

IDENTIFICATION OF TYPES AND VOLUMES OF FISH PRODUCTION IN THE FISHERIES SECTOR UPT PPP PONDOKDADAP, MALANG REGENCY

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ABSTRACT

The fisheries sector is one of the sectors with great potential for the Indonesian economy. East Java has a large fishing enterprise, which is due to the spread of fish landing bases and an active role in promoting local fishing production, one of which is the beach fishing port (PPP) Pondokdadap. The aim of this study is to obtain information on the types and volumes of fish production captured in the PPP Pondokdadap in May and June 2022. The method used by the author in conducting this research is a qualitative-descriptive approach. According to the results of research, during May 2022, the production of fish captured in PPP Pondokdadap amounted to 1,813 tonnes. In June, the capture amounted to 1,605 tonnes. There was a decrease in production volume of 207 tonnes, or about 11%. There are 10 species of fish captured, dominated by tuna.

Keywords: Port, Sendang Biru, Fisherman, Decrease in Production, Yellow Fin Tuna

1. INTRODUCTION

A port is a city that is equipped with buildings for cargo and passenger services, such as ports and shores, with all their equipment (Fisu, 2016). The port is the place where trade, logistics, and production become one (Romadhon, 2018). The port is one of the most important transport facilities for a country, especially for a maritime country such as Indonesia, because the port determines the smooth movement of goods and population. (Yasuha & Saifi, 2017). In addition, in the economic sphere, ports have a positive impact on the development of an isolated area,

especially water areas where accessibility through land is difficult (Putra & Djalante, 2011). The fishing port is the landing place of the catch and the initial place of marketing to reach the consumers of sea fish (Lubis *et al.*, 2013). With fishing ports, fishing activities will be more directed and regular. A fishing port also provides facilities for landing activities as well as the industrial processing of catches (Nurhayatin *et al.*, 2016). The success of the fishing port is seen through the achievement of the target catch and the quantity and value of the catch. (Khatimah *et al.*, 2021). The landing activity of the catch has a significant impact on the quantity and value of production in a fishing port or fishing landing base (Situmeang *et al.*, 2019).

One of the most important fisheries operations in Indonesia is capture. Fishing is the activity of obtaining fish in waters that are not in the condition of being cultivated by any means, including activities that use ships to load, transport, store, cool, handle, process, and/or preserve them (Hutauruk & Rengi, 2017). Java East has a large fishing enterprise, which is due to the spread of the landing fish base that has been around for a long time and has an active role in advancing local fishing production, one of which is the Pondokdadap Coast Fishing Port (PPP).

Fisheries ports are divided into 4 categories, namely Oceanic Fisheries Ports (PPS), or type A; Nusantara Fishing Port (PPN), or type B; Coast Fishing Ports (PPP), or type C; and Fish Landing Base (PPI), or Type D. (Suherman *et al.*, 2012). One of the fishing ports that has type C in eastern Java is Pondokdadap Sendang Blue Port. PPP Pondokdadap is one of

the fishing ports that are used as a fishing center in Malang. (Wahyu *et al.*, 2019). Pondokdadap is a fishing port and one of the ports with the largest fish production potential in East Java (Atmajaya *et al.*, 2021; Widiananda & Wikantiyoso, 2018).

The fisheries sector is one of the sectors with great potential for the Indonesian economy. Pondokdadap Harbor began to stand and was frequently visited by fishing vessels in 1982, with a protected and proper location as a landing place for South Sea fish (Wahyu *et al.*, 2019). As for the potential sources of marine fishing, fish capture results from some types of fishing capture in Malang district, among them cakalang, tongkol, lobster, and tuna (Soetriono *et al.*, 2022). The Fishing Management Region (WPP) 573 of the Indian Ocean is included in the IOTC (Indian Ocean Tuna Commission) regional management area, with catches of large pelagic fish such as tuna, shellfish, marlin, and others. (IOTC, 2015). In connection with this enormous fishing potential and without the existence of research specifically aimed at collecting data related to the potential fishing capture in PPP Pondokdadap, this research is dedicated to obtaining information clearly about the type and volume of fish production caught by the fishermen and founded in PPP Pondokdadap. Malang

2. METHOD

The research was conducted at UPT PPP Pondokdadap from May to June 2022. UPT PPP is located at Jl. Sendang Blue, Kampungbaru, Tambakrejo Village, Resource Manjing District, Malang District, East Java, 65176 (Figure 1).



Figure 1. Research Location

The method used by the author in conducting this research is a qualitative-descriptive approach. The data collected comes from interview manuscripts, field records, personal documents, notes, memos, and other official documents (Romadhon, 2018). Qualitative method because this research contains data that is in the form of words, not numbers. Samples in qualitative research are not referred to as respondents but rather as sources, participants, or informants (Rachmawati *et al.*, 2018). The data used in this study was obtained directly through field observations. In addition to direct observation methods, data collection is also carried out using secondary data that comes from the website perizinan.infopondokdadap to obtain data capture results in June 2022.



Figure 2. Field Observation

3. RESULT AND DISCUSSION

The volume of production is the amount of fish that can be produced or landed in a fishing port. The amount of fish produced will depend on the season and the number of trips (Fitriani *et al.*, 2020). In addition, the use of unwarranted fishing gear and not paying attention to biological aspects play a role in the reduction of fish catch. Production factors include labour, fuel, boats, catch tools, long trips, and fishing experience (Arios *et al.*, 2013; Kurnia *et al.*, 2021; Setyaningsih *et al.*, 2018; Supriadi *et al.*, 2020). The volume of production produced in May and June 2022 is presented in Table 1 and Table 2.

Table 1. Marine Fisheries Production by Type of Fish in May 2022

No	Fish Species	Production (ton)
1	Lemuru (<i>Sardinella lemuru</i>)	812.1
2	Layang (<i>Decapterus</i> sp.)	8.8
3	Peperek (<i>Leiognathidae</i>)	0.0
4	Lemadang (<i>Coryphaena hippurus</i>)	0.4
5	Tuna Sirip Kuning (<i>Thunnus albacares</i>)	437.1
6	Tuna Sirip Kuning (<i>Thunnus albacares</i>) <10 Kg	42.7
7	Cakalang (<i>Katsuwonus pelamis</i>)	194.5
8	Tongkol (<i>Euthynnus affinis</i>)	18.3
9	Tuna Mata Besar (<i>Thunnus obesus</i>)	28.4
10	Marlin (<i>Istiophoridae</i>)	29.5
11	Albakora (<i>Thunnus alalunga</i>)	241.4
Total		1,813

Based on the above table, known during May 2022, the production of fish capture based in PPP Pondokdadap amounted to 1,813 tonnes. 10 species of fish are caught, dominated by tuna species. The highest catch of fish is found in the Lemuru species (*Sardinella lemuru*), with 812.1 tonnes. The lowest catch production is in *Coryphaena hippurus*, which is 0.4 tonnes. Furthermore, there were no catches for the species *Leiognathidae* by May 2022. The potential for catching fish in the Pondokdadap area is huge. The result of the catchment of pancing ulur that is raised in the Blue Sand, especially the types of Yellow Shell Tuna (*Thunnus albacares*) and Big Eye Tuna (*Thunnus obesus*), Then the production of marine fisheries by type of fish in June 2022 is presented in the following Table 2.

Table 2. Marine Fisheries Production by Type of Fish in June 2022

No	Fish Species	Production (ton)
1	Lemuru (<i>Sardinella lemuru</i>)	179.3
2	Layang (<i>Decapterus</i> sp.)	52.2
3	Peperek (<i>Leiognathidae</i>)	3.4
4	Lemadang (<i>Coryphaena hippurus</i>)	0.2

5	Tuna Sirip Kuning (<i>Thunnus albacares</i>)	625.8
6	Tuna Sirip Kuning (<i>Thunnus albacares</i>) <10 Kg	32.1
7	Cakalang (<i>Katsuwonus pelamis</i>)	219.0
8	Tongkol (<i>Euthynnus affinis</i>)	16.1
9	Tuna Mata Besar (<i>Thunnus obesus</i>)	268.8
10	Marlin (<i>Istiophoridae</i>)	32.9
11	Albakora (<i>Thunnus alalunga</i>)	176.1
Total		1,606

According to the above table, the known production of fish captured in PPP Pondokdadap during June 2022 was 1,605 tonnes. Compared to May, there was a decrease of 207 tonnes, or about 11%. The highest catch of fish is found in the Yellow Shell Tuna (*Thunnus albacares*), with 625.8 tonnes. The lowest catch production is in the species Lemadang (*Coryphaena hippurus*), which is 0.2 tonnes.



Figure 3. Fish landing at PPP Pondokdadap

The most influential productive factor on productivity is the number of boat sizes, or gross tonnes. The number of gross tonnes has a great influence due to the place of shelter for fish, so the quantity of fish captured will be high. While the number of trips also affects the output of production, the greater the frequency of capture operations, the greater the chances of getting the desired outcome (Khatimah *et al.*, 2021). The low productivity of fishermen is also generally due to poor skills and knowledge, as well as the use of simple capture tools and boats, so that the effectiveness and efficiency of the capture equipment and other production factors are not optimal (Cahyadi & Suwandi, 2017). If

there is an influence of the length of the net on the production of caught fish due to the longness of the network used, it will increase the area of the grid at the time of operation, so that it can affect the amount of fish to be obtained (Aji *et al.*, 2013; Rachman *et al.*, 2013).

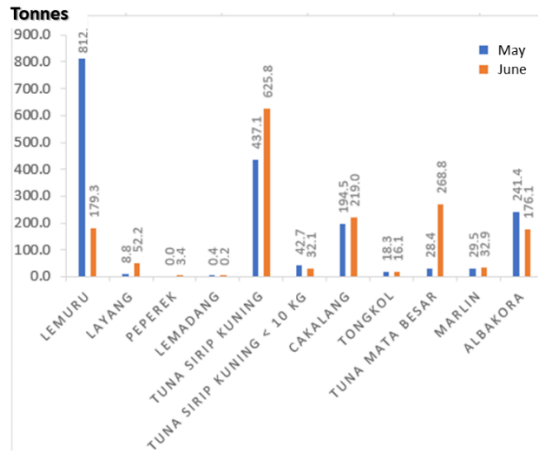


Figure 4. Production of marine fisheries by fish species in May and June 2022

Based on the chart above, it can be observed that there has been some decrease in the volume of production of some important economic fish based in PPP Pondokdadap. Like Lemuru (*Sardinella lemuru*), there was a decline of 77.9% from May's Lemuru fish production of 812.1 tonnes to 179.3 tonnes in June. *Coryphaena hippurus*, which produced 0.4 tonnes in May, fell 51.1% to 0.2 tonnes in June. *Thunnus albacares* <10 kg, which fell 24.8% from the production volume of 42.7 tonnes in May to 32.1 tonnes in June. While Tongkol fish (*Euthynnus affinis*) in May had a production volume of 18.3 tonnes, it decreased by 12% to 16.1 tonnes in June. Then Albakora fish (*Thunnus alalunga*) also experienced a decline of 27%, from a May production of 241.4 tonnes to 176.1 tonnes in June.

Behind the decline in production volume, there are some species of fish that experienced an increase in June. Like Layang fish (*Decapterus sp.*), there was an increase of 83.2% from May's Layang production of 8.8 tonnes to 52.2 tonnes in June. *Thunnus albacares*, which produced 437.1 tonnes in May, increased by 30.2% to 625.8 tonnes in June. Similarly, Cakalang

fish (*Katsuwonus pelamis*) increased by 11.2%, from a production volume of 194.5 tonnes in May to 219 tonnes in June. While Big Eye Tuna (*Thunnus obesus*) in May had a production volume of 28.4 tonnes, it increased by 89.4% to 268.8 tonnes in June. Marlin (*Istiophoridae*) also experienced a 10.5% increase in production from 29.5 tonnes in May to 32.9 tonnes in June. Meanwhile, the Peperék (*Leiognathidae*) that did not appear in the statistics of fishing results in May is now seen in the UPT PPP Pondokdadap in June at 3.4 tonnes.

It can be noted that the top position in the statistical data for May 2022 was occupied by Lemuru fish (*Sardinella lemuru*). One of the species of fish that has important economic value in Indonesia is the Lemuru fish. As for the season of female Lemuru fishing in the Strait of Bali, it occurs in a few months, namely May to August and September, with its peak in July (Wujdi *et al.*, 2013). The largest population of Lemuru fish in Indonesia is located in the Bali Strait, East of Nusa Tenggara. In addition to being concentrated in the waters of the Bali Strait, Lemuru fish are also caught in small amounts in the southern and eastern Java waters. (Putra *et al.*, 2020).

In June, the top position was occupied by the mascot of UPT PPP Pondokdadap, which is the yellow-fin tuna (*Thunnus albacares*). The tuna commodity is one of the top commodities in the programme of industrialization. This is due to the fact that tuna is a high-economic fish and a commodity, producing the country's second-highest currency for fishing commodities after strawberries (Saptanto *et al.*, 2015; Yusuf *et al.*, 2017). Yellow-fin tuna (*Thunnus albacares*) is the most captured tuna in Indonesia (Agustina *et al.*, 2019). The total catch of tuna in Indonesia in the period 2004–2011 reached 1,297.062 tonnes, of which 69% were yellow-fin tuna (2012). Based on the research, horizontally, the area of distribution of tuna in Indonesia includes the western and southern waters of Sumatra, Java, Bali, and Nusa Tenggara, the Flores Sea, Banda Sea, Sulawesi Sea, and the northern waters of Papua. Vertically, the spread of tuna is heavily influenced by the temperature and depth of

swimming. Yellow-fin tuna and albacore are caught at a depth range of 35.15–299.04 m with a temperature of 12.51–26.96°C and are generally caught in the chlorophyll-a range of 0.1–0.35 mg/m. The concentration of chlorophyll-a in the water does not directly affect the number of fish in the area (Barata *et al.*, 2011; Isdianto *et al.*, 2020). As seen from the conditions, suspected fishermen PPP Pondokdadap and Sendang Biru caught yellow-fin tuna in the deeper waters.

In general, the area for catching fish is not fixed in nature; it is always changing and moving according to the movement of environmental conditions, and naturally, fish will choose a more suitable habitat. Such habitats are heavily influenced by conditions or oceanographic parameters of waters such as sea surface temperature, salinity, chlorophyll-a, current velocity, and so on (Hastuti *et al.*, 2021). Capture results are influenced by several factors, including environmental parameters such as physical, chemical, and biological. Of the three parameters that are very influential on the catch result, the physical parameters are the most important because they are related to the behaviour of fish. These environmental parameters will affect the spread of fish, migration, aggregation, farming, food supply, and fish behaviour (Setyohadi, 2011; Rudiyanto & Haryasakti, 2020).

4. CONCLUSION

The conclusion from the results of the research is that during May 2022, the production of fish captured in PPP Pondokdadap amounted to 1,813 tonnes. In June, the capture amounted to 1,605 tonnes. There was a decrease in production volume of 207 tonnes, or about 11%. There are 10 species of fish captured, dominated by tuna. Among them are Lemuru (*Sardinella lemuru*), Layang (*Decapterus sp.*), Pepper (*Leiognathidae*), Lemlang (*Coryphaena hippurus*), Yellow-fin

Tuna (*Thunnus albacares*), Cakalang (*Katsuwonus pelamis*), Tongkol (*Euthynnus affinis*), Big Eye Tuna (*Thunnus obesus*), Marlin (*Istiophoridae*), and Albakora (*Thunnus alalunga*). The production factors that most influence productivity are the size of the ship, or gross tone, the number of trips, the type of capture tool, as well as the skills of using capture tools. The advice that can be given from this study is for the entire vessel to maintain the quality of the fish captured, whether while still in the sea or when landing fish, so that the fish quality remains awake and its sales price does not decrease. It is imperative for the UPT officer to promptly input the daily fisheries production data onto the designated website, ensuring that the information pertaining to the type and quantity of captured fish is consistently up-to-date.

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