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The Impact of Covid-19 on Supply Chain Fisheries and Challenges by Fisherman in Indonesia

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Abstract

The latest obstacle that must be faced by fishermen is the condition of the Covid-19 pandemic. The fishermen and perpetrators of fishing effort already suffered losses. This agrees with (Directorate credit, BPR and UMKM, 2008) that the peak season for fish catches usually occurs at July to December, the rest is when the fish is quiet (famine). Before the COVID-19 pandemic fishermen's income has started to decline from December 2019 to February 2020 amounting to -11% to -34%. This means that prior to the COVID-19 pandemic, fishermen's income had fluctuated decreased to -34%. This is because the fishing process is still ongoing while the market demand has fallen considerably. This condition causes a very significant decrease in fishermen's income due to the fish catch that cannot be sold. This loss is felt both by small fishermen and large fishermen.

Introduction

In addition, currently the government has implemented a policy of socializing and implementing social distancing, physical distancing, work from home (WFH), and social restrictions large scale (PSBB) listed in the Indonesian government regulation No. 21 of 2020. Policy This is considered very difficult for local fishermen and the capture fisheries industry in their activities. As a result, many fishermen catches deterioration of quality and even rot. Not only that, some fish storage sheds (cold storage) there is an accumulation of fish raw materials or over stock because they cannot be supplied outside regions as usual (Djailani, 2020). Fishermen's income is the difference between revenue and fishing costs actually spent both per trip and per year. The results of this study are explicit provides an overview of fishermen's income before the COVID-19 pandemic looks stable, however with this pandemic causing drastic changes in income levels fishermen at the research location. According to Kholis et al., (2017) fishermen's income is seen from the amount fish caught after carrying out a fishing operation. Furthermore, Wismaningrum et al., (2013) revealed that income is the value of money obtained from sales of production fish that are influenced by the large number of fish caught and the price formed at the time landed. Market their catch. As we all know that Indonesia is an archipelago where each island in Indonesia is connected by the sea and becomes the largest archipelago in the world. The total area of Indonesia is 7,

81 million km² of which 3.25 million km² is the ocean and 2.01 million km² is the land. That is why Indonesia is also called the Maritime Country because the sea area is larger than the land area.

As a maritime country, of course, Indonesia has enormous marine resources. Among these are coral reefs which reach 50,857 km² which is 18% of the total area of coral reefs in the world. In addition, Indonesia also has a wealth of potential food as the result of the sea is abundant in the form of fish, starfish, crabs, shrimp, and other marine food sources.

Method

The study method was carried out by tracing the references from the Journal, book related to the impact of the Covid -19 pandemic. Then a conclusion was drawn.

Abundant Indonesian Sea Wealth

Very many fisheries commodities produced by Indonesia. Seaweed and tuna products from Indonesia occupy the first position in the world, with the second position is as a producer of shrimp and crabs.

This fishery commodity is obtained from various regions which are spread throughout Indonesia. With this wealth of fisheries commodities, the fisheries and marine sectors become one of the sources of *supply* in the fisheries supply chain in Indonesia.

Indonesian Fisheries Supply Chain



Image source: <https://seafood-tip.com/sourcing-intelligence/countries/indonesia>

Supply chain is a network of companies or individuals who work together to create and deliver products to the end user.

If the supply chain is a physical network, i.e. companies, institutions, or groups that are involved in supplying raw materials, producing to sending to end users, then methods, tools, or supply management is referred to as supply chain management (Pujawan and Mahendrawathi, 2010).

Heizer&Rander.(2004), defines *Supply Chain Management* as a management activity in order to obtain raw materials into processed goods or semi-finished goods and finished goods and then send the seven products to consumers through a distribution system. These activities include traditional

purchasing functions plus other important activities related to suppliers and distributors. (Olii, A.Hafidz., Yapanto, Lis.M., Akili, SA . 2019) .

The main purpose of *supply chain management* is to meet customer demand through the efficient use of resources, including distribution capacity, inventory, and human resources. So when connected with the world of fisheries, the fisheries supply chain is an activity that starts from fishermen as producers of raw materials to end consumers as buyers. In this fisheries supply chain fishermen can sell their catch directly to buyers while still in the beach or port environment with a direct sales system or door-to-door, thus cutting off the supply chain channel.

Like research conducted by Indara (2017) which calculates the income of fishermen in Bongo Village, Gorontalo District, has an average income value of IDR 321,375,648.00 each three months. Meanwhile, the income based on the average per fisherman is IDR 7,473,852.00. Furthermore, research conducted by Mubarak (2011) found that income Pandega fishing community in Kedung District, Jepara Regency so far depending on the season of the fish. The income of the fishing community is differentiated into 2 (two) season namely high season and low season. In high season, fishermen tend to get more income, but their expenses tend to be wasteful. Meanwhile, during the low season, income decreases or does not exist. According to Wahyonoet. al (2001); Kusnadi (2003); Ismail (2007) stated that fishermen's income is very different from other types of business, such as traders or even farmers. If the trader can calculate the profit he will get every month, so farmers can predict the yield of their harvest, so it is not the case for fishermen whose activities are full of uncertainty and are speculative fluctuating. Prior to the COVID-19 pandemic, the income of gill net fishermen was stable. From the survey data for October to November, there was an increase in income by 20%. It is suspected that November is the peak fishing season in Bengkulu City with a total fisherman income of IDR 321,740,000. This agrees with (Directorate credit, BPR and UMKM, 2008) that the peak season for fish catches usually occurs at July to December, the rest is when the fish is quiet (famine). Before the COVID-19 pandemic fishermen's income has started to decline from December 2019 to February 2020 amounting to -11% to -34%. This means that prior to the COVID-19 pandemic, fishermen's income had fluctuated decreased to -34%.

The second step when it will sell to the market there will be many combinations of medium chain actors involved as main processors, traders, wholesalers, processors, secondary processors, distributors, transporters and others. All of these components move to pack, modify or transform, to move products from the point of production to the end of the process, namely the buyer (Yapanto, Lis M., Regards, Aziz., Hamzah, Y Zein, 2020)

Current fishery supply chain constraints in Indonesia.



Photo source: geotimes.co.id

As the largest maritime country in the world, Indonesia still has several obstacles to fulfill its fishery supply chain. These obstacles have been happening for a long time and there are also some new obstacles that must be faced. Directly or indirectly all of these problems have an impact especially on fishermen as producers.

- Facilities and infrastructure are still not evenly distributed for all fishermen in Indonesia. As one example, North Sulawesi precisely in the waters of Bitung and Manado, fishermen still find it difficult to get adequate fish catch because of the lack of facilities. Starting from ships and fishing gear, fish preserving facilities such as ice cubes, fuel which causes the price of fuel to rise because , until the cold storage capacity can meet a maximum capacity of 50% of what is needed.
- The gap between large fishermen and small fishermen. This is caused by the lack of good coordination between fellow fishermen, and also the marketing methods that still use traditional methods. While big fishermen have collaborated with the company.
- Constraints on the process of distribution and delivery of fish. The process of sending fish from the area, is often only possible by using sea transportation. While modern transportation is still uneven to remote areas.
- Supervision of the quality of fish produced is still low in some areas. This is due to the fact that there are still many fishermen who do not understand the supervision of product quality. Later still very dependent on the climate and weather conditions because many still use the way traditional fishing.
- The latest obstacle that must be faced by fishermen is the condition of the Covid-19 pandemic. According to the Director General of Capture fisheries of the Ministry of Maritime Affairs and Fisheries M. Zulficar Mochtar, since the pandemic occurred at the beginning of March 2020 fishermen and fisheries businesses have suffered losses. This is because the fishing process is still ongoing while the market demand has fallen considerably. This condition causes a very significant decrease in fishermen's income due to the fish catch that cannot be sold. This loss is felt both by small fishermen and large fishermen.

Conclusion

- The latest obstacle that must be faced by fishermen is the condition of the Covid-19 pandemic. Fishermen and perpetrators of fishing effort already suffered losses. This is because the fishing process is still ongoing while the market demand has fallen considerably. This condition causes a very significant decrease in fishermen's income due to the fish catch that cannot be sold. This loss is felt both by small fishermen and large fishermen.

Suggestions for dealing with existing obstacles

- Improvement of facilities and infrastructure carried out through government programs. This is needed to equal opportunities and reduce the gap between large fishermen and small fishermen. Improvements can be started from replacing fishing tools that still use manual methods, as well as equitable distribution of fuel so that fishermen easily do their work without being burdened by the difficulty of getting fuel.
- Forming a fishing cooperative. The cooperative functions to accommodate the fishermen and increase collaboration so that the bargaining position of the fishermen, especially small and traditional fishermen, can be higher.

- Port-based fisheries logistics network. This is needed to improve the process of distribution and collaboration between fisheries supply chain actors. The government must also be more involved in providing a healthy and fair system.
- Provide training to fishermen on the method of handling catches. So that the quality of the catch of fishermen has a higher price so that it has a positive effect on fishing income. high quality from producers or fishermen will have a positive impact on the entire supply chain.
- Social and economic safety nets for fishermen and coastal communities to survive in the face of the current pandemic conditions. In addition to social assistance there should be a clear economic stimulus to ensure the survival of fishermen.

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