

Review of Capture Fisheries Potential in West Java, Indonesia

Lantun Paradhita Dewanti, Noir Purba, Izza Mahdiana Apriliani

Faculty of Fisheries and Marine Science, Universitas Padjadjaran, Indonesia

ABSTRACT

West Java Province have high potential because they are part of two Fisheries Management Areas (FMA) there are FMA 573 (Indian Ocean) and FMA 712 (Java Sea). Statistical data for capture fisheries shows that for FMA 573 and FMA 712 which are part of the waters of West Java, the number of catches is quite significant when compared to other FMA in Indonesia. The diversity of fish resources such as large pelagic, small pelagic, demersal, shrimp and other types of fish illustrates that if management is carried out optimally, this can become capital in fisheries management. The purpose of this study was to review the potential of capture fisheries resources in West Java Province. This research was conducted in June 2021. The method used in this study was a quantitative descriptive method. The data collected include fishery production, the value of fishery production, number of fishermen, number of fishing vessels and fishing areas. Indramayu Regency is the district with the largest contribution in contributing to capture fisheries production in West Java. Total capture fisheries production of 274.465,47 tons per year. Fishing activities in West Java Province are spread across the northern (FMA 712) and southern regions (FMA 573). The main commodities are *Thunnus tonggol*, *Scomberomorus commerson*, *Rastrelliger* sp, and *Plicofollis crossoscheilos*.

Keywords: *fisheries management area, fisheries management, fisheries production, Indonesia, West Java,*

1. INTRODUCTION

Based on its geographical position, West Java Province has boundaries: North, by the Java Sea and DKI Jakarta Province; East, with Central Java Province; South, by the Indonesian Ocean; and West, with Banten Province [1]. One of the provinces that has open and semi-open waters is West Java. West Java, which has a water area of 289,800 km², has fisheries potential, both capture and aquaculture. In 2018 capture fisheries produced fish production of 266,753 tons, aquaculture produced 1,774,337 tons and processed fishery production reached 463,205 tons. The waters of West Java have high potential because they are part of two Fisheries Management Areas (FMA), namely FMA 573 (Indian Ocean) and FMA 712 (Java Sea) [2].

Statistical data for capture fisheries shows that for FMA 573 and FMA 712 which are part of the waters of West Java, the number of catches is quite significant when compared to other FMA-NRI [3]. The Java Sea is a fisheries management area that has the highest productivity compared to other management areas. This is an indication that in addition to having an abundance of fish resources, the Java Sea also has a relatively high capture fisheries household compared to other WPP [4][5]. In the West Java region, FMA 573 passes through Sukabumi Regency, Cianjur Regency, Pangandaran Regency and Tasikmalaya Regency. This region has unique characteristics because it is directly bordered by the Indian Ocean. While FMA 712 covers Kab. Subang, Kab. Cirebon Regency. Indramayu Kab. Karawang, Kab. Bekasi, Cirebon City [2][6].

With the availability of high potential, the marine and fisheries sector can be an odyssey to prosperity or a path for Indonesian people to prosperity. The diversity of fish resources such as large pelagic, small pelagic, demersal, shrimp and other types of fish illustrates that if management is carried out optimally, this can become capital in fisheries management. The purpose of this study was to review the potential of capture fisheries resources in West Java Province.

2. METHOD

This research was conducted in June 2021. The method used in this study was a quantitative descriptive method. Descriptive research is research that uses observations, interviews or questionnaires about the current situation. Through this descriptive research, the researcher will explain what actually happened about the current situation being studied. Quantitative descriptive is used to analyze data by describing or describing the data that has been collected as it is without intending to make conclusions that apply to the public or generalizations [6]. The data collected include:

1. Fishery production of West Java Province
2. The value of fishery production in West Java Province
3. Number of fishermen in West Java Province
4. Number of fishing fleets in West Java Province
5. Fishing areas of West Java Province
6. Fishing port of West Java Province
7. Other data

3. RESULT AND DISCUSSION

Fisheries Production

Indramayu Regency is the district with the largest contribution in contributing to capture fisheries production in West Java. Meanwhile, Cianjur Regency has the least contribution to West Java's capture fisheries production [8].

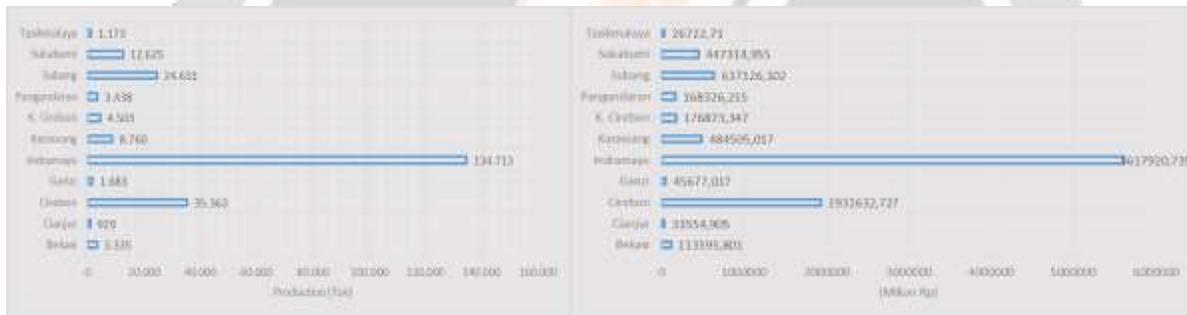


Figure 1. Fishery Production and Value of West Java Province by Regency in 2018 [8].

Fisherman

Most fishermen in West Java are in Indramayu Regency. The previous section stated that Pangandaran Regency as the Regency with the most Capture Fisheries Households in West Java. However, Pangandaran Regency is not the largest contributor to the number of fishermen in West Java. The regency/city with the fewest fishermen is Cirebon City



Figure 2. Number Fishermen by Regency/City in West Java [8]

Fishing vessels

Fishing vessels are the main means for fishermen to carry out fishing activities. The highest number of fishing vessels was found in Indramayu Regency. This is directly proportional to the volume and value of capture fisheries

production in the regency. The number of fishing vessels in West Java by regency/city in 2018 can be seen in the following picture.

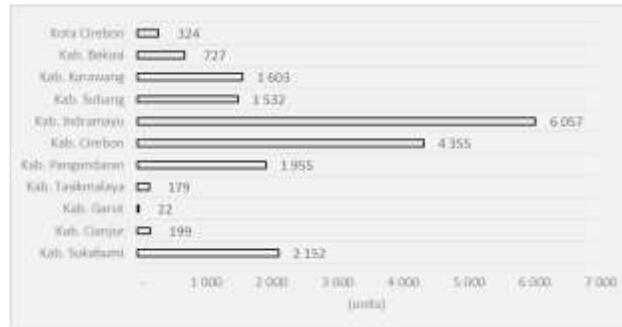


Figure 3. Number of Fishing Vessels by Regency in West Java [8]

Based on this data, the fishing vessel in West Java is spread over 11 regencies/cities consisting of Cirebon City, Kab. Bekasi, Kab. Karawang, Kab. Subang, Kab. Indramayu, Kab. Cirebon, Kab. Pangandaran, Kab. Tasikmalaya, Kab. Garut, Kab. Cianjur, and Kab. Sukabumi. The fishing vessel in West Java are mostly located in Kab. Indramayu with a total fishing vessels of 6,057 units, while the smallest number of ships is in Kab. Garut with a total of 22 units.

Fishing Ground

Fishing areas are the area where fishing gear can be operated perfectly to exploit the fish resources in it. An area of marine waters can be fishing area if there is an interaction between the fish resources that are the target of catching and the fishing technology used. This shows that although in a waters there are fish resources that are the target of catching, but the fishing gear cannot be operated due to various factors, such as weather conditions, the area cannot be said to be a fishing area and vice versa. Fishing activities in West Java Province are spread across the northern and southern regions

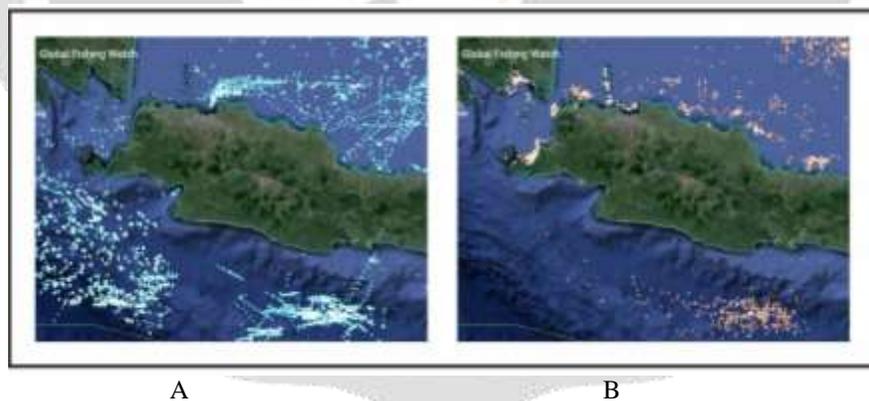


Figure 4. Prediction of Fishing Areas Around Waters (A) Based on the VMS activity of the ship (B) Based on fishing activities using lights [9].

Fishing areas around the waters of West Java can be predicted using images, one of which is using the visualization results by Global Fishing Watch. Fishing activity data is indicated by the activity of the VMS mounted on the boat and fishing activity using lights. Fishing activities from West Java are in FMA-RI 573 and FMA-RI 712.

Based on analysis that considers aspects of sea surface temperature, chlorophyll-a concentration, salinity and depth, almost all of the sea is an area suitable for capture fisheries activities. The northern area of West Java is almost entirely suitable for fishing, only a small area is included in the red zone and is not suitable for fishing activities. As for the southern region of West Java, some of the potential areas for fishing are located not far from the mainland, most of them are in the high seas.

One of the potential areas in West Java Province for capture fisheries activities are Indramayu and Sukabumi Regency. Quoted from Republika.co.id, the local government of Sukabumi Regency claims to contribute 45% of capture fisheries production in the south coast of West Java. The total production of capture fisheries in Sukabumi Regency reached 9,705.69 tons with the main commodities of tuna, skipjack, and sword fish [7]. Capture fisheries activities in Sukabumi Regency are usually carried out during the day and at night. The fishing gear used by fishermen in Sukabumi Regency consists of a seine nets, long line, lift net, and trolling line.

Based on the West Java Provincial Regulation number 5 of 2019 concerning the Zoning Plan for Coastal Areas and Small Islands of West Java Province for 2019-2039, most of the potential areas for fishing in the northern sea areas of West Java are in the energy and mining zone, especially in the Bekasi area, Karawang, and Subang. This means that fishing activities carried out in the area are not suitable when using fishing gear operated at the bottom of the waters because many oil and gas pipelines and submarine cables stretch in the area. Areas suitable for fishing based on oceanographic parameters and RZWP3K (planing zone in the northern region of West Java are in the districts of Indramayu and Subang. As for the sea area of Southern West Java, the area that is oceanographically potential for fishing but based on Regional Regulation No. 5 of 2019 is a water conservation area, it is the Pangandaran Bay area. The southern sea area of West Java which is potential for fishing is the sea of Garut and Cianjur Regencies because it is oceanographically suitable for fishing and is not disturbed by the zoning plan. The marine area of Sukabumi Regency is also potential for fishing because it is oceanographically suitable and is a migration route for several types of fish.

4. CONCLUSIONS

Indramayu Regency is the district with the largest contribution in contributing to capture fisheries production in West Java. Total capture fisheries production of 274.465,47 tons per year. Fishing activities in West Java Province are spread across the northern (FMA 712) and southern regions (FMA 573). The main commodities are *Thunnus tonggol*, *Scomberomorus commerson*, *Rastrelliger* sp, and *Plicofollis crossocheilos*.

5. REFERENCES

- [1] BPS-Statistic of Jawa Barat Province, "Jawa Barat Province in Figure," Bandung, Indonesia, 2020.
- [2] Ministry of Marine Affair and Fisheries, Ministry of Fisheries and Marine Affair Decree No.18/PERMEN-KP/2014 Fisheries Management Area Indonesia, vol. 2009. 2014.
- [3] Ministry of Marine Affair and Fisheries, "Marine and Fisheries Statistical Data," 2021, 2021. [Online]. Available: <https://satudata.kkp.go.id/>.
- [4] Ministry of Marine Affair and Fisheries, "Information Centre of Fishing Port Indonesia," 2021, 2021. [Online]. Available: <http://pipp.djpt.kkp.go.id/>.
- [5] Suman, H. E. Irianto, F. Satria, and K. Amri, "POTENCY AND EXPLOITATION LEVEL OF FISH RESOURCES 2015 IN FISHERIES MANAGEMENT AREA OF INDONESIAN REPUBLIC (FMAs) AND ITS MANAGEMENT OPTION," *J. Kebijak. Perikan. Indones.*, vol. 8, no. 2, pp. 97–100, 2017.
- [6] W. J. Ardiyani, B. H. Iskandar, and S. H. Wisudo, "Estimation of the Number of Fishing Vessel in WPP 712 Based on Fish Resources Potential," *Albacore*, vol. 3, no. 1, pp. 95–104, 2019.
- [7] M. Syahlina and Nasib, "Measurement of Satisfaction of Indonesian Train Users (Persero) Medan through Facilities and Services," *Abdi Ilmu*, vol. 12, no. 2, pp. 51–57, 2019.
- [8] Fisheries and Marine Science Agency of West Java, "Annual Report," 2020.
- [9] Global Fishing Watch, "Global Fishing Watch (map and data)," 2021. [Online]. Available: <https://globalfishingwatch.org>. [Accessed: 12-Aug-2021].