Potential of Fishing Port Development in the East Java

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Abstract. The development of fishing ports in East Java is one of efforts to increase the province revenue, develop the fishing industry and to improve the welfare of fishermen. Profile of capture fisheries in East Java should be provide information that can be developed based on priorities and types of resources. The purpose of this study was to determine several districts in East Java which is a priority for the development of fishing ports based on the potential that exists. The method used is descriptive and spatial analysis in order to obtain an overview of the districts in East Java that has the potential to be developed. Results of the study is the districts in East Java are priorities for the development of fishing ports based on aspects related to the fishery is Banyuwangi, Trenggalek and Jember.

1. Introduction
East Java is one of the provinces that have the potential fishery very large and diverse. In managing this potential required facilities and infrastructure that supports the fishery increasing and the welfare of the community, especially fishermen. The level of development of the fishery sector of the southern region of East Java is relatively lower compared to the northern and central regions. The lag is due to the utilization of the existing fishing is not optimal, which are caused by a lack of support infrastructure, lack of data and information on the fishery potential and the lack of fish processing technology [1].

Fishery Port [2] is an area of water that covered / protected and safe enough from the effects of wind and waves, equipped with various facilities such as logistics, fuel, workshops and means of transportation of goods. The development of fishing ports in East Java is one of efforts to increase the province revenue, develop the fishing industry and to improve the welfare of fishermen. East Java is one of the provinces that have a high potential and diversified fisheries, mainly marine fisheries. Profile of marine fisheries in the northern and southern regions of East Java should be examined in order to provide information about the development of fishing ports in East Java, so it can be developed based on priorities and types of resources. The purpose of this study was to determine several districts in East Java which is a priority for the development of fishing ports based on the potential that exists.

2. Research Methods
This study was conducted in January-August 2016. The method used in this research is descriptive method, the analyzed data is the statistical data of fisheries in East Java. Existing data were analyzed...
using the average value and percentage. For the value of the utilization rate of the fish used Schaefer analysis. From the analysis conducted spatial analysis using software Arc View by digitization spatially to compare the potential of fisheries in the south and north of East Java, in order to obtain some of the maps are: map coastal districts in East Java, the map center for fish landing, maps fishery production fishing, fisheries production value map, a map number of fishermen, fish utilization rate map, a map of the relative value of production index and map the number of fishing gear. Data fisheries based on the Department of Fisheries of East Java Province [3].

3. Result and Discussion

East Java Province has 19 (nineteen) coastal counties and 1 (one) municipalities bordering the sea, which are spread throughout the north and south. In the northern region there are 11 coastal counties comprising: Tuban, Lamongan, Gresik, Probolinggo, Pasuruan, Situbondo, Sidoarjo, Bangkalan, Sumenep, Sampang, Pamekasan and 1 municipality of Surabaya. In the south there are eight coastal districts consisting of Pacitan, Blitar, Malang, Tulungagung, Trenggalek, Jember, Banyuwangi, Lumajang (figure 1).

Fish landing in Java can be divided into 4 groups: PPN (Nusantara Fishery Port), PPP (Fishery Port Beach), PPI (Fish Landing Centres) and TPI (Fish Auction Place). GIS analysis derived from the distribution of fish landing (PPN, PPP, PPI and TPI) of 27 units in the southern region and 35 units in the northern region. Percentage distribution of PPN, PPP, PPI and TPI in the northern region by 56%, while in the south by 44% (Figure 2).

The development of fishing ports in East Java-based spatial analysis is based on the potential of fisheries in the northern and southern regions of East Java. Fishery parameters that analyzed were: Total Unit of fishing gear, the number of fishermen, the number of fish landings, the number of fishing production, the value of fisheries production, the utilization rate of the fish and the relative index value of production of fishing ports. Analysis was used to obtain images of 1-8 using descriptive statistical average value and percentage, then do digitized using Arc View program and spatially processed.

From the parameters of fisheries above, it can be seen that the conditions in the southern region of East Java lower than in the northern region (Figure 2-8). This condition can be used as a basis for the future development of fishing ports in East Java. The southern region of East Java are left in all relevant aspects of fisheries, should receive priority in the development of infrastructure related to increasing the quantity and quality of the fishing port with a different status (TPI, PPI, PPP and PPN).

When viewed from the geographical position of the southern region of East Java is more steep and hilly, the road infrastructure is very important developed in quantity and quality, so that the distribution of catches of fish landings to consumers more quickly so that consumers get good quality fish. Instead also will facilitate the distribution of related equipment in fishing operations and fish processing companies. Judging from fish potential in southern Java dominant large pelagic fish, would be very open in the development of export opportunities, which will generate local revenues and local fishermen.

Having in mind that the southern region of East Java are the priority areas in the development of fishing ports, we then need to be conducted to determine the three districts in southern Java that have more value to serve as the District prioritized the development of port fishery seen from five aspects of fishing is related to the number of fishermen , the total number of fishing gears, the total production of the catch, the production value of the catch and the amount of fish landings.

Data of capture fisheries in the southern region of East Java is a source of information that can be used to analyze the profile of capture fisheries that can later be used as a reference in developing the fishing port in the south of East Java. The research objective was to determine the profile of capture fisheries in the southern region of East Java as the basis for the development of Fishery Port. The study results were obtained based on the number of fishing unit, production and value of the catch and the number of fishermen, the northern regions still dominate higher value than the southern region of East Java [4].
Figure 1. Map of coastal district in the east Java

Figure 2. Map of fish landing in east java

Figure 3. Map of Fisheries Production in East Java

Figure 4. Map of fisheries production value in east java

Figure 5. Map of the number of fishermen in east java

Figure 6. Map of the relative index value of production in east java
The Districts in East Java that has the potential for development of fishing ports is Banyuwangi, Trenggalek and Jember. The first rank is Banyuwangi, followed by Trenggalek and last is Jember. These districts have higher potential value in the aspect of capture fisheries compared to other coastal districts in East Java (Figure 9).

4. Conclusion
This research concludes of the study is that the districts in East Java are priorities for the development of fishing ports based on aspects related to the fishery is Banyuwangi, Trenggalek and Jember.
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