



Mapping Potential Fish Processing Sources Glagah District, Lamongan

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Keywords:

Fish, flour, mapping

Abstract

Glagah District, located in Lamongan Regency, has a lot of potential that can still be optimized, one of which is fish processing. This area produces popular fish on the market and only becomes waste if not processed, such as small fish, fish with too many spines, and fish heads. This is the main concern in processing unsold fish as one of the main raw materials in the production of fish meal. Mapping fish processing sources aims to build and maximize fish production potential. The method used is a descriptive and qualitative method with a field survey to obtain an overview of the distribution points of fish processing sources. From the results of field surveys and mapping carried out, there are 196.2456 hectares, including swamps, rivers and reservoirs, with a production scale of around 125.4635 tons. Meanwhile, the results of aquaculture include fish ponds, rice fields, ponds, floating-net-cages, and step-net-cages, which cover an area of around 4,179.48 hectares with a production scale of 12,915.9608 tons. The use of fish includes flour, pellets, crackers, presto, and fish cake, which can add selling value. This can also be a way to reduce fish and increase the village's income.

1. Background

Indonesia has around 13,000 islands, some of which are inhabited or unnamed. Indonesia is an archipelago country with the third longest coastline in the world, around 99,093 km (Athuman, 2023). Indonesia has a lot of potential for developing fishing resources, which is very promising considering its geographical characteristics. In addition to freshwater and marine environments, this also includes capture fisheries and aquaculture, both of which still have room to be improved (Argus, 2018). The type and nature of fishing commodities influence the marketing of fishing goods in Indonesia. The financial size of fishing operations carried out by fishing industry players is another important element. Business actors in the fishing industry can be broadly classified into two categories: primary and secondary. Fish farmers and fishermen are business actors in the primary sector. Fishermen run their businesses by hunting, but fish farmers run their businesses with strict supervision. These two actors have very different production qualities. Meanwhile, companies engaged in the

secondary sector whose output becomes raw materials for other sectors, such as fishing, and product processing. (Ontario's, 2021).

Due to its poor economic value, fish waste that is caught has not been managed by the community. With the increasing advancement of technology, commercially obtained fish waste can replace pellets in feed, thereby helping to offset the high cost of commercial feed. Fish waste has a fairly high protein and nutrient content that can stimulate farmed fish's growth so that its proper utilization will have a positive impact (Grasela, 2022). According to Djunaidah in 2017, the advantages of using fish as a source of animal protein include its high quality (digestibility around 95%) and high quantity (protein 15-24%). This is also indicated by the completeness of essential amino acids in fish. has a low saturated fat content, high-quality protein, and a crude protein content of 16-27 grams per 100 grams. has a lower fat content than chicken, higher concentrations of vitamins and minerals, higher concentrations of omega 3, 6, and 9 fatty acids, and essential amino acids. Rich in lysine and methionine,

two limiting amino acids in ruminants, fishmeal is a source of ruminal undegradable (RUP) protein. Although the high-fat content of fishmeal can increase the energy content of the feed, Omega 3 and 6 fatty acids and other essential fatty acids are said to have a special role in improving livestock productivity and quality as well as reproductive performance (Marjuki, 2008).

Annual growth in demand for poultry products. Based on data, broiler chicken meat production from 2019 to 2022 was 3,636,600 tons, 3,371,877 tons, 3,345,086 tons, and 3,936,149 tons, respectively (Directorate General of PKH. 2023a). This has an impact on the increasing need for feed. Feed is an important factor that is directly related to production costs, especially in the poultry industry, where feed contributes around 68.89% of all expenses incurred by these businesses. Poultry feed accounts for 98% of total feed production, and the rest is non-poultry feed. The availability of feed ingredients throughout the year must be balanced with the growth of feed production each year (Wijayanti, 2024). The purpose of this study was to develop an efficient and effective method of utilizing unused fish in the market into fishmeal for animal feed. Where this fishmeal is used as an alternative animal feed. This research is useful for reducing fish waste that has the potential to pollute the environment and provide affordable and high-quality feed sources for the livestock industry and home businesses. It is hoped that this research can provide solutions in managing fishery waste and support increased livestock productivity. Glagah District, Lamongan Regency is one of the areas that has quite abundant fishery products from general inland fisheries and from its cultivation. Fish commodities that are less marketable or not in demand by the market will only become waste if left alone. Processing fish into fishmeal as an additional animal feed will be one way to increase the economic selling value of fish. This can also be one way to reduce fish waste.

2. Methods

The data analysis methods used in this study is descriptive and qualitative methods. Descriptive and qualitative methods are very suitable for analyzing data in the field. Based on the main research background, namely how the distribution of fisheries management in Meluwur Village, Glagah District, Meluwur Regency. This study uses subjects, namely the location of fisheries management, fish data for each management source, and fish utilization data in the area. The objects used in this study are all sources of fisheries management, such as swamps, reservoirs, rivers, ponds,

and pools in Meluwur Village. Mapping the location of fisheries management sources can be seen using GPS to obtain accurate coordinate points from the waters in Meluwur Village.

3. Result and Discussion

Meluwur village is one of the villages located in the Glagah sub-district, Lamongan. Meluwur village itself is located on the border of Gresik-Lamongan but is part of the Lamongan area. Meluwur village has a very large pond area. The majority of its people work as farmers or cultivate pond fish or freshwater fish. Based on the PUD fisheries mapping in Glagah sub-district, the total area and number of areas owned are 196.2456483 Ha and 347 Ha and the total PUD production in Glagah sub-district based on the area and number of areas is 125.4635029 tons and 221.8435714 tons (Dinas Perikanan Kabupaten Lamongan, 2023). Glagah sub-district is one of the main production centers with a significant contribution to total fish production.

The contribution of Meluwur village in fish production as one of the villages with a significant fishery area, contributes to most of the fishery production in Glagah District. Based on the mapping results, the fish potential in this village reflects the sustainability of the fisheries sector, with total production reaching 221.8435714 tons. This shows that Glagah District has great potential in utilizing fish resources to be processed into value-added products, such as fish meal for animal feed.

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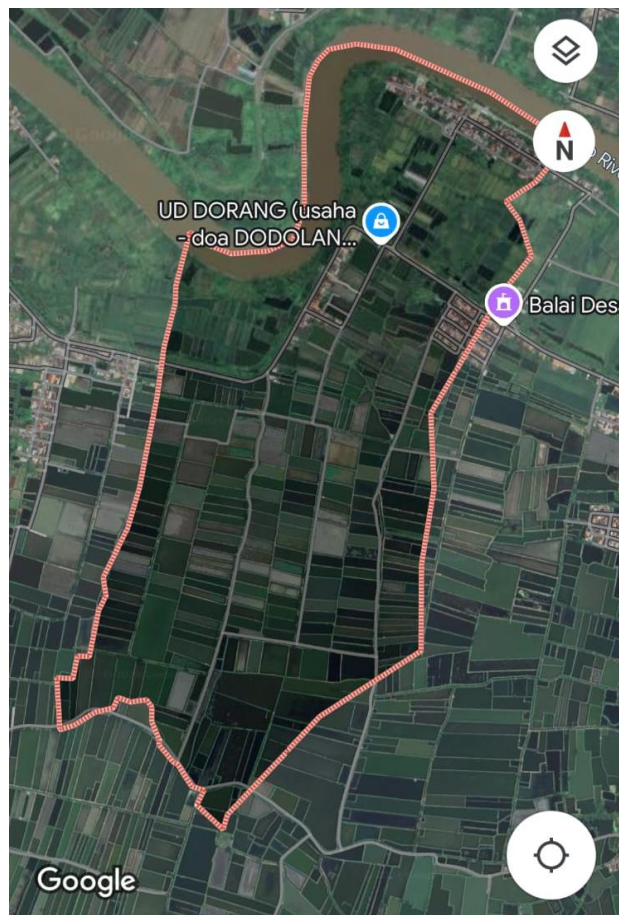


Figure 1. General Inland Fisheries Area of Glagah Village, Meluwur

With the large production potential in Glagah District, especially in Meluwur Village, there is a great opportunity to utilize unsold or excess fish in the market into fishmeal. The process of processing unused fish into flour can increase the economic value of fishery products and reduce fishery waste. The resulting fishmeal can be used as animal feed, which in turn can support the livestock sector in the region.

Although the fisheries potential in Glagah District is quite large, the main challenge faced is how to maintain the sustainability of production without damaging the aquatic ecosystem. Processing unused fish into fishmeal offers a solution to the waste problem, while also providing added value to fishery products. The development of more efficient processing technology, as well as increasing production capacity, can be a great opportunity to maximize the potential of fish resources in this area.

4. Conclusion

Glagah sub-district has many PUDs and aquaculture that have high economic value for the

community. Mapping of the waters of Glagah sub-district includes PUDs consisting of swamps, reservoirs, and rivers with a total area of 196.2456 Ha. There are also aquaculture waters including ponds, rice fields, ponds. Ponds, floating net cages, and fixed net cages have a total area of 4179.48 Ha. The types of fish produced are very diverse including milkfish, tilapia, mujaer, grouper and others. From the PUD itself, the total production reaches 125.4635 tons. For aquaculture waters, the total production is 12915.9608 tons. Based on the distribution of water and the total production that has been mapped, there are still fish that are not suitable for sale to the market or processed into products such as smoked fish, smoked fish, and other foods. Unsold fish can produce waste that will only pollute the environment. The potential of unsold fish can be utilized to make products that have sales value, such as fish meal.

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Jurnal Pengabdian Masyarakat (Environation), Vol 4, No 2, Tahun 2024

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Indonesia. Jurnal Ilmu Nutrisi dan Teknologi
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