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The Potential for Development of Processed Decapterus spp in Sumenep Regency

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Abstract

Indonesia is a country rich in marine resources. The oceans play a crucial role in the Indonesian economy, especially for the 7.87 million people, many of whom are in poverty, who make a living from the sea. Mackerel is an economically important fish with a relatively high nutritional value, containing 1.90% fat and 26.31% protein. Mackerel serves as a primary source of protein for the Indonesian population. However, selling fish without processing does not add value to the fishing industry. Processing through product design can enhance the value of marine products and meet consumer needs. The objective of this research is to add value to the fisheries. The method used is a literature review. The research findings indicate that among the four regencies in Madura, Sumenep Regency is recognized as having the highest marine catch, totaling 44,322 tons. Notably, in the Pasongsongan sub-district, there is a catch of 17.477 tons, with mackerel being the most abundant catch at 16.042 tons, followed by mackerel scad at 0.377 tons and fringescale sardinella at 0.351 tons. Given the substantial marine catch, there is a need to develop mackerel fish processing in Sumenep Regency to increase its added value.

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Introduction

Indonesia is an archipelagic country based on the 1982 UNCLOS convention. Historically, Indonesia and its maritime aspects cannot be separated. Indonesia is a maritime nation with rich seas abundant in marine resources (Listiyono et al., 2019). The ocean plays a crucial role in the community's economy. Data collected by the Central Statistics Agency in 2011 indicates that around 7.87 million people, or 25.14 percent of the total national impoverished population, earn a living through the sea. The Indonesian population relies on marine fish as their source of protein. Additionally, Indonesia's marine products contribute to 10% of the world's Decapterus spp is one of the pelagic fish groups as they tend to inhabit open sea

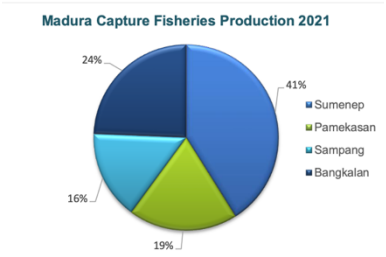
areas (Liestiana et al., 2015). Decapterus spp has distinctive morphology, characterized by a flattened and elongated body shape, as well as a pointed head. Its scales are circular with a smooth texture, and there are black spots behind the operculum boundary (Kusumanigrum et al., 2021). The size of Decapterus russelli is commonly caught between 12 cm to 19.9 cm, while the size of Decapterus macrosoma ranges from 14 cm to 21.9 cm (Setya & Susiloningtyas, 2022). The species Decapterus russelli is the largest proportion within the Decapterus spp group. In the waters of the eastern Java Sea and the western Makassar Strait, there is interaction between Decapterus russelli and Decapterus macrosoma. During the period from October to April, Decapterus macrosoma tends to dominate the catch, but its position is later replaced by an increase in the catch of Decapterus russelli (Atmaja, 1999) dalam (Nugroho, 2006). The current price of Decapterus spp is around IDR 21,000 per kilogram, but this price may vary depending on weather conditions and the season. Generally, the catch of Decapterus spp by the Pasongsongan community is usually processed into products such as pindang (a type of spiced and cured fish) and salted fish. With the design of processed Decapterus spp products, it can be an interesting alternative for consumers seeking variety in products and different flavors. The issue addressed in this research is to analyze the potential of fish production in enhancing the sustainability of local wisdom in Madura. The aim of this research is to determine the feasibility of fish production in improving the sustainability of local wisdom in Madura.

RESEARCH METHODS

The method used in this research is a descriptive study. Descriptive method involves stating facts with accurate interpretation. A descriptive study is one that seeks to reveal phenomena, events that are occurring, or actual problems (Sugiman & Kurniawan, 2022). The aim of the descriptive study is to depict the characteristics of an individual, event, or situation, to add value to the fisheries sector (Nuramdini & Gunawan, 2022). The information gathered consists of secondary data, which originates from the Central Statistics Agency, specifically related to the quantity of fish production and the dominant fish species in Madura, particularly in Sumenep Regency.

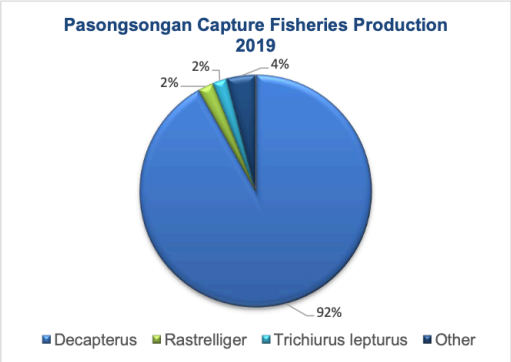
RESULT

Fish is one of the crucial aspects in the supply of protein that is highly needed by humans. This is due to the high protein content in fish, along with the presence of essential amino acids required by the body (Natsir & Latifa, 2018). Fish is a food material that is susceptible to spoilage, so methods are needed to enhance the preservation of fish and extend the shelf life of processed products that use fish as a primary ingredient (Koesoemawardani, 2019).



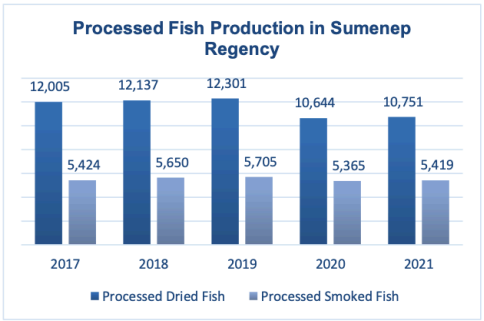
Picture 1 Madura Capture Fisheries Production 2021
Source: BPS East Java Provence 2021

Based on the 2021 data from the Central Statistics Agency of East Java, the production of fish catches varies significantly among the four regencies in Madura. The fish catch results in Sampang Regency amounted to 16,753 tons (16%), Pamekasan Regency reached 20,566 tons (19%), Bangkalan Regency recorded 26,305 tons (24%), and Sumenep Regency had the highest with 44,322 tons (41%). According to this data, it can be observed that Sumenep Regency has the highest fish catch production in Madura.



Picture 2 Pasongsongan Capture Fisheries Production 2019
Source: PPP Pasongsongan Statistic 2019

Based on the data above, one of the most abundant types of fish is flying fish, which is proven to dominate fishermen's catches at the Coastal Fisheries Harbor (PPP) Pasongsongan District, Sumenep Regency in November 2019. Statistical data shows that Decapterus spp had the highest number of catches at 16,042 tonnes (92%), followed by Rastrelliger at 0.377 tonnes (2%), and Trichiurus lepturus at 0.351 tonnes (2%). Flying fish is classified as an economical fish and this fish also has quite high nutritional value, with a fat content of 1.90% and a protein of 26.31% (Cahyono and Mardani 2020).



Picture 3 The production quantity (tons) of dried fish and smoked fish in Sumenep Regency from 2017 to 2021
Source: Sectoral Statistical Data for Sumenep Regency 2022

Based on the diagram in Figure 3, it is evident that in Sumenep Regency, the fisheries products are processed into two dominant types: dried fish and smoked fish. In 2021, the production of dried fish reached 10,751 tons, consistently maintaining the highest position compared to smoked fish processing, which reached 5,419 tons. The added value generated in dried fish processing is IDR 22,334/kg, with an added value ratio of 62.47% (Intyas et al., 2020). Meanwhile, the

added value in processed smoked fish is IDR 4,042/kg, with an added value ratio of 14.58% (Awami et al., 2019). Added value is the increase in the value of a commodity through various stages of processes, such as processing, storage, and transportation, during the production process (Apriliani et al., 2020). The increase in the value of a product can be observed through transformations in its form, location, and time (Hartin & Santoso, 2020). The factors influencing the increase in added value in the processing process can be divided into two categories: technical factors and market factors. Technical factors, such as production capacity, raw material quantity, and labor, play a role. Meanwhile, market factors involve output prices, labor wages, fuel prices, and other inputs (Manula & Armyanti, 2019).

DISCUSSION

Fish commodities have the characteristic of being perishable quickly due to their high protein content (Aulia et al., 2023). Easily perishable fish require appropriate processing to maintain their quality. Freezing is one of the preservation processes used to prevent the deterioration of fish quality (Aditya et al., 2022). In addition to preservation, the processing process is also a means to prevent the decline in fish quality that can impact the value of the fish. Processing fish not only provides a sufficiently long shelf life but also adds value to the commodity.

The capture fisheries production in Sumenep Regency in 2021 is higher compared to other regencies in Madura. Sumenep Regency has significant fisheries potential due to its island-rich territory, covering an area of 946.53 km2 (45.21% of the total area). There are 170 villages with 10,847 Fisheries Households (Faizal & Fatmawati, 2019). Therefore, Sumenep Regency was able to produce 44,322 tons of sea fish in 2021 (BPS Provinsi Jawa Timur 2023).

Sumenep Regency has a coastal area, one of which is Pasongsongan District. This area shows significant potential in the fisheries sector. The marine fish production in this area reached 2,424 tons (Faizal & Fatmawati, 2019). This creates highly promising opportunities for business development in the fisheries sector. One of the dominant commodities, according to catch data from Pasongsongan Coastal Fisheries Port, is escolar. Processed fish in Sumenep Regency is typically transformed into dried fish, spiced and cured fish (pindang), and smoked fish. It is hoped that there will be new innovations in processing escolar that can provide even higher added value.

CONCLUSION

Pasongsongan District, as a coastal area in Sumenep Regency, has significant potential in the fisheries sector. One prominent commodity is escolar, indicating substantial potential for the development of escolar processing. The typical processing of escolar involves making dried fish, spiced and cured fish (pindang), and salted fish, but these processes often result in low added value. The importance of added value in fish processing is not only to enhance product quality but also to contribute to the economic development of Sumenep Regency, especially in Pasongsongan District.

REFERENCE

Aditya, Y., Sulthoniyah, S. T. M., & Mutamimah, D. 2022. Proses Pembekuan Ikan Layang (Decapterus Spp.) di PT. Nafo (National Food Packers) Banyuwangi. Jurnal Ilmu Perikanan Dan Kelautan, 4(1), 24–27.

Apriliani, M. K., Noor, T. I., & Yusuf, M. N. 2020. Analisis Nilai Tambah Agroindustri Tepung Aren. Jurnal Ilmiah Mahasiswa AGROINFO GALUH, 7(2), 301–308.

Aulia, D., Putra, A., Hadiwinata, B., & Aini, S. 2023. Analisis Perbandingan Sekam Padi Sebagai Subtitusi Es Dalam Penyimpanan Ikan. Jurnal Perikanan Unram, 13(2), 417–426. https://doi.org/10.29303/jp.v13i2.531

Awami, S. N., Nurjayanti, E. D., & Subekti, E. 2019. Analisis Nilai Tambah Usaha Pengolahan Ikan Manyung Asap Di Kabupaten Demak. Jurnal Agribisnis Sumatera Utara, 12(2), 50–60. https://doi.org/10.31289/agrica.v12i1.2192.g1898 BPS Provinsi Jawa Timur 2021.

Cahyono, E., & Mardani, I. 2020. Identifikasi Asam Amino Ikan Layang (Decapterus russelli) pada Lokasi Penangkapan Berbeda. Jurnal Pengolahan Pangan, 5(1), 1–6. Data Statistik PPP Pasongsongan 2019. Data Statistik Sektoral Kabupaten Sumenep 2022.

Faizal, A., & Fatmawati, I. 2019. Analisis Pemasaran Ikan Layang di Desa Pasongsongan Kabupaten Sumenep. Seminar Nasional Ekonomi Dan Teknologi, 1(1), 362–370. Hartin, A. G. S. P., & Santoso, E. B. 2020. Analisa Nilai Tambah Produk Olahan Susu Segar dalam Penentuan Produk Unggulan Lokal di Desa Sukorejo Kecamatan Musuk Kabupaten Boyolali. Jurnal Teknik ITS, 9(2), 329–333.

Intyas, C. A., Firdaus, M., & Aziz, A. 2020. Analisis Nilai Tambah Ikan Layur (Trichiurus savala) Kering di UKM Mawardi Desa Weru, Kecamatan Paciran Kabupaten Lamongan. Prosiding Simposium Nasional VII Kelautan Dan Perikanan, 1(1), 181–186. Koesoemawardani, D. 2019. Teknologi Pengolahan Ikan.

Kusumanigrum, R. C., Alfiatunnisa, N., Murwantoko, M., & Setyobudi, E. 2021. Karakter Morfometrik dan Meristik Ikan Layang (Decapterus macrosoma Bleeker, 1851) di Pantai Selatan Daerah Istimewa Yogyakarta, Indonesia. Jurnal Perikanan Universitas Gadjah Mada, 23(1), 1. https://doi.org/10.22146/jfs.52348

Liestiana, H., Ghofar, A., & Rudiyanti, S. 2015. Aspek Biologi Ikan Layang (Decapterus macrosoma) yang Didaratkan di PPP Sadeng, Gunungkidul, Yogyakarta. Diponegoro Journal of Maquares, 4(4), 10–18.

Listiyono, Y., Yudho Prakoso, L., & Sianturi, D. 2019. Membangun Kekuatan Laut Indonesia Dipandang dari Pengawal Laut dan Detterence Effect Indonesia. Jurnal Strategi Pertahanan Laut, 4(1), 73–84.

Manula, D. S. T., & Armyanti, T. 2019. Analisis Nilai Tambah Gambir di Indonesia. Mahatani, 2(1), 46–67.

Natsir, N. A., & Latifa, S. 2018. Analisis Kandungan Protein Total Ikan Kakap Merah dan Ikan Kerapu Bebek. Jurnal Biology Science & Education, 7(1), 49–55. Nugroho, D. 2006. Kondfsi Trend Biomassa Ikan Layang (Decapterus spp.) di Laut Jawa dan Sekitarnya. Jurnal Penelitian Perikanan Indonesia, 12(3), 167–174.

Nuramdini, H., & Gunawan, C. 2022. Gambaran Kemampuan Innovasi (Innovation Capability) Para Pelaku Usaha Kuliner di Sukabumi. Jurnal Ilmiah FEASIBLE Bisnis, Kewirausahaan & Koperasi, 4(2), 152–158. https://doi.org/10.32493/fb.v4i2.152-158.23597

Setya, D., & Susiloningtyas, D. 2022. Kondisi Biologi Ikan Layang (Decapterus spp) yang Didaratkan di Pemangkat, Kalimantan Barat. Jurnal Airaha, 11(2), 395– 401.

Sugiman, S., & Kurniawan, D. 2022. Studi Deskriptif tentang Kinerja Room Boy dalam Meningkatkan Kualitas Pelayanan di Sofitel Nali Nusa Dua Beach Resort. JUMBIWIRA : Jurnal Manajemen Bisnis Kewirausahaan, 1(1), 11–16. Sukamto, S. 2017. Pengelolaan Potensi Laut Indonesia dalam Spirit Ekonomi Islam (Studi Terhadap Eksplorasi Potensi Hasil Laut Indonesia). Jurnal Ekonomi Islam, 9(1), 35–62. http://yudharta.ac.id/jurnal/index.php/malia