

**Efficiency Marketing Chain Analysis of Sangkuriang Catfish
in Minapolitan Area**

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ABSTRACT

Aquaculture is an alternative of sustainable solution to meet the high demand of fish. One type of fish that is most easily cultivated and preferred by consumers is catfish. West Java Province is the largest producer of catfish, and Bogor is the central area of catfish production in West Java. Parung subdistrict, is one of Minapolitan Area in Bogor which focuses on catfish cultivation. As a Minapolitan Area, it is very important to examine the integration between each institution, examine which institutions involved in the supply chain to gather perfect market information and clear market identification. The objectives of this study are to analyze the pattern of Sangkuriang catfish trading channel, the function of trading, and the efficiency of the catfish marketing chain. Selection of respondents using purposive sampling, by setting 50 of catfish cultivators as respondents. There are 4 marketing channels in Parung Subdistrict. Institutions involved in the marketing of catfish are cultivators, collecting traders, agents, market traders, Restaurant/Food stall and end consumers. The second channel (Farmers-Retailers-Restaurant/Food Stall) is the most efficient channel. Shorter marketing chains create higher farmer's share.

Keywords: Marketing channel, Marketing Channel Analysis, Farmer's share, Catfish, Efficiency

INTRODUCTION

Fisheries sector in Indonesia have a big potencies and opportunities to be developed. One of the prospective fishery commodities is from aquaculture fishery, especially in fish consumption sector. One of the most consumed fish in Indonesia is catfish (*Clarias sp*). Catfish aquaculture is mostly conducted because of the easiness to cultivate catfish, catfish have ability to easily adapt to extreme environments, low oxygen conditions and can grow optimally even in a high dense stocking conditions (Sutrisno, 2012).

Based on Table 1, catfish is the third largest commodity produced during year

2010 - 2014, after seaweed and tilapia. National catfish production in 2014 reached 679,379 tons with an average increase of 29.48 percent per year. It shows that the business potency of catfish aquaculture is so high that many of businesses engaged catfish cultivation, ranging from onfarm subsystem to off farm.

The greatest catfish producers are in Java island. During the year 2009 until 2013, the catfish is always increasing. In 2013, catfish production in West Java equal to 197,783 tons. Total production of catfish from 2009-2013 in West Java reached 596,064 tons (DJPB, 2015).

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Table 1
Aquaculture Production by Commodities in Indonesia Year 2010-2014 (Ton)

No	Type	Year				
		2010	2011	2012	2013	2014
1	Seaweed	3,915,017	5,170,201	6,514,854	9,298,474	10,074,527
2	Tilapia	464,191	567,366	695,063	914,778	999,695
3	Catfish	242,811	337,577	441,217	543,774	679,379
4	Shrimp	380,972	400,385	415,703	645,955	639,369
5	Milk fish	421,757	467,449	518,939	627,333	631,125
6	Carp	282,695	332,209	374,366	412,703	434,653
7	Pangasius	147,888	229,267	3,470	410,883	4,182
8	Gourami	56,889	64,252	84,681	94,605	118,776
9	Grouper	10,398	10,580	11,950	18,864	13,346
10	Snapper	5,738	5,236	6,198	6,735	5,447
11	Other	349,568	344,731	265,580	326,801	342,347
	Total	6,277,923	7,928,962	9,675,553	13,300,906	14.359,129

Source: Ministry of Marine and Fisheries Indonesia, 2015

Samadi (2016), mentions that catfish is one alternative solution for fish farmers. This is because the catfish can be cultivated in stagnant water pond, tarpaulin pond or ground pool. Catfish is a fish that resists to extreme water conditions. Although, the growth of catfish in extreme water conditions will not be as good as cultivation in a good water quality.

Demand for catfish increase along with the growth of population in the future. Moreover, the processed food which produced from catfish is also become more diverse. This gives consumer wider option of consumable processed food. Catfish mainly processed into meatball, shredded, dumpling, nugget, sausage, and so forth (Samadi, 2016). BPS (2016), recorded that there is 79,640.83 tons catfish produced from 40 districts in Bogor regency. The subdistricts that produce catfish are Kemang, GunungSindur, Parung and Ciseeng. That the catfish grow-out is centralized in Parung subdistrict (BPS, 2016).

Based on Decree of Indonesia Minister Marine and Fisheries number 12 in 2010, Minapolitan is marine and economic development region-based fisheries based on integrated principles, efficiency, quality and acceleration. Based on Table 2, it can

be concluded that during 2010 until 2014, catfish is the most produced fish in Bogor Minapolitan Area, followed by gourami, carp and tilapia. The most cultivated catfish in Bogor is Sangkuriang catfish. As a minapolitan area, it is very important to examine the integration between each institution, to gather perfect market information and clear market identification, thus farmers can have the best distribution channel that connect them to consumers. According to (Kohls & Uhl, 2002), it is important to examine which institutions involved in the supply chain, since the purpose of Minapolitan is efficiency. One of the factors that influence the performance of supply chain is marketing activity (Shin et al., 2018).

Shaw (2012), stated that the marketing activities are needed in the process of distributing products, from producers to final consumers. There are three common marketing functions in product distribution, such as exchange function, physical function and facility function. These three functions are usually applied in the process of marketing a product. In the area of Minapolitan, Parung is the centre of Sangkuriang catfish grow-out activity, where the production of catfish in Parung reached 14,673.77 tons in 2015.

Table 2
Consumable Fish Production in Minapolitan Area, Bogor District (ton)

No	Commodity	2010	2011	2012	2013	2014
1	Catfish	23,665	32,257.67	34,995.19	44,023.58	54,726.02
2	Carp	484.07	1,463.52	3,656.66	3,973.79	4,361.42
3	Tilapia	190	828.45	3,035.76	3,332.17	3,948.01
4	Carp	1,278	1,453.40	2,308.83	2,480.92	3,113.14

Source: Department of Animal Husbandry and Fishery, 2016

Parung subdistrict is the second largest catfish producer in Bogor Regency, after Ciseeng subdistrict. While Parung focuses on catfish grow-out culture, Ciseeng currently focuses on hatchery and nursery.

Based on the explanation above, therefore the purpose of this research consists of:

1. To analyse the marketing channel and marketing function of Sangkuriang catfish in Parung Area
2. To analyse the efficiency of Sangkuriang marketing channel, which measured based on the margin of trade, farmer's share, profit to cost ratio.

METHODOLOGY

Location and Research Period

This research was conducted at Minapolitan Area, Parung Subdistrict, Bogor District of West Java Province. The location was selected by using purposive sampling method. Parung Minapolitan is a center of Sangkuriang catfish production area in Bogor district. In addition, Parung Minapolitan is one of four Minapolitan location in Bogor district. Data collected from January to March 2017.

Respondents Determination Method

Respondents were determined intentionally by using purposive sampling, by considering certain characteristics of the population which has already known before (Etikan et al., 2016). This research consideration is the farmer's experience, who has been doing catfish aquaculture for at least one year, and understand the market condition of catfish, especially in Parung area. There are about 50 respondents, which is divided into 5

farmer's groups (each farmer's group consist of 10 farmers). Respondents to support the study of marketing analysis are performed through tracing the available marketing channel from farmers to end consumers. Farmer selection use Cluster sampling. Then, next channell respondents are selected according to the information from previous channell or snowball sampling. Information taken from previous respondents or channell are used to follow the path of the next marketing agencies in the marketing channel, so that the marketing channel is not interrupted (Waters, 2014).

There are 2 main problems in this research. First problem is performance of marketing channel and marketing function of sangkuriang catfish. To analyze first problem, this research use marketing channel, market structure and market behavior analysis. The second problem is the efficiency of marketing channel. To analyze second problem this research use Marketing Margin, Farmers share, Profit and cost analysis.

Marketing Channel, Market Structure and Market Behavior Analysis

Marketing channel, Market Channel and market behavior analysis includes activities of marketing agencies along the supply chain including all the process of distributing primary products from producers to final consumers. Descriptive and quantitative methodis used to analyze marketing channel, market structure and market behavior of Sangkuriang catfish marketing channel in Parung Minapolitan. Data for quantitative method are result from respondent interview using set of question

from questionnaire. The data consists of account the number of trading agencies, market entry constraints, the nature and characteristics of the traded products and market information systems.

Marketing channel performance analysis is using market share analysis. Analysis of market share reflect marketing performance of one channel that compare with total of all channel in one Area. Channel market share can resulted from:

$$\text{Channel Market Share} = \frac{\text{Sales Volume In One Channel}}{\text{Sum of Sales Volume In All Chanel}} \quad (1)$$

Trebicka (2014), explains, market structure can be distinguished into perfect competition and imperfect competition market. Perfect competition market is created when the number of sellers and buyers are many with products sold homogeneously. The existence of agreements between traders in the industry shows that the market structure tends to not to compete perfectly. Market behavior analysis is conducted to find the activities that occur among the related agencies (Asmarantaka, 2012).

Marketing Margin

Marketing margin analysis is used to examine the operational efficiency level of Sangkuriang catfish chain. Marketing margin is the price difference between the consumer price with the producer price, where it also contains cost of value added and profit of the marketing agencies involved in the chain (Saravani & Ghaleno, 2016). Marketing margin resulted from reducing selling prices to buying prices of every marketing agency from catfish farmer to end consumer. (Asmarantaka, 2012), marketing margin can be calculated as follows:

$$M_i = P_{ji} - P_{bi} \quad (2)$$

P_{ji} is Selling price of marketing agency i (Rp/Kg), **P_{bi}** is Buying price of marketing agency i (Rp/Kg).

Farmer's Share

Farmer's Share analysis is used to compare the consumer price with producer price (farmer's price) (Asmarantaka, 2012). The value received by farmer can be resulted from:

$$\text{Farmer's Share} = \frac{P_f}{P_r} \times 100\% \quad (3)$$

P_f is farmer's price in Parung Minapolitan (Rp), **P_r** is consumer's price (Rp).

Profit and Cost Ratio Analysis

This analysis is performed to examine the profit received by every marketing agency towards all the cost spent (Gachena & Kebebew, 2014). The more equal profit to cost ratio, shows the more efficient the marketing channel. The higher the ratio, shows the higher profit gained by the marketing agency, therefore the value of the ratio should be positive ($\pi/c > 0$). Below is the formula to calculate the profit and cost ratio:

$$\text{Profit and Cost Ratio} = \frac{\pi}{c} \quad (4)$$

π is Profit of Marketing Agency in Parung, **c** is Cost spent for producing, processing and marketing Sangkuriang catfish in Parung.

Marketing Efficiency

Efficiency is the common indicator to assess the marketing channel performance. Marketing channel performance is measure by how the marketing system run well, and how it contribute to agencies' profit which involved within the chain. Improving efficiency level is one of the main goal of the farmers, traders, and consumers. The result of marketing margin and profit and cost Ratio Analysis will indicate marketing efficiency. Efficient marketing channel will create fair distribution of marketing margin and Profit and Cost Ratio in each channel. If one channel have significant higher marketing margin compare to another channel, it is the indicator that the

marketing is not efficient. High efficiency indicates a good performance of marketing channel, vice versa (Chen & Lai, 2010).

An efficient marketing activity is the final result expected from one marketing system. Marketing efficiency means efficient on channel and marketing agencies, marketing function, market structure, market behaviour and the value of marketing margin, farmer's share, and profit to cost ratio. Therefore, the marketing channel is efficient if only those indicators are fulfilled and satisfying to all marketing agencies along the chain. Marketing channel is efficient, if it can provide a fair price paid by end consumer to all marketing agencies involved (Panda, 2012).

RESULT AND DISSCUSSION

Marketing Agencies and Channels

In Parung subdistrict, the marketing agencies that involved in the supply chain activity of Sangkuriang catfish are consists of farmers as producers, wholesale traders, retailer, restaurant/food stall and local market traders.

- Farmers are people who grow catfish on the pond until the consumable size
- Wholesale traders are traders located in Parung subdistrict, they buy catfish

directly from farmers, normally in a big amount.

- Retailers are traders from outside Parung Subdistrict which spread in Bogor, Cibinong, Grogol, Pasar Senen, Kebayoran, Cengkareng, Tangerang, Cisauk, Depok, Jakarta and other surrounding area.
- Local market traders are traders who sell catfish in the fresh market, either traditional or modern markets. Researcher observe the market in Malabar market, fish market, KebonKembang Market, Lawang Seketeng Market, Parung Market and others.
- Restaurant / Food Stall are traders that process catfish into various food, which located in Tangerang, Cisauk, Cibinong, Grogol, Senen, Ceengakareng, Depok, Bogor, Jakarta and surrounding areas.

The oservations found that there are four marketing channels of Sangkuriang catfish from Parung Minapolitan:

1. Farmers-Wholesale traders-Retailers-Local Market Traders-End Consumers
2. Farmers-Retailers-Restaurants/Food stalls-End Consumers
3. Farmers-Retailers-Local Market Trade-rs-End Consumers



Figure 1
Channels and Market Share of Sangkuriang Catfish Farmers ParungMinapolitan

Source: Primary Data, 2017

4. Farmers-Wholesaler traders-Retailers-Restaurants/Food stalls-End Consumers

The market share received by each marketing channel of Sangkuriang catfish from Parung Minapolitan are varied. The total area observed in this research reach 1280 m² area, with the average pond size of 50 respondents about 10 x 15 = 150 m². On average, farmers harvested one ton catfish per cycle. However, there is also farmer whose harvest reached 5 tons per cycle. Based on Figure 3, there are four marketing channels, which involve farmers, wholesale traders, retailers, local market traders, restaurants / food stalls and end consumers. Channel IV gained the highest share among other channels. There area about 64.82 percent of total catfish produced by farmers are distributed through this channel (channel IV). In Parung Minapolita, retailer has the highest bargaining power among other marketing agencies. This is caused by the ability of retailers on distributing the catfish from wholesale traders. Our observation found that 100% catfish harvested in channel II and channel III are directly sold to retailers.

Market Structure

Products may change according to the treatment given by marketing agencies along the supply chain, this activity is performed to increase the value added of catfish and in the end increase the profit of related marketing agencies. Value added of Sangkuriang catfish normally gained through processing process. It is also important to observe obstacles and market condition to perform a successful catfish business. Supply and demand of catfish determine the price received of every marketing agencies and consumers. However, in agricultural product it is often occurred that prices are determined by one or more marketing agency that has a stronger bargaining power.

There are two forms of market structure in catfish business in Parung Minapolitan, oligopsoni market and oligopoly market. The oligopsoni market

structure is occurred since the number of farmers are higher than the number of wholesale traders. This is because the bargaining position of the wholesale traders is higher than the bargaining power of the farmers. Meanwhile, the oligopli market represents fewer number of retailer than the number of local market traders and restaurant/food stalls. The results of the study are in line with the research conducted by Kouka (1995), which states that the form of the market structure of catfish industry in the United States is oligopoly.

Number of Marketing Agencies

In performing marketing activities, there are agencies/institutions that involved in the distribution and value creation activity. The marketing agencies involved are consists of producers, wholesale traders, retailer/intermediaries, and end consumers. This study observed 50 respondents, who are farmers from farmers' group in Parung Minapolitan. 39 farmers sell their product to wholeseller and 11 farmers sell their product to retailer in Parung Area. There is no end consumer buy catfish directly to the farmer. There are 3 whole seller in Parung area that sell catfish to retailer around Jabodetabek, West Java and Banten province. There are 18 retailer in Parung Area that sell catfish to local market trader, end Consumer and restaurant or Food stall.

This study shows that farmer has a low bargaining position, it is because farmers can not determine the selling price, the selling price is determined by other agencies above it. Normally, farmer sell their catfish to wholesale traders or retailers. This study interviewed 6 wholesale traders that sell the catfish to retailers. In addition, there are 4 retailers that sell catfish to some markets across Jakarta, Bogor, Depok, Tangerang and Bekasi area. Retailers sell catfish to local market traders and restaurant / food stalls.

Nature of the Product

Zamalloa (2017), stated that the nature of fish products is divided into two, homogeneous and heterogeneous. Fish that is homogeneous is a form of fish that is sold fresh, while the fish are heterogeneous fish is the processed one. For example, fish cooked in restaurant or food stall, nuggets, dumplings and others processed fish products. In Parung subdistrict there are 2 types of catfish products sold, homogeneous products and heterogeneous products. Homogeneous products are fresh catfish, while heterogeneous products are processed/cooked catfish. Table 3 represents type of fish sold in every marketing agency.

Condition of Entry – Exit Market

Barriers to enter a market can be caused by several things, such as a high capital, high cost to compete within the market, product differentiation, economic scale and Access to Distribution Channels (Satola et al., 2018). Most of farmers sell their catfish to wholesale traders, however there are several farmers who are also acting as wholesale traders. Therefore, in this case, farmers sell their harvested catfish directly to retailer. There are abundant catfish produced in ParungMinapolitan. The entry barrier to the business is relatively low. It is because there are a lot of catfish farmers in Parung subdistrict. Parung subdistrict is one of four subdistricts that focuses on the center of catfish grow-out area. The area consists of Cogreg, Cihauk, CogregPulo, Iwul, Bojong Indah village and other villages in Parung subdistrict.

Market Information

Accurate and updated market information is needed to market a product from producer to consumer. Information such as price, availability, and marketing agencies that offer product to consumers are important to collect. Wholesale traders obtain pricing information directly from the retailer. The source of this information is obtained from the price paid by the end consumer and the retailer. Catfish prices are determined by supply and demand in the market. Whenever the demand for catfish rose, the price of catfish rose and vice versa, at the time of demand for catfish dropped the price of catfish down. However, although the farmers know the price at the retailer level, it will not increase the purchase price of the wholesale traders. These conditions can occur, because farmers have limited channels to sell their product. So that, wholesalers have a stronger bargaining position to determine the price. Milk fish farmers in West Java also have the same condition. Milk fish farmers are price takers, because wholesalers have a stronger bargaining position and also farmers have a lack of information about the price of milkfish (Azhara, 2016).

Market Behavior

Market behavior indicates the behavior of the marketing agency on a particular market structure in performing trading functions. Market conditions can be seen from the practice of buying and selling, the process of pricing, payment, and cooperation among the agencies involved.

Table 3
Type of Catfish Sold in The Case of ParungMinapolitan

Marketing Agency	Product Condition
Farmer	Homogen
Wholesale trader	Homogen
Retailer	Homogen
Local market trader	Homogen
Food stall / restaurant	Heterogen
End consumer	Heterogen

Source: Primary Data, 2017

Market behavior description as following detail.

Purchasing and Selling Practices

The farmers usually sell their harvested catfish to wholesale traders. The payment is cash and sometime by credit, that is paid one week after the purchase. This kind of method is commonly occurred in Parung subdistrict. Wholesale traders and farmers in Parung subdistrict have built a good relationship for a long time, trust between them which causes the credit payment is possible to be conducted. For a long time,

wholesale traders and farmers always sell to retailers. Wholesale traders usually have their regular retailer to sell their catfish product. The retailer sells catfish to local market traders and restaurant/food stall.

Product Payment Practices

In Parung Minapolitan, there are two methods of payment practices: cash payment system and credit payment system. The cash system is usually done by wholesale traders, retailers, local market traders, food stall and end consumers. However, special method is

Table 4
Distribution of Margin, Farmer's Share, Marketing Cost, and Profit to Cost Ratio

Item	Catfish Marketing in Parung Minapolitan			
	Channel I Value (Rp/Kg)	Channel II Value (Rp/Kg)	Channel III Value (Rp/Kg)	Channel IV Value (Rp/Kg)
Farmer				
Selling Price	16.500	18.500	18.500	16.500
Wholesale Trader				
Selling Price	18.500	-	-	18.500
Buying Price	16.500	-	-	16.500
Marketing Cost	844			844
Margin	2.000	-	-	2.000
Profit	1.156	-	-	1.156
Retailer				
Selling Price	22.000	22.000	22.000	22.000
Buying Price	18.500	18.500	18.500	18.500
Marketing Cost	1.585	1.585	1.585	1.585
Margin	3.500	3.500	3.500	3.500
Profit	1.915	1.915	1.915	1.915
Local Market Trader				
Selling Price	25.000	-	25.000	-
Buying Price	22.000	-	22.000	-
Marketing Cost	700		700	
Margin	2.300	-	2.300	-
Profit				
Total Marketing Cost	3.129	1.585	2.285	2.429
Total Profit	5.371	1.915	4.915	3.071
Total Margin	8.500	3.500	6.500	5.500

Source: Primary Data, 2017

performed between farmer and wholesale traders, they usually conduct both credit and cash payment system. The credit system payment usually made at least a week after the purchase day.

Marketing Cost, Marketing Margin, Farmer's Share and Marketing Efficiency.

A trading system can be said to be efficient if the margin received by every marketing agency is fair. Under these conditions it is expected that all marketing agencies involved have gained advantages, both producers, marketing actors and end consumers.

Channel I - Marketing Cost, Marketing Margin, Farmer's Share.

As presented before, Channel I marketing channel consists of farmers, wholesale traders, retailers, local market traders, and end consumers. Farmers sell catfish to wholesale traders in Parung subdistrict. The purchase price offered by the wholesale traders to the farmers is Rp.16.500 per kg.

The selling price received by the wholesale traders from retailers is Rp.18.500 per kg, the margin received by wholesale traders reaches Rp.2.000 per kg. Total costs spent by wholesale traders is Rp 844. The profit received by wholesale traders is Rp.1.156 per kg.

The retailers bought catfish from wholesale traders at purchasing price Rp.18.500 per kg. Then they sell to local market traders at Rp.22.000 per kg. The margin received by the retailer is Rp.3.500 per kg. Retailers spends the costs Rp 1.915.

Local market traders buy catfish from retailers for Rp.22.000 per kg. Then, they sell to end consumer and restaurant for Rp.25.000 per kg. The margin earned by local market traders is Rp.3.000 per kg. Moreover, the marketing costs spent by local market traders Rp 700. Marketing cost consists of transportation cost for catfish to the next channel, the cost of oxygen and plastic. Since the end consumer paid Rp.25.0000 per kg for catfish, therefore,

the total margin on Channel I is Rp.8.500 per kg, total marketing cost is Rp.3.129 and total profit Rp 5.371.

Channel II – Marketing Cost, Marketing Margin and Farmer's Share

Marketing agencies involved in Channel II are farmers, retailers, restaurant / food stall and end consumers. Farmers of Channel II, directly sell their harvest to the retailers. The retailer bought catfish from farmers at Rp.18.500 per kg and sell to restaurant at Rp.22.000 per kg. The margin received by the retailer is Rp.3500 per kg. Marketing cost spent is Rp 1.585. benefit gained by retailers is Rp.1.915. Therefore, total margin on channel II is Rp.3.500 per kg. Total marketing cost is Rp. 1.585 per kg and Total profit is Rp. 1.915.

Channel III – Marketing Cost, Marketing Margin and Farmer's Share

Channel III consists of farmers, retailers, local market traders and end consumers. Farmers sell catfish directly to retailers at Rp.18.500 per kg. Then, the retailer sells to the local market trader at Rp.22.000 per kg. Local market traders buy fish from their regular retailer for Rp.22.000 per kg. Then, they sell to end consumer at Rp.25.000 per kg. The margin earned by local market traders is Rp.3.000 per kg. Total profit on Channel III is Rp. 4.915 per kg, total margin Rp. 6.500 per kg and total marketing cost of Rp.2.285 per kg.

Channel IV – Marketing Cost, Marketing Margin, Farmer's Share

Marketing agencies in Channel IV consists of farmers, wholesale traders, retailers, and end consumers. Buying price from farmers is Rp.16.500 per kg. Then, the wholesale traders sell catfish to the retailers at Rp.18.500 per kg. After received by retailer, catfish is being sold to restaurant and food stall at Rp.22.000 per kg. Based on the analysis conducted on Channel IV, it is found that total profit reach Rp. 3071 per kg, total margin reach Rp.5.500 per kg and marketing costs incurred during the distribution in Channel IV is Rp. 2.429.

Table 5
Profit and Cost Ratio in Each Marketing Channel

Marketing Agency	Profit and Cost Ratio (%)			
	Channel I	Channel II	Channel III	Channel IV
Wholesale Traders	1,37	-	-	1,37
Retailers	1,21	1,21	1,21	1,21
Local Market Traders	3,29	-	3,29	-
Total	1,72	1,21	1,84	1,26

Source: Primary Data, 2017

Table 6
Farmer's Share, Profit and Cost Ratio, Marketing Margin, and Total Profit

Marketing Channel	Farmer Level Price	End Consumer Price	Total Margin	Farmer's Share
Channel I	16.500	25.000	8.500	67%
Channel II	18.500	22.000	3.500	84%
Channel III	18.500	25.000	5.500	74%
Channel IV	16.500	22.000	5.500	75%

Source: Primary Data, 2017

Based on Table 5, it can be seen that local market traders have the largest profit and cost ratio that reaches 3,29. The least Profit and cost ratio is Chanell II, that the value is 1,21. This is indicate that channel II is the most efficient chanell in Parung District. This is due to the marketing chainin Chanell II is the shortest compare to another channel. Futhermore, marketing chain of catfish in Kubu Raya District show the same condition. The Result Research says that shortest marketing chain create greatest profit (Apriono, Dolorosa, & Imelda, 2012).

Based on Table 6, the largest farmer's share occurred in Channel II, reaches 84%. This is because in this channel farmers sell their catfish directly to retailer. Meanwhile, the smallest farmer's share occurred in Channel I, reaches 67%. This is because the number of marketing agencies invoved in Channel I, which increase the marketing cost. The largest marketing margin occurred in Channel I, reaches Rp.8.500. This is because the margin received by the farmer is higher than other trading channels, which caused by direct selling from farmer to retailer.

Meanwhile, the smallest marketing margin is occurred in Channel II, reaches Rp.3.500.

Based on Table 6, Farmer level price for channel II and III is Rp 16.500 because the price is given for the Retailer. On the other hand, the farmer level price in channel I and IV is Rp 16.500 is given for whole seller. Price for wholeseller is cheaper because they buy the catfish in a big volume, so the whole seller have more bargaining position to determine the price. The profit and cost ratio for every marketing agency is similar because they have similar cost structure and also selling price.

CONCLUSION

Based on the analysis on marketing of Sangkuriang catfish in Parung subdistrict, it is found that there are 4 marketing Channels of catfish in Parung Minapolitan: 1. Channel I: Farmers-Wholesale Traders-Retailers-Local Market Traders-End Consumer. 2. Channel II: Farmers-Retailers-Restaurant/Food Stall. 3. Channel III: Farmers-Retailers-Local Market Traders-End Consumer. 4. Channel IV: Farmers-Wholesale

Traders-Retailers-Restaurant/Food Stall. There are four functions performed by the marketing agency in ParungMinapolitan, consists of exchange function, physical function and facility function. In Parung subdistrict, the market structure formed between wholesale traders and farmers is oligopsony, while the structure formed amongwholesale traders, retailers, local market traders, restaurant/food stall and end consumers is oligopoly. Based on the market share that has been analyzed it is found that farmers and wholesale traders 100% sell to retailers. It is also found that Channel IV is the channel with the highest market value reaches 64.82%. The payment system occurred in Parung is divided into 2 forms of system: cash and credit system. The market efficiency analysis found that the most efficient channel is Channel II, where farmer's share reaches 84%, total profit and cost ratio reaches 1,21 % and total margin reaches Rp.3.500. For the future research, it is recommended to compare marketing chain performance of catfish in another minapolitan Area. As a result of conducting this research, I propose that farmers sell their catfish through the retailer. This channel give better margin for the farmer. In addition, farmers can also act as wholesale traders, where they directly sell their fish to retailers. As a Minapolitan area, the Parung subdistrict should keep a conducive situation to develop the fishery business in the region, the local government and related institution should contribute to support the aquaculture fishery market. Parung is a strategic area to create a development of aquaculture product, as it is also close to several big cities such as Jakarta, Tangerang, Bogor and Bekasi.

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