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Analysis of Product Flow Mechanism, Information, and Finance in the Supply Chain of Fourfinger Threadfin Fish (*Eleutheronema tetradactylum)* in Tanah Merah Village, Tanah Merah District, Indragiri Hilir Regency

Analisis Mekanisme Aliran Produk, Informasi dan Keuangan pada Rantai Pasok Ikan Senangin (Eleutheronema tetradactylum) di Desa Tanah Merah Kecamatan Tanah Merah Kabupaten Indragiri Hilir

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Abstract

Tanah Merah Village is one of the Fourfinger threadfin fish-producing areas. Most of the population works as fishermen as the basis of their economic income. Fourfinger threadfin fish is the main fishery commodity and has high economic value, thus encouraging the sustainable use of Fourfinger threadfin resources. This research aims to analyze the product flow, information, and finance mechanism in the supply chain of fourfinger threadfin (*Eleutheronema tetradactylum*) from Tanah Merah Village, Tanah Merah District, Indragiri Hilir Regency. The method used was in-depth interviews with a qualitative approach. The research results show that the flow of fourfinger threadfin fish products is spread across four provinces on the island of Sumatra. The payment systems used are cash, bank transfers, and loans. The selling price of delighted fish at the fisherman level is IDR 45.000/kg, and at the end consumer IDR 55.000-70.000/kg. Five Senangin fish supply chain entities, namely fishermen, fishermen, collectors, retailers, and final consumers form 3 chain patterns. The longest chain involves five entities and the shortest three entities. The farmer's share value for fishermen is relatively high at over 60%, with the highest value in chain three at 81.8%, indicating the most efficient chain. The product, financial, and information flow mechanisms have been running well. However, coordination and information integration still need to be improved to optimize the supply chain for fourfinger threadfin fish Tanah Merah Village.

Keywords: Supply Chain, Financial, Information, Tanah Merah Village

Abstrak

Desa Tanah Merah adalah salah satu daerah penghasil ikan senangin. Mayoritas penduduknya bekerja sebagai nelayan sebagai tumpuan penghasilan perekonomian mereka. Ikan senangin merupakan komoditas utama perikanan dan memiliki nilai ekonomis yang tinggi, sehingga mendorong adanya pemanfaatan sumber daya ikan senangin secara berkelanjutan. Penelitian ini bertujuan untuk menganalisis mekanisme aliran produk, informasi dan keuangan pada rantai pasok ikan senangin (*Eleutheronema tetradactylum)* dari Desa Tanah Merah Kecamatan Tanah Merah Kabupaten Indragiri Hilir. Metode yang digunakan adalah wawancara mendalam dengan pendekatan kualitatif. Hasil penelitian menunjukkan bahwa aliran produk ikan senangin tersebar di 4 provinsi di Pulau Sumatera. Sistem pembayaran yang digunakan

adalah tunai, transfer bank, dan pinjaman. Harga jual ikan senangin di tingkat nelayan Rp 45.000/kg dan di konsumen akhir Rp 55.000-70.000/kg. Terdapat 5 entitas pada rantai pasok ikan senangin yaitu nelayan, tauke, pedagang pengumpul, pedagang pengecer dan konsumen akhir yang membentuk 3 pola rantai. Rantai terpanjang melibatkan 5 entitas dan terpendek 3 entitas. Nilai farmer's share nelayan cukup tinggi di atas 60% dengan nilai tertinggi pada rantai 3 sebesar 81,8%, menunjukkan rantai yang paling efisien. Mekanisme aliran produk, keuangan dan informasi telah berjalan dengan baik namun masih perlu peningkatan koordinasi dan integrasi informasi yang lebih baik untuk optimalisasi rantai pasok ikan senangin di Desa Tanah Merah.

Kata kunci: Rantai Pasok, Keuangan, Informasi, Desa Tanah Merah

1. Introduction

Fourfinger threadfin is the main fishery commodity and has high economic value, thus encouraging sustainable use of fourfinger threadfin fish resources. Fourfinger threadfin fish are included in the group of fish that live in bottom waters (demersal) with muddy substrates. This fish is also found in many brackish/estuary and river waters. The muddy water conditions suit the Fourfinger threadfin habitat, which has brackish and muddy waters (Maulana, 2020). Tanah Merah Village is one of the fourfinger threadfin fish-producing areas. Most of the population works as fishermen as the basis of their economic income. Fishermen in the Indonesian Encyclopedia are classified as workers, namely people who actively carry out fishing activities, either directly or indirectly, as their livelihood. The fish often caught in Tanah Merah village is the fourfinger threadfin.

Indonesia's fisheries potential is very high, and with great potential, the marine and fisheries sector can become an odyssey to prosperity or a path for the Indonesian people to prosperity. This is not impossible because fisheries are one of the main sectors that will make Indonesia economically advanced by 2030. Sustainable management of fish resources is needed to make this happen. Law Number 45 of 2009 defines fisheries as all activities related to managing and utilizing fish resources. In this case, it includes activities from pre-production, production, and processing to marketing in a fisheries business.

Safitri (2022) said that fishing for fishing in Indragiri Hilir Regency has a peak season from December to March. The result of catching the fourfinger threadfin fish is 3 – 5 tons. The catch of the fourfinger threadfin fish increases yearly, with a price range of IDR 50.000/kg. Usually, the fourfinger threadfin fish is marketed on the Tembilahan marketing route. The fishing effort of Fourfinger threadfin fish has increased significantly from year to year, and at certain times, the amount of fish production has experienced significant decreases and increases. This shows that the level of utilization of fish resources has increased (Permatachani, 2016).

Meanwhile, in Tanah Merah Indragiri Hilir, the catch of fourfinger threadfin fish is quite adequate, although it sometimes decreases. Every day, fishermen produce happy fish. Even though the quantities are not large, they are obtained every time they go to sea. Usually, the fish caught by fishermen are sold directly to the fish shop and will be marketed by the shop to people in the surrounding area. Research needs to be carried out to determine the production and supply chain conditions of fourfinger threadfin fish in the Tanah Merah Indragiri Hilir area.

Along with the context of fishing business conditions, supply chains become essential to understanding the efficient use of resources in these operations. A supply chain is a network of companies or individuals who work together to create and deliver to final users. Suppose the supply chain is a physical network, namely companies, institutions, or groups involved in supplying raw materials, producing them until sending them to final use. The methods, tools, or supply management are called supply chain management (Vorst, 2006). In a supply chain, three flows are usually managed: the flow of products or goods, the flow of money, and the flow of information.

2. Material and Method

2.1. Time and Place

The research was conducted in October 2023 in Tanah Merah Village, Tanah Merah District, Indragiri Hilir Regency, Riau Province. The research location was chosen purposefully, considering that the area is the largest fishing village in Tanah Merah District.

2.2. Methods

This research uses an in-depth interview method with a qualitative approach. Descriptive research is research conducted to determine the value of independent variables, either one or more variables, without making comparisons with other variables, and quantitative research is a research method based on the philosophy of positivism, data collection, and statistical data analysis with the aim of predetermined testing hypotheses.

2.3. Data Analysis

Data analysis uses the Miles and Huberman model of qualitative data analysis techniques, including data reduction, data display, and conclusion or verification (conclusion drawing). Data reduction is carried out by selecting data according to the research objectives, namely analyzing the mechanisms of product flow, financial flow, and information flow, as well as describing the structure of the supply chain network. The data is presented in brief descriptions, tables, and charts to make it easier to understand the flow and network structure of the supply chain. Conclusions are drawn based on inductive patterns during the research and data that needs to be tested for truth, robustness, and suitability.

3. Result and Discussion

3.1. Fourfinger Threadfin Fish Product Flow Mechanism

A mechanism can be interpreted as a work process that is systematically arranged, where there are interactions and connections between parts or elements that produce functions or activities following predetermined goals. The mechanism for the flow of fourfinger threadfin fish products in Tanah Merah Village starts with fishermen acting as sukain fish producers. The fish caught by the fishermen are then sold to the tauke, who acts as a distributor. Tauke then sells the fourfinger threadfin fish to collectors and retailers in various destination markets inside and outside the province, such as North Sumatra, Pekanbaru, Jambi, and West Sumatra. Fourfinger Threadfin Fish finally reaches consumers through retailers.

Financial flow is the flow of money, both spending and receiving money, and the financial transaction system used in the fourfinger threadfin fish supply chain process. Financial flows flow from downstream to upstream, where recipients of cash flow from final consumers to fishermen. Fourfinger threadfin fish supply chain actors use the financial transaction system of cash transactions, bank transfers via BRI bank, and loans based on trust between actors. Information flow is a flow in the form of information between fourfinger threadfin fish supply chain actors. The information exchanged includes product availability, price, quality, market demand, delivery schedules, and obstacles faced. The flow of information occurs in two directions, from upstream to downstream and vice versa, through direct communication, telephone, and social media such as WhatsApp to maintain smooth product flow and respond quickly to changes. A soft and accurate flow of information is the key to the efficiency and responsiveness of the fourfinger threadfin fish supply chain.

There are three flow patterns or chains in the supply chain of fourfinger threadfin fish in Tanah Merah Village. Chain 1 involves five entities: fishermen, tauke, collecting traders, retailers, and final consumers. Chain 2 consists of 4 entities where the tauke sells directly to retailers without going through collectors. Meanwhile, chain three only involves three entities, namely fishermen, retailers, and consumers, where fishermen also act as distributors. The shorter the chain, the smaller the risk of decreasing the quality of the fourfinger threadfin fish.

3.2. Fourfinger Threadfin Fish Product Flow

The flow of fourfinger threadfin products started from the fishermen of Tanah Merah Village as producers who provided fresh fourfinger threadfin. Fishermen carry out happy fishing in the waters around Tanah Merah Village using appropriate fishing gear. The catch of happy fish from fishermen ranges from 100-200 kg per time at sea. This amount may vary depending on the season and water conditions. After the fish are caught, fishermen carry out initial handling, such as sorting the fish based on size and maintaining their freshness using ice.

The Fourfinger threadfin fishermen have caught are then sold to tauke or collecting traders. There are two sales systems from fishermen to tauke: direct sales on the boat before the fish is unloaded and sales after the fish is unloaded at the dock in packaged condition. The selling price of fourfinger threadfin fish from fishermen to tauke ranges from IDR 40.000 - 55.000 / kg, depending on the sales system used and the quality of the fish. Tauke is a collector and distributor who distributes fish to traders in various marketing destination areas.

Tauke distributes fourfinger threadfin fish to various marketing areas via land and sea. The marketing destinations for fourfinger threadfin fish from Tanah Merah Village include the provinces of Riau, North Sumatra, West Sumatra, and Jambi. According to Tjiptono (2017), distribution channels are a series of organizational participants who carry out the functions needed to convey products from sellers to final buyers. In distributing Fourfinger threadfin, the tauke pays attention to the timeliness of delivery, maintaining the quality of the fish to keep it fresh, and ensuring the amount of supply meets market demand in each destination area.

Delight fish that have reached the hands of collecting traders or wholesalers in the marketing destination area are then sold to retailers in the market. Collecting traders act as intermediaries who distribute fish from tauke to retail traders. They usually control specific markets or areas. Retailers buy fourfinger threadfin from collectors and sell them directly to final consumers. To maintain the freshness of fish, collectors and retailers use storage media such as cool boxes filled with ice. This is important to keep the quality of fourfinger threadfin reaching consumers.

Apart from traders in the market, tauke also sells fourfinger threadfin directly to household consumers. Consumers can order fish by telephone from the tauke, who will then deliver it to their homes. The fourfinger threadfin fish ordered by household consumers is usually smaller than the fish sold in the market, namely around

300-400 g per fish. This direct sale provides an alternative for consumers to get fresh seafood without going to the market.

The flow of happy fish products from fishermen to final consumers involves several entities in the supply chain. The longer the chain, the higher the risk of decreasing fish quality. Therefore, every entity in the supply chain needs to handle the fourfinger thread well to maintain its freshness. Fishermen need to apply appropriate fishing and post-harvest handling techniques. Managers and traders must pay attention to distributing and storing fish using adequate facilities such as cool boxes and ice. With good handling at every stage, the quality of the Fourfinger threadfin can be maintained until it reaches the final consumer.

According to Pujawan & Er (2017), product flow is the flow of goods from upstream to downstream in the supply chain. In the context of fourfinger threadfin, the product flows from fishermen as producers upstream, then through tauke and traders as intermediaries in the middle, until finally reaching consumers downstream. Efficient and effective product flow can ensure the availability of delicious fish for consumers in fresh and high-quality conditions. This requires good coordination and cooperation between fourfinger threadfin supply chain entities.

3.3. Fourfinger Threadfin Fish Financial Flow

The financial flow in the Fourfinger threadfin supply chain is the flow of money, both expenditure and receipt, as well as the monetary transaction system used by supply chain actors. Based on the interview results, the financial transaction systems used are cash transactions, bank transfers via BRI, and loan systems. The loan system is implemented because of trust between supply chain entities. Trust is the basis of strategic partnerships between sellers and buyers (Yulinda, 2021).

At the fisherman level, financial flows include operational costs incurred and money received from the tauke. Operational costs include fixed costs such as gasoline, packaging, and food allowance, as well as variable costs such as boat maintenance and fishing gear. These costs affect the selling price of Fourfinger threadfin. If costs increase, then selling prices will also increase. The selling price of fourfinger threadfin fish from fishermen to tauke ranges from IDR 40.000 - 55.000/ kg, depending on the sales system and quality of the fish. The payment system can be done by cash or bank transfer.

Financial flows at the tauke level include costs incurred for distributing fourfinger threadfin fish, such as fuel costs, labor, fleet maintenance, fish handling, and other fees. If the fish is not sold out, the tauke also incurs temporary storage costs using a cool box. The tauke's money comes from selling fourfinger threadfin to collectors and retailers. The buying price for tauke from fishermen is around IDR 45.000 - 55.000/kg, while the selling price to collecting traders is IDR 55.000 - 65.000/kg. The payment systems used are cash and loans.

Financial flows at the collector and retailer level include capital costs for purchasing fish, handling costs to maintain freshness, labor, and packaging costs. Collecting traders act as intermediaries who distribute fish from tauke to retailers. The buying price of collecting traders from tauke is around IDR 55.000 - 65.000/kg, while the selling price of retailers to final consumers is IDR 65.000 - 70.000/kg. The payment system used is cash, which receives money from the end consumer. Financial flows at the final consumer level are consumer cash payments to retailers. The consumer purchasing price for 1 kg of fourfinger threadfin ranges from IDR 65.000 - IDR 70.000. There is a reasonably significant price difference between the price at the fisherman level and the price at the final consumer. However, the selling price of fourfinger threadfin is relatively higher than that of other fish, such as tilapia fish, indicating that fourfinger threadfin has a higher economic value.

In financial flows, apart from knowing the price differences in each chain, you can also calculate the farmer's share received by fishermen. A farmer's share compares the price received by fishermen with the price paid by final consumers in percent (Elpawati, 2014). Based on the research results, the value of farmer's share for fishermen of fourfinger threadfin fish in each chain is quite high, above 60%. The highest value is in chain three at 81.8%, indicating the most efficient marketing chain. The higher the farmer's share, the greater the share fishermen receive.

The results of this research align with previous research by Tompodung et al. (2016) about the tilapia fish supply chain in Musi Rawas. Financial flows in the fishery product supply chain have a similar pattern: costs flow from upstream to downstream, and money flows from downstream to upstream. Each entity incurs costs to maintain product quality to consumers. The longer the chain, the more significant the price difference from fishermen to consumers. The existence of intermediary traders is vital to bridge producers and consumers. A high farmer's share value shows supply chain efficiency and support for fishermen.

3.4. Fourfinger Threadfin Fish Information Flow

Information flow is an information between the actors in the supply chain of happy fish from fishing businesses in Tanah Merah Village. This information flow can occur from upstream to downstream or from downstream to upstream. Information that flows through the fourfinger threadfin fish supply chain includes information on product availability, product price information, product delivery information, information on the number of consumer requests, information on changes in consumer demand, and information related to the smooth running of the fourfinger threadfin fish supply chain process.

The flow of information between the fourfinger threadfin fish fishermen and the Tauke occurs reciprocally. The information that flows between fishermen and tauke is about the availability of happy fish. In seasons with few fish, production results can decrease so that availability is reduced. Fishermen will inform the tauke if there is a decrease in the catch so that the tauke can convey to traders that supply is decreasing. Tauke can also overcome supply shortages by making a priority scale, for example, reducing the amount of fish for household consumers so that supply in the market does not decrease. Other information that flows is related to fish quality, such as size and selling price.

The flow of information between tauke and collecting traders and retailers also occurs reciprocally. The information that flows includes the availability of goods from fishermen, the selling price of fourfinger threadfin, information on product delivery, information on market demand, information on the product's condition when it reaches the trader, and complaints from traders, if any. If there is a decline in the quality of the fish before it reaches the trader, there needs to be a discussion between the trader and the take to resolve the problem so that the loss is not too significant. Possible solutions include selling fish at capital prices without making a profit or processing it into salted fish.

Information that flows between retailers and final consumers is information regarding the number of consumer requests, types of consumer requests, and changes in consumer demand. Consumer demand will usually increase during big celebrations such as the fasting month, holidays, and New Year. Apart from that, market demand for fourfinger threadfin tends to be stable. In the information flow of the fourfinger threadfin fish supply chain, critical information needs to be considered, namely information related to backward and forward linkage. Backward linkage relates to details before the production of Fourfinger threadfin takes place, such as where the fish will be marketed, who will sell it, the tools and materials used in the marketing process, as the risks faced in marketing fourfinger threadfin fish, and how to overcome them. This information is essential for fishermen as producers of fourfinger threadfin.

Forward linkage relates to information after the fish is produced until it reaches the hands of consumers. This information includes maintaining fish quality during the distribution process, fish handling at the trader level, consumer preferences, and consumer feedback regarding product quality. According to Yulinda et al. (2020), the smooth flow of information allows each supply chain actor to take appropriate action in dealing with supply and demand dynamics. Intensive information exchange also enables each actor to make coordinated decisions.

The flow of information on the fourfinger threadfin supply chain in Tanah Merah Village has been going well. Information flows two-way and in real-time between actors using communication technology such as mobile phones and social media. Important information such as product availability, price, demand, quality, and constraints at every level is always communicated. This allows the fish supply chain to respond quickly and precisely to market changes. However, there is still a need for increased coordination and better information integration, especially regarding production and demand planning, so supply chain activities are more efficient and responsive. In line with research by Azhuri et al. (2018), information distortion can cause inefficiencies such as excess or shortage of inventory in the supply chain.

3.5. Supply Chain Network Structure of Fourfinger Threadfin Fish (E. tetradactylum)

The supply chain structure is formed from a network of members working together to distribute fourfinger threadfin fish products from Tanah Merah Village to the market and final consumers. Overall, the supply chain network structure chart for fourfinger threadfin fish in Tanah Merah Village is as follows (Figure 1):

In Figure 1, you can see the network structure formed from the entities involved in the fourfinger threadfin fish supply chain from Tanah Merah Village. There are three flows in the pattern formed in the figure: product, financial, and information. The number of chains formed from this network structure is three chains, as follows (Figure 2):

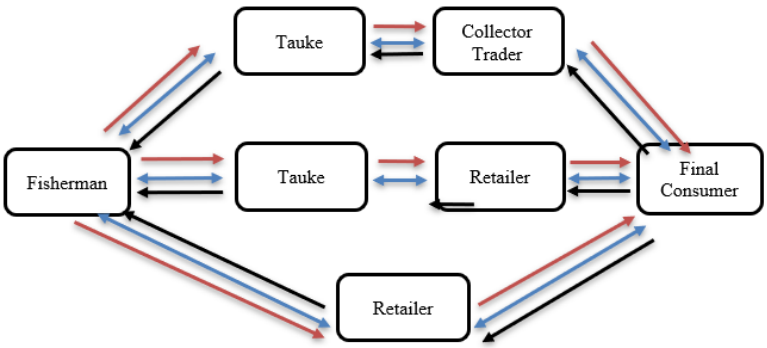

Figure 1. Supply chain network structure of fourfinger threadfin fish (*E.tetradactylum*)

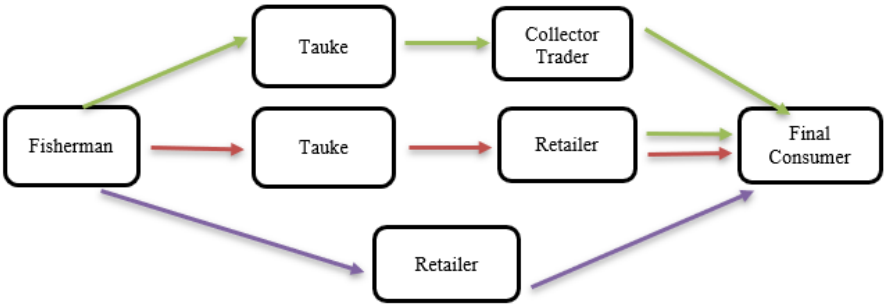

Figure 2. Chain formed from fourfinger threadfin fish (*E.tetradactylum*) supply chain entities

In Figure 2, you can see five entities involved in the fourfinger threadfin fish supply chain. Based on the illustration in Figure 2, it can also be concluded that three types of chains are formed from the entities involved in the fourfinger threadfin fish supply chain (from Tanah Merah Village). Further information regarding the three chains formed from the fourfinger threadfin fish supply chain can be seen in Figure 3.

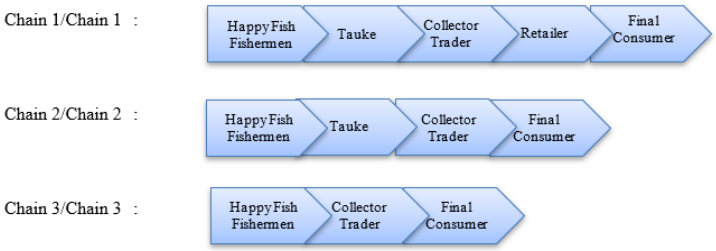

Figure 3. Fourfinger threadfin fish (*E.tetradactylum*) supply chain entities

In Figure 3, it can be seen that there are three chains formed from the fourfinger threadfin fish supply chain entity in Tanah Merah Village. In chain 1/chain 1, 5 entities are working together. Fourfinger threadfin fish Fishermen partner with tauke, tauke partner with Collector Traders, then Collector Traders partner with retailers, and then sell to final consumers around Tembilahan. In chain 2/chain 2, 4 entities are working together, where the fourfinger threadfin fish fishermen partner with the tauke, who will distribute the fourfinger threadfin fish to the destination market. The tauke delivers the fourfinger threadfin fish to collecting traders and then sells it to final consumers in areas outside the province, such as North Sumatra and West Sumatra. In chain 3/chain, three entities work, and three entities work together, where the Senangin Fish fishermen act as producers, suppliers, and distributors. Fourfinger threadfin fish Fishermen, apart from having the workforce to fish for fourfinger threadfin fish, also have the workforce to deliver fourfinger threadfin fish to the destination market and deliver it directly to collecting traders. The collecting traders then sell the fish directly at sea to final consumers in Bungo Regency, Jambi Province.

3.6. Supply Chain Entity Network in Financial Flows of Fourfinger Threadfin Fish (E. tetradactylum)

Financial flow or receipt of money starts from final consumers to fishermen. Financial flows are also divided into three chains. Selling prices and purchasing prices in each supply chain can be different. The longer the chain, the greater the price difference from the fisherman to the final consumer. The following explains the selling price and buying price for fourfinger threadfin fish in each chain of the fourfinger threadfin fish supply chain. The following is a description of the selling price and buying price on chain 1:

Table 1. Selling Price and Buying Price of fourfinger threadfin fish on Chain 1

No	Information	IDR/kg
1.	Fisherman	45.000
2.	Tauke	
	Purchase price	45.000
	Selling price	55.000
3.	Collector Trader	
	Purchase price	55.000
	Selling price	65.000
4.	Retailer	
	Purchase price	65.000
	Selling price	70.000
5.	Final Consumer	
	Purchase price	70.000

In Table 1 are five entities involved in chain 1: fourfinger threadfin fish fishermen, tauke, collecting traders, retailers, and final consumers. The price of fourfinger threadfin fish per kg from fishermen after packaging is IDR 45.000. The final consumer purchasing price for fourfinger threadfin fish per kg is IDR 70.000/kg. The price difference between Senangin Fish fishermen and final consumers on chain 1/chain 1 is IDR 25.000/kg. The buying and selling price of fourfinger threadfin fish on chain 2 can be seen in Table 2.

Table 2. Selling Price and Buying Price of Fourfinger Threadfin Fish in Chain 2

No	Information	IDR/kg
1.	Fisherman	45.000
2.	Tauke	
	Purchase price	45,000
	Selling price	55.000
3.	Collector Trader	
	Purchase price	55.000
	Selling price	65.000
4.	Final Consumer	
	Purchase price	65.000

In Table 2 are four entities involved in chain 2: fourfinger threadfin fish fishermen, Tauke, retailers, and final consumers. In chain 2, there are no Collecting Traders because the tauke directly transacts with the retail traders in the market. The price of fourfinger threadfin fish per kg from fishermen after packaging is IDR 45.000/kg. The final consumer purchasing price for fourfinger threadfin fish per kg is IDR 65.000/kg. The price difference between fourfinger threadfin fish fishermen and final consumers in chain 2 is IDR 20.000/kg. The buying and selling price of fourfinger threadfin fish on chain 3 can be seen in Table 3.

Table 3. Selling Price and Buying Price of Fourfinger Threadfin Fish in Chain 3

No	Information	IDR/kg
1.	Fisherman	45.000
2.	Collector Trader	
	Purchase price	45.000
	Selling price	55.000
3.	Final Consumer	
	Purchase price	55.000

In Table 3 are three entities involved in chain 3: fourfinger threadfin fish fishermen, retailers, and final consumers. In chain 3, no merchants are collecting fourfinger threadfin fish who also act as distributors who deliver fourfinger threadfin fish directly to retailers. In chain 3, fourfinger threadfin fish fishermen have workers who provide fourfinger threadfin fish to the delivery destination. The price of fourfinger threadfin fish per kg from fishermen after packaging is IDR 45.00/kg. The final consumer purchasing price for fourfinger threadfin fish per kilogram is around IDR 55.000/kg. This price range exists because the purchase price for final consumers is usually relative to the distance traveled to deliver fourfinger threadfin fish. The further the distance, the higher the price of fourfinger threadfin, but the highest purchase price for chain 3 is IDR 55.000/kg. The price difference between fourfinger threadfin fish fishermen and final consumers in chain 3 is around IDR 10.000/kg.

In financial flows, apart from knowing the price differences in each chain, you can also calculate the farmer's share received by fishermen in marketing activities. According to Elpawati (2014), a farmer's share compares the price received by fishermen with the price purchased by final consumers in percent (%). Based on the results of interviews in this research, the farmer's share value received by fourfinger threadfin fish fishermen in each chain can be seen in Table 4.

Table 4. Farmer's share of fourfinger threadfin fish fishermen in each chain

Marketing Chain/ Chain	Selling Price for Fishermen (IDR/kg)	Final Consumer Purchase Price (IDR/Kg)	Farmer's share (%)
Chain 1/ Chain 1	45,000	70,000	64.3
Chain 2/ Chain 2	45,000	65,000	69.3
Chain 3/ Chain 3	45,000	55,000	81.8

Table 4 shows that the farmer's share value in each fourfinger threadfin fish supply chain is relatively high, namely more than 60%. The highest farmer's share value is in chain 3, namely 81.8%. This shows that the most efficient marketing chain is chain 3. Marketing is efficient if the farmer's share value obtained shows a higher bias towards fishermen.

3.7. Supply Chain Entity Network in Information Flow of Fourfinger Threadfin Fish (E. tetradactylum)

Information flow is information between actors in the Senangin Fish supply chain in the fourfinger threadfin fish (*Eleutheronema tetradactylum*) fishing business in Tanah Merah Village. This information flow can occur from upstream to downstream or from downstream to upstream. The information flow pattern can be seen in Figure 5.

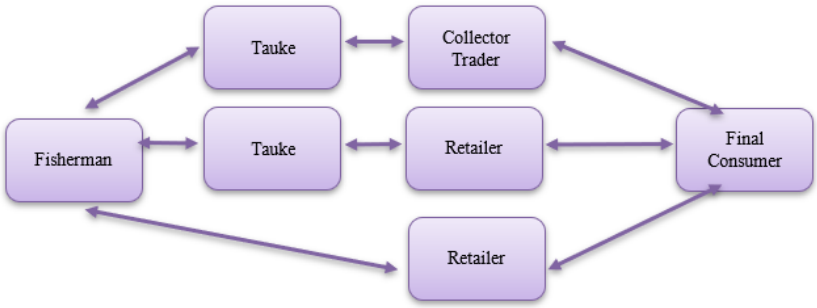

Figure 4. Supply chain information flow patterns for fourfinger threadfin fish (*E. tetradactylum*)

In Figure 4, it can be seen that the information flow pattern flows from upstream to downstream and downstream to upstream. The information that flows in the Senangin Fish supply chain is product availability information, product price information, product delivery information, information on the number of consumer requests, information on changes in consumer demand, and information related to the smooth running of the Fourfinger threadfin fish supply chain process. There is important information to pay attention to backward linkage (linkage to the back) and forward linkage (linkage to the future).

4. Conclusions

The flow of fourfinger threadfin fish products is spread across four provinces on the island of Sumatra: Riau Province, North Sumatra Province, West Sumatra Province, and Jambi Province. The payment system used in financial flows is a direct cash payment system, payment via BRI Bank transfer, and a loan system that will be paid after the retailer gets money from the end consumer. The selling price of fourfinger threadfin fish at the fishermen level is IDR 45,000/kg, and the purchase price of Senangin Fish by end consumers ranges from IDR 55,000 to 70,000/kg. The information that flows includes product availability information, product price information, product delivery information, information on the number of consumer requests, information on changes in consumer demand, and information on obstacles faced in the supply chain process and alternative solutions.

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