

# Marketing Channel and Margin Analysis of Grouper in Pulau Terong, Belakang Padang District, Batam

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**Keywords:** Marketing Channel, Market Margin, Grouper.

**Abstract:** This study aims to examine the pattern of marketing channels used by the Fishermen of Pulau Terong in distributing fish to end consumers in Singapore and determine the amount of marketing margins between each level of marketing used. The problems examined include internal and external factors that affect the performance of fishermen in fishing efforts such as a lot of capital spent and adequate weather. The analytical approach used is a qualitative descriptive analysis for marketing channel patterns and quantitative descriptive in the form of a formula for calculating marketing margins.

## 1 INTRODUCTION

Batam is geographically one of the cities in Indonesia which is located on the international shipping lane. The area of Batam reaches 1,038.84 km<sup>2</sup> and the area of its waters is 2,791.09 km<sup>2</sup>. So, it can be concluded that Batam has a greater water area than the land area. Seeing from the sea area, many of Batam residents also earn a living as fishermen, due to the supporting geographical factors. Some of them are in Pulau Terong, one of the islands that is located in Belakang Padang District, Batam.

Based on data from Pulau Terong Village, the population of Pulau Terong is known to be 3,117 people with 963 households. Pulau Terong also has a land area of 5.79 km<sup>2</sup> with a sea area of 110.89 km<sup>2</sup>. Pulau Terong is also one of the major fish productions contributing islands in the Belakang Padang District. The northern part of Pulau Terong is directly bordered with Pecung and Kasu. The western part of Pulau Terong is bordered with the Sea. The east itself is bordered with Bulang Lintang island while the southern part is directly bordered with Karimun Regency. Pulau Terong is one of the islands surrounded by the sea and it is reasonable if many of the residents who work are mostly fishermen. Fisherman is a term for people who work daily to catching fish or another marine biota. According to data from the village of Pulau Terong, it can be seen that the number of fishermen is 563 people, which

means that more than 60% of the population of Pulau Terong earn a living as fishermen.

Among a variety of fish found in the waters of Pulau Terong, according to one of distributor on Pulau Terong, there are several fish that are the main products of Pulau Terong such as Mackerel, Memparang, Tondan, Unga, and Grouper. One of the biggest commodities in Pulau Terong is grouper fish, both in terms of fishing and in terms of cultivation. Grouper fish is one of the marine products that has a high enough price and is usually exported abroad.

Based on the results of an interview with one of the distributors on Pulau Terong, it can be seen that the sale value of grouper fish from Pulau Terong can be classified based on the types. Grouper fish can be calculated from a price range of Rp. 25,000 to Rp. 200,000 per kg. The more difficult and rarer the fish, the more expensive the price offered. Next, there are 8 types of grouper fish in Terong Island.

Table 1: Type of Grouper in Pulau Terong.

No	Type of Grouper	Price
1	Gopak Grouper	Rp. 25.000
2	Rice Grouper	Rp. 40.000
3	Black Grouper	Rp. 60.000
4	Tiger Grouper	Rp.70.000
5	Line and Line size Grouper	Rp.70.000 and Rp. 115.000
6	Gertang Grouper	Rp.80.000
7	Cantang Grouper	Rp.100.000
8	Sonu Grouper	Rp.200.000

Based on the data in the table above, the lowest price of grouper is found in the type of gopak with the price of Rp. 25,000 which have the characteristic of being brown with yellow speckled tails, while the grouper fish with the highest price of Rp.200,000 is owned by the Sonu grouper with the characteristic of red colour and large size. The high level of price of grouper makes fishermen directly sell grouper fish directly to distributors as an intermediary to consumers in the village, looking at the side of the village economy. This price determination is also seen from the high protein content of the Grouper. Grouper fish such as Sonu are valued more highly because of their large size and high protein content according to one of the distributors on the Pulau Terong called Mr. Eri (Research Informant).

Fish on Pulau Terong can be caught by using various kinds of fishing gear such as Nelon Nets, Tansi Nets, ordinary fishing rods or using Bubu and aquaculture. Grouper fish in Pulau Terong itself are mostly obtained using fishing gear and fish traps, then they are distributed to fish distributor. The fulfilment and distribution of grouper fish is also inseparable from how the flow or Pattern of Marketing Channels are found in Pulau Terong.

Marketing channels can be compared to pipelines where water flows from its source to its final boundary. Marketing Channels are a vital element in the marketing activities of a product. Nowadays, fishermen are not only faced with production problems but also marketing and distribution problems. How the fish can be caught by fishermen and reach the consumers on time or can be more efficient. Fishermen and distributor as well as retailers must pay attention to the freshness of the fish. Timeliness in the provision of ice and fish box also affects the quality of fish to the end consumer. Long distribution patterns can cause complexity and inhibit the smooth arrival of fish into the hands of consumers so that it can cause spoilage, quality degradation, and lack of marketing margins.

Fishermen certainly expect a profitable marketing margin for their business. To Get a profitable marketing margin, fishermen must pay attention to the quality of its products, distribution, and marketing. Marketing is an activity carried out to exchange offers between customers and producers to create an agreement between the two parties. Marketing was created to provide value in order to achieve the target market and desired benefits.

Determination of price of grouper on Pulau Terong is also seen from the interest of grouper consumption by end consumers, the price of oil at the time of distribution, to packaging of fish that requires

additional costs such as ice blocks and fish boxes. However, in managing Marketing Channels, there are still several obstacles and consequences such as timeliness and the number and quality of consumer needs.

## 2 RESEARCH FOCUS

The focus of this research was started from grouper fish producers, in this case Pulau Terong Fishermen, then continued with the distribution phase of the marketing flow carried out by Distributors on Pulau Terong or fishermen sending their fish directly to distributors from Pulau Terong. The series of processes is also accompanied by an analysis of marketing margins arising from marketing channel activities.

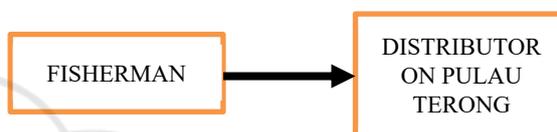


Figure 1: Research focus.

Researchers apply data analysis methods in the form of qualitative and quantitative descriptive analysis. To determine the market structure, marketing channels, and market behaviour, researchers used a qualitative descriptive analysis while the quantitative descriptive analysis in this study aims to analyse business income based on revenue and costs from the distribution process, marketing margins, as well as profits and costs. This study also uses interviews and field observations, which are collecting data with questions that are directly given to informants and visiting survey sites that related to research. This research was conducted with analysing distribution patterns and also by paying attention to marketing margins from the relevant regions.

In conducting data processing, researchers used several formulas, including:

1. Marketing Margins

$$M = Hp - Hb \tag{1}$$

Where:

M: Marketing Margin

Hb: Purchase rate price

HP: Price level of sales

2. Profit Margins

$$\Pi = M - Bb \tag{2}$$

Where:

$\Pi$  = Benefits

M = Marketing Margin

Bp = Marketing Costs

### 3. Marketing Efficiency

$$\text{"MM"} = SP / CP \times 100\% \quad (3)$$

Where:

MM = Market Margin

SP = Selling Price

CP = Cost Price

Criteria:

- MM >50% means that marketing was efficient
- MM <50% means that marketing was Inefficient

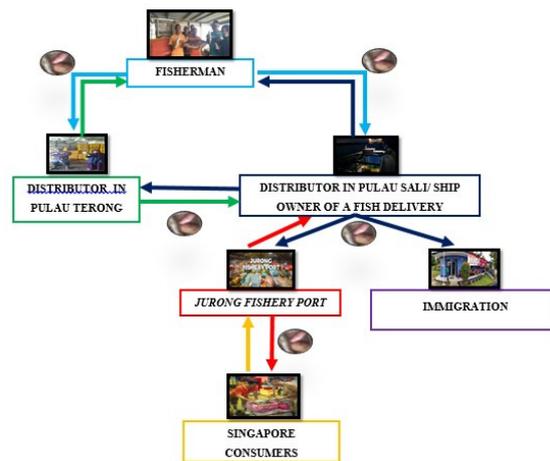


Figure 2: Marketing channel.

## 3 RESULT AND DISCUSSION

Pulau Terong has six inhabited islands including Pulau Terong, Tumber, Geranting, Buce Island, Tanjung Ladan Island and Seberang Island. The population in the Pulau Terong urban village is 3,332 people with 989 families (family cards). Pulau Terong has 5 units of neighborhood and 14 units of hamlet. The land area is 5.79 km<sup>2</sup> with the sea area of 110.89 km<sup>2</sup>. From this fact, it can be seen that most of Pulau Terong is surrounded by ocean, so it is not surprising that many residents of Pulau Terong make a living as fishermen.

From the several fish commodities in Pulau Terong, grouper is one of the biggest commodities compared to other fish. According to one grouper producer, high market demand for grouper is a challenge for Pulau Terong fishermen to increase the production and quality of grouper fish in their area. The type of grouper that is most often obtained on Pulau Terong is the type of grouper or regular grouper which in one catch can reach up to 7 to 8 fish. Besides that, there are also groupers of petals, rice, and also sonu, which are often obtained by fishermen of Pulau Terong, while the type of grouper abstraction, tiger, and barren are rarely found by fishermen. The groupers on Pulau Terong will be distributed to distributors in Pulau Terong.

Marketing Channels are formed from the relationship between producers, consumers and intermediary traders. Marketing channel for grouper in Pulau Terong involves fishermen to the consumer that described in the picture below:

From the picture above it can be seen that the grouper marketing channel in Pulau Terong begins when there is a flow of information received from each level or level of grouper marketing. Initially from the Jurong Singapore distributors will first read the market and consumer demand for grouper in Singapore, then from Singapore distributors will inform to distributor Pulau Terong about consumer in Singapore that has a demand from the fish, both distributors of fishing boat owners to the distributor of Pulau Terong, then from these distributors arises a request to fishermen to meet the needs of fish grouper at the Singapore Market. Usually, there is no limit on how many groupers that need to be supplied and delivered to Singapore because of the large number of fish in Singapore.

The marketing functions performed by fishermen on Pulau Terong include:

1. Fish Sales. Pulau Terong fishermen sell their fish directly to distributors, not to consumers directly.
2. Fish storage. Fishermen go out to sea for 3 days so that the packaging and storage of fish must also be considered by fishermen. Pulau Terong fishermen use a box called pebe to store fish. The pebe will later be filled with ice to maintain the freshness of the fish.

The marketing functions performed by fishermen on Pulau Terong include:

1. Purchase. The types of purchased by the majority of traders are fresh fish at a relatively higher price than fish that have experienced a decline in quality.
2. Sales. The distributor resell fish without changing the condition of the fish. In this case the collecting trader only estimates the selling price that applies in accordance with the market price.

3. Price Estimation. In estimating prices, distributors are required to be able to estimate various types of fish prices in the process of purchasing fish from fishermen and reselling them to subsequent distributors.
4. Sorting the quality of fish. The activity of sorting fish in this case requires the traders to be able to determine the quality of fish in order to obtain fish that are in accordance with the desires and the right price.
5. Fish packaging or storage. Distributors also carry out fish packaging activities so that fresh fish is guaranteed before reaching the hands of the next distributor. This packaging is included in the preservation of fish by using a box or fish crates which contains ice cubes.
6. Fish Delivery. The fish that has been packaged by the distributor will then be delivered to the fish shipping vessel to Singapore.

The following is the flow pattern of the grouper marketing channel in Pulau Terong:

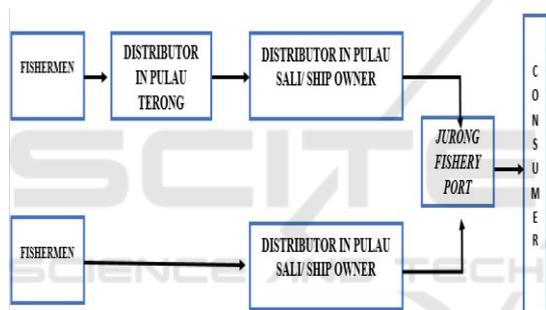


Figure 3: Marketing channel pattern.

From the picture above it can be seen that the first marketing channel, fishermen, sell their fish to distributors in Pulau Terong. In Pulau Terong there are 7 Distributors who have their subordinates (fishermen) so that when the fishermen return from fishing, fishermen directly distribute their fish to their distributors except for a few fishermen who do not have a permanent distributor, they tend to choose the distributor who at that time provide the most attractive price. From the distributor in Pulau Terong, it is then distributed to the Distributor of the owner of a fishing boat to Singapore. Furthermore, from the distributor of the owner of the fishing boat, the fish will be distributed again to Singapore's Jurong Fishery Port. The vessel would check the immigration office at Belakang Padang beforehand continue the journey to Singapore. After the ship arrived in Singapore, traders in Jurong will pick up the fish and pay taxes to the owner of the ship while paying the price of the fish. Furthermore, from traders in

Singapore Jurong, the fish are then distributed to consumers by selling the fish at Jurong Singapore.

The second grouper commodity trading channel is almost the same as the first marketing channel pattern, except that the fishermen do not deliver their fish through the intermediary distributor from Pulau Terong but the fishermen distribute the fish directly to the Distributor of the owner of the fishing vessel? It is from the ship's distributor that the fish are brought to Singapore as usual through immigration checks and stop at Jurong Fishery Port and then the fish are transported and paid for by traders in Singapore Jurong. After that, Singapore Jurong Traders will start distributing their fish to Singapore consumers by selling the fish at Jurong Singapore.

The following is the flow pattern of the grouper marketing channel from Pulau Terong Fisherman to the distributor in Pulau Terong:

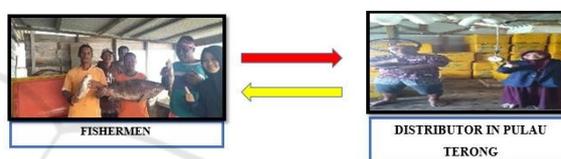


Figure 4: Marketing channel pattern.

From the picture above it can be seen the correlation or relationship between fishermen and distributors depicted with arrows indicating the mutual relationship that occurs between the two parties. When there is demand for fish from consumers, the distributor who first has this information will share it with fishermen, so the fishermen will start fishing, using either a fishing rod or using a trap. Previously, fishermen would first prepare provisions and transportation for fishing which usually takes place for 3 days at a time of departure.

Usually in one departure, fishermen will need a capital of Rp. 648,500 which includes the cost of supplies, packaging, fish storage and transportation used. Not all of this capital comes from fishermen, they are also from distributors who provide loans to fishermen in the form of purchasing machinery when it is damaged or in the form of too long of fuel money. This loan capital then binds fishermen to always sell their fish to distributors who are owed. But there are also some fishermen who use private capital to finance all of their fishing costs so that fishermen like this will not be bound to any one distributor and have the right to sell their fish to the distributor who offers the most attractive price.

In fishing, sometimes fishermen also experience several obstacles such as uncertain weather

conditions and poor planning. The weather factor is one of the important determinants for fishermen to get fish. Unfriendly weather often inhibits fishermen from catching fish because strong currents or high waves make the fishermen's stability in fishing disrupted and the fish obtained are not according to the expected target. Usually fishermen will get fish in satisfying and profitable quantities during the north wind season, where the situation and conditions at sea are very good and many fish commodities make the fishermen always succeed in bringing home groupers in large quantities and of course with high incomes too.

Besides in the northern season, fishermen will also usually get high income when the Chinese New Year is getting close because the consumers will accommodate and need a lot of fish, the more fish that consumers want, the greater the offer of attractive fish prices to distributors or fisherman. Likewise, for Pulau Terong fishermen, by offering a high price from the distributor, makes fishermen competing to get a lot of fish at sea and get high prices on the price of the fish so that it will increase income fisherman.

Besides the northern monsoon and Chinese New Year, there are also several seasons which have a big impact on reducing the income of the fishermen of Pulau Terong. Among them is the south wind season where the water usually becomes murky and many fishermen choose not to go to sea at this time because it can have a detrimental effect due to the fish obtained cannot return the capital spent. In addition, there is a western season where the wind at that time will be very strong and make fishermen quite dangerous to go to sea because of the swift currents and unpredictable weather that makes it difficult to concentrate on getting fish. In addition to the season, other factors such as the presence of large vessels anchored in the usual fishing grounds also disrupt the fishing process, because sometimes the fishing rod or nets used by fishermen for fishing get caught and break up due to being hit by the ship and harming the fisherman. Even though the docked ship has paid Rp.10,000,000 per month, but that still does not cover the loss of fishermen because the money will be distributed to the entire community of Pulau Terong even those who are not fishermen or who do not fish in the area docked.

Regardless of the obstacles that fishermen face when going to sea, the average fisherman will get a few kilos of fish to be sold to distributors. Decisions about the marketing channel system used are one of the most important decisions faced by management or business entities or individuals. All marketing decisions are influenced by the channel chosen. But

at the same time, the marketing strategy is able to influence the choice of the channel itself while still paying attention to segmentation, targeting, and positioning. Pulau Terong fishermen decide to sell their fish directly to distributors without first selling it to consumers directly. In contrast to research conducted by Ezihe, et al (2014) which in addition to going through distributors, consumers also buy fish directly from fishermen. This is done with consideration of the convenience of fishermen in the transaction and also because the price sold for grouper is very high so consumers on Terong Island rarely buy this fish.

Table 2: Income of the Fisherman.

Description	Unit (Rp/Kg)	Total Cost (RP)	Information
<b>Fishermen</b>			
Selling Price	100.000	2.000.000 (if 20 kg)	The average grouper obtained
Lunch costs	250.000	250.000 (3 days)	Costs such as coffee, rice, cigarettes, sugar, bread, <u>indomie</u> and others
Fuel oil	340.000	340.000 (3 days)	For 2 cans of oil to <u>Takong</u>
Ice Cost	30.000	30.000 (3 days)	Usually made by self
Battery	800.000 (2 Years)	3.000 (3 days)	Batteries to charge lights at sea at night
Machine	23.700.000 (15 year)	13.500 (3 days)	Yamaha 25 Machine
Transportation	12.000.000 (8 year)	12.000 (3 days)	Boat 28 Feet
Other equipment	20.000	20.000	Tin, inducement and lights
Total	Income	2.000.000	Payment from the Distributor
	Expense	648.500	Total for 3 days at sea
	Profit	1.351.500	Income - Expense

Fishermen can meet the target if there are dozens of kilos of fish obtained that return the capital spent by fishermen. The fish sold by fishermen also vary, but the most obtained are grouper fish and unga. The price of each fish certainly varies according to the type of fish obtained. Fish groupers that commonly obtained by fishermen, such as ordinary Line grouper, black grouper, gopak grouper and sonu grouper have varying prices that can range from Rp.25,000 - Rp.200,000 per kilo. Usually, the grouper is obtained according to size. Regular grouper for Rp.100,000 per kilos is sold from fishermen to distributors.

From the picture above, it can be seen that if a fisherman can produce 20 kg at a time at sea, the fisherman will get a gross income of Rp. 2,000,000 so that he can return the capital or costs previously issued at Rp. 648,500 so that the total net income of fishermen in one catch can reach Rp. 1,350,500.

Fishermen usually fishing grouper fish every 3 days, so in 1 week, there are 2 fishing process and in one month there will be 6 fishing processes, because 10 days at the end of the month will be a time for fishermen to rest. Therefore, the income of fishermen in a month can reach Rp.8,103,000. However, this income cannot be determined precisely because the amount of fishermen's income depends on the large number of fish produced by fishing at the time. The more fish obtained, the greater the income that can be received by fishermen. Conversely, the smaller the results of fishermen fishing, the smaller the income earned which can even be a loss because they cannot the capital such as capital at the sea, transportation and storage capital.

In addition, the price of grouper can also increase or decrease in accordance with the target in the market and the quality of fish sold. If the number of fish sold is small and consumers need a large supply of fish, the higher the price of fish offered to fishermen and distributors. On the other hand, if the fish in distributor experience abundance, the fish offered by fishermen will experience a slight price decline and also have an impact on decreasing profits of fishermen and distributors. But this rarely happens because usually from the distributor side always requires a supply of fish from outside. In addition to fish quotas, the quality of fish is also a consideration for the price of fish obtained, the better the quality of fish maintained, the better the price given.

It is important for fishermen and distributors to always maintain the freshness of the fish. It starts when fishermen get fish while fishing. When going to sea, fishermen must prepare a fish storage box in the form of a box or pabe and also ice cubes that are put in the box so that it does not melt easily. The fish box is also given a small hole to keep the ice from melting easily. When the fish is obtained, the fishermen will let it die and then put it in a fish cage that is coated with ice and closed as tightly as possible so that the quality of the fish and ice is maintained. After packaging and storage and fishing are finished, the fish will then be immediately taken to the distributor.

When the fishermen are about to go home from the sea, the fisherman will first notify via telephone the distributor where the grouper is delivered and then the distributor will prepare ice and fish storage and wait for the fishermen to come home. After arriving, there will be a process of transporting fish by a distributor to the fish that the fisherman gets. Usually the distributor will use a pulley or rope to lift the fish from the sea. The fish that have been transported are then separated by species and weighed for the amount to be calculated. Usually, in determining the price the

distributor will take at least Rp. 5,000 - Rp. 10,000 per kilo of fish sold by fishermen. This advantage is taken by considering the price of transportation, storage, and also the fuel that will be spent by the distributor when delivering fish to the next distributor. The following is income from Pulau Terong distributors

Table 3: Income of Pulau Terong Distributor.

Distributor of Pulau Terong			
Purchasing Price	100.000	10.000.000 (If 100 kilo)	The price is set by the distributor of fishing fish
Fuel oil	100.000	100.000	Oil to deliver fish to Sali Island
Hook	100.000 (one week)	50.000 (2 times)	Every week the distributor gives a fishing rod to the fisherman
Ice Cost	85.000	85.000	Ice for fish when transporting from fishermen to Singapore on the same day
One employee's wage	50.000	50.000	The employee helps pack fish
Fish box tax	20.000	20.000	Tax when leaving the fish to the next distributor to get to Singapore
Selling Price	110.000	11.000.000 (100 kilo)	Selling price from the distributor to the next distributor
Total	Selling Price	11.000.000	The price given to the next distributor
	Purchasing Price	10.000.000	Prices given to fishermen
	Cost	305.000	Costs incurred
	Profit	695.000	Selling price - (purchase price + fees)

If the distributor buys fish from the fisherman at a price of Rp. 100,000, then the distributor will resell the fish at a price of Rp. 110,000. That way, the marketing margin obtained by the distributor is Rp.10,000 (5.88%). If in a day the distributor delivers an average of 100 kilograms of fish, the fish purchased to the fisherman is Rp. 10,000,000 with a total price of Rp. 11,000,000, taking into account the transportation, storage, and fuel costs of Rp.305,000, so that the total net income of the distributor is Rp. 695,000. If the fish calculated per kilo, a distributor's profit of margin is Rp. 6,950 at a cost of Rp. 3,050.

Besides fishermen, distributors also experience several obstacles in running their business. The formal education of distributors in Pulau Terong is still very low and makes the distributor's ability to analyse fish quality and the lack of sensitivity to fish quality so that sometimes distributors have to suffer losses because they cannot identify and estimate fish quality when they arrive at the next distributor. Usually, fish delivered by fishermen will be paid directly by the distributor at a price set by the trader

in Singapore. Furthermore, the distributor will receive payment from the Singapore side after the fish arrives at Singapore and the fish quality is checked. If there is a change in quality, the distributor will suffer losses because the price of fish will decrease dramatically along with the decline in fish quality. For example, the distributor pays Rp. 100,000 per kilogram to fishermen and only receive half the price from Singapore due to the reduction in fish quality. Sometimes, the fish sent are not paid for or repatriated because of very poor quality.

The distributor had first bought fish from the fisherman at the normal price and got a refund at a lower price and caused losses. In addition, distributors always use family ways to establish business relationships with fishermen. The same is true of accounts payable and credit. Sometimes, in a business, there are fishermen who find it difficult to pay their debts to distributors who have previously provided loans for business capital. Usually, if there is a little fish season like the south season, distributors tend to give loans to fishermen for the capital of the sea because at this time, usually the fishermen will need capital to cover a small amount of income and this will also burden the distributor.

#### 4 CONCLUSIONS

Based on the results of research and discussion, conclusions can be drawn. The marketing channel of grouper on Pulau Terong can be described from the fishermen of Pulau Terong who deliver their fishing products to distributors without first selling their fish personally to consumers on Pulau Terong so that the marketing pattern used in Pulau Terong is Indirect marketing because fishermen on Pulau Terong prefer to distribute their fish through intermediaries.

From the chosen marketing pattern, fishermen got several problems in their marketing of fishing catch, including limited information on grouper prices, uncertain whether that makes it difficult for fishermen to predict grouper catches. This is also influenced by the formal education of Pulau Terong fishermen who are still relatively low. For distributors themselves there are several problems such as the declining quality of fish when they arrive at consumers causing a significant difference in prices between those given by distributors to fishermen. In addition, there are some fishermen who find it difficult to pay debts to distributors, making distributors sometimes have to lose money.

The marketing margin obtained by the distributor is Rp. 10,000 (5.88%). If in a day the distributor

delivers an average of 100 kilograms of fish, the fish purchased from the fisherman is Rp.10,000,000 with a total price of Rp.11,000,000, taking into account the transportation, storage, and fuel costs of Rp. 305,000 so that the total net income of the distributor is Rp. 695,000. If calculated per kilo, a distributor's profit margin is Rp. 6,950 at a cost of Rp. 3,050.

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