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Value Chain Analysis of Silver Perch (*Bidyanus bidyanus*) in Banilan Pakil, Laguna, Philippines

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Abstract
Silver perch (*Bidyanus bidyanus*) is one of the most valuable freshwater fish in the country, particularly in Laguna de Bay. Due to its readiness to spawn in captivity and successful hatchery production in outdoor tanks, *ayungin* is considered an emerging species with potential for inland freshwater aquaculture. The study was conducted to investigate the value chain of silver perch in Banilan, Pakil, Laguna. Descriptive research design using purposive sampling technique was used in the study. Fisherfolks and fish processor in Banilan, Pakil, Laguna was the respondents of this study. Key players in the value chain are responsible in the catching, processing, and marketing of silver perch. Both fisherfolks and fish processors encountered different problems throughout the process such as lack of government support, lack in raw materials/input materials, lack of capital, lack of laborer, poor payment in raw materials, inability to meet the product standard, and competitive pricing for silver perch. When it comes to profitability, the result showed that fisherfolks got the highest net profit margin compared to the fish processors. The government support on silver perch production will help the fisher folks in creating production practices of silver perch and develop sustainable sources for processing.

Keywords: Fisherfolks, Fish Processors, Key Players, Net Profit Margin, Silver Perch, Value Chain

Introduction

Silver perch (*Bidyanus bidyanus*) is one of the most valuable freshwater fish in the country, particularly in Laguna de Bay.) Silver perch also known as *Ayungin*, is a tiny fish that considered near threatened in the Philippines. Although it is native in Laguna de Bay, it has spread to other water bodies, including Taal Lake in Batangas and Sampaloc Lake in Laguna (Philippine Star, 2017) [29]. Residents like it because it is fleshy and flavorful. Silver perch favored over a variety of tasty native freshwater types. It has also sparked great scientific interest as aquaculture species, due to its marketable characteristics. In Pakil, Laguna, particularly in Brgy, Banilan, dried *ayungin* is one of the products. Fishing and fish processing are the main sources of income for several inhabitants in Banilan, Pakil, Laguna.

Silver Perch *(Bidyanus bidyanus)* locally known as *ayungin*, is regarded as one of the most abundant freshwater fishery resources in the largest lake in the Philippines, Laguna de Bay. Small-scale fishing communities around the lake are reliant on this fishery resource for subsistence consumption and livelihood. Recently, *Ayungin* is touted as the most exploited commercial freshwater fish species in most regions of the country. The decline of this important food fish has led to a growing interest in its domestication for cultural production and for possible replenishment of depleted stocks in the wild. Therefore, efforts to domesticate, manage, and conserve this native aquatic species have been given a high priority. Due to its readiness to spawn in captivity and successful hatchery production in outdoor tanks, *ayungin* is considered an emerging species with potential for inland freshwater aquaculture (Aya, 2021) [1].

Despite good production as one of the most valuable freshwater fish in the country, specifically in Laguna, there are usual problems in silver perch industry in Banilan, Pakil, Laguna including the unawareness of the key players about the high demand in the market and lack of support from the local government Also, how to sustain the supply of the fresh silver perch. These factors may have an impact on the marketability of dried *ayungin*.

Even though wild silver perch supplies are falling, demand for this culinary fish remains strong. Depending on the season and catch, it is sold for Php 200 to Php 800 per kilo when dried and about Php 500 per kilo when fresh. (Fletcher,2019) [6]. There are several opportunities for key players of silver perch. For example, their daily income increases because of the marketable characteristics of silver perch. According to Queensland Government, (2019) the market is struggling against several difficulties. When considering silver perch farming as an investment opportunity, profitability, economies of scale, and effective marketing tactics should all be considered.

The demand for silver perch remains strong despite recent declines in silver perch populations and commercial catches in Laguna de Bay. A tiny freshwater fish known scientifically as *Bidyanus bidyanus* silver perch which is native to Laguna de Bay and has been brought to Taal Lake in Batangas and Naujan Lake in Mindoro because it is well-adapted to lake water. It is also known as silver perch and is related to Australia's silver perch. Although it only grows to approximately 15 centimeters in length, ayungin is extremely popular in Southern Tagalog provinces such as Laguna, Rizal, Cavite, Batangas, and Metro Manila since it is said to be the sweetest of all edible local freshwater fishes.

According to (Noime 2012) [22] In terms of the number of players, there are three types of supply chains: Direct, extended, and final supply. Because just a supplier, a central firm, and a customer are involved, the direct supply chain is the simplest. The extended value chain comprises the supplier, the firm, the buyer, and the supplier's supplier, whereas the final supply chain includes all participants in all flows of products, services, information, and capital, beginning with the initial supplier and ending with the final client. The final value chain, like the regular supply chain, is made up of the provider and the ultimate buy.

In a broad sense, (Christopher, 2005) [4] a value chain consists of two or more legally separated organizations, being linked by material, information, and financial flows. These organizations may be firms producing parts, components, and end products, logistic service providers, and even the (ultimate) customer himself. So, the above definition of a supply chain also incorporates the target group – the ultimate customer.

Value chains encompass the companies and the business activities needed to design, make deliver, and use a product or service. Businesses depend on their supply chains to provide them with what they need to survive and thrive. Every business fit into one or more supply chains and has a role to play in each of them. (Hugos, M. H. 2018) [12].

This study aimed to determine the value chain analysis of silver perch in Banilan, Pakil, Laguna. The intent of this study is to promote and recognized the market for Silver Perch in Baybay District. Also, to show the potential of this fish to help fisherfolks to increase their income and uplift their social status.

The study was anchored to the Value Chain model for Silver Perch adopted from the study of Gay Lord Madrio (2018) [17]. These included key players, marketing functions and different points in the chain. Input suppliers included labor and the governing authorities included the Department of Agriculture (DA), Bureau of Fisheries and Aquatic Resources (BFAR), and the Local Government Units (LGU). Silver Perch Fisherfolks consisted of the wild fishing practitioners. Production costs included material inputs, and other operating costs. Fish processors who processed the fresh silver perch and refining into dried fish. The marketing functions included buying and selling, wholesaling, and retailing, and the transporting. The other key player such as the final end-users or the consumers were also part of the chain. This model is shown in Figure 1.

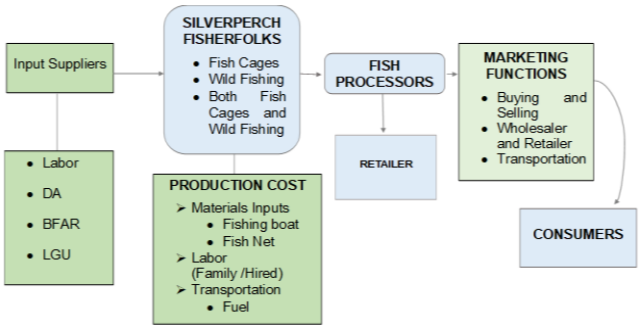

Fig 1: The Silver perch Value Chain Analysis

Objectives of the Study

The study aimed to determine the value chain analysis of silver perch in Banilan, Pakil, Laguna. Specifically, it sought to:

1. Determine the key players involved in silver perch value chain;
2. Determine the function of each key players in the chain;
3. Determine the marketing activities taking place in the value chain with its corresponding costs;
4. Determine the profitability of the key players involved in the chain; and
5. Determine the problem/constraints encountered by the key players along the chain;

Materials and Methods

The research design used in this study was descriptive method. A total number of 191 respondents, consisting of 143 fisherfolks and 48 fish processors. The sampling technique used in the study was purposive sampling a form of non-probability sampling in which researchers rely on their own judgment when choosing members of the population to participate in their surveys. The research material and instrument were utilized both primary and secondary data. Primary data was gathered through a series of personal interviews with the silver perch key players and intermediaries using structured questions as a guide. Separate sets of questionnaires for the producer and market channels were used to collect information. Profitability Analysis was also done in this study. This analysis measured the efficiency of a firm in producing goods. The net profit margin can be computed as:

$$\text{Net Profit Margin} = \frac{\text{Net Profit}}{\text{Revenue}} \times 100$$

Where:

Net Profit = Revenue – Total cost of funds and operating expenses.

Revenue = Total amount of money received by a firm for goods and services provided.

Results and Discussion

The identified key players in silver perch value chain are the fisherfolks, fish processors and consumers. Fisherfolks practices wild fishing wherein the catch silver perch are abundant in the Laguna Lake. In terms of processing, the housewives are considered processor and served as wholesaler and retailer of the produced.

Demographic Profile of the Respondents- Fisherfolks

Table 1 presents the frequency and percentage distribution of the demographics of 143 fisherfolks in terms of age, sex, civil status, educational attainment, and number of years spent in silver perch fishing business.

Findings revealed that the youngest fisherfolks belonged to the age bracket of 19-24, while the oldest one belongs to 61 to 66 age brackets. However, common to silver perch fisherfolks were 43 to 48 years old with frequency of 37 (25.9%) of the total respondents-fisherfolks. In terms of sex, 100% of the surveyed fisherfolks were all males which implies that fishing work like catching silver perch fish was not for female. Fishing still perceived as a predominantly male task despite the heavy workload of women. Care and household activities are not recognized as "real work". And female jobs such as head loading and selling of dry fish are undervalued. Also, as the United Nations Special Rapporteur (SR) on the Right to Food has also highlighted, women often perform the lowest-paying jobs, are likely to receive lower wages than their male counterparts for the same work, and are usually underpaid by intermediaries along the value chain even when they work as independent full-time fishers, (FIAN International, 2019) [5] In terms of civil status, 48 out of 143 fisherfolks are single with a percentage of 33.6%.

Furthermore, common to the silver perch fisherfolks are married with frequency of 95 or about 66.4 % of the total respondents-fisherfolks. When it comes to educational attainment, majority or more than half of the respondents (134 or 93.7%) are high school graduate. Fisherfolks stated that silver perch fishing is applicable to all individuals whatever level of education was attained. In terms of number of years spent in silver perch fishing, one of the respondents was already in the business for almost 30 years, while most of the fisherfolks were into fishing for 6-10 years (39.9%).With the results of the study in demographic profile of the silver perch fisherfolks in Banilan Pakil, Laguna it can be argued that this kind of business was a reliable source of living for a family as all respondents were married and into the business for a longer period.

Table 1: Frequency and percentage distribution of the demographic profile of the respondents-fisherfolks

Age	Frequency	Percentage
19-24	6	4.20
25-30	10	6.99
31-36	14	9.79
37-42	36	25.2
43-48	37	25.9
49-54	19	13.3
55-60	18	12.6
61-66	3	2.10
Total	**143**	**100**
Gender		
Male	143	100
Female	0	0
Total	**143**	**100**
Civil status		
Single	48	33.6
Married	95	66.4
Widowed	0	0
Separated	0	0
Total	**143**	**100**
Educational attainment		
Elementary	6	4.20
Highschool	134	93.7
College	3	2.10
Total	**143**	**100**
Number of years in operation		
1-5	55	38.5
6-10	57	39.9
11-15	31	21.0
16-20	0	0
21-25	0	0
26-30	0	0
31-35	1	0.70
Total	**143**	**100**

Demographic Profile of Fish Processors

Presented in Table 2 is the frequency and percentage distribution of the demographic profile of the 48 interviewed fish processor in terms of age, sex, civil status, educational attainment, and number of years in silver perch trading. The youngest fish processors were in the 19-24 age bracket, while the oldest were in the 61 to 66 age brackets, according to the findings.

Silver perch fish processors, on the other hand, were mostly between the ages of 43 and 48, accounting for around 37.5 percent of all respondents. In terms of gender, civil status, and educational attainment where majority of fish processors were female, married and high school graduate respectively.

According to the World Forum of Fisher Peoples (WFFP) and FIAN International (2019) [5], women play a crucial role in the fisheries throughout the entire food production line - from marketing, auctioning, and activities such as processing, packaging, producing added-value products and providing services to boats on landing sites. During pre-harvest, women are responsible for skilled and time-consuming tasks such as net weaving or meal preparation. Throughout post-harvest activities, they engage in fish trading, fish smoking or processing. Other activities also include female artisanal hand collecting, for example, collecting shellfish in backwaters and lagoons.

These activities may be paid or unpaid and vary across regions. However, one thing stands out: This multidimensional role played by women remains uncompensated and/or unrecognized. In terms of the number of years spent in silver perch trading, one of the respondents was already in the business for almost 30 years, while most of the fish processors were into trading for 1 to 5 years with a frequency of 40 or a total of 83.3% of the total respondents.

Table 2: Demographic Profile of the Silver perch fish processors

Age in years	Frequency	Percentage
19-24	1	2.08
25-30	1	2.08
31-36	8	16.7
37-42	4	8.33
43-48	18	37.5
49-54	3	6.25
55-60	11	22.9

61-66	2	4.17
Total	**48**	**100**
Gender		
Male	0	0
Female	48	100
Total	**48**	**100**
Civil status		
Single	10	20.8
Married	38	79.2
Widowed	0	0
Separated	0	0
Total	**48**	**100**
Educational attainment		
Elementary	0	0
Highschool	48	100
College	0	0
Total	**48**	**100**
Number of years in operation		
1-5	40	83.3
6-10	4	8.33
11-15	3	6.25
16-20	0	0
21-25	0	0
26-30	1	2.08
Total	**48**	**100**

Key Players in the Silver Perch Business and their Functions in the Value Chain

Table 3 presents the key players in the silver perch business in Banilan Pakil, Laguna and their corresponding functions in the value chain. Key players were composed of the fisherfolks who produced the silver perch for distribution to the middlemen or wholesalers and retailers. Wholesalers were those fisherfolks who purchased a bulk kilo of fresh silver perch to another fisherfolks to used it as bait for knife fish. The second key players were the fish processor who processed and refining raw materials to finished goods.

These fish processors were also the retailers and directly sell it to the consumer in retail price or per pack of dried silver perch. And the last participants in the value chain, who utilize the dried silver perch for food, are the consumers.

Table 3: Major key players and their roles in the value chain of Silver Perch

Key players	Roles
Fisherfolks	Produced fresh silver perch for the bait of other fisherfolks for knife fish and produced fresh silver perch for dried fish.
Wholesaler	Those fisherfolks who purchased a bulk kilo of fresh silver perch to another fisherfolks to used it as bait for knife fish.
Fish processors	Who processed and refining raw materials into finished goods. Also, the retailer and direct seller to consumer
Consumers	The last participants in the supply chain, who utilize the dried silver perch for foods.

Silver perch Value Chain

Silver perch Value Chain in Banilan Pakil, Laguna was typically with no difference with the value chain in other areas. Wild fishing fisherfolks were those who go directly to the lake or river and usually used fish net to catch fish. These fisherfolks did it regularly and their produce depended on the amount of the fish caught. No definite amount of catch could be identified per fishing. In the first channel fisherfolks sold fresh silver perch directly to the end-user or the consumer. In the second channel fisherfolks were sold fresh silver perch to the wholesaler which is the fisherfolks itself. These fisherfolks purchased a bulk kilo of fresh silver perch to another fisherfolks for their personal used including for fish bait of clown fish. The fish processors purchased fresh silver perch from fisherfolks who purchased a bulk kilo of fresh silver perch from another fisherfolks, and they processed and refining the fresh silver perch into dried silver perch and sell it to the final end-user or consumers.

The third channel were fisherfolks sell fresh silver perch to fish processor and the fish processors processed and refining the fresh silver perch into dried silver perch and sell it to the final end-user or consumers.

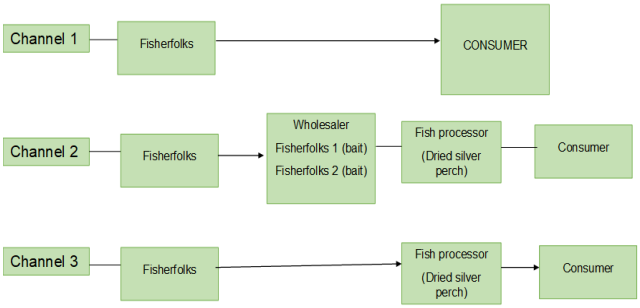

Fig 2: Flow of Production Value Chain Analysis of Silver Perch in Banilan Pakil, Laguna

Geographical Flow

The geographic flow shows the different sites where exchange the silver perch occurred. This exchange involved transactions from the source of inputs to the destination of the products. The dried silver perch is commonly bought from the fish processors. Silver Perch fishes were processed into finish product that sold within Barangay Banilan and nearby towns. Some of Fish Processors transported the dried silver perch into the markets in Famy and Siniloan, Laguna. The dried silver perch fishes in Banilan were also consumed by people of Pangil and nearby Brgy of Pakil, aside from the community itself as the top consumer.

Table 4: Geographical flow of Silver Perch

Source	Destination
Fresh Silver perch Banilan Pakil, Laguna	Banilan Pakil, Laguna
Dried Silver perch Banilan Pakil, Laguna	Banilan, Pakil, Laguna (Mostly) Pangil, Laguna Siniloan, Laguna Famy. Laguna

Marketing Activities in the Supply Chain

Marketing Activities in this study covered the processes and techniques of selling and buying silver perch from the fisherfolks to fish processors. This included among others, the mode of selling, terms of sale and price determination.

Table 5 presents the marketing activities in the value chain of silver perch in Banilan Pakil, Laguna. The mode of selling silver perch fishes were sold by fisherfolks directly to the fish processors and other fisherfolks for bait of knife fish. Moreover, there are two types of terms of selling. One was on cash basis, while the other one was on consignment basis.

In cash basis, all silver perch sold to fish processor and other fisherfolks for bait were paid in cash by the fish processor and other fisherfolks to the producers upon purchase of

goods, while in consignment basis, only the amount of sold silver perch were paid by fish processor and other fisherfolks (bait) to the producers, which means payment was done after the goods were sold by the consumers.

As a results in Table 5, majority of the fisherfolks and fisherfolks (bait) (143 or about 100 %) practiced the cash basis as the mode of payment. On the other hand, all fish processors with a frequency of 48 or about 100 percent were sold to consumer in cash basis. The findings revealed that the producer was the one who determined the price for all the key players along the chain.

Table 5: Distribution of different marketing activities in the chain

Marketing Practices	Frequency	Percentage
A. Fisherfolks		
1)Terms of Sale		
Cash Basis	143	100
Consignment	0	0
Total	**143**	**100**
2)Price Determination		
Producer	143	100
Buyer	0	0
Both	0	0
Total	**143**	**143**
B. Fisherfolks (Bait)		
1) Terms of Sale		
Cash Basis	143	100
Consignment	0	0
Total	**143**	**100**
2) Price Determination		
Producer	143	**100**
Buyer	0	**0**
Both	0	**0**
Total	**143**	**143**
C. Fish Processors (Dried)		
1)Terms of Sale		
Cash Basis	48	100
Consignment	0	0
Total	**48**	**100**
2) Price Determination		
Producer	48	100
Buyer	0	0
Both	0	0
Total	**48**	**100**

Profitability of the Different Players in the Value Chain

The profitability of key players was measured based on the net profit margin of each player in the value chain. Net profit margin analysis was gathered to determine the profitability of silver perch business key players. The obtained result presents the volume (kilograms) of silver perch produced by fisherfolks per harvest. Findings revealed that 9.1-12, kilogram of fresh silver perch were common volume of harvest by fisherfolks with frequency of 84 or about 58.7 percent.

Table 6: Volume (kilograms) of Silver Perch produced by fisherfolks per harvest

Volume	Frequency	Percentage
3kg and below	13	9.09
3.1- 6kg	46	32.2
6.1- 9kg	0	0
9.1- 12.kg	84	58.7
12.1- above	0	0
Total	**143**	**100**

Table 7 shows that most of the sold price of silver perch were about 100 pesos. It was sold by fisherfolks to the other fisherfolks which was used as a bait for knife fish. Followed by the 30 pesos per kilo of fresh silver perch with a frequency of 13 or about 9.09 percent of the total respondents.

Table 7: Price per kilograms (Php/kg) of silver perch sold by fish processors and other fisherfolks from the fisherfolks.

Amount Price (Php/kl)	Frequency	Percentage
30 pesos	13	9.09
100 pesos	130	90.90
Total	**143**	**100**

Table 8 presents the volume (kilograms) of silver perch purchased by fish processors from fisherfolks per day. Findings revealed that 1.1 kg to 5 kilograms of fresh silver perch were common volume of purchased by fish processor from fisherfolks with frequency of 26 or about 54.2 %.

Table 8: Volume (Kilograms) of fresh silver perch purchased by fish processors from fisherfolks per harvest

Volume	Frequency	Percentage
1kg- below	9	18.8
1.1kg -5kg	26	54.2
5.1kg-10kg	11	22.9
10.1kg-15kg	2	4.1
15.1-above	0	0
Total	**48**	**100**

Table 9 shows the volume (kilograms) of dried silver perch processed by fish processors per week. Findings revealed that 1.1 - 2 kilograms of dried silver perch are the common of volume that processed by fish processors per week with a frequency of 25 or about 52.1% of the total respondents.

Table 9: Volume (Kilograms) of dried silver perch processed by fish processor per week

Volume	Frequency	Percentage
1kg-below	21	43.8
1.1kg- 2kg	25	52.1
2.1kg-3kg	1	1
3.1kg-4kg	0	0
4.1 kg–5kg	1	1
5.1kg- above	0	0
Total	**48**	**100**

The obtained result in Table 10 shows the usual quantity of dried silver perch that purchased by consumer from fish processor. It shows that 1000 grams of dried silver perch are the common quantity that consumer usually purchased from fish processor, with a frequency of 24 or about 50.0% of the total respondents. The price of dried silver perch per kilograms is about 400 pesos per kilograms if it is pick up from the fish processors and 500 pesos per kilograms if it is delivered

Table 10: Quantity per kilogram of dried silver perch sold by consumer from fish processor

Quantity (grams)	Frequency	Percentage
250 grams and below	6	12.5
500 grams	6	12.5
750 grams	11	22.9
1000 grams	24	50.0

1100 grams and above	5	10.4
Total	**48**	**100**

Profitability Analysis for Silver Perch Business

Net Profit Margin Analysis or the profitability of the silver perch business in Banilan Pakil, Laguna was measured according to the profitability of every key player in the value chain. This measured how profitable the fisherfolks and how profitable the fish processors. Table 11 shows the monthly income statement of the Fisherfolks when they sold the fresh silver perch to another fisherfolks for fish bait. The obtained result shows that the total monthly revenue of fisherfolks is Php30,000.00 with total expenses of Php7,861 and the net profit of Php22,139.00. Moreover, it shows that the net profit margin of the fisherfolks monthly is 73.79% which means the venture was profitable

Table 11: Income Statement of Fisherfolks

Fisherfolks sold fresh silver perch by other fisherfolks Fish bait		
Income statement for one month harvest		
(10kilosxp100)		
Total Revenue		**30,000**
Less: operating expenses		
Depreciation of fishing boat	188	
Depreciation of fish net	113	
Depreciation of battery	210	
Depreciation of apparatus	150	
Gasoline	7,200	
Total Expenses		**7,861**
Net profit		**22,139**
Net profit margin		**73.79**

Table 12 shows the monthly income statement of fisherfolks when the fresh silver perch purchase by fish processors monthly. It shows that the total revenue of fisherfolks were about Php9000.00 with a total expense of Php7,861.00 and the net profit were about Php1,139. It also revealed that the monthly net profit margin of the fisherfolks is 12.65% when they sell the fresh silver perch to fish processors.

Table 12: Income Statement of Fisherfolks (bait**)**

Fresh silver perch sold by fish processors from fisherfolks		
Income statement for one month sale		
(10kilosxp30 pesos)		
Total Revenue		**9000**
Less: Operating expenses		
Depreciation of fishing boat	188	
Depreciation of fish net	113	
Depreciation of battery	210	
Depreciation of apparatus	150	
Gasoline	7,200	
Total expenses		**7861**
Net profit		1139
Net profit margin		**12.65**

The obtained results that the monthly income statement of fish processor. It shows that the total revenue of fish processor was Php4,800.00 with a total expense of Php2,200.00 and the net profit of Php2,600. It shows that the net profit margin of the fish processor monthly is about 54.17%.

Table 13: Income Statement of Fish Processors

Dried silver perch sold by consumers from fish processors		
Income statement for one-month sales		
(12klsx400 pesos)		
Total Revenue		**4800**
Less: Operating expenses		
Fresh silver perch	1800	
Box	20	
Salt	80	
Knife	30	
Scissor	25	
Chopping board	35	
Plastic roll	120	
Drying Fishing Net	90	
Total expenses		**2200**
Net profit		2600
Net profit margin		**54.17**

In terms of profitability of each player in value chain, the most profitable among the key players is fisherfolks with a net profit margin of 73.79% followed by the fish processor with a net profit margin of 54.17%. This means that the silver perch production and value addition is a profitable venture in the creation of livelihood and as well improving the economic status of the fisherfolks along Laguna Lake. Data showing the comparison of the net profit margin can encourage the key players to establish this kind of business.

Table 14: Profitability of each key player in silver perch chain business in Banilan, Pakil, Laguna

Key Players	Net Profit Margin
Fisherfolks:	
Sold by another fisherfolks for (bait)	73.79
Sold by Fish Processor for dried fish	12.65
Fish Processor	
Sold by Consumer	54.17

Problems Encountered by Respondents-Fisherfolks

It was presented in Table 15 the problems encountered by the key players, Respondents were asked to choose from among the identified problems and allowed them to have multiple responses. For the fisherfolks the common problem they encountered in terms of production is lack of government support with a frequency of 134.

Aquaculture in Laguna de Bay has been an important economic contributor locally and nationally, it has been facing numerous problems over time that constrain its development. Of these, environment-related problems, lack of access to cheap capital, obstruction of navigational lanes by fish pens, existence of illegal fish pens, poaching, and overall limited support from the government were considered very serious by aquaculture operators. These problems, therefore, may be the ones needing the most attention. (Israel, 2007) [13]. Furthermore, the common problem of fisherfolks in terms of marketing is poor payment in raw materials with a frequency (66.4%).

Table 15: Problems encountered by the fisherfolks

Problems Encountered		
Production	**Frequency**	**Percentage**
lack of government support	134	93.7
lack of raw materials/input resources	6	4.20
lack of capital	3	2.10
lack of laborers	0	0
Total	**143**	**100**
Marketing		
poor payment in raw materials	95	66.4
market competitors	0	0
inability to meet quantity of product	48	33.6
competition (pricing)	0	0
Total	**143**	**100**

Problems Encountered by Respondents-Fish Processors

In Table 16 shows that majority of the respondents-fish processor said that the problems that they encountered in terms of marketing is inability to meet the product standard with a frequency of 48.

Table 16: Problems encountered by the fish processors

Problems encountered		
Marketing	**Frequency**	**Percentage**
Poor payment	0	0.0
Market competitors	0	0
Inability to meet product standard	48	100.00
Competition (pricing)	0	0
Total	**48**	**100**

Conclusion and Recommendation

The study concludes that the key players in the value chain of silver perch are fisherfolks, fish processors. Fisherfolks were the one who catch fresh silver perch and who purchased a bulk kilo of fresh silver perch to another fisherfolks to used it as fish bait for clown fish. Fish processors were played by women that performing in refining raw materials into finished goods for retailer and direct selling. When it comes to profitability the result of all key players achieved the desired net profit margin. However, sources of silver perch was free from the Laguna Lake, it provides income several it to key players with the present situation of fisherfolks, the government through BFAR, the silver perch farming should be focused and have its own management practices to sustain the sources as raw materials for processing.

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