

An-Eco Friendly Fishing Models in Gorontalo District In NORTHERN GORONTALO DISTRICT

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ABSTRACT

Fisheries and marine development focused on improving people's welfare and economic growth for the management of natural resources and at the same time maintaining its carrying capacity. To optimize the potential of marine natural resources need to dominate in various fields. In the field of fisheries needs adequate fleet both in terms of quantity, the type or types of equipment in accordance with the provisions of fishing in the area of ??each fisherman (Phasha, R. 2000). The method used is survey method by using questionnaire data collection and observation sheets, (Singarimbun and Effendi, 1995). Fisheries Technology Development forcing fishermen to fish further away from the shoreline, to anticipate this is a way of fishing effort adoption of alternative technologies that are simple, inexpensive and can increase the production of fishermen, one of them by using Fish Aggregating Device (Journal, 2003). According Subani (1986), FADs (Fish Aggregating Device) required Improved technology for more efficient utilization in an attempt to increase production and increase the income of fishermen. Utilization of fisheries resources is one way to determine the potential of fisheries resources, the information will be very helpful for policy makers to make efforts potential utilization and Management of Fisheries Resources

Keywords : Eco-Friendly, Fishing Model, Capture Fishery, FADs

PRELIMINARY

North Gorontalo District is one district that borders the waters of the Sulawesi sea are believed to have the potential of marine fishery resources and large. North Gorontalo district has a coastline along the $\pm 320\ 100\ \text{km}^2$, and the most exclusive marine economic zone (EEZ) covering an area of $40,000\ \text{km}^2$, has 52 islands of the which there are two (2) inhabited islands namely Ponelo and Dudepo. The District directly adjacent to the sea of Sulawesi is the District Atinggola, Tolinggula, Sumalata, Kwandang and District Anggrek. The coast line provides an indication that the capture fisheries subsector development opportunities in the district of North Gorontalo potential.

Marine and fisheries sector development are emphasized to improve the welfare and social economic growth with sustainable management of natural resources and at the same time maintaining its carrying capacity. The main targets to be achieved is the improvement of the welfare of coastal communities by improving intelligence and health through increased consumption of fish in development, in order to implement these objectives, we need a system that is based on capture fisheries by technological advances that can facilitate in exploring and utilizing fishery products. The in connection with the foregoing, the Social Culture capture fishery development program of community-based and environmentally sound is a necessity so that not only the optimization of catches can be achieved but fisheries production it self will remain sustainable.

OBJECTIVE AND TARGETS

A. OBJECTIVE

Research activities on "Prospective Of Fisheries In The Northern Gorontalo District has a goal are:

1. Conducting surveys and identification of Social and Culture fishing groups in the District of fisheries Kwandang
2. Conducting an analysis based on problems and constraints of a group of fishermen caught in the improvement of the standard of living of the fishermen catch.

B. TARGET

1. The formulation of Social Culture Of model implementable types of fishing effort in the form of concept implementation mechanism.

C. METHODS AND MATERIALS

This research was conducted in the District Kwandang North Gorontalo District particular on FADs fishing groups and outreach to groups of fishermen to catch. This study took place In February samapai May 2010.

Approach to the preparation of the prospects of fisheries using a survey method that is research by means of data collection instrument in the form of questionnaires and observation sheets, (Singarimbun and Effendi, 2008). Data collection techniques by using questionnaires instrument, in deep questions (directed interviews), focus group discussion (in a focused group discussion) about the problems encountered, observations and direct assistance to groups of fishermen who became pilot.

RESULTS AND DISCUSSION

Production data capture fisheries and fishing effort expressed in graphics and images above show for 5 years there is a tendency fluctuation pattern that is not too sharp. Actual trend catches have decreased from year to year but the trend fishing effort has increased, with optimal production 14020.78 tons. While the actual effort has increased trend from year to year, with optimal effort 16700.75 trip.

Results of regression analysis in the determination of parameters, with a correlation coefficient of 0.9979 indicates a close relationship between the variables is relatively strong. This suggests a contribution of 99.79% means that the model variations that occur from 99.79% CPUE changes are caused by variations in fishing effort and catches, the rest of 0,21% can not be explained by the model, as a result of factors outside the model. Therefore it is necessary technical efficiency improvements, among others: (1) improving the design of fishing gear; (2) improved ship design; (3) the use of more productive tools (FADs, the lights in the water, combination lamps with FADs especially for fisheries mini purse Saine); (4) the use of detection equipment where fish (echosounder, sonar, remote sensing) mainly pole and line. Results of the

analysis of the potential of fisheries resources in Table 1 shows the conditions in the field is still in the optimal level. This shows that the current state is still efficient in economic terms, so that the pressure has not happened exploitation that goes beyond the tolerance threshold of the *Maximum Sustainable Yield* (MSY). Value optimal effort achieved when the number of trips amounted to 2269 units a year.

Increased CPUE can be done through several alternatives, among others: increased frequency of operation of the fishing gear of one to two to three times in one trip. Improved operation of the device will increase the catch several times. If there are constraints on the operation of the night at FADs (*Fish Aggregating Device*), used tools lights around FADs. At night, the operation of the fishing gear nets around the lamp and the morning before the new FADs. Najamuddin research results (1998), using the lights on Purse Saine, catches before midnight more than after midnight. Sudirman (2003) that the fish had to adapt fully to light the lamp before midnight, so we need a net withdrawal at that time.

Another alternative to using fish presence detector (echosounder, remote sensing) so as to easily identify whether or not there are fish around the tools. This method will also result not diperlukannya fishermen to FADs (*Fish Aggregating Device*) to investigate the presence of fish, so that the workforce can be rationalized. In the open access conditions there is no limit for individuals to exit or enter the industry, meaning that every individual is free to exploit the resources. In the economic exploitation of resources on open access conditions are not favorable because of the comparative advantage of resources will be divided out. The nature of open access resources that lead to the fishermen tend to develop a fleet of arrest or arrest intensity to get the catch as much as possible so that there will be competition among fishermen. At the time of the catch has declined, fishermen trying to make modifications to fishing gear in various ways, among others: increase adds to the size of the tool, reduce the size of the mesh, or with other efforts seek new fishing grounds.

B. The use of FADs (Fish Aggregating Device) as One Alternative to Increased Total Catch

Technological Development of Fisheries forcing fishermen to fish further away from the shoreline, to anticipate that there should be the response to that is by giving to

fishermen fishing effort alternative to the technology that is simple, inexpensive and can increase the production, one of which is by using FADs (Jamal, 2003). According Subani (1986) increase in sea FADs in the technology needed to make more efficient utilization in efforts to increase production and increased income arrest.

Development of the use of fads also apply in the district of North Gorontalo. This will Affect the amount of catches is produced by fishermen. According to Jamal (2004) as a function of fads in fishing tools are as follows:

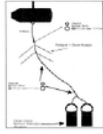
1. As a gathering place for fish
2. As a fishing areas
3. For certain types of fish shelter from predatory fish attack

While the benefits are as follows:

1. Make it easy for fishermen find a place to operate their fishing gear.
2. Prevent the occurrence of destructive fishing, due to the use of explosives and
3. chemical / toxic
4. Increasing the production and productivity of fishermen.

Based on the paradigm of development held above, the need for the use of fads in the sea in Northern Gorontalo District in an effort to increase of the effectiveness of fishing.

Traditional details of FAD construction can be seen in Figure 4.10



below:

CONCLUSION

1. In general, the public profile of fisheries resource user has a low level of education, level of knowledge management efforts low with three groups of fishermen which groups of fishermen who use the boat, a group of fishermen who use speedboats, and a group of fishermen who use boats without motors;

2. Problems fishing communities utilizing specific fisheries resources can be grouped into six dimensions: human resources, sustainability resource utilization rate and fisheries, capital and technology, institutional, legal and cultural, facilities and infrastructure, marketing.

3. Improved technology deep sea FADs necessary for more efficient utilization in efforts to increase production and increase the income of fishermen catching.

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