



Implementation of a National Marine and Fisheries Community Empowerment Program in Aquaculture Businesses in Cilacap

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Abstract: This study aims to analyze the implementation of the PNPM-MKP-DJDPB PUMP program, particularly in Cilacap City, assesses public response to the program, and identify factors influencing its implementation. Data analysis was conducted descriptively. The results indicate that while the implementation of the PNPM-MKP program adheres to normative guidelines at each stage, there is a gap between the intended goals and the actual outcomes. This discrepancy is highlighted by public responses regarding program sustainability, participation, benefits, and conflicts during implementation. Additionally, several factors affecting the program's overall effectiveness were identified, indicating the need for significant improvements. Key supporting factors include the appropriateness of the location, the provision of production equipment, and accuracy in selecting beneficiaries. On the other hand, inhibitory factors include the lack of ongoing support, insufficient training, and misalignment between beneficiary needs and program objectives. Based on these findings, policy recommendations to enhance future direct cash assistance (BLT) programs include: (1) ensuring procedural consistency in program activities, (2) improving beneficiary selection accuracy, (3) providing continuous training and mentoring for beneficiaries, and (4) evaluating the programs to support sustainable business development and beneficiary self-reliance.

Keywords: Community welfare; Fisheries aquaculture; PUMP-DJDPB

Introduction

The Indonesian government's efforts to alleviate poverty have been carried out through various approaches, including regional development, community empowerment, and the fulfillment of basic needs. Among these, the empowerment approach has become one of the most widely used and promoted strategies for addressing poverty-related challenges (Gunawan & Sari, 2023). Numerous initiatives have been implemented to reduce poverty in Indonesia. However, most government empowerment programs are typically top-down in nature, often failing to address the real

needs of the communities and struggling with sustainability issues (Rulinawaty et al., 2023; Tahir et al., 2025).

Recent studies indicate that one of the critical weaknesses of these programs lies in their design and implementation, which frequently overlook meaningful community participation (Mishra, 2022; Handoko et al., 2023). A participatory approach has proven more effective in empowering marginalized communities, increasing ownership, and ensuring the sustainability of development programs (Ningtias, 2022; Kusumadewi, 2024). However, in many cases, empowerment programs focus merely on implementation outputs

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rather than long-term impacts, which results in stagnant or even worsening poverty levels.

One such program is the National Program for Community Empowerment in Marine and Fisheries (PNPM-MKP), which includes components such as the Development of Rural Mina Enterprises (PUMP), the Empowerment of People's Salt Enterprises (PUGAR), and the Development of Resilient Coastal Villages (PDPT). The PUMP-DJPB component aims to support the business development of fish processors and marketers organized under the Marine and Fisheries Business Group (KUKP). While this policy aims to improve coastal community welfare, its implementation often faces issues such as limited resources, a mismatch between program design and local needs, and low levels of local participation (Fitriyani, 2022; Rahayu et al., 2024; Modjo et al., 2024).

Essentially, public policy implementation is a means to achieve the objectives of a given policy (Ras, 2013; Hayat, 2020). However, research shows that for such objectives to be realized effectively, especially in poverty alleviation programs, local context, inclusive participation, and community ownership are vital (Biringkanae & Tammu, 2022; Asnawan et al., 2022; Wuryan et al., 2025). Policies that are responsive to community needs tend to be more sustainable and impactful.

According to Natalia et al. (2012), many empowerment efforts are designed and executed from the top-down, lacking alignment with the actual conditions of target communities. The sustainability of these programs is also often neglected, which leads to limited long-term impact. This aligns with the findings of Sasmita et al. (2022), Saleh et al. (2023), and Saleh et al. (2024), who note that without ongoing community involvement, even the best-designed empowerment programs may fail during crises or under shifting economic conditions.

This study, conducted in Cilacap, aims to analyze the implementation of the PNPM-MKP program, focusing particularly on the PUMP-DJPB component, and to assess community responses to the program. The research also seeks to identify factors that support or hinder the program's success, with the goal of providing input for the evaluation and improvement of similar policy designs and programs in the future. A key aspect that will be explored is the level of community involvement in planning, implementation, and monitoring, which is consistently highlighted in the literature as a determinant of program success (Samtleben & Müller, 2022; Rohmatilah, 2023; Handoko et al., 2023).

In addition, recent research underscores the necessity of innovation and responsiveness in program design. Sebunya et al. (2024) and Syafmaini et al. (2025)

argue that adopting participatory methods empowers communities to take ownership of development outcomes, while also fostering accountability. These insights suggest that moving from top-down to bottom-up approaches could greatly enhance both the effectiveness and sustainability of poverty reduction efforts in Indonesia.

Therefore, to achieve more significant poverty reduction, the government must strengthen policy implementation by integrating local wisdom, encouraging active community involvement, and ensuring continuous monitoring and evaluation. This will increase the likelihood of program success and ensure that the benefits are felt by coastal communities in the long term. The objective of this study is to analyze the implementation of PNPM-MKP, specifically the PUMP-DJPB component in Cilacap, assess community responses, and identify both supporting and inhibiting factors for its success. The findings are expected to contribute to better policy formulation by the relevant ministry.

Method

Research Location and Time

This research was conducted in Cilacap in August 2019. The study focused on four sub-districts: Maos, Kroya, South Cilacap, and Central Cilacap. These locations were selected because they received PUMP-DJPB assistance between 2012 and 2014.

Research Methodology

This study employs qualitative and quantitative descriptive approaches to understand and analyze the implementation of the PUMP-DJPB program, particularly in the context of stakeholder performance and recipient responses. The following is a detailed explanation of the two types of data used in this research: qualitative and quantitative.

Qualitative Data

Qualitative data focuses on an in-depth understanding of phenomena that cannot be explained using numerical or statistical methods. According to Sugiyono (2018), qualitative research is a method used to investigate objects in their natural conditions, with the researcher serving as the primary instrument. The main objective is to explore meaning and understand events in depth rather than to produce generalizations.

In this research, qualitative data were collected through in-depth interviews with several groups of key informants. The respondents included beneficiaries of the PUMP-DJPB program. In addition, interviews were conducted with policymakers at the provincial and

district levels, as well as facilitators involved in the implementation of the PNPM Mandiri-KP program.

This data collection technique enabled the researchers to obtain deeper insights into the perceptions, experiences, and views of informants related to program implementation, encountered obstacles, and the perceived impact on beneficiaries. The results of the interviews were then analyzed descriptively to identify key themes emerging in the context of community empowerment through the program (Morrissey, 2021; Billing et al., 2022; Rozikin et al., 2024).

Quantitative Data

On the other hand, quantitative data were used to measure phenomena in a more objective and structured manner. These data were obtained from questionnaires distributed to respondents to gather information regarding stakeholder performance, beneficiary responses, and factors that either supported or hindered the success of the PUMP-DJPB program. According to Nazir (2003), quantitative data can be used to analyze frequencies, intensities, or relationships between variables in numerical form, allowing for further statistical analysis.

In this study, the questionnaire employed a Likert scale, which allowed the researchers to assign scores to each respondent's answer. The Likert scale used consisted of three levels: Score 1 for low-level indicators; Score 2 for moderate-level indicators; Score 3 for high-level indicators.

This scale was applied to classify respondents' answers regarding stakeholder performance, beneficiary responses, and factors influencing the program's success. To calculate the results, the researchers summed the scores for each response and then computed the average score for each question to obtain a general overview of the respondents' perceptions. The average score was calculated using the following formula:

$$Score = \frac{[(F1 \times BN1) + (F2 \times BN2) + (F3 \times BN3)]}{N} \quad (1)$$

Where: F1, F2, and F3 represent the frequency of responses with scores of 1, 2, and 3, respectively; BN1, BN2, and BN3 are the weighted values for scores 1, 2, and 3, respectively; N is the total number of respondents.

The results of the average score calculation are then classified into three categories: Good: if the average indicator score is between 2 and <3, or 60%-100%; Moderate: if the average indicator score is between 1 and 2, or 20%-<60%; Low: if the average indicator score is less than 1, or <20%

Data Analysis Technique

Data obtained from interviews and questionnaires were then analyzed using descriptive qualitative analysis techniques developed by Miles et al. (2014) which involve four key components: 1) Data Collection; 2) Data Display; 3) Data Reduction; 4) Conclusion Drawing.

Using this approach, researchers could identify patterns in the data related to program implementation and the factors influencing its success. In addition, the quantitative analysis provided a more objective overview of the community's perceptions toward the program.

By combining qualitative and quantitative data, this study aimed to provide a more comprehensive understanding of the implementation of the PUMP-DJPB program and its impact on coastal communities.

Type of Research

This study employed a qualitative descriptive research method. According to Sugiyono (2010), qualitative research is a method used to investigate natural conditions of objects, where the researcher acts as the key instrument, and the research results emphasize meaning rather than generalization.

Primary data collection was carried out through interviews with respondents (PUMP-DJPB beneficiaries) and in-depth interviews using a structured interview guide with several key informants, including policymakers in the marine and fisheries sector at the provincial and district levels and facilitators involved in implementing the PNPM Mandiri-KP program. The primary data collected included stakeholder performance and the responses of PUMP-DJPB beneficiaries.

Results and Discussion

Implementation of the PUMP-DJPB Program

The implementation of the PUMP-DJPB program is assessed based on stakeholder performance in the disbursement of aid, which includes input, process, and output performance.

Input performance refers to the stages required to propose assistance within the PNPM Mandiri KP framework. These stages include identifying, selecting, verifying, and determining prospective KUB (Joint Business Group) recipients and preparing and verifying required documents.

Overall, the evaluation of input performance in implementing the PUMP-DJPB program aligns with the technical guidelines. However, in practice, several issues were inconsistent with the intended procedures. Based on data analysis, the first stage input performance is

classified as moderate (66.5%) due to several unsatisfactory factors:

a) The selection process of POKDAKAN candidates did not fully comply with the criteria outlined in the technical guidelines; b) The absence of dedicated facilitators hampered the verification process; c) Members of the POKDAKAN (Aquaculture Group) receiving the Direct Community Assistance (BLM) were workers employed by the group leader.

Process performance refers to the stages involved in the actual aid disbursement under the PNPM Mandiri Marine and Fisheries program. These stages include socialization, training and facilitation, disbursement procedures, withdrawal and utilization of PUMP-DJPB BLM funds, guidance and supervision, and evaluation and reporting in accordance with established procedures.

Based on data analysis and verification at the research site, the implementation of the process performance across four stages showed the following results: evaluation and reporting were categorized as low (40%), moderate (40%), and good (20%). The obligation to submit progress reports on the implementation of PUMP-DJPB aid was fulfilled only at the end of the year to meet DJPB reporting requirements. However, regular reporting on business progress,

utilization of facilities and infrastructure procured with BLM funds, and business-related problems (monthly or semiannually) was not conducted.

Moreover, evaluations at the beginning and end of the aid disbursement were also not conducted. This indicates that assistance was merely distributed to POKDAKAN groups without considering the sustainability of their businesses after receiving the aid.

Output performance measures results based on the products (goods and services) generated from the program or activity in relation to the inputs used.

Figure 1 shows that the implementation of output performance is low (45.45%). This is due to several contributing factors, such as misalignment between the aid disbursement and the production season, the absence of capacity building and institutional strengthening for the groups/beneficiaries, and widespread misuse of the aid for non-business activities such as household consumption needs or reselling the provided equipment.

Therefore, the DJPB must strengthen supervision and enforce stricter measures against the misuse of aid intended to enhance the operations of processors/marketers and to support their path toward self-sufficiency.

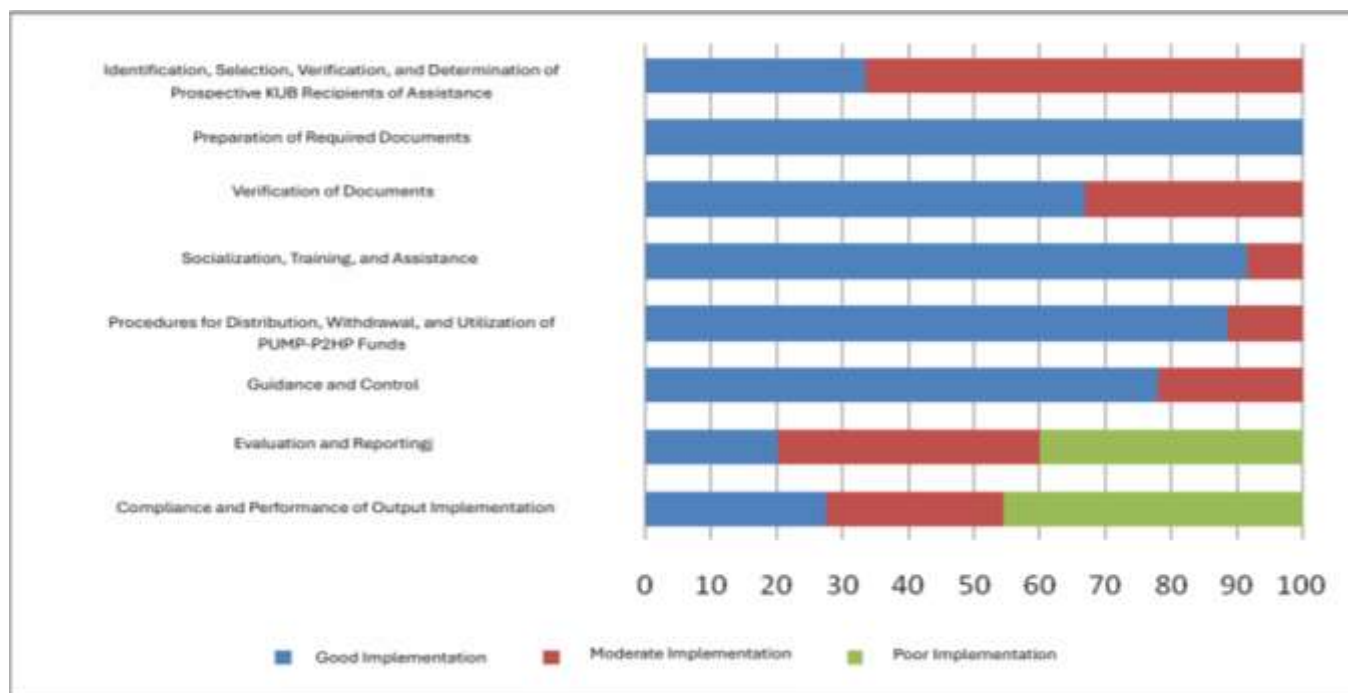


Figure 1. Stakeholder performance in the implementation of PUMP-DJPB in Cilacap, 2012-2014

Research Findings on the Implementation Performance of PNPM-MKP in Cilacap

The research findings on the implementation performance of the PNPM-MKP (National Program for Community Empowerment in Marine and Fisheries) in

Cilacap are consistent with the study conducted by Djalal and Lasabuda (2011) regarding the implementation of PNPM-MKP in Cilacap City for the 2012 Fiscal Year in Kroya District. In general, the program has achieved good results. However, in terms

of the beneficiary community groups, there remains a need to improve the quality of their human resources. The government should encourage greater involvement of financial institutions and marketing agencies to support coastal community businesses. Moreover, supervision and facilitation efforts must be intensified for program beneficiaries.

Asih et al. (2008) revealed that the provision of capital assistance or credit led to increased allocation of household working hours toward fisheries activities. This situation resulted in increased production, which positively impacted income levels and the ability to accumulate capital for future business development, as indicated by increased savings. Similarly, Zamroni and Yamao (2011) highlighted that working capital is essential for coastal communities to sustain their fisheries enterprises. This is primarily because they are often unable to manage household income effectively for both economic needs (business capacity development) and social needs.

Beneficiary Responses to the Implementation of PUMP-DJPB

Community responses to the implementation of PUMP-DJPB (Strengthening Business Groups Program – Directorate General of Strengthening the Competitiveness of Marine and Fishery Products) in Cilacap, from the initial stages through to the disbursement of assistance, varied and fell into three categories: high (agree), moderate (somewhat agree), and low (disagree). Based on Figure 2, most responses to the PUMP-DJPB assistance fell into the mild category. This was due to the limited involvement of all beneficiaries in the process, as only group leaders (chairperson/secretary) were involved, leaving regular group members less informed about the program stages. Furthermore, many group members were not business owners but merely workers, further limiting their understanding of the program's disbursement process.

Some stages of PUMP-DJPB implementation that beneficiaries did not understand included the technical guidelines of PNPM, socialization and coordination of activities, identification, selection, and verification of prospective recipient groups, preparation of budget plans and administrative documents, verification and validation of administrative documents, monitoring and evaluation, and periodic reporting.

As for those who responded positively (agree), they acknowledged that assistance was distributed smoothly to target groups and was used to support their fisheries businesses. All respondents confirmed agreement with and adherence to the proposed activities listed in the budget plan (RUB), although some of the provided equipment did not match actual needs. In Cilacap, where most of the groups process dried salted fish (locally known as *ikan kayu* or *kemamah*), freezers and

boiling drums were particularly beneficial. Given the perishable nature of fish, there is a need for storage facilities to preserve fish before boiling and after drying. Some types of aid, such as meatball carts (*gerobak bakso*), were underutilized because of the low demand for fish meatballs, rendering the carts ineffective.

Low responses (disagree) were mainly associated with selecting beneficiary groups, which was deemed insufficiently selective and rigorous. Observations in Lampulo Village, Kuta Alam District, revealed that some aid recipients belonged to well-established business groups with over 10 years of experience but struggled with market access and raw material continuity. Such groups did not necessarily need processing technology or equipment but needed assistance, coaching, and market information from the Cilacap Marine and Fisheries Office and fisheries extension officers.

In response to the implementation of PUMP-DJPB, an evaluation of the program's sustainability was also conducted. Aspects evaluated included changes in working hours, income improvement, job transitions, perceived benefits, improvements in fishery facilities, and potential conflict risks. The results of this assessment may serve as input to determine whether the PUMP-DJPB program should be continued. In general, the assistance provided to fishery processing groups (*poklhasar*) under the PUMP-DJPB scheme had a positive impact, such as improving or adding processing equipment, which enabled continuous production increases and ultimately led to higher incomes. Even non-beneficiary community members experienced benefits from the PUMP program, including creating new job opportunities and absorbing additional labor due to increased production.

The findings on the performance of PNPM-MKP implementation in Cilacap are in line with the research by Djalal et al. (2011) regarding the implementation of PNPM-MKP in the 2012 fiscal year in Kroya District, Cilacap City. In general, the program has produced good results. However, improvements are still needed in the quality of human resources among the community groups receiving aid. The government must encourage the involvement of financial institutions and marketing agencies to support coastal community enterprises and provide more intensive supervision and assistance to the aid recipient groups.

Asih et al. (2008), Wicaksono et al. (2021), and Tahir et al. (2025) stated that capital assistance or credit provision led to an increased allocation of household labor time in fisheries activities. This condition resulted in higher production, which led to increased income and greater ability to accumulate capital for future business development, as reflected in increased savings.

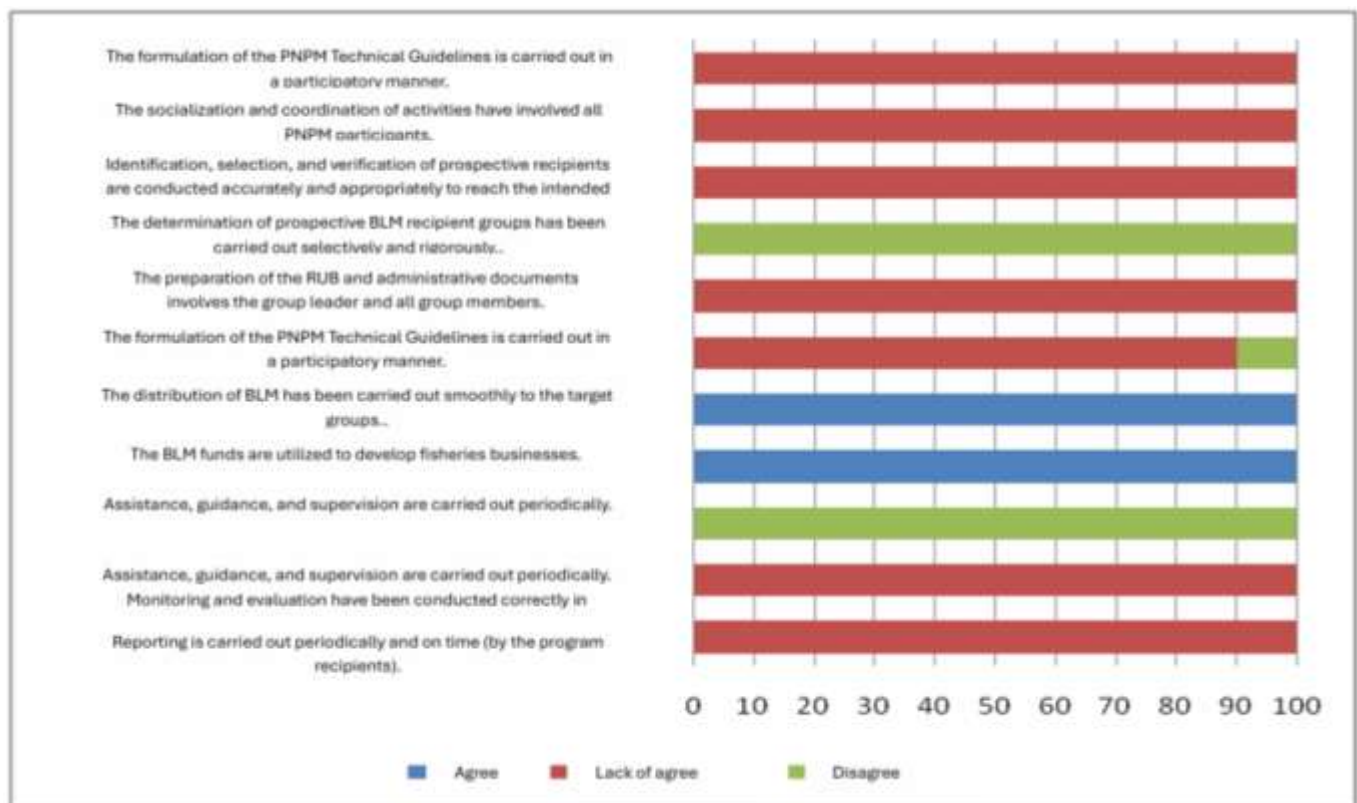


Figure 2. Stakeholder performance in the implementation of PUMP-DJPB in Cilacap (2012-2014)

Zamroni et al. (2011) mentioned that business capital is crucial for coastal communities to maintain the continuity of their fisheries enterprises. This is because they are often unable to effectively manage household income between economic (business capacity building) and social needs.

Recipient Responses to the Implementation of PUMP-DJPB

Community responses to the implementation of PUMP-DJPB in Cilacap—from the initial phase to the disbursement of aid—are categorized as positive (agree), moderate (somewhat agree), and negative (disagree).

According to Figure 2, responses to the PUMP-DJPB aid were predominantly in the moderate category (somewhat agree). This was mainly due to the limited involvement of aid recipients in the process, as only group leaders (chairperson/secretary) were directly involved. As a result, many group members lacked an understanding of the stages in the PUMP-DJPB disbursement process. Furthermore, group members were often not independent business owners but merely laborers.

Aid recipients did not understand the stages that included the technical guidelines of PNPM, activity socialization and coordination, identification, selection, and verification of candidate groups, preparation of the RUB (Budget and Activity Plan) and administrative

documents, verification and validation of documents, and regular monitoring, evaluation, and reporting.

In the positive response category (agree), recipients acknowledged that the aid disbursement to the targeted groups was smooth and that the assistance was utilized to support fisheries businesses. All respondents agreed and stated that the assistance was consistent with the proposals listed in the RUB, although some equipment provided did not match their actual needs.

In Cilacap, where many are engaged in the processing of dried or smoked fish (such as kemamah), freezers and boiling drums proved very useful for business operations. Given that fish spoil easily, proper storage before boiling or after drying is essential. However, some equipment, such as fishball carts, was underutilized due to low consumer interest in fishball products.

Responses in the negative category (disagree) were primarily related to the selection process of prospective BLM recipient groups, which was not conducted selectively or rigorously.

Observations in Lampulo Village, Kuta Alam District, revealed that some aid recipients were classified as well-established business groups with over 10 years of experience, but still faced limited market access and raw material continuity. Groups in this category did not necessarily need additional processing equipment but required market information assistance, guidance, and

oversight from the Cilacap Marine and Fisheries Office and fisheries extension workers.

As part of assessing public response to the PUMP-DJPB implementation, an evaluation of program sustainability was also conducted. The aspects evaluated included changes in working hours, income increases, job transitions, perceived benefits, improvements in fisheries infrastructure, and potential conflict risks.

The results of this evaluation serve as inputs to determine whether or not the PUMP-DJPB program should be continued. The aid provided to POKLAHSAR

(Fish Processing and Marketing Groups) generally yielded positive impacts, such as equipment upgrades or additions that led to increased and sustained production, eventually resulting in higher income.

Even non-recipients of BLM aid benefited from the PUMP-DJPB program, which created new jobs due to increased production and the absorption of additional labor.

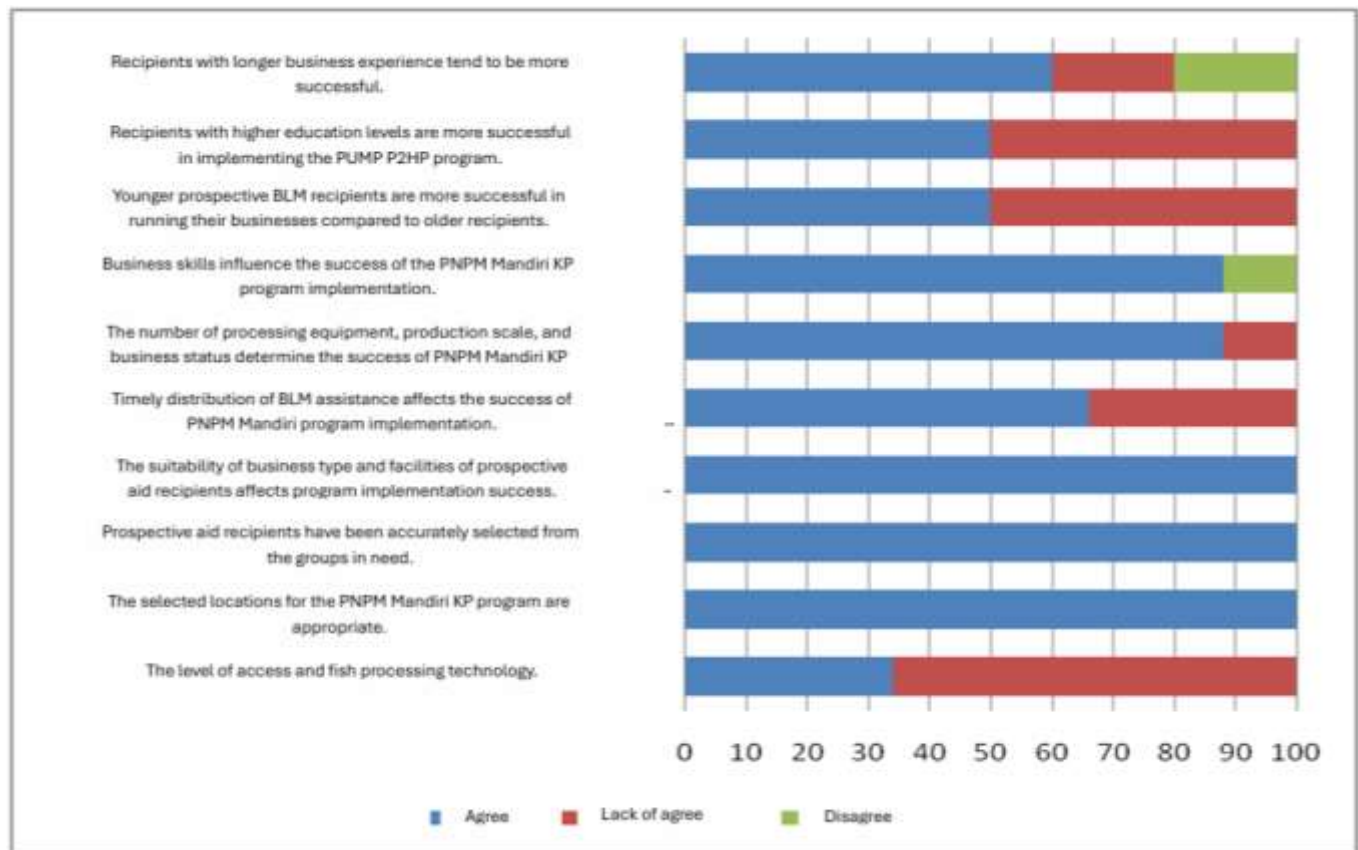


Figure 3. Stakeholder Performance in the Implementation of PUMP-DJPB in Cilacap (2012-2014)

The findings regarding the performance of PNPM-MKP implementation in Cilacap align with the study by Djalal and Lasabuda (2011) on the implementation of PNPM-MKP in the 2012 fiscal year in Kroya District, Cilacap City. Overall, the results have been positive. However, the quality of human resources among the program aid recipients still needs improvement. The government should encourage greater involvement of financial and marketing institutions to support coastal community enterprises and provide more intensive supervision and assistance to these aid-receiving groups.

Asih et al. (2008) revealed that providing capital assistance or credit led to increased household labor

allocation toward fisheries activities. This condition resulted in increased production, which in turn increased income and the ability to accumulate capital for future business development, as indicated by an increase in savings. Zamroni & Yamao (2011) emphasized that business capital is essential for coastal communities to sustain their fisheries businesses. This is because they often cannot manage their household income to meet both economic needs (business capacity enhancement) and social needs.

Aid Recipients' Responses to the Implementation of PUMP-DJPB

Community responses to the implementation of PUMP-DJPB in Cilacap—from the initial stages to the disbursement of aid—are categorized as high (agree), moderate (somewhat agree), and low (disagree).

Based on Figure 3, the response to the PUMP-DJPB assistance was mainly in the moderate category (somewhat agree). This was due to the lack of full involvement of all PUMP-DJPB aid recipients; only group leaders (chairpersons or secretaries) were engaged, leaving other group members with a limited understanding of the aid disbursement process. Moreover, many group members were not actual fish processors with their own businesses but were simply workers.

The aid recipients lacked understanding of several implementation stages of PUMP-DJPB, including the PNPM technical guidelines, socialization and coordination of activities, identification, selection, and verification of candidate recipient groups, preparation of the RUB (Budget and Activity Plan) and administrative documents, verification and validation of these documents, monitoring and evaluation, and periodic reporting.

In the high response category (agree), the aid distribution to the target groups was smooth and was used to support fisheries businesses. All respondents agreed and stated that the aid was used according to the proposals submitted in the RUB, even though some of the tools provided did not match their actual needs.

In Cilacap, where most recipients are producers of dried fish (such as ikan kayu or kemamah), freezers and boiling drums were highly beneficial. Due to the perishable nature of fish, adequate storage is essential both before boiling and after drying. Some tools, such as

fishball carts, were underutilized because of low consumer demand for fishballs, rendering the carts unused.

In the low response category (disagree), dissatisfaction was mainly due to the lack of a selective and strict process in determining prospective BLM recipient groups. Observations in Lampulo Village, Kuta Alam District, found that several recipients belonged to advanced groups with more than 10 years of business experience, but still faced limitations in market access and inconsistent raw material supply.

These groups did not actually require processing equipment or technology. Instead, they needed mentoring, capacity building, and guidance on market information from the Cilacap Marine and Fisheries Office and fisheries extension officers.

In response to the implementation of PUMP-DJPB, an evaluation was also conducted regarding the program's future sustainability. The aspects evaluated included: changes in working hours, income improvement, job transitions, perceived benefits, improvements in fisheries facilities, and the potential for conflict.

The results of this evaluation can serve as input to determine whether the PUMP-DJPB program should continue. In general, the PUMP-DJPB assistance provided to Poklahsar (Fish Processing and Marketing Groups) receiving BLM aid has had a positive impact, including improving or adding processing equipment, which helped increase production continuously, leading to higher income.

Even non-BLM recipients have benefited from the PUMP program, primarily by creating new jobs due to increased production, which resulted in the absorption of additional labor.

Table 1. Problems Faced by Fish Processing Entrepreneurs in Cilacap, 2016

Problems Encountered in the Implementation of PUMP-DJPB	
During Implementation	
Low market opportunities	Continuity of raw materials
High investment costs	Low market opportunities
Continuity of raw materials	Difficulty in finding permanent workers
Lack of knowledge about the overall project scheme	High operational costs
Lack of knowledge about the project	
Lack of assistance	

Source: Processed primary data (2019)

Conclusion

The administrative performance of the PUMP-DJPB program in terms of inputs, processes, and outputs has been in accordance with the technical guidelines established by the central government. However, its implementation still faces various problems and

challenges. These include suboptimal initial identification conducted by facilitators and the Cilacap Marine and Fisheries Office, and non-continuous assistance for poklahsar (Fish Processing and Marketing Groups) that ceased once the aid was distributed. Furthermore, the selection of beneficiary Pokdakan (Fish Farmers Groups) often did not meet the established

criteria, particularly regarding business scale. In some cases, group members receiving aid were employees of the group leader, and some groups did not engage in fish processing activities. Recipient responses to PUMP-DJPB implementation fall into three categories: (1) High (positive) – when BLM (Direct Community Assistance) distribution ran smoothly and was utilized for business development; (2) Moderate, referring to the processes from identifying recipients to business progress reporting; (3) Low, when group selection was neither selective nor rigorous, and no regular mentoring, coaching, or monitoring was conducted. Supporting factors for PUMP-DJPB implementation include accuracy in identifying aid recipients, selecting appropriate locations, determining the number of processing tools, assessing production scale and business status, and assessing the recipients' entrepreneurial skills and experience. On the other hand, the main obstructing factor was the lack of access to processing technologies, rendering the PUMP-DJPB program ineffective in some instances.

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Author Contributions

P.S.T.P: Developing ideas, analyzing, writing, reviewing, responding to reviewers' comments; C.P.A., A.P., M.Y., N.H., M.I., T.H.R: analyzing data, overseeing data collection, reviewing scripts, and writing.

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Conflicts of Interest

The authors declare no conflict of interest.

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