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Evaluating the Fishing Boat Assistance Program through the CIPP-SI Framework: Evidence from Gorontalo Regency, Indonesia

Marlian Mohamad, Ansar Ansar, Hasim Hasim, Zuchri Abdusamad

Doctoral Program in Public Administration, Universitas Negeri Gorontalo, 96128, Gorontalo, Indonesia

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CORRESPONDENCE

Name: Marlian Mohamad
Email: marlianmohammad@gmail.com

A B S T R A C T

This study aims to evaluate the Fishing Boat Assistance Program for fishers in Gorontalo Regency by integrating sustainability into the Context, Input, Process, Product (CIPP) evaluation framework. Previous evaluations of fisheries assistance programs have primarily focused on program outputs and short-term economic impacts, with limited attention to the social, institutional, economic, and environmental sustainability dimensions that determine long-term program effectiveness. This study employed a qualitative case study approach using the CIPP evaluation model. Data were collected through in-depth interviews, field observations, and document analysis involving officials from the Fisheries Office, fisher group leaders, and program beneficiaries. The findings indicate that the program was generally aligned with fishers' needs, improved access to productive assets, and enhanced fishing productivity, business capacity, and economic independence. However, limited institutional capacity, inadequate post-distribution monitoring, and insufficient mentoring constrained the long-term sustainability of program outcomes. Based on these findings, this study proposes the Context, Input, Process, Product–Sustainability Integration (CIPP-SI) framework, which extends the conventional CIPP model by systematically incorporating sustainability considerations into each evaluation dimension. The proposed framework contributes to the advancement of public policy evaluation by providing a more comprehensive approach to assessing fisheries assistance programs and offers practical guidance for designing more sustainable and effective fisher empowerment policies.

INTRODUCTION

The capture fisheries sector is one of the strategic sectors in the economic development of coastal areas in Indonesia. In addition to providing a food supply, this sector also provides the primary livelihood for millions of people living in coastal communities. Capture fisheries contribute not only to national food security but also to employment creation, income generation, and poverty reduction. Therefore, the development of the fisheries sector plays a crucial role in improving the welfare of coastal communities while ensuring the sustainability of marine and fishery resources.

Gorontalo Regency is one of the regions with considerable fisheries resource potential. Geographically, the region lies within Tomini Bay, which is part of the Fisheries Management Area of the Republic of Indonesia (WPPNRI) 715. This area is recognized as one of the most productive fishing grounds in eastern Indonesia. Its fisheries potential is supported by relatively complete coastal ecosystems, including coral reefs, seagrass beds, estuaries, and coastal zones that serve as important habitats for various pelagic and demersal fish species. The abundance of fisheries resources should theoretically provide a strong foundation for improving the welfare of fishing communities and stimulating economic growth in coastal areas.

However, empirical evidence indicates that the abundance of fisheries resources has not necessarily translated into improved welfare for fishers. Most fishers continue to face various constraints, including limited ownership of productive assets, inadequate fishing technology, weak market access, and high dependency on capital owners and fish traders. These conditions place fishers in a vulnerable economic position and limit their ability to sustainably improve their living standards. This phenomenon is widely recognized in fisheries development literature as the *resource-welfare paradox*, a condition in which regions rich in natural resources are inhabited by communities that continue to experience economic hardship and relatively low levels of welfare.

The welfare challenges faced by fishers in Gorontalo Regency are also reflected in fluctuations in the Fishermen's Terms of Trade (NTN). Although the NTN showed improvement in certain years, its development has not demonstrated a stable upward trend over time. This condition indicates that increases in fishers' income have not consistently kept pace with rising production costs and household expenditures. Consequently, the welfare problem among fishers is not solely related to production levels but also involves business capacity, access to productive assets, and the sustainability of coastal livelihoods. In response to these challenges, the Government of Gorontalo Regency has identified the capture fisheries sector as one of its regional development priorities. Through the Department of Fisheries, various fisher empowerment programs have been implemented, including the Fishing Boat Assistance Program. This program aims to improve fishers' production capacity by providing productive assets, namely fishing vessels. From a public policy perspective, fishing boat assistance is an *asset-based policy* that seeks to enhance community welfare by strengthening ownership of productive assets. Through the provision of more adequate fishing vessels, fishers are expected to expand their fishing grounds, increase productivity, and improve household economic conditions.

Several previous studies have examined the effectiveness of fisheries assistance programs in improving fishers' welfare. Wardha and Nasir (2022) found that fishing gear assistance

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programs contributed to increased catch volumes and household income among fishers. Similarly, De la Puente et al. (2022) demonstrated that ownership of productive assets significantly enhances fishers' bargaining power within fisheries value chains. Meanwhile, Fabinyi et al. (2017) emphasized that the success of assistance programs is determined not only by the availability of physical assets but also by institutional capacity, human resource quality, and the ability of fisher organizations to manage the assistance they receive. These studies indicate that fisheries assistance programs have substantial potential to improve coastal livelihoods; however, their effectiveness is influenced by a range of supporting factors that extend beyond the provision of physical assets alone.

Nevertheless, numerous studies have also shown that providing productive assets does not always generate outcomes that align with policy objectives. In many cases, physical assistance may increase production capacity in the short term but does not necessarily guarantee long-term sustainability unless accompanied by institutional strengthening, business management training, improved market access, and effective monitoring systems. Furthermore, most previous studies have primarily focused on program outputs, such as the number of assets distributed or increases in fish catches. Comprehensive evaluations that examine fishing boat assistance programs from the perspectives of contextual needs, input quality, implementation processes, program outcomes, and sustainability remain relatively limited. Consequently, there remains a significant knowledge gap regarding how fishing boat assistance programs contribute to broader, more sustainable socio-economic transformation in fishing communities.

To address this gap, this study employs the Context, Input, Process, Product (CIPP) evaluation model developed by Stufflebeam as its primary analytical framework. The CIPP model was selected because it provides a comprehensive approach for evaluating programs, ranging from the relevance of program objectives to community needs, the adequacy of resources employed, implementation processes, and achieved outcomes. Unlike evaluation approaches that focus solely on outputs or outcomes, the CIPP model offers a more holistic understanding of program effectiveness. In this study, the CIPP framework is further integrated with a local sustainability perspective, enabling the evaluation to consider not only economic outcomes but also social, institutional, and environmental dimensions of sustainability. This integration represents the study's conceptual contribution to developing a more contextual and sustainability-oriented approach to evaluating fisheries assistance programs.

Based on the foregoing discussion, this study aims to evaluate the Local Sustainability-Based Fishing Boat Assistance Program for fishers in Gorontalo Regency using the CIPP approach. Specifically, the study examines the program's alignment with fishers' needs, assesses the quality of program inputs, evaluates the implementation process, and identifies the program's impacts on fishers' welfare. In addition, the study seeks to develop a more comprehensive evaluation model by integrating local sustainability dimensions into the evaluation framework. The findings are expected to contribute theoretically to the development of public policy evaluation studies and to provide recommendations for improving the effectiveness of fisher empowerment programs in the future.

METHOD

This study employed a qualitative case study approach to evaluate the Fishing Boat Assistance Program in Gorontalo Regency by integrating sustainability into the Context, Input, Process, Product (CIPP) evaluation framework. A qualitative case study was considered appropriate because it enables an in-depth understanding of policy implementation within its real-life context while capturing participants' experiences, institutional dynamics, and contextual factors influencing program effectiveness (Yin, 2018; Creswell & Poth, 2018). The CIPP model developed by Stufflebeam and Coryn (2014) was adopted as the primary evaluation framework because it systematically assesses program relevance (context), resource adequacy (input), implementation quality (process), and program outcomes (product). This study was conducted in Batudaa Pantai, Bilato, and Biluhu Districts, Gorontalo Regency, which are among the principal beneficiaries of the Fishing Boat Assistance Program.

Data collection was undertaken between [Month–Month Year] using in-depth interviews, field observations, and document analysis. A total of [XX] informants participated in the study, comprising [X] officials from the Gorontalo Regency Fisheries Office, [X] leaders of fisher groups, and [X] fishers who received fishing boat assistance. Informants were selected through purposive sampling based on their direct involvement in program planning, implementation, or utilization, as well as their ability to provide rich information relevant to the research objectives (Patton, 2015). Semi-structured interviews lasting approximately [45–90] minutes were conducted using an interview guide organized according to the four dimensions of the CIPP framework. Interviews explored participants' perceptions of program relevance, resource availability, implementation processes, institutional support, monitoring mechanisms, and program outcomes. Field observations focused on the utilization of fishing vessels, group management practices, and fisheries activities, while policy documents, implementation reports, fisheries statistics, and local government regulations were analyzed to triangulate the interview findings. Source triangulation and methodological triangulation were applied to enhance the credibility and trustworthiness of the findings (Lincoln & Guba, 1985).

Data analysis followed the interactive model proposed by Miles, Huberman, and Saldaña (2014), consisting of data condensation, data display, and conclusion drawing/verification. All interview transcripts and field notes were first subjected to open coding to identify meaningful units of information. Similar codes were subsequently grouped through axial coding into broader categories corresponding to the four CIPP dimensions. Finally, selective coding was employed to develop overarching themes explaining program effectiveness and sustainability. The coding process combined deductive analysis, guided by the CIPP evaluation framework, with inductive analysis, allowing new themes to emerge from participants' experiences (Saldaña, 2021).

The sustainability component was operationalized as a cross-cutting analytical dimension embedded within each stage of the CIPP framework rather than as an independent evaluation category. In the context dimension, sustainability was assessed by examining the extent to which program objectives reflected the long-term socio-economic and environmental needs of fishing communities. Within the input dimension, sustainability focused on the adequacy of institutional support, organizational capacity, and human resources required to ensure the effective utilization of fishing boat assistance. For the process dimension,

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sustainability was evaluated through the continuity of monitoring, mentoring, stakeholder participation, and institutional coordination during program implementation. Finally, in the product dimension, sustainability was examined by assessing not only improvements in fishing productivity and income but also the strengthening of fishers' organizational capacity, economic independence, and the long-term viability of community livelihoods. This analytical integration forms the basis of the proposed Context, Input, Process, Product–Sustainability Integration (CIPP-SI) framework, which extends the conventional CIPP model by systematically incorporating social, economic, institutional, and environmental sustainability considerations throughout the evaluation process.

RESULTS AND DISCUSSION

Evaluation of the Fishing Boat Assistance Program

The evaluation of the Fishing Boat Assistance Program demonstrates that its effectiveness extends beyond the distribution of productive assets and depends on the interaction between program relevance, resource availability, implementation quality, and livelihood outcomes. Using the Context, Input, Process, and Product (CIPP) evaluation framework, this study found that the program generally responded to the needs of traditional fishers and contributed positively to strengthening their productive capacity. Nevertheless, differences in institutional readiness, organizational capacity, and post-distribution support significantly influenced the extent to which the program generated sustainable benefits for fishing communities. These findings indicate that evaluating fisheries empowerment programs requires a comprehensive assessment of not only program implementation but also the long-term sustainability of policy outcomes.

The contextual evaluation indicates that the Fishing Boat Assistance Program was introduced to address one of the principal structural constraints experienced by traditional fishers in Gorontalo Regency, namely limited access to productive assets, fishing technology, and operational capital. Most beneficiaries previously relied on small-scale fishing vessels with limited operational capacity, restricting their ability to access more productive fishing grounds. Consequently, despite the region's abundant fisheries resources, fishing productivity and household income remained relatively low. The findings demonstrate that the provision of fishing boats responded directly to these challenges by expanding fishers' access to productive capital and creating greater opportunities to improve their livelihoods. These findings are consistent with the Sustainable Livelihoods Framework, which emphasizes that poverty among fishing communities is frequently associated with unequal access to livelihood assets rather than the scarcity of natural resources (Allison & Ellis, 2001; Béné et al., 2010). From this perspective, the relevance of the program should be understood not merely in terms of meeting immediate community needs but also in relation to its capacity to support long-term social, economic, institutional, and environmental sustainability within coastal communities.

The evaluation further reveals that the program substantially improved fishers' access to productive resources that had previously been beyond their financial capacity. The availability of fishing vessels enabled beneficiaries to increase operational capacity, expand fishing grounds, and reduce dependency on boat owners. However, the findings also indicate that the effectiveness of these productive assets varied across beneficiary groups because of differences in institutional and organizational capacity. Several fisher groups demonstrated limited administrative skills, inadequate collective asset management, and insufficient business planning, thereby reducing the long-term effectiveness of the assistance provided. These findings reinforce previous studies arguing that fisheries empowerment programs cannot rely exclusively on the provision of physical assets but must also strengthen institutional capacity and organizational development (Fabinyi et al., 2017). In the context of sustainable livelihoods, productive assets create lasting benefits only when accompanied by adequate human capital, institutional support, and effective collective management. Therefore, the availability of physical resources alone cannot guarantee sustainable program outcomes.

Regarding program implementation, the findings indicate that the distribution process generally followed the procedures established by the Fisheries Office, including beneficiary identification, verification, selection, and boat distribution. The involvement of local governments, fisheries officers, and fisher groups contributed to improving the transparency and accountability of program implementation. Nevertheless, post-distribution monitoring and mentoring remained limited due to shortages of fisheries extension personnel, budget constraints, and the broad geographical coverage of coastal communities. Consequently, monitoring of vessel utilization, maintenance, and business development was implemented inconsistently across beneficiary groups. These findings support Edwards III's (1980) policy implementation theory, which identifies communication, resources, implementers' commitment, and bureaucratic structure as critical determinants of implementation success. While the initial implementation process was generally effective, limited institutional resources reduced the continuity of supervision and mentoring necessary to sustain program outcomes over time.

Table 1. Summary of Findings Across the CIPP Dimensions

CIPP Dimension	Main Findings	Sustainability Issues
Context	Program aligns with fishers' needs	Need for long-term livelihood orientation
Input	Fishing boats improve productive assets	Weak institutional capacity
Process	Distribution follows procedures	Limited monitoring and mentoring
Product	Productivity and income increase	Sustainability varies across groups

Source. Developed by the authors based on empirical findings and the relevant literature 2025

Table 1 summarizes the principal findings of the evaluation across the four dimensions of the CIPP framework while highlighting the sustainability issues identified in each dimension. Overall, the findings indicate that the Fishing Boat Assistance Program was generally well aligned with the needs of traditional fishers and contributed to improving access to productive assets, fishing productivity, and household income. However, the evaluation also reveals that the program's long-

term effectiveness is constrained by several sustainability-related challenges, including limited institutional capacity among beneficiary groups, insufficient post-distribution monitoring and mentoring, and variations in program outcomes across different fisher groups. These findings suggest that the effectiveness of fisheries assistance programs should not be assessed solely in terms of immediate outputs but also in relation to their capacity to strengthen institutional resilience, sustain livelihood improvements, and ensure the long-term sustainability of community-based fisheries development, thereby providing the empirical basis for the proposed CIPP-SI evaluation framework.

The evaluation of program outcomes demonstrates that the Fishing Boat Assistance Program contributed positively to improving fishers' productivity, income, and economic independence. The assistance enabled beneficiaries to expand fishing grounds, increase fishing frequency, and improve catch volumes, thereby strengthening household livelihoods. Beyond these economic improvements, the program also facilitated broader social transformation by enabling many beneficiaries to become owners or managers of productive assets rather than remaining fishing crew members with limited decision-making authority. These findings can be interpreted through Sen's Capability Approach, which argues that development should be assessed not solely through increases in income or asset ownership but through the expansion of individuals' capabilities to pursue the lives they value (Sen, 1999). In this context, fishing boats function not only as productive assets but also as instruments that expand fishers' opportunities to access economic resources, strengthen business autonomy, and improve their long-term livelihood prospects.

Taken together, these findings demonstrate that the effectiveness of the Fishing Boat Assistance Program cannot be explained solely by the successful distribution of fishing vessels. Rather, program effectiveness emerges from the interaction between contextual relevance, resource adequacy, implementation quality, and livelihood outcomes. While the conventional CIPP model successfully captures these dimensions, the findings further reveal that long-term program success depends on how social, economic, institutional, and environmental sustainability are embedded throughout the evaluation process. This integrated understanding provides the empirical foundation for the development of the Context, Input, Process, Product–Sustainability Integration (CIPP-SI) framework, which is discussed in the following section.

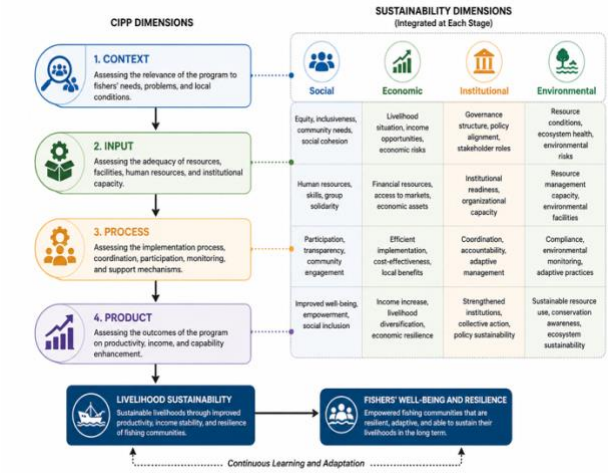
Table 2. Sustainability Integration within the CIPP-SI Framework

Dimension	**Conventional CIPP**	**Sustainability Integration (CIPP-SI)**
Context	Needs assessment	Social, economic, institutional, environmental needs
Input	Resources	Institutional readiness, organizational capacity
Process	Implementation	Monitoring, participation, adaptive governance
Product	Outputs	Livelihood sustainability, capability enhancement

Source. Developed by the authors based on empirical findings and the relevant literature 2025

Table 2. presents the conceptual extension of the conventional Context, Input, Process, Product (CIPP) evaluation model through the proposed Context, Input, Process, Product–Sustainability Integration (CIPP-SI) framework. While the conventional CIPP model primarily focuses on assessing program relevance, resource adequacy, implementation processes, and immediate outputs, the CIPP-SI framework systematically incorporates sustainability considerations into each evaluation dimension. In the context dimension, evaluation extends beyond identifying beneficiaries' needs to examining their long-term social, economic, institutional, and environmental conditions. The input dimension broadens the assessment of resources by emphasizing institutional readiness and organizational capacity as prerequisites for sustainable program implementation. Within the process dimension, sustainability is reflected through continuous monitoring, stakeholder participation, and adaptive governance to ensure effective implementation beyond administrative compliance. Finally, the product dimension moves beyond measuring short-term outputs by evaluating livelihood sustainability and capability enhancement as indicators of long-term program success.

figure 1. Conceptual Relationship among the Four Evaluation Dimensions



Source. *Source. Developed by the authors based on empirical findings and the relevant literature 2025*

Figure 2 illustrates the conceptual relationship among the four evaluation dimensions within the proposed Context, Input, Process, Product–Sustainability Integration (CIPP-SI) framework. The framework demonstrates that program effectiveness is not determined by individual evaluation dimensions in isolation but by the dynamic interaction between contextual relevance, resource adequacy, implementation quality, and program outcomes. Sustainability is integrated as a cross-cutting analytical perspective encompassing social, economic, institutional, and environmental dimensions throughout each stage of the evaluation process. Consequently, the evaluation extends beyond assessing immediate program

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outputs to examining whether the Fishing Boat Assistance Program strengthens institutional capacity, enhances livelihood resilience, promotes adaptive governance, and supports the long-term sustainability of coastal communities. By linking the four CIPP dimensions with sustainability principles, the proposed CIPP-SI framework provides a more comprehensive and policy-oriented approach to evaluating fisheries empowerment programs and offers a conceptual advancement over the conventional CIPP model by explicitly incorporating long-term sustainability into public policy evaluation.

Integrating Sustainability into the CIPP Framework: The Development of the CIPP-SI Model

The findings of this study demonstrate that the conventional Context, Input, Process, Product (CIPP) evaluation model provides a comprehensive framework for assessing the relevance, implementation, and outcomes of the Fishing Boat Assistance Program. However, the empirical evidence also indicates that evaluating program effectiveness solely through these four dimensions is insufficient to explain the long-term sustainability of fisheries empowerment initiatives. Although the program successfully improved fishers' access to productive assets and increased fishing productivity, variations in institutional capacity, monitoring mechanisms, and organizational performance resulted in different levels of program sustainability among beneficiary groups. These findings suggest that short-term program achievements do not necessarily translate into sustainable livelihood improvements unless sustainability considerations are systematically incorporated throughout the evaluation process.

The empirical findings reveal that sustainability is not an independent outcome that emerges after program implementation but rather a cross-cutting dimension influencing every stage of policy implementation. At the contextual level, the relevance of the program should be assessed not only according to the immediate needs of fishers but also according to broader social, economic, institutional, and environmental conditions that determine the long-term viability of coastal livelihoods. Similarly, the adequacy of program inputs extends beyond the provision of fishing vessels to include institutional readiness, organizational capacity, human resources, and stakeholder support required to ensure the effective utilization of productive assets. During implementation, sustainability depends on continuous monitoring, stakeholder participation, adaptive governance, and institutional coordination that enable the program to respond to changing community needs. Finally, program outcomes should not be evaluated exclusively through increases in productivity and income but also through improvements in livelihood resilience, organizational strengthening, capability enhancement, and the sustainability of fisheries resources.

Based on these findings, this study proposes the Context, Input, Process, Product–Sustainability Integration (CIPP-SI) framework as a conceptual extension of the conventional CIPP evaluation model. Unlike the original framework, which primarily focuses on evaluating program performance across four sequential dimensions, the CIPP-SI framework embeds social, economic, institutional, and environmental sustainability as analytical lenses within each evaluation stage. Consequently, sustainability is assessed continuously rather than retrospectively, enabling evaluators to identify factors influencing both immediate program effectiveness and long-term policy outcomes. As illustrated in Figure 2 and summarized in Table 3, the integration of sustainability transforms each CIPP dimension into a more comprehensive evaluation component. The context dimension incorporates long-term community needs and environmental conditions; the input dimension emphasizes institutional readiness and organizational capacity; the process dimension highlights monitoring, participation, and adaptive governance; while the product dimension evaluates livelihood sustainability and capability enhancement in addition to conventional output indicators.

Table 3. Sustainability Indicators Embedded within the CIPP-SI Framework

Evaluation Dimension	Key Evaluation Focus	Sustainability Indicators	Expected Long-term Outcomes
Context	Program relevance	Social inclusion, livelihood needs, environmental conditions, institutional support	Better alignment between policy objectives and community needs
Input	Resource adequacy	Institutional readiness, organizational capacity, human resources, financial support	Stronger implementation capacity
Process	Program implementation	Participation, monitoring, adaptive governance, stakeholder collaboration	Improved accountability and program continuity
Product	Program outcomes	Livelihood sustainability, capability enhancement, institutional resilience, environmental stewardship	Sustainable fisheries empowerment

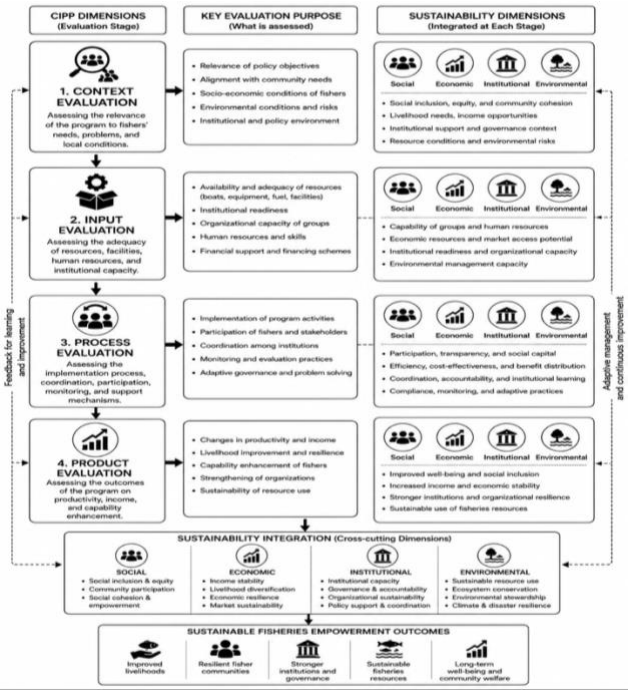
Source. *Source. Developed by the authors based on empirical findings and the relevant literature 2025*

Table 3 operationalizes the proposed CIPP-SI framework by identifying the principal sustainability indicators embedded within each evaluation dimension. Rather than functioning as a separate assessment criterion, sustainability is integrated throughout the Context, Input, Process, and Product dimensions, enabling evaluators to examine both program performance and long-term development outcomes simultaneously. This operationalization demonstrates that effective fisheries

assistance programs require not only relevant policy objectives and adequate resources but also strong institutional capacity, adaptive implementation processes, and sustained livelihood improvements. Consequently, the CIPP-SI framework provides a practical guide for translating sustainability principles into measurable evaluation components applicable to fisheries empowerment programs and other community-based development initiatives.

This conceptual extension contributes to the advancement of public policy evaluation by shifting the focus of program assessment from measuring administrative performance toward evaluating the sustainability of policy interventions. While previous applications of the CIPP model have primarily emphasized program relevance, implementation quality, and immediate outcomes (Stufflebeam & Coryn, 2014), the proposed CIPP-SI framework recognizes that community-based development programs should also be assessed according to their ability to strengthen institutional resilience, enhance adaptive capacity, and sustain socio-economic improvements over time. Such an approach is particularly relevant for fisheries empowerment programs, where the long-term effectiveness of policy interventions depends not only on the distribution of productive assets but also on the interaction between governance quality, community participation, institutional capacity, and environmental sustainability.

The proposed CIPP-SI framework therefore offers both theoretical and practical contributions. Theoretically, it expands the analytical scope of the conventional CIPP model by explicitly integrating sustainability into each evaluation dimension, thereby providing a more holistic framework for evaluating community-based public policies. Practically, it offers policymakers a systematic tool for identifying weaknesses in program design, institutional arrangements, implementation processes, and long-term livelihood outcomes. Consequently, the framework supports evidence-based decision-making aimed at improving the effectiveness, accountability, and sustainability of fisheries empowerment programs while remaining adaptable for application in other community-based development initiatives with similar sustainability objectives.



Source. Developed by the authors based on empirical findings and the relevant literature 2025

Figure 2 presents the operational structure of the proposed Context, Input, Process, Product–Sustainability Integration (CIPP-SI) framework developed from the empirical findings of this study. The framework illustrates that sustainability is not treated as a separate evaluation outcome but as a cross-cutting analytical dimension embedded throughout the Context, Input, Process, and Product evaluation stages. Each evaluation dimension incorporates social, economic, institutional, and environmental sustainability considerations to ensure that program effectiveness is assessed not only in terms of immediate outputs but also through its contribution to long-term livelihood resilience, institutional strengthening, adaptive governance, and sustainable resource management. By systematically integrating these sustainability dimensions into the evaluation process, the CIPP-SI framework extends the conventional CIPP model from a performance-oriented evaluation approach toward a sustainability-oriented policy evaluation framework. Consequently, the proposed framework provides policymakers and program evaluators with a more comprehensive tool for assessing fisheries empowerment initiatives while supporting evidence-based decision-making aimed at achieving sustainable fisheries development and improving the long-term welfare of fishing communities.

CONCLUSION

This study demonstrates that the Fishing Boat Assistance Program in Gorontalo Regency has generally achieved its intended objectives by improving fishers' access to productive assets, strengthening fishing productivity, and enhancing household economic capacity. The CIPP evaluation indicates that the program was well aligned with the needs of fishing communities and was implemented according to established procedures. Nevertheless, the findings reveal that the long-term effectiveness of the program is constrained by limited institutional capacity among beneficiary groups, inadequate post-distribution monitoring, and insufficient mentoring. These findings suggest that the success of fisheries assistance programs should be assessed not only through the distribution of physical assets but also through their ability to strengthen institutional capacity, promote sustainable livelihoods, and improve fishers' capabilities to manage productive resources independently.

Beyond its empirical findings, this study contributes to the literature on **public policy evaluation** by extending the conventional Context, Input, Process, Product (CIPP) evaluation model through the proposed **Context, Input, Process, Product–Sustainability Integration (CIPP-SI)** framework. Unlike the original CIPP model, which primarily evaluates program relevance, resources, implementation, and outcomes, the CIPP-SI framework systematically embeds **social, economic, institutional, and environmental sustainability** as cross-cutting analytical dimensions throughout each evaluation stage. This conceptual extension enables program evaluation to move beyond short-term performance assessment toward examining the long-term sustainability of policy interventions. Accordingly, the proposed framework provides both a theoretical advancement for program evaluation literature and a practical tool for designing, implementing, and evaluating fisheries empowerment programs in a more holistic and sustainability-oriented manner.

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From a policy perspective, the findings underscore that sustainable fisheries assistance requires more than the provision of productive assets. Long-term program effectiveness depends on strengthening fisher organizations, improving institutional governance, ensuring continuous monitoring and mentoring, and integrating sustainability considerations into policy implementation. Therefore, policymakers should adopt evaluation approaches that simultaneously assess program performance, institutional capacity, and livelihood sustainability to maximize the long-term impacts of fisheries empowerment initiatives.

This study is subject to several limitations. First, it is based on a qualitative case study conducted in a single regency, which may limit the transferability of the findings to other geographical and institutional contexts. Second, the analysis relies primarily on qualitative evidence obtained from interviews, observations, and documentary sources without quantitative measurement of program performance or sustainability outcomes. Future research should undertake comparative studies across different regions and fisheries assistance programs to examine the broader applicability of the proposed CIPP-SI framework. In addition, quantitative and mixed-methods studies are needed to validate the framework empirically and to develop measurable sustainability indicators that can strengthen its application in public policy evaluation.

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CRediT authorship contribution statement

Marlian Mohamad: Conceptualization, Investigation, Data curation, Formal analysis, Methodology, Writing – original draft, Writing – review & editing. Ansar: Conceptualization, Supervision, Methodology, Validation, Writing – review & editing. Hasim: Investigation, Resources, Data curation, Validation, Writing – review & editing. Zuchri Abdusamad: Supervision, Formal analysis, Project administration, Validation, Writing – review & editing.

Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Ethical Statement

This study was conducted in accordance with established ethical principles for social science research. Prior to data collection, all participants were informed about the objectives, procedures, and expected outcomes of the study. Informed consent was obtained from all participants before interviews and field observations were conducted. Participation was entirely voluntary, and participants were informed of their right to withdraw from the study at any stage without any adverse consequences. To protect participants' privacy, all personal information has been anonymized, and the data collected have been used exclusively for academic research purposes while maintaining strict confidentiality throughout the research process.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available because they contain interview transcripts, field observation records, and institutional documents obtained from officials of the Gorontalo Regency Fisheries Office, leaders of fisher groups, and program beneficiaries, the disclosure of which may compromise participant confidentiality and institutional privacy.

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