants who create various utilities for Salinas *tuyo* and *tinapa*; (2) determine the costs and returns of these two products; (3) compute for the gross margins or marketing margins of these two products and assess whether their sizes are justified by the utilities created for them; (4) describe and illustrate the marketing channels of the two products; and (5) discuss the problems being faced by the participants.

Marketing margin is 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 (Casavant et al., 1999, pp. 332-333).

The institutional approach to the study of marketing served as this paper's theoretical framework. This approach was chosen because it identifies the actors or participants that create utilities for a product. These actors or participants are the middlemen who are sometimes accused of being parasitic if the marketing margins they receive are not justified by the utilities they create for the products. Casavant et al. (1999) classified them based on the services they perform and the utilities they create (see Table 1).

Table 1
Types of Middlemen and the Utilities They Create

Middleman	Utility	Service
Processor	Form	Transforms inputs into a more desirable product
Merchant – Wholesaler	Possession	Purchases goods from the processor and provides merchandising and other services to the retailer
Merchant – Retailer	Possession	Purchases goods mostly from the wholesaler and sells directly to the consumer
Agent – Broker	Place	Finds a market for the willing seller and a supplier to the willing buyer; does not take title to the goods
Speculative Middleman	Possession	Takes ownership of goods and assumes risk as a means of earning profit

METHODOLOGY

The study required the following qualitative and quantitative data: (1) identities of people in the study site – *Barangay* Puerto Rivas Ibaba, Balanga City, Bataan – who are engaged in the processing and marketing of Salinas *tuyo* and *tinapa*; (2) a detailed description of their production process and marketing practices as well as the various utilities that they create for the two products; (3) the costs they incur, and the returns or revenues they receive from their operations; and (4) the prices that the processors and marketers receive and the prices that consumers pay for the products.

An official of the City License, Permit, and Franchising Office introduced two officials of Puerto Rivas Ibaba who in turn, identified all the people engaged in *tuyo* and *tinapa* processing and marketing in their *barangay*. These two *barangay* officials introduced the author to 30 processors/wholesalers and 20 retailers who subsequently became the participants of the study. All 50 participants are members of a single unregistered cooperative, and all of them granted interviews for the study. Hence, the study had complete enumeration of the cooperative members for its participants.

Some participants or interviewees were interviewed individually, but some were in groups. All interviews were conducted from 01 June-31 July 2019 with the use of a questionnaire. The sequence of the questions, however, was not strictly followed. The author allowed the participants or interviewees to freely describe their production processes and marketing activities, and share their information on costs, returns, and prices. The 30 processors/wholesalers and 20 retailers had similar responses to the questions. This was because they belong to the same cooperative and that all of them classified their businesses as small scale.

The responses of the participants were recorded and summarized in a spreadsheet. Then, tables for costs and returns as well as for prices at the processors/wholesalers and retailers levels were constructed. These tables, in turn, were used in the computation of gross margins or marketing margins for both *tuyo* and *tinapa*.

RESULTS AND DISCUSSION

The Participants and the Utilities They Create

The Processors/Wholesalers

The City License, Permit, and Franchising Office of the Balanga City Government identified *Barangay* Puerto Rivas Ibaba as the only place in the city where Salinas *tuyo* and *tinapa* are currently made. According to an official of the said office, there used to be *tuyo* and *tinapa* processing and storage houses (which they call *kamalig*) in the other *barangay*s as well, particularly in Tortugas and Sibacan. However, the processing and storage houses in these *barangay*s have already been converted into residential houses.

According to two councilors of Puerto Rivas Ibaba, there are 30 processors/wholesalers of Salinas *tuyo* and *tinapa* in their *barangay* and 20 retailers of these products at the Balanga City Public Market. These numbers were confirmed by the processors/wholesalers and retailers themselves during the interviews.

The 30 processors/wholesalers belong to a single unregistered cooperative. They are headed by a *barangay* councilor who owns one of the processing and storage houses of *tuyo* and *tinapa* in Puerto Rivas Ibaba. These processors also consider themselves

as wholesalers because they usually buy the products of their fellow cooperative members and neighbors whenever they have difficulty in meeting the orders of the retailers.

All 30 processors/wholesalers consider their businesses as small scale. According to the Small and Medium Enterprise Development Council (SMEDC) Resolution No. 1, Series of 2003, an enterprise is considered small scale if the value of its assets, exclusive of land, is in the range of P3,000,001 and P15,000,000.

According to the 30 processors/wholesalers, *tuyo* processing follows these four steps: (1) washing the fresh fish; (2) treating the fish with salt and ice to keep it fresh and prevent it from being too salty; (3) washing the fish again; and (4) drying the fish under the sun for two days.

Figure 1
Sun drying of Salinas in Puerto Rivas Ibaba, Balanga City, Bataan

Note. De Leon, P. C. (2019)

Tinapa processing, on the other hand, takes these six steps: (1) cleaning the fresh fish by removing its gills, intestines, and other internal organs; (2) washing the fish with water; (3) soaking the fish in brine solution; (4) putting the fish under the sun for a few hours; (5) boiling the fish; and (6) smoking the fish.

Figure 2
Smoking of Salinas in Puerto Rivas Ibaba, Balanga City, Bataan

Note. De Leon, P. C. (2019)

The processors obviously create form utility because they transform the Salinas fish caught in the coastal waters of Orion and Limay into the product forms desired by consumers – *tuyo* and *tinapa*. Since these processors buy the finished products of their fellow cooperative members whenever they have difficulty in meeting the orders of the retailers, they also consider themselves as wholesalers. As such, they also create possession utility. They supply their products primarily to the retailers at the Balanga City Public Market and secondarily to a few retailers in the other provinces of Luzon such as Zambales, Pampanga, Tarlac, Laguna, and Quezon.

The processing of Salinas into *tuyo* and *tinapa* also creates time utility because it prolongs the shelf life of the fish. *Tuyo* processing, however, creates a much longer time utility than *tinapa* processing because it involves drying. Drying under the sun significantly reduces the moisture content of the fish, prevents the growth of microorganisms, and prolongs the product's shelf life. According to the participants or interviewees, this longer shelf life or time utility is the reason why *tuyo* generally commands higher prices than *tinapa*.

The Retailers

The retailers buy *tuyo* and *tinapa* in bulk from the processors/wholesalers and sell them directly to the consumers. They only create possession utility since they do not perform any other marketing activity aside from directly selling to consumers.

Figure 3
Retailers of Tuyo, Tinapa, and Other Marine Products at the Balanga City Public Market

Note. De Leon, P. C. (2019)

Costs and Returns

Costs and Returns of the Processors/Wholesalers

On average, in a single processing batch, the processors/wholesalers process 200 kg of fresh Salinas into *tuyo*. At the time of the interviews (01 June-31 July 2019), the buying price of *tuyo* grade fresh Salinas from Orion and Limay was P50/kg. Hence, for 200 kg of fresh or raw fish alone, the processors/wholesalers would spend P10,000. For the said volume of fish, they would also spend 50 kg of salt at P6/kg, 20 kg of ice at P10/kg, 10 carton boxes at P30/pc, and two laborers at P350/laborer. In a single *tuyo* processing batch, the total costs would be, on average, P11,500.

After sun drying, the 200 kg of fresh fish would end up to only around 150 kg of *tuyo*. The processors/wholesalers would then sell them to the retailers at P120/kg, giving them total returns of P18,000. For a single *tuyo* processing batch, they would have a gross margin of P6,500. Table 2 summarizes the costs and returns for a single processing batch of *tuyo*.

Table 2
Costs and Returns for a Single Tuyo Processing Batch

Return/Cost Item	Quantity and Unit Price	Amount (P)
tuyo sales	150 kg x P120/kg	18,000
total returns		18,000
fresh/raw Salinas	200 kg x P50/kg	10,000
salt	50 kg x P6/kg	300
ice	20 kg x P10/kg	200
box	10 pcs x P30/pc	300
labor	2 laborers x P350/laborer	700
total costs		11,500
gross margin		6,500

On average, in a single processing batch, the processors/wholesalers process 300 kg of fresh Salinas into *tinapa*. At the time of the interviews (01 June-31 July 2019), the buying price of *tinapa* grade fresh Salinas from Orion and Limay was P75/kg. Hence, for 300 kg of fresh or raw fish alone, the processors/wholesalers would spend P22,500. For the said volume of fish, they would also spend 25 kg of salt at P6/kg, 300 kg of wooden shavings or chips at P30/kg, and six laborers at P350/laborer. In a single *tinapa* processing batch, the total costs would be, on average, P33,750.

After smoking, the 300 kg of fresh fish would yield about the same volume of *tinapa*. The processors/wholesalers would then sell them to the retailers at P160/kg, giving them total returns of P48,000. For a single *tinapa* processing batch, they would have a gross margin of P14,250. Table 3 summarizes the costs and returns for a single processing batch of *tinapa*.

Table 3
Costs and Returns for a Single Tinapa Processing Batch

Return/Cost Item	Quantity and Unit Price	Amount (P)
tinapa sales	300 kg x P160/kg	48,000
total returns		48,000
fresh/raw Salinas	300 kg x P75/kg	22,500
salt	25 kg x P6/kg	150
wooden shavings/chips	300 kg x P30/kg	9,000
labor	6 laborers x P350/laborer	2,100
total costs		33,750
gross margin		14,250

In a single processing batch of *tuyo* and *tinapa*, the processors/wholesalers would earn a combined gross margin of P20,750. This amount represents 31% of total returns and 46% of marketing or variable costs.

For *tuyo*, the gross margin of P6,500 represents 36% of total returns and 57% of marketing/variable costs.

For *tinapa*, the gross margin of P14,250 represents 30% of total returns and 42% of marketing/variable costs.

This makes *tuyo* more profitable than *tinapa* and validates what Mabanag & Iglesia had found in 1980 in Central Luzon and Southern Tagalog regions.

Table 4 summarizes the gross margins (GM) of these enterprises as percentages (%) of total returns (TR) and marketing (M) or variable costs (VC).

Table 4
Gross Margins of Tuyo and Tinapa Processing as Percentages of Total Returns and Marketing/Variable Costs

Enterprise	GM (P)	TR (P)	GM as % of TR	M/VC (P)	GM as % of M/VC
tuyo	6,500	18,000	36	11,500	57
tinapa	14,250	48,000	30	33,750	42
combined	20,750	66,000	31	45,250	46

Costs and Returns of the Retailers

On average, the 20 *tuyo* and *tinapa* retailers at the Balanga City Public Market buy from the processors/wholesalers in Puerto Rivas Ibaba 100 kg of *tuyo* at P120/kg and 200 kg of *tinapa* at P160/kg. They would then be able to sell directly to consumers within a week 95 kg of *tuyo* at P180/kg and 195 kg of *tinapa* at P200/kg. These were the prevailing prices of the two products for the 01 June-31 July 2019 period. About 5 kg each of *tuyo* and *tinapa* would normally be left unsold, consumed at home, or given to relatives and friends.

Aside from the costs of goods sold, the retailers would also spend around 20 rolls of brown paper wrapper at P20/roll, seven stall tickets at P60/ticket, and for the services of one seller at P350/day. A week-long of *tuyo* and *tinapa* retailing incurs P47,270 of total costs, earns P56,100 of total returns, and generates P8,830 of gross margin. Table 5 summarizes the weekly costs and returns of the 20 retailers of *tuyo* and *tinapa* in Balanga City.

The retailers' weekly gross margin of P8,830 represents 16% of total returns and 19% of marketing/variable costs. This gross margin is two to three times smaller than those of the processors/wholesalers. The retailers, however, can earn additional gross margins from the sale of other kinds of dried and smoked fish from Navotas and Pangasinan. Table 5 also summarizes the *tuyo* and *tinapa* retailers' weekly gross margin as percentages of their total returns and marketing/variable costs.

Table 5
Costs and Returns for a Week of Tuyo and Tinapa Retailing and Weekly Gross Margin as Percentages of Total Returns and Marketing/Variable Costs

Return/Cost Item	Quantity and Unit Price	Amount (P)
tuyo sales	95 kg x P180/kg	17,100
tinapa sales	195 kg x P200/kg	39,000
total returns		56,100
cost of *tuyo* sold	100 kg x P120/kg	12,000
cost of *tinapa* sold	200 kg x P160/kg	32,000
brown paper wrapper	20 rolls x P20/roll	400
stall ticket	7 days x P60/day	420
seller/labor	1 seller x P350/day x 7 days	2,450
total costs		47,270
gross margin		8,830
gross margin as percentage of total returns		16%
gross margin as percentage of marketing/variable costs		19%

Gross Margins or Marketing Margins and their Justification

When the interviews and site visits were conducted from 01 June to 31 July 2019, the price of *tuyo* at the processor/wholesale level was P120/kg while at the retail level it was P180/kg. Thus, the gross margin or marketing margin of *tuyo* was P60/kg.

Also, during the interviews and site visit, the price of *tinapa* at the processor/wholesale level was P160/kg while at the retail level it was P200/kg. Thus, the gross margin or marketing margin of *tinapa* was P40/kg.

The gross margin or marketing margin of *tuyo* was P20/kg bigger than that of *tinapa* because it has a longer shelf life or time utility. In addition, it has been observed that *tuyo* processing takes much longer than *tinapa* processing. This is because *tuyo* processing involves sun drying for at least two days. This length of time is needed to ensure that the water content of the fish is significantly reduced, and that the growth of microorganisms is prevented. *Tinapa* processing, on the other hand, is usually completed in just one day. These differences provide justification for the bigger gross margin or marketing margin of *tuyo* relative to that of *tinapa*.

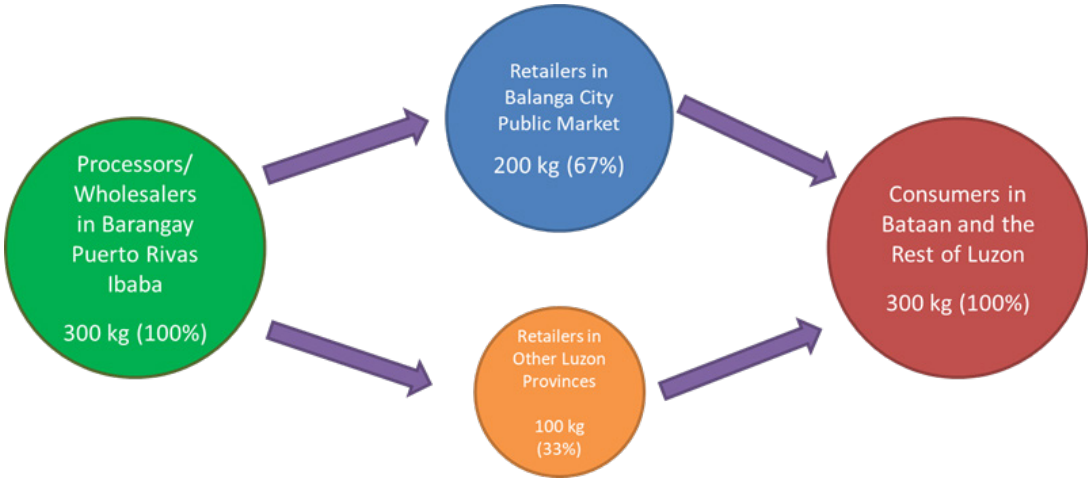
Marketing Channels of Salinas *Tuyo* and *Tinapa*

The study found the marketing channels of Salinas *tuyo* and *tinapa* to be similar. Out of the 150 kg of *tuyo* produced by the processors/wholesalers in Puerto Rivas Ibaba, 100 kg or 67% go to the 20 retailers at the Balanga City Public Market while 50 kg or 33% go to the retailers in the other provinces of Luzon such as Zambales, Pampanga, Tarlac, Laguna, and Quezon. Ultimately, 150 kg or 100% end up with the consumers in Bataan and the rest of Luzon. Figure 4 illustrates the marketing channel of *tuyo* in Balanga City, Bataan.

Figure 4
Marketing Channel of Tuyo in Balanga City, Bataan

Out of the 300 kg of *tinapa* produced by the processors/wholesalers in Puerto Rivas Ibaba, 200 kg or 67% go to the 20 retailers at the Balanga City Public Market while 100 kg or 33% go to the retailers in the other provinces of Luzon. Ultimately, 300 kg or 100% end up with the consumers in Bataan and the rest of Luzon. Figure 5 illustrates the marketing channel of *tinapa* in Balanga City, Bataan.

Figure 5
Marketing Channel of Tinapa in Balanga City, Bataan



Problems Faced by the Participants

The processors/wholesalers and retailers of *tuyo* and *tinapa* in Balanga City currently face several problems. These problems were mostly about the participants' compliance with local government regulations and their perceived lack of support from their local government unit.

Firstly, high government fees and taxes discourage the participants from obtaining a Business/ Mayor's Permit for their enterprises. According to a councilor of Puerto Rivas Ibaba who is also one of the 30 processors/wholesalers, the City License, Permit, and Franchising Office charges around P20,000 for a Business/Mayors Permit. This claim by the *barangay* councilor was validated upon checking the web page of the city government. For new applicants for Business/Mayor's Permit, the fee ranges from P200 to P30,000. For the renewal of the said permit, the fee is from P200 to P40,000.00. The City Assessor's Office, on the other hand, charges P17,000 as real property tax for a small-scale *tuyo* and *tinapa* processing house/ warehouse.

Secondly, the Balanga City Government implements Ordinance No. 19, Series of 2017 that prohibits the use of newspapers and other printed materials as wrappers for fish and other marine products without giving ample directions on where to source the prescribed brown paper wrappers.

Thirdly, the processors/wholesalers were able to organize themselves into a cooperative and put up the required initial contributions in a local bank but failed to register their cooperative at the Cooperative Development Authority (CDA). Both the officials and the members of the cooperative thought that they ought to register their cooperative at the Securities and Exchange Commission (SEC) instead of the CDA.

Fourthly and finally, the Balanga City Government focuses on supporting the big player in the market rather than the small processors/wholesalers and retailers. This is even though the latter comprise most of the industry.

Despite their need for cold storage or freezer for their *tinapa* and drier for their *tuyo*, the city government is unable to help them obtain these from either from the Department of Science and Technology or the Bureau of Fisheries and Aquatic Resources.

In addition, while the roads leading to and around the processing plant of a big player are made of concrete, the roads and areas around the processing and warehouses of the small-scale processors/wholesalers remain as dirt roads. The situation is made worse by the absence of proper drainage facilities and flooding during the rainy season and times of high tide.

CONCLUSION AND RECOMMENDATIONS

The institutional approach to the study of marketing as originally discussed by Casavant et al. (1999) is useful in identifying the participants who create various utilities for Salinas *tuyo* and *tinapa* in Balanga City, Bataan. In this study, the participants are the 30 processors/wholesalers who create form, possession, and time utilities, and the 20 retailers who create possession utility only.

When gross margins as percentages of total returns and marketing/variables costs are computed, *tuyo* processing/wholesaling turns out to be more profitable than *tinapa* processing/wholesaling. *Tuyo*'s gross margin as a percentage of total returns is 36% while that of *tinapa* is only 30%. Meanwhile, *tuyo*'s gross margin as a percentage of marketing/variable costs is 57%. This is way higher than *tinapa*'s 42%.

The gross margin of *tuyo* and *tinapa* retailing as a percentage of total returns is 16%. Its gross margin as a percentage of marketing/variable costs, meanwhile, is 19%. These figures are much lower than those of *tuyo* and *tinapa* processing/wholesaling and suggest that processing/wholesaling is more profitable than retailing.

Using the 0.05% gross interest rate that most banks pay for a savings deposit account as opportunity cost of capital, *tuyo* and *tinapa* processing/wholesaling and retailing appear to be worthwhile enterprises.

The gross margin or marketing margin of *tuyo* is P60/kg while that of *tinapa* is P40/kg. The bigger marketing margin of *tuyo* as compared to that of *tinapa* is justified by the longer shelf life or time utility that is created by the sun drying process of *tuyo*.

The marketing channels of *tuyo* and *tinapa* in Balanga City, Bataan, meanwhile, were found to be identical. Sixty seven percent of these products pass through the 20 retailers at the Balanga City Public Market while 33% are handled by the retailers from the other provinces of Luzon.

For the problems being faced by the participants, the study recommends: (1) making the local government fees and taxes affordable to the small scale processors/wholesalers and retailers; (2) obtaining Business/Mayor's Permit for their enterprises; (3) helping them comply with ordinances affecting their businesses through ample local government direction and assistance; (4) registering their cooperative at the Cooperative Development Authority in order for them to receive the benefits and exemptions given to cooperatives under the law; and (5) extending to them the support given to larger scale processors especially in product promotion, acquisition of cold storage or freezers and driers, and provision of concrete roads, drainage facilities, and flood control.

Recommendations (1) to (5) in the preceding paragraph can alternatively be met by availing the benefits of Republic Act No. 9178, otherwise known as the Barangay Micro Business Enterprises (BMBEs) Act of 2002. This law mandates the Office of the Treasurer of each city or municipality to register the BMBEs and issue them a Certificate of Authority. Once registered, the BMBEs will: (1) be exempt from income taxes and fees arising from their operations; (2) be exempt from the Minimum Wage Law but on the condition that their regular employees are given social security and health care benefits; (3) avail of the special credit window at the Land Bank of the Philippines, Development Bank of the Philippines, Small Business Guarantee and Finance Corporation, and the People's Credit and Finance Corporation; and (4) avail of technology transfer, production and management training, and marketing assistance through the Department of Trade and Industry (DTI), the Department of Science and Technology (DOST), the University of the Philippines Institute for Small Scale Industries (UP ISSI), among other government agencies (Official Gazette, 2002).

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