

Perceptions of fishers in the Mutiara Indah Teritip Joint Business Group (KUB) on the Role of the Food, Agriculture, and Fisheries Agency (DP3) in East Balikpapan District, Balikpapan City

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ARTICLE INFO

Research Article

Article history:

Received May 9, 2025

Received in revised form June 20, 2025

Accepted July 22, 2025

DOI: <https://doi.org/10.30872/j3srkq86>

Keywords: fisher group, ocean, business, cooperation



ABSTRACT

Although fisheries institutions have developed, most remain small-scale operations managed traditionally, with weak management practices and limited access to information and technology. Understanding community perceptions is therefore essential. This study aims to examine fishers' perceptions, both cumulatively and partially, within the Joint Business Group (Kelompok Usaha Bersama/KUB) Mutiara Indah Teritip regarding the role of the Food, Agriculture, and Fisheries Agency (Dinas Pangan, Pertanian dan Perikanan/DP3) in East Balikpapan District, as well as to identify the challenges faced by DP3 in this area. The research was conducted from September 2024 to May 2025 in East Balikpapan District, Balikpapan City. A total of 17 respondents were selected using purposive sampling. The results showed that the cumulative perception score of fishers in KUB Mutiara Indah Teritip regarding the role of DP3 reached 40.18, which falls within the range of 35.02–45.00 and is categorized as high. Similarly, the partial perception scores were also categorized as high, with indicator values as follows: program development for fishing activities (8.29), policy formulation for fisheries (8.35), supervision of fishing permits (8.41), guidance and training for fishers (7.88), and the application of fishing technology (7.24).

INTRODUCTION

Indonesia is a country with vast marine and coastal areas (Suwandi & Prihatin, 2020). This geographic characteristic makes Indonesia a nation with tremendous marine potential, particularly in the fisheries sector, which plays a vital role in national development (Kusdiantoro et al., 2019).

Balikpapan City is one of the regions with considerable potential for capture fisheries. In accordance with Law No. 32 of 2004 on Regional Government, the authority over coastal and marine resources extends up to four nautical miles from the shoreline. When converted into square kilometers, Balikpapan—with a total area of 503.30 km²—has 337.805 km² of capture fisheries potential, spanning the Makassar Strait and Balikpapan Bay, with a coastline of 45.6 km. This potential is supported by an estimated marine fishery production capacity of 16,850 tons per year. Given this significant potential, the availability of fishing ports is essential for fisheries development, as emphasized by Lubis (2012).

To improve knowledge and skills in aquaculture, particularly catfish farming, fish farmers often establish aquaculture groups known as POKDAKAN. These groups typically receive guidance from

fisheries extension officers. Such extension services should adopt participatory approaches and be tailored to the needs and conditions of the fishery actors (Indraningsih et al., 2010).

Despite the development of various fisheries institutions, most operations remain small-scale, managed traditionally, with weak management systems and limited access to information and technology. Current training programs have not yet fully contributed to business sustainability (Indra Hartini, 2022). One such fisher group in East Balikpapan District is the Joint Business Group (Kelompok Usaha Bersama/KUB) Mutiara Indah Teritip, established on October 3, 2019, with 17 members. The group's primary commodities are blue swimming crabs and mixed fish species (Profile of KUB Mutiara Indah Teritip, 2024). A positive perception of the role of government agencies can improve outcomes in capture fisheries. For instance, a study by Tiani et al. (2017) revealed that fishers are more likely to adopt efficient and sustainable fishing techniques when they feel supported by government institutions. This not only sustains local fisheries resources but also enhances fishers' catches.

According to Law No. 23 of 2014 on Regional Government, regarding the division of authority between the central, provincial, and district/municipal governments, district governments' jurisdiction is limited to coastal areas and land. This regulation has implications for the performance of the Food, Agriculture, and Fisheries Agency (DP3) of Balikpapan City, whose management of local resource potential is restricted by such legal frameworks. Therefore, capture fisheries development requires support from both central and local governments to facilitate and empower fisheries institutions, enabling them to become strong and independent organizations (Sugiharto et al., 2024). Accordingly, the objective of this study is to assess fishers' perceptions, both cumulatively and partially, within KUB Mutiara Indah Teritip regarding the functions of DP3 in East Balikpapan District, and to identify the challenges faced by DP3 in this area.

METHODOLOGY

Research location and time

This study was conducted from September 2024 to May 2025 at the Food, Agriculture, and Fisheries Agency (Dinas Pangan, Pertanian dan Perikanan/DP3) of Balikpapan City, specifically in East Balikpapan District.

Research method

The research employed a purposive sampling technique, which is a non-probability sampling method where respondents are selected based on specific criteria relevant to the objectives of the study (Syahrums & Salim, 2012). The sampling unit was the *Mutiara Indah Teritip* fisher group in East Balikpapan District, consisting of 17 members. As such, all members were included as respondents in the study.

Both primary and secondary data were used. Primary data were collected directly in the field through interviews and observations, while secondary data were obtained from various sources, including scientific journals, books, reports from DP3 Balikpapan City, and other relevant documents. The study applied a survey method, which, according to Sugiyono (2019), is used to obtain data from natural settings (non-experimental), with the researcher applying instruments such as questionnaires, interviews, and structured observations.

Data analysis

The data were analyzed using descriptive analysis. Descriptive analysis is used to describe the collected data as they are, without making generalizations beyond the study population (Sugiyono, 2019). Qualitative techniques were employed to present findings in the form of words or sentences, providing a detailed description of the actual conditions observed in the field.

A scoring system was applied to measure fishers' perceptions, with scores ranging from 3 to 1: Answer (a) = score 3; Answer (b) = score 2; Answer (c) = score 1. The assessment categories consisted of three levels: *High*, *Moderate*, and *Low*.

Table 1. Scoring of DP3 functions in optimizing capture fisheries based on indicators

No.	Indicator	Minimum Score	Maximum Score
1	Implementation of fishing program development	3	9
2	Formulation of fisheries policy	3	9
3	Supervision of fishing permits	3	9
4	Guidance and training for fishers	3	9
5	Application of fishing technology	3	9
Total		15	45

Table 2. Cumulative class intervals for DP3 functions in optimizing capture fisheries

Class Interval	Criteria
15.00 – 25.00	Low
25.01 – 35.01	Moderate
35.02 – 45.00	High

In addition to cumulative scoring, partial perception levels were also assessed for each indicator.

$$C = \frac{X_n - X_i}{K} = \frac{45 - 15}{3} = 10$$

$$C = \frac{X_n - X_i}{K}$$

$$C = \frac{9-3}{3} = 2$$

Notes:

C : Class Interval
 K : Number of Classes
 X_n : Maximum Score
 X_i : Minimum Score

Table 3. Partial class intervals for DP3 functions in optimizing capture fisheries

Indicator	Class Interval	Score Level
Fishing program development	7.01–9.00	High
	5.01–7.00	Moderate
	3.00–5.00	Low
Policy formulation	7.01–9.00	High
	5.01–7.00	Moderate
	3.00–5.00	Low
Supervision of fishing permits	7.01–9.00	High
	5.01–7.00	Moderate

Indicator	Class Interval	Score Level
Fisher guidance and training	3.00–5.00	Low
	7.01–9.00	High
	5.01–7.00	Moderate
Application of fishing technology	3.00–5.00	Low
	7.01–9.00	High
	5.01–7.00	Moderate
	3.00–5.00	Low

RESULT AND DISCUSSION

Characteristics of respondents

The respondents in this study were members of the *Mutiara Indah Teritip* fisher group in East Balikpapan District. The observed characteristics included age, gender, education, occupation, and years of fishing experience. Based on interviews, a total of 17 respondents were recorded.

Table 4. Characteristics of Respondents

No.	Respondent Identity	Category	Number	Percentage (%)
1	Age	20–40 years	2	12%
		41–60 years	15	88%
	Total	17	100%	
2	Education	Elementary	8	47%
		Junior High	3	18%
		Senior High	5	29%
		Diploma (D3)	1	6%
		Bachelor (S1)	0	0%
Total			17	100%

Indicators of fishers' perceptions of DP3 functions

1. Implementation of Fishing Program Development.
This refers to a systematic process involving the planning and organization of fishing activities to enhance sustainable catch yields. It includes resource assessment, quota setting, and regulating fishing time and location to prevent overfishing and protect marine ecosystems (Ministry of Marine Affairs and Fisheries, 2020).
2. Formulation of Fisheries Policy
This activity focuses on developing policies that support fishers' welfare and the sustainability of fisheries resources. It encompasses regulatory aspects, economic empowerment, and the protection of fishers' rights, thereby fostering a conducive environment for fishing activities and strengthening fishers' participation in fisheries management (Agency for Marine and Fisheries Research and Human Resources, 2019).

3. **Supervision of Fishing Permits**
This mechanism ensures that all fishing activities comply with regulations. The supervision process aims to prevent illegal fishing, safeguard fisheries resources, and protect marine ecosystems from irresponsible fishing practices (Directorate General of Capture Fisheries, 2021).
4. **Fisher Capacity-Building**
Capacity-building refers to government and institutional efforts to improve fishers' skills and knowledge through training, extension, and mentoring programs. The goal is to enhance productivity, welfare, and sustainability, enabling fishers to adapt to changing environmental and market conditions (Ministry of Marine Affairs and Fisheries, 2020).
5. **Application of Fishing Technology**
This refers to the use of modern fishing tools and methods to increase efficiency and catch yields. It includes environmentally friendly gear, advanced monitoring systems, and improved post-harvest techniques that support resource sustainability and reduce ecosystem impacts (Agency for Marine and Fisheries Research and Human Resources, 2019).

Fishers' perception assessment (partial and cumulative)

The perception scores of fishers in KUB *Mutiara Indah Teritip* regarding the role of DP3 are presented in Table 5.

Table 5. Fishers' perceptions of DP3 functions (partial and cumulative)

Indicator	Min. Score	Max. Score	Class Interval	Criteria	DP3 Score
Fishing program development	3	9	7.01–9.00 5.01–7.00 3.00–5.00	High Moderate Low	8.29 (High)
Policy formulation	3	9	7.01–9.00	High	8.35 (High)
Supervision of fishing permits	3	9	7.01–9.00	High	8.41 (High)
Fisher capacity-building	3	9	7.01–9.00	High	7.88 (High)
Application of fishing technology	3	9	7.01–9.00	High	7.24 (High)
Cumulative Score	15	45	35.02–45.00	High	40.18 (High)

The results indicate that the cumulative perception score was **40.18**, categorized as *High*. Partial analysis showed that all five indicators also scored in the *High* category: Fishing program development: 8.29; Policy formulation: 8.35; Permit supervision: 8.41; Capacity-building: 7.88; Technology application: 7.24.

Challenges faced by DP3 in East Balikpapan District

The challenges encountered by the Food, Agriculture, and Fisheries Agency (DP3) include:

1. Mismatch of fishing gear assistance – distributed gear does not always meet the specific needs of fishers, reducing its effectiveness.
2. Unpredictable weather – irregular weather patterns cause unstable catch volumes and fluctuating incomes.
3. Low reporting participation – catches are often not formally recorded, partly due to the unpredictable nature of fishing yields.
4. Fishing gear damage – nets are frequently damaged due to interactions with other fishers or passing vessels, which hampers productivity.

CONCLUSION

Based on the results and discussion of the Mutiara Indah Teritip fisher group in East Balikpapan District, the following conclusions can be drawn:

1. The overall perception level of fishers in the *Mutiara Indah Teritip* group regarding the functions of DP3 obtained a cumulative score of 40.18, which falls within the range of 35.02–45.00 and is categorized as *High*.
2. The partial perception level of fishers in the *Mutiara Indah Teritip* group is also categorized as *High*. The scores for each indicator are as follows: Implementation of fishing program development: 8.29; Formulation of fisheries policies: 8.35; Supervision of fishing permits: 8.41; Fisher capacity-building: 7.88; Application of fishing technology: 7.24

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