

Blue Economy Institutional Support in Philippine Muslim Communities

Meggy Frances L. Alava*

ARTICLE INFO	ABSTRACT
<p><i>Article history:</i> Received: January 15, 2026 Accepted: February 14, 2026 Published: March 15, 2026</p> <p><i>JEL Classification:</i> Q22, Q56, R58</p> <p><i>Keywords:</i> Blue economy, Community-based coastal resource management, FishCORAL Project, LGU roles, Philippine Muslim Communities</p>	<p>This study examined how institutional support shapes the implementation and sustainability of blue economy initiatives in post-conflict coastal settings, using the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project (2016-2022) in Basilan, Bangsamoro Autonomous Region in Muslim Mindanao, Philippines, as a case. Anchored in a theory-of-change framework, it employed document analysis of secondary data from Bureau of Fisheries and Aquatic Resources, Ministry of Agriculture, Fisheries and Agrarian Reform, International Fund for Agricultural Development, Food and Agriculture Organization and related policy reports. The study assesses roles of Local Government Units (LGUs) in terms of participatory coastal governance, integration of coastal resource management into local plans and budgets, and facilitation of fisheries value chains and livelihoods. Findings show that Local Government Units (LGUs) acted as co-financiers, planners, and livelihood enablers. However, their effectiveness was constrained by coordination gaps, limited financing, design-context misalignment, and post-conflict institutional capacity challenges. The study argues that sustainable blue economy outcomes depend primarily on strong local institutions and proposed capacity-building, diversified financing, and climate-resilient coastal planning to advance inclusive and resilient blue economy governance.</p>

[Journal of Agriculture and Rural Development Studies \(JARDS\)](http://www.jarads.ugal.ro) © 2025 is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/).

1. Introduction

In the Philippines, small-scale fisherfolk are widely recognized as one of the most vulnerable and marginalized basic sectors. National statistics show that the fisheries sector has consistently recorded among the highest poverty incidence in 2015 and is still registering the highest rate at 30.6% in 2021 (Philippine Statistics Authority, 2023). This persistent deprivation is linked to multiple, overlapping risks such as habitat and watershed degradation, declining fish stocks, weak access to basic services and institutional support, high population density in coastal areas, poor post-harvest systems, and limited alternative livelihoods reported by Pravina et al. (2025). Global policy frameworks such as Food and Agriculture Organization’s Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries, likewise explicitly identify small-scale fishers and fish workers as “often marginalized” and exposed to high levels of livelihood, environmental, and climate risk specifically in developing coastal communities; this marginalized narrative paved the way of the national turn to the blue economy, closely linked to the Philippines’ status as an archipelagic state. National Mapping and Resource Information Authority in 2016 reported that the country consists of around 7,641 islands with an extensive coastline of over 36,000 kilometres and an exclusive economic zone of roughly 2.26 million km², making marine and

* Bukidnon State University, Malaybalay City, Philippines. E-mail address: 2401117102@student.buksu.edu.ph (M. F. L. Alava).

coastal spaces central to its geography and development prospects. Scholars such as Azanza, Sanchez-Escalona, Largo (2022), argue that, as a large ocean and archipelagic state situated at the apex of the Coral Triangle, the Philippines has substantial but underutilized maritime potential and therefore a strategic imperative to leverage the blue economy as a platform for inclusive, marine-based development. In this view, fully embracing the blue economy is not merely an option but a normative obligation for the state, given the high concentration of coastal populations and the centrality of marine resources to national food security, trade, and climate resilience this claim is supported by Murray, L. et al. (2024).

Moreover, at the international level, the Food and Agriculture Organization (2022) has advanced Blue Transformation as a vision for transforming aquatic food systems, so they are more sustainable, resilient and equitable. This vision stresses three interrelated priorities, (1) expanding sustainable aquaculture, (2) intensifying effective fisheries management, and (3) strengthening value chains and livelihoods which are all anchored in robust, science and rights-based governance at national and local levels. In this perspective, blue economy development is obviously not about resource exploitation or infrastructure, but about it is about how institutions, particularly local government units and community-based organizations mediate access to resources, distribute benefits, and regulate ecological impacts (Sahu and Doppalapudi, 2025).

Within this broader archipelagic context, the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) occupies a particularly strategic position. The region is predominantly composed of coastal provinces and cities, Basilan, Sulu, Tawi-tawi, Maguindanao del Norte, Lanao del Sur, and the cities of Cotabato, Marawi, and Lamitan, where fisheries and aquaculture are primary livelihood sources and where marine ecosystems underpin food security and employment (Food and Agriculture Organization, 2022). At the same time, Balaoing-Pelkmans (2024) emphasized that nearly five decades of armed conflict have constrained infrastructure development, disrupted service markets highly dependent on agriculture and fisheries. But a year later, Delos Reyes (2025) reported recent declarations of Basilan as free from the influence of the Abu Sayyaf Group (ASG) which marked a critical transition from overt conflict to “everyday” governance and development, opening new space for coastal and fisheries-based economic initiatives but also exposing institutional weaknesses in local governance and service provision. In this emerging post-conflict context, Basilan is increasingly being positioned as a frontline province for blue economy projects in BARMM, including those focusing on fisheries value chains, aquaculture, and coastal resource management (Relief Web, 2025). Yet, recent analyses of the blue economy in BARMM indicate that the region’s potential will depend less on individual projects and more on whether regional ministries, local government units (LGUs), and community institutions can build stable, coordinated, and accountable governance arrangements for coastal resources which then calls for further need to examine institutional support structures on how they function, where they are fragmented, and how they might be strengthened to realize a peace-supportive blue economy in provinces like Basilan.

These structural vulnerabilities are further intensified in conflict-affected and geographically isolated areas such as Basilan and other parts of BARMM, where fisherfolk contend not only with ecological degradation and market volatility but also legacies of armed conflict, weak infrastructure, and limited state presence (Balaoing-Pelkmans, 2024). In this setting, projects like the Fisheries, Coastal Resources

and Livelihood (FishCORAL) Project were deliberately designed as “big ticket” interventions to reduce poverty and rebuild fishing livelihoods in economically challenged coastal communities. Further, this initiative is in alignment with the United Nation’s Sustainable Development Goals, particularly the SDG 14, a critical goal focused on conserving and sustainably using marine resources, with significant implications for economic development and environmental protection. Stuesson et al. (2018) insinuated that this goal encompasses complex challenges, including balancing economic growth with marine ecosystem preservation, and implementing strategies must focus on developing marine protected areas, reducing marine pollution, empowering coastal communities, and integrating sustainable economic practices. The selection of Fisheries, Coastal Resources and Livelihood (FishCORAL) Project sites using criteria such as average bay-level poverty incidence of about 42% in 2016 underlines how fisherfolk were targeted not only as economic actors in fisheries value chains but as a priority marginalized group in need of integrated livelihood, governance, and ecosystem support (Pravina et al., 2025).

The Fisheries, Coastal Resources, and Livelihood (FishCORAL) Project (2016-2022) is a government-led initiative in the country that aims to address challenges of coastal degradation, limited market access, and low fisherfolk incomes through tailored local interventions and rehabilitating coastal and marine resources while improving the socio-economic conditions of coastal communities (Bureau of Fisheries and Aquatic Resources, 2022). Its focal point is restoring fish stocks, enhancing fisheries management, and supporting livelihood development through community-based interventions such as infrastructure upgrades, livelihood training, and organizational strengthening. Apart from BARMM, this project has been implemented in Eastern Visayas, Bicol Region, and Western Visayas. Thus, the project laid the groundwork for integrated livelihood support in BARMM, reaching nearly 19,000 coastal households with infrastructure upgrades, livelihood training, and community organization interventions. At the same time, they point to uneven institutionalization of coastal governance structures across LGUs, issues of project dependence, and unresolved questions of ownership and maintenance of facilities particularly in fragile and geographically isolated settings.

Despite the recent project implementation and partnerships with Food and Agriculture Organization and Japan which sealed a \$4.7M project to boost fisheries, Bolongon (2025) reported that food security remains a limited empirical understanding of institutional support for blue economy implementation in Basilan. Existing studies largely assess FishCORAL project’s impacts on incomes, fisheries production, and ecological indicators in regions such as Eastern Visayas, but seldom foreground the roles, challenges, and capacities of LGUs in BARMM as central analytical concerns, which then creates a gap at the intersection of blue economy discourse, post-conflict governance, and local institutional performance. Addressing these gaps, this paper will focus on Basilan local government units as key actors in translating blue economy aspirations into concrete coastal governance and livelihood interventions. Specifically, it seeks to assess roles of local government units in Basilan in Fisheries, Coastal Resources and Livelihood (FishCORAL) Project implementation, determining the institutional challenges encountered during implementation, and recommend interventions to strengthen institutional support for blue economy initiatives. Through a documentary analysis of secondary data made available online from Bureau of Fisheries and Aquatic Resources, Ministry of Agriculture, Fisheries and Agrarian Reform, International Fund for Agricultural Development, Food and Agriculture Organization and related policy reports, this study aims to contribute to a more nuanced understanding

of how institutional arrangements in a post-conflict island province can either enable or constrain the long-term sustainability of the blue economy goals.

This study seeks to assess institutional roles and barriers systematically, identifying how they impact both immediate project outcomes and long-term sustainability. Specifically, it will

1. Assess the roles of the local government units in Basilan in Fisheries, Coastal Resources and Livelihood (FishCORAL) Project implementation in terms of participatory coastal governance; planners and integrators of coastal resource management; enablers of value chains and livelihood support
2. Determine institutional challenges during the implementation of the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project in Basilan.
3. Recommend interventions to strengthen institutional support for blue economy initiatives.

2. Literature review

2.1 Institutional support for blue economy governance and its implementation in the Philippines

Recent literature on the blue economy increasingly converges on the view that the success and sustainability of marine and coastal development initiatives depend less on individual projects or sectoral investments and more on the strength of local institutions that govern resources, coordinate actors, and sustain implementation over time. Christie et al. (2017) asserted that while early blue economy discourse emphasized economic growth potential and sectoral expansion, more recent studies highlight governance capacity, financing arrangements, and climate resilience as the critical enabling conditions for translating blue economy aspirations into durable outcomes, particularly in developing and post-conflict contexts.

A substantial body of research by Christie et al. (2017) puts its heavy emphasis that the central role of local government units (LGUs) and community-based institutions in coastal resource management (CRM) and fisheries governance. Moreover, ocean governance emphasize that effective marine management requires institutions capable of legitimizing rules, enforcing regulations, facilitating participation, and adapting to changing social and ecological conditions. In tropical coastal regions, where livelihoods are highly dependent on marine resources and exposed to climate risks, institutional capacity including leadership, administrative competence, data use and collective action has been shown to be a decisive factor shaping governance outcomes (Cinner et al., 2018). These literatures suggest that blue economy initiatives cannot be sustained through infrastructure or livelihood projects alone but must be anchored in continuous capacity-building for LGUs and local councils delegated with the implementation roles.

Within aquatic food systems and fisheries governance, a policy-oriented capacity building similarly stresses the need to strengthen institutional and human capacities at subnational levels. Food and Agriculture and Organization's Blue Transformation framework positions governance capacity as a foundational pillar for achieving sustainable and resilient aquatic food systems, emphasizing effective management institutions, value-chain coordination, and inclusive participation. Ragasa (2022) further argues that policy reforms in fisheries and aquaculture often falter not because of flawed design but

due to weak implementation capacity, limited coordination, and insufficient institutional learning at the local level.

On the other hand, considering that there is an extensive coastline and dependence on marine resources, the Philippines presents both significant opportunities and governance challenges in adopting blue economy policies. In fact, Azanza, Sanchez-Escalona, Largo (2022) emphasize that the effectiveness of blue economy initiatives in the country is heavily shaped by the capacity of local institutions particularly Local Government Units (LGUs) to integrate environmental sustainability with livelihood development. With this, it can be understood that local government units (LGUs) play a critical role in ensuring long-term coastal resource management (CRM), fisheries regulation, and community-based livelihood support, serving as the primary interface between national policy frameworks and coastal communities (Sahu and Doppalapudi, 2025).

Thus, the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project implemented in BARMM and particularly in the province of Basilan, was designed to address persistent challenges such as coastal degradation, declining fish stocks, limited market access, and low fisherfolk incomes. Murray, et al. (2024) recognized that Local Government Units (LGUs) often face institutional constraints including capacity gaps, fragmented coordination, and limited fiscal resources that undermine the sustainability of project-supported interventions as further supported by Balaoing-Pelkmans (2024) in their study. These challenges reinforce earlier governance literature calling for sustained institutional support and capacity development to ensure that blue economy initiatives extend beyond project cycles (Christie et al., 2017).

2.2 Post-conflict governance in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM)

The governance context of the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), particularly in provinces such as Basilan, adds another layer of complexity to blue economy implementation Delos Reyes (2025) described. The transition from conflict to civilian governance has left the region with fragmented institutions, limited infrastructure, and historically marginalized coastal communities. These structural constraints complicate the implementation of long-term development strategies, including those related to coastal and fisheries governance.

Despite these challenges, Local Government Units (LGUs) in Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) have assumed increasingly important roles in advancing blue economy initiatives through the incorporation of coastal resource management into local governance structures (Food and Agriculture Organization, 2021). In addition, an emphasis was indicated that sustainable blue economy initiatives must be grounded in inclusive and participatory governance systems, particularly in post-conflict settings where rebuilding institutional trust and legitimacy is critical. However, weak coordination with national agencies, limited administrative capacity, and fiscal constraints continue to hinder effective implementation at the local level (Pinhão, 2023). These conditions emphasize the need for a more nuanced understanding of how blue economy projects can be institutionalized within fragile, post-conflict governance environments.

2.3 Co-financing and participatory governance in fisheries

Local Government Units (LGUs) in Basilan have made major contributions to the FishCORAL project, both financially and as institutional anchors for participatory governance as reported by International Fund for Agriculture and Development (2024). The formation of Fisheries and Aquatic Resource Management Councils (FARMCs) and Bay Management Councils (BMCs) inside local government frameworks were crucial steps toward ensuring that coastal resource management is participatory and inclusive (Food and Agriculture Organization, 2022). These councils promote stakeholder involvement, law enforcement, and the sustainable use of marine resources. Limited financial resources and institutional fragmentation can make it difficult for LGUs to sustain governance systems beyond external project finance (Pinhão, 2023).

This part of the literature emphasizes the necessity of incorporating coastal resource management into local development plans and budgets to ensure that these programs are not only project-based but also integrated within LGUs' long-term governance structures as supported by Ragasa (2022) in her study. However, as stated in the FishCORAL review, only a subset of Basilan's LGUs have completely integrated these measures into their local government frameworks, raising questions regarding the long-term viability and sustainability of coastal resource management programs after the project is completed (International Fund for Agriculture and Development, 2024).

Furthermore, financial constraints remain a major barrier to scaling blue economy initiatives, especially in conflict-affected areas as described by Murray, L. et al. (2024) in their study. Despite substantial external financing, Local Government Unit counterpart contributions often fall short, limiting the ability to sustain coastal resource management and livelihood interventions. This challenge reflects the “mandate-resource mismatch” identified in the comprehensive National Fisheries Industry Development Plan (CNFIDP), where Local Government Units (LGUs) are devolved to responsibility for coastal and fisheries management without adequate financial resources (Department of Agriculture Bureau of Fisheries and Aquatic Resources, 2021). Morgan (2022) also indicated that this calls for innovative financing mechanisms, including public-private partnerships and blue finance instruments, in order to strengthen local ownership and sustainability of blue economy investments backed up by a literature from Partnerships in Environmental Management for the Seas of East Asia (2019).

Throughout the years from 2016 to 2023, this section identifies three interrelated pillars for institutionalizing the blue economy initiatives. The pillars featured in this literature review are considered mutually reinforcing and particularly salient in fragile, post-conflict, and archipelagic contexts such as Basilan province in Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). The success of blue economy initiatives in Basilan province hinges on strengthening local institutional capacities, improving financial sustainability, and ensuring effective coordination between national and local agencies. Addressing these institutional challenges will enable LGUs to play a crucial role in sustaining the long-term success of blue economy projects in the region.

3. Framework of the study

The researcher utilized the theory of change introduced by Weiss (1995) as its anchor. The theory-based evaluation emphasizes the importance of the underlying assumptions linking programs, activities, and projects to outcomes. The theory of change fits to improve the design, implementation, and evaluation

of social programs like extension programs introduced by state universities and colleges in the communities for societal changes (Belcher et al., 2019). Moreover, Connel and Kubisch (1998) refined the theory of change to a more comprehensive community initiative. The application of the theory extends to education, health, and community services. From thereon, the theory has been pivotal in conducting project impact evaluation.

The theory of change outlines the causal pathways connecting activities to outcomes and impacts, explicitly discussing assumptions and factors influencing the pathways (Vogel, 2012). In addition, she emphasized a participatory approach to the theory of change involving multiple stakeholders in assessing intended outcomes.

The framework of the study is an Input-Process-Output-Outcome model (figure 1). This framework illustrates how the theory of change connects the activities conducted to the output and outcomes of a community project.

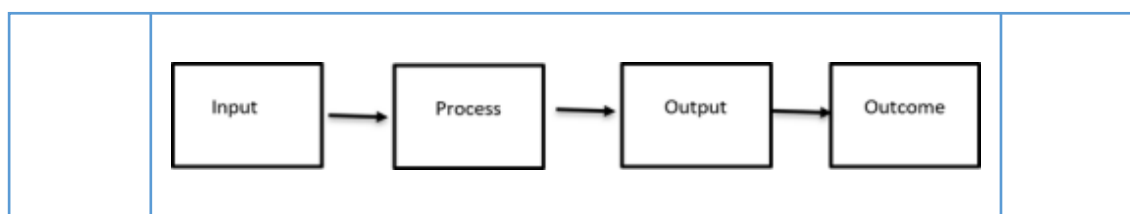


Figure 1. Input-process-output-outcome conceptual framework of the study

Source: Weiss (1995)

Figure 1 shows the inputs that are operationalized through a series of activities addressing institutional support constraints and key value-chain bottlenecks. Discussing the specifics of the IPO model on the scope of this study, it starts with hatchery development establishes tilapia and shrimp hatcheries to secure a reliable fingerling supply, thereby improving production consistency and reducing reliance on wild-caught juvenile stocks. Second, the construction of HALAL-compliant community processing facilities adds value to primary seafood products and expands market reach, tapping into high-value domestic and international HALAL markets.

Third, a series of capacity-building or technical workshops on good aquaculture practices, post-harvesting handling, and enterprise management empowers fisherfolk and women entrepreneurs in BARMM with technical skills. Fourth, market linkage facilitation through networking events and trade fairs connects producers with buyers while integrating digital platforms, and this enhances price transparency and reduces market information asymmetries.

Finally, the deployment of cold-chain systems—in its literal sense, these are cold storage units and refrigerated transport of goods that significantly reduces post-harvest losses and preserves product quality during distribution.

Yielding tangible outputs, fully operational hatcheries and processing units in key coastal municipalities increase local production capacity by up to 30%, meeting the growing demand and stabilizing supply.

As these outputs materialize, intermediate outcomes such as improved handling practices and cold-chain logistics are projected to cut post-harvest spoilage from 40% to under 15% within two years, directly boosting available marketable volume and reducing waste-related income losses.

The outcomes of the project then created long-term impacts that extend well beyond the project's duration. Believing, the development of integrated and resilient fishery value chains will balance economic viability with environmental sustainability and social equity, serving as a model for coastal resource management across the country.

In conclusion, this Theory of Change framework offers a clear, evidence-based roadmap that links strategic inputs and well-designed activities to measurable outputs and transformative socio-economic and peacebuilding impacts in Bangsamoro Autonomous in Muslim Mindanao (BARMM).

Through illustrating these logical connections, the framework not only guides implementation and monitoring but also provides a compelling proposition for policymakers, donors, and local stakeholders to sustain and scale successful interventions.

4. Methods

This study adopted a document analysis design anchored on the theory of change framework and informed by established traditions in secondary data and content analysis. Document analysis is understood here as a systematic procedure for reviewing and interpreting documents to elicit meaning, gain understanding, and develop empirical knowledge (Bowen, 2009). Rather than generating new primary data and considering time and financial constraints, the study analyses how institutional roles, challenges, and support mechanisms for blue economy initiatives in Basilan province of Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) are represented in existing project reports, evaluation documents, and policy texts.

Consistent with Scott's (1990) classic criteria for working with documentary sources, the selection and appraisal of materials are guided by authenticity, credibility, representativeness, and meaning. Only documents that are official, verifiable, and directly linked to the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project or to national and regional blue economy and fisheries governance frameworks are included. Following Prior (2003), these documents are treated not merely as neutral containers of information but as socially produced artifacts that reflect and shape institutional priorities, governance arrangements, and policy narratives in a post-conflict coastal setting. Situated within the broader tradition of qualitative content analysis (Krippendorff, 2018), this approach provides a coherent basis for examining how institutional roles and challenges are framed and how proposed interventions are justified in the documentary record.

The study focused on coastal communities in Basilan province where the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project interventions were implemented, situated within the wider context of the Bangsamoro Autonomous Region in Muslim Mindanao's (BARMM) coastal and marine ecosystems. The primary units of analysis are Basilan's municipal and city local government units (LGUs) which includes Sumisip, Maluso, Lantawan, Tipo-tipo, Lamitan City, and Tuburan together with their associated coastal governance structures such as Fisheries and Aquatic Resources Management Councils (FARMCs) and Bay Management Councils (BMCs).

With Basilan province as the primary scope located in coastlines of the project implemented, BARMM-wide documents and datasets are utilized in this paper to contextualize Basilan's experience and to situate local institutional roles within regional patterns of coastal resource management and blue economy programming. The focus is on how Basilan LGUs are described as acting within, and responding to, the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project's broader policy frameworks.

Moreover, this study relied entirely on secondary data, where the documentary corpus is composed of monitoring and evaluation reports, related to the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project prepared by government agencies in the Philippines and in coordination with international agencies Department of Agriculture - Bureau of Fisheries and Aquatic Resources and Ministry of Agriculture, Fisheries, and Agrarian Reform (MAFAR- BARMM), International Fund for Agriculture Development, as well as technical and policy documents on the blue economy, small-scale fisheries, and coastal resource management produced by scholars and organizations. In addition, national policy frameworks such as the Comprehensive National Fisheries Industry Development Plan (CNFIDP), the Philippine Development Plan, and related sectoral and regional plans were highly considered and integrated to situate the findings within broader policy directions. These documents collectively provide information on ecological indicators, institutional performance, participatory rates, coverage of project activities, and socio-economic conditions at the regional level or BARMM level and, where available, for Basilan province specifically.

The study then draws primarily on materials covering the period 2016-2022, corresponding to the implementation span of the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project, while also referring to more recent policy documents to align the analysis with current discourses on blue economy governance and institutional reform.

The identification and selection of documents followed a purposeful sampling strategy guided by the research objectives. Core documents of the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project including the design report, mid-term review, project performance evaluation, and completion reports, were first identified as key sources for understanding project objectives, implementation arrangements, and reported outcomes. These were then complemented by BFAR and MAFAR-BARMM reports to capture operational perspectives on coastal resource management, fisherfolk organizations, and livelihood interventions in BARMM and Basilan.

National and international policy documents, such as the CNFIDP and FAO Blue Transformation publications, were subsequently added to frame the wider blue economy and governance context within which Basilan's experience is situated.

Each secondary data was then assessed using Scott's (1990) four classic criteria for documentary research. Authenticity was examined by verifying that documents were genuine and produced by the stated institutions. Credibility involved evaluating the accuracy, internal consistency, and potential biases present in the texts. Representativeness required consideration of whether each document was typical of a broader class of records, such as standard monitoring reports or formal evaluations.

Finally, meaning focused on the clarity and interpretability of the content, including the extent to which institutional roles, challenges, and interventions were explicitly discussed. Only documents that met

minimum standards on these criteria and contained sufficient, relevant information for the research objectives were retained in the final corpus.

Guided by the Theory of Change (Weiss, 1995) and Food and Agriculture Organization (FAO)'s Blue Transformation perspective, the analytical process began by reviewing the program theory of Fisheries, Coastal Resources and Livelihood (FishCORAL) Project through tracing how inputs (financing, capacity-building, infrastructure) are expected to lead to activities, outputs, and outcomes in ecological recovery, livelihoods, and institutional change, with LGUs, FARMCs, BMCs, and fisherfolk organizations positioned as key actors. Using document analysis (Krippendorff, 2018), documents were then coded to identify the institutional roles of Basilan LGUs (in terms of participatory coastal governance, planning and integration of CRM into local plans and budgets, and enabling value chains and livelihood support) which shows them as co-financiers, planners or integrators, and value-chain enablers which will be discussed further in this paper.

The same dataset was examined for constraints and gaps, which were grouped into categories such as BFAR-LGU coordination and capacity issues, limited and uneven financing, misalignment between project design and local readiness, and difficulties in sustaining livelihood and financial inclusion mechanisms. Reported numeral indicators were used as contextual evidence to support these themes rather than for separate statistical modelling. Finally, the identified roles and challenges were compared with recommendations in International Fund for Agriculture and Development, BFAR, and policy documents to distil a set of institutional interventions for Basilan explicitly linked back to the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project theory of change and the broader Blue Transformation agenda. Thus, this study utilized a quantitative component, which was primarily based on secondary data derived from official reports, monitoring and evaluation documents, and project accomplishments published by BFAR, MAFAR, and DA.

These data included ecological indicators, institutional performance metrics, and socio-economic indicators. Statistical analysis was performed to identify trends and measure changes attributable to the project's interventions, utilizing existing project performance indicators and regional development data.

4.1 Ethical statement

This study observed the research ethics principles of the university, including responsible use of data, respecting data ownership, and maintaining confidentiality as originally intended by data custodians. Only anonymized and aggregated data free from personally identifiable information was analysed, which mitigates the risks of privacy breach (Hammersley, 2007; Saunders et al., 2015). All secondary data sources collected were publicly available or accessed through official permissions, with proper acknowledgement and citation of the original data providers.

The analysis complied with the Data Privacy Act of the Philippines (Republic Act No. 10173, 2012) and relevant institutional and legal guidelines governing secondary data use. Through focusing on ethically sound secondary analysis, this impact study wishes to contribute valuable information while upholding integrity, transparency, and accountability in line with the established ethical frameworks for secondary data research. In accordance with study ethics norms, particularly those governing data ownership and confidentiality, we sought and acquired express permission to use this data.

The Ministry of Agriculture, Fisheries, and Agrarian Reform (MAFAR) issued a certification to the researcher through email, which confirms the data's validity, utilization and conformity with all institutional and legal criteria for usage in academic research. Furthermore, this study complies to the values of transparency, accountability, and responsible data usage outlined in the Philippines' Data Privacy Act (Republic Act No. 10173, 2012).

5. Results

This section comprises the results and discussion based on secondary data made available online from International Fund for Agriculture and Development, BFAR, FAO, and relevant policy brief documents, this study aims to contribute to a more nuanced understanding of how institutional arrangements in a post-conflict island province can either enable or constrain the long-term sustainability of the blue economy goals.

5.1 Research Objective 1: Assess roles of the local government units in Basilan in Fisheries, Coastal Resources and Livelihood (FishCORAL) project implementation

The Fisheries, Coastal Resources and Livelihood (FishCORAL) Project was implemented in coastal barangays across four regions, including BARMM where Basilan's municipalities and Lamitan City are located. At completion, total project costs amounted to approximately US\$ 30.46 million, of which local government units contributed US\$ 2.565 million, equivalent to 8.4% of actual project costs as presented in table 1.

Table 1 confirms that local government units (LGUs), including those in Basilan, functioned not only as implementing partners but also as co-financiers, providing counterpart resources to sustain field operations and investments. Believing this contribution from local government units (LGUs) took effect in the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project which supported coastal resource management activities, as presented in table 2, 1,002 barangays (91% of project barangays) and reached around 44,704 fishing households directly with project services (International Fund for Agriculture and Development, 2024).

All project municipalities revived or created Municipal Fisheries and Aquatic Resources Management Councils (FARMCs) and Fishery Law Enforcement Teams, although the full institutional sequence, issuance of ordinances, preparation of plans, and integration into LGU budgets was completed in only 29 out of 103 LGUs, and only 3 of 13 Bay Management Councils (BMCs) were fully functional at project end as reported by International Fund for Agriculture and Development (2024) as described in table 2. Basilan local government units (LGUs) are part of this set of project LGUs and therefore share in these patterns of partial but significant institutionalization.

Table 1. Summary of financial contributions to the FishCORAL Project by funding source.

Funding source	Appraisal cost (US\$ '000)	% of appraisal costs	Actual expenditure (US\$ '000)	% of actual costs
International Fund for Agriculture Development (IFAD) loan	29,956	68.6	22,823	74.9

Funding source	Appraisal cost (US\$ '000)	% of appraisal costs	Actual expenditure (US\$ '000)	% of actual costs
International Fund for Agriculture Development (IFAD) grant	693	1.6	414	1.4
National government	6,045	13.9	4,653	15.3
Local government units	5,636	12.9	2,565	8.4
Beneficiary communities	1,328	3.0	0	0.0
Total	43,658	100.0	30,455	100.0

Source: International Fund for Agriculture and Development (2024).

Generally, table 1 demonstrates that local government units (LGUs) provided a substantial counterpart contribution to total actual expenditures, formally positioning them as co-financiers and co-owners of Fisheries, Coastal Resources and Livelihood (FishCORAL) Project investments in their jurisdictions, including Basilan province in Bangsamoro Autonomous Region in Muslim Mindanao.

In table 2, a synthesis on roles of Basilan local government units (LGUs) during the FishCORAL implementation is presented across three dimensions; (1) participatory coastal governance, (2) coastal resource management (CRM) planning and integration, and (3) value-chain and livelihood support. In participatory governance, Basilan local government units (LGUs) reconstituted or created Municipal Fisheries and Aquatic Resources Management Councils (FARMCs) and Fishery Law Enforcement Teams (FLETs), participated in Bay Management Councils, issued or updated fisheries ordinances, and convened fisherfolk organizations for coastal resource management (CRM) consultations. These roles reflect project-wide patterns where all project municipalities revived or created Fisheries and Aquatic Resources Management Councils (FARMCs) and Fishery Law Enforcement Teams (FLETs), and CRM activities covered 1,002 barangays (91%) across project bays, including BARMM (Department of Agriculture - Bureau of Fisheries and Aquatic Resources, 2021; International Fund for Agriculture and Development, 2024). Further, table 2 in reference with International Fund for Agriculture and Development (2024), reported 98% Fisheries and Aquatic Resources Management Councils (FARMCs) and Fishery Law Enforcement Teams (FLETs) active in policy and enforcement, with around 84% of local government units (LGUs) embedded FishCORAL-supported measures into Comprehensive Land Use Plans (CLUPs), ordinances, and budgets, although full integration was completed in only 29 of 103 local government units (LGUs), with these figures, it indicates further uneven institutionalization (Ragasa, 2022).

Table 2. Roles of local government units in Basilan during FishCORAL project implementation.

	Roles of Basilan local government units	Project-wide framework
Participatory coastal governance	Reconstituted/created Municipal FARMCs and Fishery Law Enforcement Teams; participated in Bay Management Councils; issued/updated fisheries ordinances; convened fisherfolk organizations and community meetings on CRM.	IFAD’s project completion report validation notes that all project municipalities revived or created Municipal FARMCs and Fishery Law Enforcement Teams, and that CRM activities covered 1,002 barangays (91%) in project bays (including BARMM, where Basilan belongs) (International Fund for Agriculture and Development, 2024; Department of Agriculture - Bureau of Fisheries and Aquatic Resources, 2021). A BFAR aide-mémoire further reports that CRM interventions established 98% FARMCs and FLETs active in policy and enforcement, with around 84% of LGUs engaged. FAO’s Blue Transformation framework emphasizes inclusive, locally anchored governance as a pillar of sustainable aquatic food systems, underscoring the importance of LGU-backed councils in places like Basilan. (Food and Agriculture Organization, 2022).
Planners and integrators of coastal resource management	Integrated Fisheries, Coastal Resources and Livelihood (FishCORAL) Project-supported measures (mangrove rehabilitation, fish sanctuaries, municipal water delineation) into local plans and ordinances; aligned CRM activities with comprehensive land use plans (CLUPs), fisheries codes, and annual investment plans; allocated LGU budgets for CRM activities.	IFAD highlights that Fisheries, Coastal Resources and Livelihood (FishCORAL) Project defined a detailed sequence of steps to fully integrate coastal resource management into bay and municipal plans and LGU budgets, but notes that this sequence was fully completed in only 29 of 103 LGUs, indicating uneven institutionalization across project areas, including BARMM (International Fund for Agriculture and Development, 2024). FAO’s Blue Transformation roadmap calls for embedding aquatic food systems into mainstream planning and policy, reinforcing the expectation that LGUs such as those in Basilan act as planners and integrators of CRM into local development frameworks (Ragasa, 2022).
Enablers of value chains and livelihood support	Endorsed fisherfolk groups and cooperatives as beneficiaries; provided sites and permits for post-harvest and aquaculture facilities (e.g., small landings, cold storage, community enterprises); coordinated with BFAR/MAFAR on infrastructure and training; linked fisheries and aquaculture activities to local economic and livelihood plans.	Fisheries, Coastal Resources and Livelihood (FishCORAL) Project’s design and annual reports describe three components: Coastal Resource Management, Livelihood Development, and Project Management and Coordination, with LGUs hosting municipal project implementation units and helping channel livelihood investments to community groups (International Fund for Agriculture and Development, 2024; BFAR, 2020; BFAR, 2021). The IFAD evaluation notes that, after midterm review, Bay Management Councils were asked to broaden their work to coordinate value chains and that conditional grants were provided to enterprises in at least one region, illustrating a value-chain orientation implemented through LGU-linked structures. FAO’s Blue Transformation vision stresses strengthening aquatic food value chains and local livelihoods, which relies on proactive LGU facilitation in provinces like Basilan (Cabral, Geronimo, Mamauag et al., 2022).

Source : Cabral, Geronimo, Mamauag et al. (2022); Food and Agriculture Organization (2022); International Fund for Agriculture and Development (2024); Ragasa (2022).

As value-chain enablers, local government units (LGUs) facilitated permits, sites, infrastructure, and training for post-harvest and aquaculture support through local government unit-linked structures (Cabral, Geronimo, Mamauag et al., 2022).

Apart from community-based organizations established by the efforts of project implementers, table 3 provides a thematic summary of the institutional roles performed by Basilan local government units (LGUs) during the implementation of the FishCORAL project.

As co-financiers and co-owners of investments, local government units (LGUs) are positioned not only as implementing partners but as local counterparts with shared responsibility for the continuity, maintenance, and accountability of FishCORAL-supported assets and interventions.

As planners and integrators of coastal resource management (CRM), LGUs are expected to institutionalize project-supported coastal resource management (CRM) measures by embedding them into local planning and governance instruments such as comprehensive land use plans (CLUPs), local development plans, fisheries ordinances, and annual investment priorities, so that coastal resource management (CRM) activities remain operational beyond the project period. As enablers of value chains and livelihood support, local government units (LGUs) facilitate the linkage between ecological gains and socio-economic outcomes by endorsing beneficiary organizations, coordinating permits and sites for facilities, and aligning infrastructure and training with local livelihood development priorities.

In summary, table 3 emphasizes that the sustainability of Fisheries, Coastal Resources and Livelihood (FishCORAL) project outcomes in Basilan province depends largely on local government unit (LGU) capacity to institutionalize coastal resource management (CRM) and to continually support livelihood and value-chain mechanisms through routine local governance functions (Bureau of Fisheries and Aquatic Resources 2021; International Fund for Agriculture and Development, 2024).

Table 3. Thematic summary of local government units' roles in Basilan in Fisheries, Coastal Resources and Livelihood (FishCORAL) project implementation

Role category	BARMM Project-wide indicators	Interpretation for Basilan local government units
Co-financiers and co-owners of investments	LGUs contributed US\$ 2.565 million (8.4% of actual project costs).	Basilan LGUs share in counterpart financing, indicating formal ownership of and responsibility for Fisheries, Coastal Resources and Livelihood (FishCORAL) project-supported assets.
Planners and integrators of CRM into local plans	Coastal resource management activities covered 1,002 barangays (91% of project barangays).	Basilan LGUs are expected to embed Fisheries, Coastal Resources and Livelihood (FishCORAL) project activities into comprehensive land use plans (CLUPs), local development plans, and local government unit (LGU) budgets to sustain coastal resource management (CRM) beyond the project period.
Enablers of value chains and livelihood support	About 44,704 households directly served; 58% of respondents engaged in coastal resource management (CRM) activities; increases in resource condition and diversified livelihoods observed.	Basilan local government units (LGUs) endorse beneficiary groups, provide sites and permits, and coordinate infrastructure and services to link ecological gains with fisheries value chains and livelihood opportunities.

Source: Bureau of Fisheries and Aquatic Resources (2021); International Fund for Agriculture and Development (2024).

5.2. Research Objective 2: Determine institutional challenges during the implementation of the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project in Basilan

Table 4 outlines the major institutional challenges that shaped Fisheries, Coastal Resources and Livelihood (FishCORAL) project implementation for Basilan local government units (LGUs), drawing from project-wide and BARMM-level indicators and interpreting their implications for a post-conflict island province. The first institutional challenge involves coordination and administrative capacity constraints at the Bureau of Fisheries and Aquatic Resources (BFAR) and Local Government Unit (LGU) interface, this is testified in delays in project execution by mid-term. In fact, only 19% of the loan and 35% of the grant had been disbursed, and around half of beneficiary households only joined livelihood activities during the final year in reference to International Fund for Agriculture and Development (2024). In Basilan, these delays likely translated into compressed implementation timelines, reduced time for deep capacity-building, and higher transaction costs due to island procurement and post-conflict conditions. The second institutional challenge concerns limited and uneven local government unit (LGU) counterpart financing where local government units (LGUs) contributed US\$2.565 million (8.4% of actual project costs), representing only 45.5% of the appraised local government unit (LGU) share. For Basilan local government units (LGUs) with constrained fiscal space, this limit sustained operations, staffing, and maintenance of project-supported assets. The third institutional challenge is difficulty scaling livelihood and financial inclusion innovations in Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), where savings and credit groups did not take off, livelihood activities covered only about 42% of barangays, and participation began late as reported by International Fund for Agriculture and Development (2024). In Basilan, weak financial literacy, livelihood risk, and low institutional trust likely constrained post-project sustainability of savings groups and enterprise organizations (Bureau of Fisheries and Aquatic Resources, 2021).

Table 4. An outline on institutional challenges faced by Basilan LGUs during Fisheries, Coastal Resources and Livelihood (FishCORAL) Project implementation

Challenge category	BARMM Project-wide indicators	Interpretation for Basilan local government units
Coordination and administrative capacity constraints (Bureau of Fisheries and Aquatic Resources (BFAR) and Local Government Unit (LGU) interface)	By mid-term, only 19% of the loan and 35% of the grant had been disbursed; about half of beneficiary households joined livelihood activities only in the final year (International Fund for Agriculture and Development, 2024).	Implementation in Basilan was likely slowed by weak administrative coordination, complex procurement in island municipalities, and the added difficulty of operating in post-conflict environments, reducing time for deep capacity-building.
Limited and uneven local government unit (LGU) counterpart financing	Local government units (LGUs) contributed US\$2.565 million, equivalent to 8.4% of actual project costs and only 45.5% of the appraised local government unit (LGU) share of US\$5.636 million (International Fund for Agriculture and Development, 2024).	For fiscally constrained Basilan local government units (LGUs), meeting counterpart commitments for infrastructure, staffing, and operations and maintenance is difficult, which weakens local ownership of Fisheries, Coastal Resources and Livelihood (FishCORAL) Project facilities and institutions once external financing tapers off.

Challenge category	BARMM Project-wide indicators	Interpretation for Basilan local government units
Difficulty scaling livelihood and financial inclusion innovations in Bangsamoro Autonomous Region in Muslim Mindanao (BARMM)	Savings and credit groups were successfully started in other regions but did not take off in Bangsamoro Autonomous Region in Muslim Mindanao (BARMM); livelihood activities covered only about 42% of barangays, and many households joined late (International Fund for Agriculture and Development, 2024).	In Basilan’s conflict-affected communities, weak financial literacy, low trust in formal institutions, and high livelihood risk make it difficult for local government units (LGUs) to sustain savings groups and enterprise organizations beyond project facilitation.

Source: International Fund for Agriculture and Development (2024).

6. Discussion and Interpretation

6.1. Research objective 1: Assess roles of the local government units in Basilan in Fisheries, Coastal Resources and Livelihood (FishCORAL) project implementation

6.1.a. Role of local government units (LGUs) in Basilan in participatory governance for the Fisheries, Coastal Resource and Livelihood (FishCORAL) Project implementation

The results in table 2 demonstrate that local government units (LGUs) in Basilan serve as pivotal institutional intermediaries in the implementation of the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project. Anchored in the decentralization mandate of the Local Government Code of 1991 (Republic Act No. 7160, 1991), local government units (LGUs) are legally empowered to manage municipal waters, enforce fisheries regulations, and integrate coastal resource governance into local development planning. Further, the findings suggest that local government units (LGUs) function beyond administrative implementers as they act as coordinators of multi-stakeholder governance through collaboration with Fisheries and Aquatic Resources Management Councils (FARMCs), Fishery Law Enforcement Teams (FLETs), and barangay-level institutions. This governance arrangement reflects the principles of interactive and co-management frameworks in small-scale fisheries, wherein authority and responsibility are shared across state and community actors (Jentoft & Chuenpagdee, 2015; Pomeroy, Courtney & Mattich, 2016). Such institutional configurations are consistent with broader blue economy governance models that emphasize decentralization, participation, and adaptive management (Food and Agriculture, 2022).

Moreover, table 3 presented the findings where it indicated that Basilan local government units (LGUs) performed a foundational governance role by enabling participatory coastal management structures and legitimizing local rule systems. As reflected in table 3, local government units (LGUs) reconstituted or created Municipal Fisheries and Aquatic Resources Management Councils (FARMCs) and Fishery Law Enforcement Teams, participated in Bay Management Councils, updated fisheries ordinances, and convened fisherfolk organizations for CRM consultations (Department of Agriculture - Bureau of Fisheries and Aquatic Resources, 2021; International Fund for Agriculture and Development, 2024).

This pattern aligns with literature related to institutional governance arguing that effective marine and coastal management require institutions that can establish legitimate rules, facilitate stakeholder participation, and support compliance and enforcement mechanisms over time (Christie et al., 2017).

Project-wide results reinforce the scale of this governance effort: coastal resource management (CRM) activities were implemented across 1,002 barangays (91% of project barangays), and institutional structures such as Fisheries and Aquatic Resources Management Councils (FARMCs) and enforcement teams were widely established in project municipalities (International Fund for Agriculture and Development, 2024). Consistent with this, BFAR reports high activation of governance platforms, noting that CRM interventions resulted in 98% Fisheries and Aquatic Resources Management Councils (FARMCs) and Fishery Law Enforcement Teams (FLETs) active in policy and enforcement, with around 84% of local government units (LGUs) engaged, indicating broad institutional participation in governance processes (Food and Agriculture Organization, 2022). Interpreted in light of Blue Transformation, these results suggest that Basilan LGUs served as the institutional anchors of inclusive governance, which Food and Agriculture Organization (FAO) identified as a prerequisite for resilient aquatic food systems and sustainable blue economy outcomes (Food and Agriculture Organization, 2022).

At the same time, the results in table 3 further imply that while participatory structures were established, the long-term effectiveness of these mechanisms depends on whether local government units (LGUs) can maintain consistent coordination, enforcement routines, and continuing participation beyond project timelines which is an institutional sustainability concern consistently raised in blue economy governance literature (Christie et al., 2017; Cinner et al., 2018; Food and Agriculture Organization, 2022).

6.1.b. Role of local government units (LGUs) in Basilan as planners and integrators for coastal resource management (CRM) for the Fisheries, Coastal Resource and Livelihood (FishCORAL) Project implementation

Beyond participatory governance, Basilan LGUs were expected to institutionalize coastal resource management (CRM) by embedding Fisheries, Coastal Resource and Livelihood (FishCORAL) Project-supported measures into formal local planning and budgeting systems. Table 2 shows that local government units (LGUs) integrated activities such as mangrove rehabilitation, fish sanctuary establishment, and municipal water delineation into local plans and ordinances, aligning these interventions with comprehensive land use plans (CLUPs), fisheries codes, annual investment plans, and local budget allocations for coastal resource management (CRM). This role is central to sustaining blue economy initiatives because planning integration is the mechanism by which project interventions become regular governance functions rather than temporary project outputs (Food and Agriculture Organization, 2022; International Fund for Agriculture and Development, 2024).

However, the results in table 3 reveal uneven institutionalization across project areas, including Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), in which, only 29 out of 103 local government units (LGUs) completed the full institutional sequence required for integrating coastal resource management (CRM) into local plans and budgets (International Fund for Agriculture and Development, 2024). From an implementation perspective, this finding signals a break point in the

sustainability pathway. Even if coastal resource management (CRM) activities were widely implemented, incomplete integration into planning and budgeting creates risk that enforcement, monitoring, maintenance, and follow-through may weaken after project closure. This is consistent with Ragasa's (2022) argument that fisheries and aquaculture reforms often falter due to weak implementation capacity, limited coordination, and insufficient institutional learning at local levels rather than flaws in policy design.

In the Philippine blue economy context, Azanza, Sanchez-Escalona, Largo (2022) emphasized that when local government units (LGUs) serve as the primary interface between national frameworks and coastal communities, this planning and integration role becomes decisive: the extent to which Basilan local government units (LGUs) embed coastal resource management (CRM) into local governance instruments ultimately determines whether Fisheries, Coastal Resource and Livelihood (FishCORAL) Project interventions become durable policy practice or remain time-bound project activities (Food and Agriculture Organization 2022; Sahu & Doppalapudi, 2025).

6.1.c. Role of local government units (LGUs) in Basilan as enablers of livelihood support for the Fisheries, Coastal Resource and Livelihood (FishCORAL) Project implementation

Table 2 indicates that Basilan local government units (LGUs) endorsed fisherfolk groups and cooperatives as beneficiaries, provided permits and sites for post-harvest and aquaculture facilities (e.g., landing sites, cold storage, community enterprises), coordinated with Bureau of Fisheries and Aquatic Resources – Ministry of Agriculture, Fisheries and Agrarian Reform on infrastructure and training, and linked fisheries and aquaculture initiatives with local livelihood priorities. This corresponds with the literature's emphasis that blue economy implementation is not only about conservation outputs but about the institutional ability to coordinate value chains, enable market participation, and support livelihood resilience in coastal communities (Food and Agriculture Organization, 2022).

Project-wide outcome indicators provide context for the scale of livelihood-oriented work that Fisheries, Coastal Resource and Livelihood (FishCORAL) Project reached about 44,704 fishing households directly, and 58% of respondents reported engagement in coastal resource management (CRM) activities, alongside reported improvements in resource condition and livelihood diversification (International Fund for Agriculture and Development, 2024). Interpreted for Basilan province, these findings suggest that local government unit (LGU) facilitation is essential for translating participation and ecological gains into tangible welfare outcomes, particularly in provinces where market access, infrastructure, and institutional capacity are uneven. The value-chain orientation noted in Fisheries, Coastal Resource and Livelihood (FishCORAL) Project evaluations and this includes the instruction for Bay Management Councils to broaden their work toward value-chain coordination and the use of conditional grants which then illustrates how livelihood outcomes were designed to be mediated through local government unit or LGU-linked structures. Cabral, Geronimo, Mamaug et al. (2022) advocates for this direction as it aligns with broader aquatic food systems thinking that frames livelihood support and value-chain strengthening as integral components of sustainable blue economy governance.

It can then be interpreted in reference to Cinner et al. (2018) and Christie et al. (2017) that the results imply on Basilan local government units' (LGUs') value-chain role, that it is not a supplementary function but a central institutional pathway through which blue economy initiatives can become inclusive and

development-oriented. Yet, consistent with institutional support literature, the sustainability of livelihood and value-chain mechanisms still depends on whether local government units (LGUs) can maintain enabling services, coordination, and resource commitments beyond the project period.

6.2. Research objective 2: Determine institutional challenges during the implementation of the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project in Basilan

6.2.a. Coordination and administrative capacity constraints between Bureau of Fisheries and Aquatic Resources and local government units

Table 4 reports that the Fisheries, Coastal Resource and Livelihood (FishCORAL) project experienced substantial implementation delays, in fact, by the mid-term review in 2018, only 19% of the IFAD loan and 35% of the grant had been disbursed, leading to compression of activities in the latter part of the project (International Fund for Agriculture and Development, 2024). As a result, approximately half of the beneficiary households only began participating in livelihood activities during the final year, which limited the depth of capacity-building and the time available for institutional consolidation. These delays were linked to administrative coordination issues between Bureau of Fisheries and Aquatic Resources (BFAR) and Local Government Units (LGUs), as well as procurement challenges at both national and local levels. In Basilan province, such coordination difficulties are compounded by its post-conflict environment, archipelagic geography, and security constraints, which increase the transaction costs of field visits, inter-agency meetings, and procurement processes. Balaoing-Pelkmans (2024) highlighted that on subnational governance in Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) particularly the Basilan province, it described persistent limitations in sectors such as agriculture, fisheries, and environment. These administrative and capacity constraints are particularly significant in light of the devolved governance framework under Republic Act 7160 and the Republic Act 11054 or the Bangsamoro Organic Law, which grant Local Government Units (LGUs) and the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) Government extensive powers over inland waters, municipal waters, and coastal resources. Comparable literature on small-scale fisheries governance in Southeast Asia similarly identifies inter-agency fragmentation, overlapping mandates and limited administrative capacity as recurring barriers to effective coastal resource management (CRM) implementation, even when community-level participation is strong (Jentoft & Chuenpagdee, 2015; Pomeroy, Courtney & Mattich, 2016). In context of Basilan province, this combination of coordination and capacity challenges undermines the ability of Fisheries, Coastal Resources and Livelihood (FishCORAL) Project structures to mature into stable, locally owned institutions.

6.2.b. Limited and uneven local government units' counterpart financing

In table 4, from a financing standpoint, LGU contributions to Fisheries, Coastal Resources and Livelihood (FishCORAL) Project amounted to approximately US\$2.565 million, equivalent to 8.4% of total actual project costs and only about 45.5% of the originally appraised LGU counterpart of US\$5.636 million (International Fund for Agriculture and Development, 2024). This gap indicates that many Local Government Units (LGUs) struggled to mobilize the financial contributions envisioned in the project design. For fiscally constrained local government units (LGUs) in Basilan, operating with high poverty incidence, limited own-source revenues, and pressing demands for basic services, infrastructure, and

security; allocating stable budget lines for coastal resource management (CRM), enforcement, and livelihood support is particularly challenging.

Policy documents such as the Comprehensive National Fisheries Industry Development Plan (CNFIDP) 2021-2025 acknowledge the “mandate-resource mismatch” faced by Local Government Units (LGUs) while they are assigned responsibility for municipal waters and small-scale fisheries development, they often do not have sufficient, predictable financial resources to sustain these functions (Department of Agriculture - Bureau of Fisheries and Aquatic Resources, 2021). Blue economy policy analyses make similar observations, warning that without adequate local financing, marine and coastal projects risk being project-dependent and unsustainable (Murray, L. et al., 2024; Pinhão, 2023). For Basilan, this limited and uneven Local Government Units (LGUs) counterpart financing weakens local ownership of Fisheries, Coastal Resources and Livelihood (FishCORAL) Project investments and institutions post-project.

6.2.c. Misalignment between project design and local infrastructure and institutional readiness

Table 4 notes that, following the mid-term review, the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project’s design placed greater emphasis on value-chain development, broadening the mandate of Bay Management Councils to include value-chain coordination and providing support such as freezers and conditional grants to enterprises (International Fund for Agriculture and Development, 2024). While this reorientation yielded positive outcomes in some regions, the evaluation explicitly states that in Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), this shift was “too early”, citing cases where freezers were provided despite insufficient electrical power service and weak market linkages.

In Basilan, many coastal communities face unstable electricity supply, limited cold-chain infrastructure, and constrained transport and market access. Introducing relatively sophisticated technologies and value-chain roles into such a context risk creating underutilized assets and additional burdens for Local Government Units (LGUs) and communities rather than resilience and empowerment. Food and Agriculture Organization’s (2022) Blue Transformation framework emphasizes that interventions must be sequenced according to local system readiness, with basic governance, infrastructure, and services established before more complex market and export-oriented strategies are implemented.

Empirical studies on coastal resource management also caution that project designs imported from more developed regions may not be directly transferable to fragile, conflict-affected, or infrastructure-poor areas and may inadvertently exacerbate dependency or implementation gaps (Christie et al., 2017; Cinner et al., 2018). For Basilan, this misalignment between Fisheries, Coastal Resources and Livelihood (FishCORAL) Project’s late-stage value-chain ambitions and local infrastructure and institutional readiness represents a significant implementation challenge.

6.3. Research objective 3 interpretation of results: Recommend interventions to strengthen institutional support for blue economy initiatives

Building on the institutional challenges identified in research objective 2, partial institutionalization of coastal councils, weak Local Government Unit-Bureau of Fisheries and Aquatic Resources coordination, limited counterpart financing, and misalignment between project design and local readiness. As

outlined in table 5, proposed interventions are presented to strengthen institutional support for blue economy implementation in Basilan, Bangsamoro Autonomous Region in Muslim Mindanao situated in Southern Philippines.

The first proposed intervention emphasizes strengthening the capacities of local government units (LGUs) in Basilan and community-based institutions as a foundational requirement for sustainable blue economy governance. This recommendation is strongly supported by recent governance and fisheries literature, which consistently shows that institutional capacity (not infrastructure or livelihood projects alone) determines whether coastal interventions are sustained over time (Christie et al. 2017; Food and Agriculture Organization, 2022). In the context of the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project, the uneven completion of the institutional integration sequence across Basilan LGUs highlights how capacity gaps constrain the translation of project inputs into durable governance outcomes in reference to International Fund for Agriculture and Development (2024).

Scholars in ocean governance argue that effective coastal management depends on institutions that can legitimize rules, enforce regulations, coordinate actors, and adapt to changing ecological and social conditions (Christie et al., 2017). In tropical and climate-vulnerable coastal regions, such as Basilan, these functions are further shaped by administrative competence, leadership, data use, and collective action, all of which contribute to what Cinner et al. (2018) described as adaptive capacity. The proposed focus on continuous training in coastal resource management planning, fisheries law enforcement, data management, and enterprise development directly respond to these findings by targeting the core institutional functions required for sustained governance.

The recommendation to institutionalize mentoring and peer-learning exchanges with more advanced Local Government Units (LGUS) of Basilan further reflects insight from interactive and co-management literature, which emphasizes learning-by-doing and horizontal knowledge exchange as effective mechanisms for institutional strengthening (Jentoft & Chuenpagdee, 2015; Pomeroy, Courtney & Mattich, 2016). Rather than relying solely on top-down technical assistance, peer learning allows Local Government Units (LGUs) in Basilan to adapt proven governance practices to their own political, cultural, and resource contexts. This approach is particularly relevant in post-conflict settings, where formal institutions may exist but lack confidence, experience, or continuity.

Mainstreaming gender- and conflict-sensitive approaches into capacity-building efforts is also critical given Basilan's post-conflict and socially diverse context. Studies on governance in fragile regions caution that failure to address social exclusion, power asymmetries, and conflict legacies may undermine participation and legitimacy, even when technical interventions are well-designed (Balaoing-Pelkmans, 2024). Food and Agriculture Organization's (2022) (FAO) Blue Transformation framework explicitly emphasizes inclusive governance as a prerequisite for sustainable aquatic food systems, particularly in contexts marked by inequality and historical. This is why the integration of gender and conflict sensitivity into training programs is imperative believing this strategy in the first proposed intervention strengthens not only technical capacity but also the social foundations of blue economy governance.

The second proposed intervention focuses on strengthening financing mechanisms and partnership to support blue economy investments, addressing a widely documented constraint in coastal governance

literature which was previously presented in the results section of this study where there is a mismatch between devolved mandates and available resources at the local level. Morgan (2022) also insinuated on the matters of blue economy financing caution where dependence on short-term, project-based funding often results in fragmented implementation and weak local ownership, particularly when Local Government Units (LGUs) in Basilan lack predictable fiscal space to maintain assets and institutions after project closure in reference to Partnerships in Environmental Management for the Seas of East Asia (2019).

Regional analyses of blue economy initiatives in Southeast Asia emphasize that sustainable scaling requires coordinated financing arrangements, including public-private partnerships, blended finance, and alignment with national development programs (Ramli & Waskitho, 2023). These key strategies or actions are not merely financial tools but governance arrangements that shape accountability, risk-sharing, and long-term commitment. In the Philippine context, the Comprehensive National Fisheries Industry Development Plan (CNFFIDP) explicitly recognizes that Local Government Units (LGUs) are tasked with managing municipal waters and fisheries without commensurate financial resources, creating structural barriers to sustained implementation (Department of Agriculture - Bureau of Fisheries and Aquatic Resources, 2021).

Thus, the proposed key strategies or action in the second proposed intervention believes that it directly responds to the mandate-resource mismatch. Through strengthening financial ownership and diversifying funding sources, Local Government Units (LGUs) in Basilan can move beyond project dependency and assume a more proactive role as co-investors and co-owners of blue economy assets. This aligns with blue finance literature, which highlights that financial sustainability and governance capacity must evolve together to achieve long-term outcomes (Morgan, 2022).

The third proposed intervention focuses on mainstreaming climate resilience and disaster risk reduction and management (DRRM) into coastal and fisheries planning. This intervention is grounded in the growing scholarly consensus that climate risks must be embedded within formal development planning systems rather than addressed through isolated or project-based approaches. Empirical studies demonstrate that adaptive capacity in coastal communities, defined by access to assets, institutional flexibility, learning processes, and local agency, is significantly shaped by governance structures that systematically integrate risk considerations into routine planning and decision-making processes (Cinner et al., 2018). In the Philippine context, national policy frameworks mandate the integration of climate change adaptation and DRRM into local development plans and land use planning instruments to institutionalize resilience at the Local Government Unit (LGU) level (Department of the Interior and Local Government, Climate Change Commission, & Department of Budget and Management, 2014). Similarly, the Food and Agriculture Organization of the United Nations (2022) frames climate resilience within its Blue Transformation roadmap as a function of integrated governance systems that connect ecosystem protection, livelihood sustainability, and social protection within coherent institutional arrangements. Complementing this perspective, recent evidence highlights that resilience in aquatic food systems is strengthened when risk-informed planning is aligned with social protection mechanisms that reduce household vulnerability and enable adaptive responses to climate shocks, rather than forcing short-term coping strategies that may undermine long-term resource sustainability (Tabe-Ojong et al., 2025). These converging perspectives reinforce the position that climate resilience is a core governance responsibility

within blue economy implementation and must be embedded across planning, budgeting, and service delivery functions.

In Basilan, Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), where exposure to climate hazards intersects with ecological stress and livelihood vulnerability, institutionalizing climate considerations within fisheries and coastal governance structures becomes particularly critical. Integrating climate risk assessments, ecosystem-based adaptation strategies, and hazard-informed infrastructure siting into the operational mandates of Bay Management Councils, Fisheries and Aquatic Resources Management Councils (FARMCs), and local government unit (LGU) development plans strengthens both environmental sustainability and livelihood security. Operationally, this implies institutionalizing climate-sensitive planning standards, allocating dedicated budget lines for adaptation measures, aligning fisheries management decisions with seasonal hazard patterns, and ensuring that livelihood support mechanisms are responsive to climate-related shocks. This paper believes that when these are embedded within existing governance institutions, resilience becomes an integral component of fisheries development rather than a parallel or temporary intervention.

Thus, the proposed interventions in table 5 reflect an institution-centred approach to blue economy governance that is well grounded in recent literature. Rather than treating blue economy implementation as a series of technical or sectoral projects, these interventions recognize governance as a dynamic system shaped by institutional capacity, fiscal arrangements, and risk management. In fragile and post-conflict context such as Basilan, where administrative constraints, fiscal limitations, and climate risks intersect, the proposed interventions below hopefully offer a coherent pathway for transforming project-based initiatives like Fisheries, Coastal Resource and Livelihood (FishCORAL) Project into more durable, community-based, and resilient administration of public governance.

Table 5. Proposed interventions to strengthen community-based coastal resource management in Basilan, Bangsamoro Autonomous Region in Muslim Mindanao (BARMM)

Proposed intervention	Key strategies or actions in Basilan	Responsible Agencies or Stakeholders	Timeline	Expected Outputs
Strengthen LGU and community capacities for blue economy governance	Enact local ordinances and issue executive orders formally establishing Bay Management Councils (BMCs) and Fisheries and Aquatic Resources Management Councils (FARMCs) as permanent multi-sectoral bodies, aligned with RA 8550 and RA 11054.	Local Government Units (LGUs) of Basilan - Mayor - Governor - Sangguniang Bayan - Sangguniang Panlungsod - Ministry of Agriculture, Fisheries and Agrarian Reform (MAFAR) - Fisheries and Aquatic Resource Management Councils (FARMCs) - Bay Management Councils (BMCs)	Short to medium term	Legal permanence of coastal councils beyond project duration
	Conduct regular training programs on coastal resource management planning,	- Department of Agriculture - Bureau of Fisheries and Aquatic Resources (BFAR)	Continuous training programs	Increased capacity of LGU staff and community members to

Proposed intervention	Key strategies or actions in Basilan	Responsible Agencies or Stakeholders	Timeline	Expected Outputs
	fisheries law enforcement, data management, gender-sensitivity, and conflict-sensitivity orientation.	<ul style="list-style-type: none"> - Local Government Units of Basilan (Municipal and City) - Ministry of Agriculture, Fisheries and Agrarian Reform (MAFAR) - Fisheries and Aquatic Resource Management Councils (FARMCs) - Bay Management Councils (BMCs) - Community organizations - FAO and IFAD as technical partners - Philippine Commission on Women (PCW) - Department of Interior and Local Governance 	(quarterly basis)	manage coastal resources and enforce regulations.
	Implement leadership and governance training for FARMC/BMC officers and community organizations and provide mentoring and peer-learning exchanges with more advanced LGUs	<ul style="list-style-type: none"> - Department of Agriculture – Bureau of Fisheries and Aquatic Resources (BFAR) - Local Government Units of Basilan (Municipal and City level) - Ministry of Agriculture, Fisheries and Agrarian Reform (MAFAR) - Fisheries and Aquatic Resource Management Councils (FARMCs) - Bay Management Councils (BMCs) 	Continuous training programs (annually)	Enhanced local leadership and governance for sustainable coastal management.
Enhance financing and partnerships for blue economy investments	Identify and develop new funding mechanisms, such as public-private partnerships (PPPs), blended finance, and blue finance mechanisms.	<ul style="list-style-type: none"> - Local Government Units of Basilan (Municipal and City level) - Department of Agriculture - Ministry of Agriculture, Fisheries and Agrarian Reform (MAFAR) - Department of Agriculture – Bureau of Fisheries and Aquatic Resources (BFAR) - Private Sector and NGOs - Development Partners (World Bank, ADB) 	6 months	Established financial mechanisms for sustainable coastal resource management.
	Allocate a portion of LGU revenues and allocated budget from	<ul style="list-style-type: none"> - Local Government Units of Basilan (Municipal and City level) 	1 year	Increased funding for blue economy projects

Proposed intervention	Key strategies or actions in Basilan	Responsible Agencies or Stakeholders	Timeline	Expected Outputs
	the 20% development fund for coastal resource management and blue economy funds.	<ul style="list-style-type: none"> - Local development councils of Basilan - Department of Agriculture - Ministry of Agriculture, Fisheries and Agrarian Reform (MAFAR) - Department of Agriculture - Bureau of Fisheries and Aquatic Resources (BFAR) 		
	Develop partnerships with national and international financial institutions	<ul style="list-style-type: none"> - Bangko Sentral ng Pilipinas - Commission on Audit - Bureau of Treasury - Bureau of Local Government Finance - Local Government Units of Basilan (Municipal and City level) - Local development councils of Basilan - Ministry of Agriculture, Fisheries and Agrarian Reform (MAFAR) - Department of Agriculture - Bureau of Fisheries and Aquatic Resources (BFAR) 	2-3 years	Strengthened partnerships between LGUs, national agencies, and private sector
Mainstream climate resilience and DRRM into coastal and fisheries planning	Integrate climate risk assessments and ecosystem-based adaptation (e.g., mangrove rehabilitation, fish sanctuaries) into BMC/FARMC plans and LGU land- and sea-use plans	<ul style="list-style-type: none"> - Department of Environment and Natural Resources (DENR) - Local Disaster Risk and Management offices of Basilan - Department of Agriculture - Bureau of Fisheries and Aquatic Resources (BFAR) - Local development councils of Basilan 	2 years	Mainstreamed climate resilience strategies in coastal and fisheries planning
	Mainstream climate adaptation measures (e.g., mangrove restoration, fish sanctuaries) into local development and sectoral plans while providing technical training on Disaster Risk Reduction and	<ul style="list-style-type: none"> - Local development councils of Basilan - Department of Environment and Natural Resources (DENR) - Local Disaster Risk and Management offices of Basilan 	Continuous (quarterly basis)	Increased integration of DRRM in coastal governance frameworks

Proposed intervention	Key strategies or actions in Basilan	Responsible Agencies or Stakeholders	Timeline	Expected Outputs
	Management (DRRM) and climate-resilient livelihoods.	- Ministry of Agriculture, Fisheries and Agrarian Reform (MAFAR)		
	Establish disaster-resistant infrastructure (e.g., coastal defense structures).	- Department of Environment and Natural Resources (DENR) - Local Disaster Risk and Management offices of Basilan - Department of Agriculture – Bureau of Fisheries and Aquatic Resources (BFAR) - Local development councils of Basilan - Bids and Awards Committee - Awarded contractor for infrastructure	2 years	Enhanced climate-resilient infrastructure and livelihoods in coastal communities.

6. Conclusions

This paper examined how institutional support shapes blue economy implementation in Basilan, in Bangsamoro Autonomous Region in Muslim Mindanao, by analysing secondary data of the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project through a theory-of-change lens. Drawing upon documentary analysis of project evaluations, policy frameworks, and governance literature, the study demonstrates that blue economy initiatives in post-conflict island provinces are ultimately sustained not by infrastructure or livelihood inputs alone, but through the strength, coordination, and adaptive capacity of local institutions. The findings present that Local Government Units (LGUs) in Basilan are not passive recipients of externally funded projects. Rather, they perform three interrelated and substantive roles within blue economy governance as co-financiers and co-owners of investments, as planners and integrators of coastal resource management (CRM) into local plans, ordinances, and budgets, and as enablers of value chains and livelihood support through endorsement of fisherfolk organizations, provision of sites and permits, and coordination with national agencies. These roles are consistent with the devolved mandates assigned to Local Government Units (LGUs) under the Local Government Code, the Philippine Fisheries Code as amended, and the Bangsamoro Organic Law, and they align closely with Food and Agriculture Organization’s Blue Transformation emphasis on strong, inclusive, and locally anchored institutions. On emphasis regarding persistent institutional challenges which constrain the effectiveness and sustainability of blue economy initiatives in the province of Basilan, (1) coordination and administrative capacity constraints between Bureau of Fisheries and Aquatic Resources (BFAR) and Local Government Units (LGUs), exacerbated by post-conflict conditions, archipelagic geography, and procurement complexities, contributed to implementation delays, compressed timelines, and limited depth of capacity-building. (2) Limited and uneven Local Government Unit (LGU) financing reflects a

broader mandate-resource mismatch acknowledged in national fisheries policy frameworks, weakening local ownership and post-project sustainability. In addition, (3) misalignment between project design and local infrastructure and institutional readiness, particularly the late introduction of value-chain and technology-intensive interventions in areas with weak power supply and market access; further constrained project outcomes.

Difficulties in scaling livelihood and financial inclusion mechanisms magnifies deeper socio-economic and institutional vulnerabilities in conflict-affected coastal communities. Nevertheless, these findings reinforce a central conclusion that blue economy initiatives in post-conflict island provinces such as Basilan will succeed or fail primarily on the strength of local institutions, rather than on the scale of project investments alone. While the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project made significant contributions to ecological rehabilitation and livelihood support, its long-term impact depends on whether Local Government Units (LGUs) are sufficiently capacitated, financed, and institutionally supported to absorb, sustain, and scale these gains beyond the project implementing period. As a response, this study proposes a set of institution-centred interventions aimed at transforming the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project from a time-bound development project into a foundation for durable blue economy governance in the province of Basilan. Collectively, these proposed interventions emphasize the need to “right-size” blue economy strategies to fragile, archipelagic, and post-conflict contexts, ensuring that governance capacity, fiscal space, and local readiness are established before more complex value-chain and technology-driven interventions are introduced.

1. Build sustained capacities for blue economy governance
2. Enhance financing and partnerships for blue economy investments
3. Mainstream climate resilience and DRRM into coastal and fisheries planning

An important thing to consider, this study is not without limitations as it relies on secondary and largely aggregated data, and existing Fisheries, Coastal Resources and Livelihood (FishCORAL) Project evaluations do not provide province-specific quantitative disaggregation for the province of Basilan, which calls for another conduct of research which could address these gaps through primary data collection, including interviews with Local Government Unit (LGU) officials, fisherfolk leaders, women’s groups, and Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) Ministries, as well as longitudinal case studies of specific municipalities or bays. Such approaches would further deepen understanding of how local politics, leadership, and institutional learning shape the long-term institutionalization of blue economy reforms.

Despite these limitations, this study greatly wishes in contributing to the emerging literature by situating blue economy aspirations within the realities of subnational governance and post-conflict reconstruction. Through a process of examining institutional roles, constraints, and pathways for reform, it demonstrates that institutional support (rather than ecological or livelihood interventions alone) is the decisive factor in sustaining blue economy initiatives in the province of Basilan and similar settings. As the blue economy remains an emerging policy agenda in the Philippines, this analysis offers empirically grounded insights that can inform policymakers, development partners, and researchers seeking to advance inclusive, resilient, and peace-supportive marine governance in fragile or vulnerable coastal regions.

Acknowledgements

I would like to express my deepest gratitude to my academic advisor, whose invaluable guidance, wisdom, and unwavering support have been instrumental throughout this study. Your mentorship has been a cornerstone of this work, and I am truly grateful for all the insight and encouragement you've provided. I also extend my sincere thanks to the Ministry of Agriculture, Fisheries, and Agrarian Reform (MAFAR) for granting the certification to utilize secondary data in this research. Their assistance ensured the legal compliance and integrity of the data, allowing this study to proceed with the highest ethical standards. A heartfelt thank you goes to the Department of Agriculture - Bureau of Fisheries and Aquatic Resources (DA-BFAR) and the International Fund for Agricultural Development (IFAD) for supplying essential data and resources. Your support has been vital to achieving the research objectives and ensuring the success of this study. I am also profoundly grateful to my family, particularly my mother, whose unconditional support, patience, and encouragement were a constant source of strength throughout this journey. To my boyfriend, thank you for your love and for believing in me, especially during a period when I was balancing a full-time administrative role, part-time teaching, and the organization of a city-wide event. It was a demanding and hectic chapter of my life, yet your trust and encouragement sustained me throughout. Without your belief in me, this work would not have been possible.

I wish to acknowledge the recently established Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), particularly the province of Basilan, which is home to vibrant indigenous cultural communities. Your collective role and coordinated efforts during the implementation of the FishCORAL project have been vital to the completion of this study. Behind the scenes of every successful and progressive government initiative, there are countless challenges, and I acknowledge the administration and the political will behind the vision of our leaders. While the Philippines still has a long way to go in realizing the full potential of the blue economy, I hope this study contributes to the region's emergence in this field and furthers the ongoing international discourse on sustainable marine resource management.

As the blue economy is still an emerging concept in the Philippines, I sincerely hope that this study can contribute to the growing body of international research in this field, offering valuable insights from our local context and adding to the global conversation on sustainable and inclusive marine resource management.

I remain hopeful and wish for a progressive, sustainable, and inclusive administration of public governance across all regions in the Philippines, one that prioritizes both environmental sustainability and equitable development for all its people.

References

1. Allison, E. H., & Ellis, F. (2001). The livelihoods approach and management of small-scale fisheries. *Marine Policy*, 25(5), 377–388. [https://doi.org/10.1016/S0308-597X\(01\)00023-9](https://doi.org/10.1016/S0308-597X(01)00023-9)
2. Asian Development Bank. (2025). Proposed Philippines: Marine ecosystems and blue economy development program [Presentation]. Asian Development Bank. Retrieved October 29, 2025, <https://www.adb.org/projects/58379-001/main>
3. Association of Southeast Asian Nations. (2023). *ASEAN blue economy framework*. ASEAN

- Secretariat. UP Center for Integrative Studies. <https://asean.org/wp-content/uploads/2023/09/ASEAN-Blue-Economy-Framework.pdf>
4. Azanza, R. V., Escalona, K. S., & Largo, D. B. (2022). A sustainable and inclusive blue economy for the Philippine archipelago. *Transactions of the National Academy of Science and Technology TRANSACTIONS NASTPHL* (Philippines), 44. <https://doi.org/10.57043/transnastphl.2022.2564>
 5. Balaoing-Pelkmans, A. (2024). The jobs challenge for the Bangsamoro Autonomous Region in Muslim Mindanao. International Labour Organization. Retrieved October 29, 2025, <https://cids.up.edu.ph/wp-content/uploads/2024/04/The-Jobs-Challenge-for-the-BARMM-18-April.pdf>
 6. Belcher, B., Davel, R., Claus, R. (2020). A refined method for theory-based evaluation of the societal impacts of research. *MethodsX*, 7, 100788, <https://doi.org/10.1016/j.mex.2020.100788>
 7. Bolongon, L. (2025). FAO, Japan launch \$4.7-M project to boost fisheries, food security. Philippine Information Agency. Retrieved October 4, 2025, <https://pia.gov.ph/news/barmm-fao-japan-seal-4-7m-project-to-boost-fisheries-food-security/>
 8. Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40. <https://doi.org/10.3316/QRJ0902027>
 9. Bureau of Fisheries and Aquatic Resources. (2018). Philippines' fisheries, coastal resources and livelihood (FishCORAL) project: Mid-term review full report. Retrieved October 20, 2025, <https://fishcoral.bfar.da.gov.ph/>
 10. Bureau of Fisheries and Aquatic Resources. (2021). 2021-03 SIS full report. Department of Agriculture–Bureau of Fisheries and Aquatic Resources. Retrieved October 20, 2025, <https://www.bfar.da.gov.ph/>
 11. Bureau of Fisheries and Aquatic Resources. (2021). Comprehensive National Fisheries Industry Development Plan (CNFIDP), 2021–2025. Department of Agriculture–Bureau of Fisheries and Aquatic Resources. Retrieved October 20, 2025, <https://www.bfar.da.gov.ph/wp-content/uploads/2022/10/Comprehensive-National-Fisheries-Industry-Development-Plan-CNFIDP-2021-2025.pdf>
 12. Bureau of Fisheries and Aquatic Resources. (2022). Fisheries, Coastal Resources and Livelihood (FishCORAL) Project: Annual report 2020. Department of Agriculture–Bureau of Fisheries and Aquatic Resources. Retrieved October 20, 2025, <https://fishcoral.bfar.da.gov.ph/>
 13. Cabral, R. B., Geronimo, R. C., Mamauag, S. S., & others. (2022). Ensuring aquatic food security in the Philippines. Retrieved November 17, 2025, https://www.nfrdi.da.gov.ph/tpjf/vol30_2/Ensuring%20Aquatic%20Food%20Security%20in%20the%20Philippines.pdf
 14. Christie, P., Bennett, N. J., Gray, N. J., Aulani Wilhelm, T., Lewis, N., Parks, J., Ban, N. C., Gruby, R. L., Gordon, L., Day, J., Tai, S., & Friedlander, A. M. (2017). Why people matter in ocean governance: Incorporating human dimensions into large-scale marine protected areas. *Marine Policy*, 84, 273–284. <https://doi.org/10.1016/j.marpol.2017.08.002>
 15. Cinner, J. E., Zamborain-Mason, J., Gurney, G. G., Graham, N. A. J., MacNeil, M. A., Hoey, A. S., Villéger, S., Maire, E., & Grantham, R. (2018). Building adaptive capacity to climate change in tropical coastal communities. *Nature Climate Change*, 8, 117–123. <https://doi.org/10.1038/s41558-017-0065-x>

16. Connell, J. P., & Kubisch, A. C. (1998). Applying a theory of change approach to the evaluation of comprehensive community initiatives: Progress, prospects, and problems. In K. Fulbright-Anderson, A. C. Kubisch, & J. P. Connell (Eds.), *New approaches to evaluating community initiatives: Theory, measurement, and analysis* (Vol. 2, pp. 15–44). Aspen Institute. Retrieved October 1, 2025, <https://cnxus.org/wp-content/uploads/2022/04/08071320ApplyingTheoryofChangeApproach.pdf>
17. Delos Reyes, C. (2025). Basilan now free from Abu Sayyaf—Galvez. Philippine News Agency. Retrieved October 29, 2025, <https://pia.gov.ph/news/basilan-declared-asg-free-pillar-of-peace-marker-unveiled/>
18. Department of Agriculture. (2023). Mindanao Inclusive Agriculture Development Project (MIADP). Environmental and Social Management Framework. Retrieved November 3, 2025, <https://documents1.worldbank.org/curated/en/099222502172315143/pdf/P17386600948600170af1b013178051c119.pdf>
19. Department of Agriculture–Bureau of Fisheries and Aquatic Resources. (2021). Comprehensive National Fisheries Industry Development Plan (CNFIDP) 2021–2025. Retrieved October 29, 2025, <https://faolex.fao.org/docs/pdf/phi185010.pdf>
20. Department of the Interior and Local Government, Climate Change Commission, & Department of Budget and Management. (2014). Joint Memorandum Circular No. 2014-01: Guidelines on the mainstreaming of climate change adaptation and disaster risk reduction in local development plans and investment programs. Retrieved November 5, 2025, <https://www.climate.gov.ph/files/JMCNo2014-01.pdf>
21. Food and Agriculture Organization. (2022). Blue Transformation: Roadmap 2022–2030. Retrieved October 29, 2025, <https://openknowledge.fao.org/>
22. Food and Agriculture Organization. (2015). Voluntary guidelines for securing sustainable small-scale fisheries in the context of food security and poverty eradication. United Nations. Retrieved October 29, 2025, <https://openknowledge.fao.org/items/7171b0b5-e504-4059-bb83-522943cb5f65>
23. Food and Agriculture Organization. (2021). Blue Transformation framework. United Nations. Retrieved October 29, 2025, <https://openknowledge.fao.org/server/api/core/bitstreams/39ef1d5b-0bee-4c31-9883-1325a44c48a8/content>
24. Food and Agriculture Organization. (2022). Blue Transformation in action: 2022–2030 roadmap. United Nations. Retrieved October 29, 2025, <https://openknowledge.fao.org/server/api/core/bitstreams/1273bc36-339b-43d2-8163-af4d805f2ad2/content/sofia/2024/transforming-aquatic-based-food.html>
25. Food and Agriculture Organization. (2022). The State of World Fisheries and Aquaculture 2022: Towards Blue Transformation. FAO. UP Center for Integrative Studies. Retrieved October 29, 2025, <https://openknowledge.fao.org/server/api/core/bitstreams/a2090042-8cda-4f35-9881-16f6302ce757/content>
26. Hammersley, M. (2007). *Educational research and evidence-based practice*. SAGE Publications. Retrieved November 9, 2025, <https://uk.sagepub.com/en-gb/eur/educational-research-and-evidence-based-practice/book231551>
27. International Fund for Agricultural Development, Independent Office of Evaluation. (2024).

- Fisheries, Coastal Resources and Livelihood Project (FishCORAL) – Philippines: Project performance evaluation. Retrieved October 1, 2025, <https://webapps.ifad.org/members/eb/142/docs/EB-2024-142-R-20.pdf>
28. Jentoft, S., & Chuenpagdee, R. (2015). Interactive governance for small-scale fisheries: Global reflections. Springer. Retrieved November 13, 2025, <https://www.springer.com/gp/book/9783319168902>
29. Krippendorff, K. (2018). Content analysis: An introduction to its methodology (4th ed.). SAGE Publications. Retrieved October 30, 2025, <https://us.sagepub.com/en-us/nam/content-analysis/book243616>
30. Morgan, P. J. (2022). Blue economy and blue finance. Asian Development Bank. Retrieved October 1, 2025, <https://www.adb.org/sites/default/files/publication/812076/blue-economy-and-blue-finance-web.pdf>
31. Murray, L., Von Hase, A., Walters, G., & Atkinson, S. (2024). Landscape analysis and opportunity study on marine biodiversity and blue carbon ecosystems in the Philippines. Rare & Agence Française de Développement. Retrieved October 29, 2025, <https://rare.org/wp-content/uploads/2024/05/AFD-Rare-Blue-Carbon-Landscape-Analysis-Philippines.pdf>
32. National Mapping and Resource Information Authority (2016). NAMRIA officially announces additional islands in the Philippine archipelago [Press release]. Retrieved November 3, 2025 <https://primer.com.ph/blog/2017/03/11/total-number-of-philippine-islands-is-now-7641/>
33. Partnerships in Environmental Management for the Seas of East Asia. (2019). Enabling blue economy investment for sustainable development. Retrieved December 6, 2025, <https://www.pemsea.org/sites/default/files/2023-12/PEMSEA%20BE%20Knowledge%20Product%2009112019.pdf>
34. Philippine Statistics Authority (2021). Fisherfolks and farmers remain to have the highest poverty incidences among the basic sectors in 2021. PRESS RELEASE. Retrieved October 6, 2025, <https://psa.gov.ph/system/files/phdsd/Press%20Release-5%20%281%29.pdf>
35. Pinhão, F. (2023). Overview: Blue economy in the Philippines. Economic Research Institute for ASEAN and East Asia. Retrieved October 17, 2025, <https://www.eria.org/uploads/Overview-Blue-Economy-the-Philippines.pdf>
36. Pravina, X., Kishore, T. M., Sushma, B. S., & Jaya, R. (2025). Environmental degradation and its impact on coastal fisheries: Challenges and policy responses. International Journal of Advanced Research, 13(2), 1–12. <https://doi.org/10.21474/IJAR01/21691>
37. Prior, L. (2003). Using documents in social research. SAGE Publications. <https://doi.org/10.4135/9780857020222>.
38. Pomeroy, R., Parks, J., Courtney, K., & Mattich, N. (2016). Improving marine fisheries management in Southeast Asia: Results of a regional fisheries stakeholder analysis. Marine Policy, 65, 20–29. <https://doi.org/10.1016/j.marpol.2015.12.002>.
39. Ragasa, C. (2022). Transforming aquatic food systems under climate change: A review of policies and institutions (IFPRI Discussion Paper 2161). International Food Policy Research Institute. Retrieved October 2, 2025, <https://digitalarchive.worldfishcenter.org/server/api/core/bitstreams/bb89424f-cdf1-448a-b83d-a33d3bddc6d0/content>

40. Ramli, I. M., & Waskitho, T. (2023). Blue economy initiatives in South-East Asia: Challenges and opportunities. Economic Research Institute for ASEAN and East Asia (ERIA). Retrieved October 3, 2025, <https://www.eria.org/publications/blue-economy-initiatives-in-south-east-asia-challenges-and-opportunities/>
41. Relief Web. (2025). BARMM drives fisheries and livelihood development through global models. News and Press Release. Retrieved October 3, 2025, <https://reliefweb.int/report/philippines/barmm-drives-fisheries-and-livelihood-development-through-global-models>
42. Republic Act No. 10173. (2012). An Act protecting individual personal information in information and communications systems in the government and the private sector, creating for this purpose a National Privacy Commission, and for other purposes. Official Gazette. Retrieved October 10, 2025, <https://www.officialgazette.gov.ph/2012/08/15/republic-act-no-10173/>
43. Republic of the Philippines. (2015). Republic Act No. 10654. An Act to prevent, deter, and eliminate illegal, unreported and unregulated fishing. Official Gazette. Retrieved October 10, 2025, <https://www.bfar.da.gov.ph/wp-content/uploads/2021/04/ra10654.pdf>
44. Republic of the Philippines. (2009). Republic Act No. 9729. Climate Change Act of 2009. Official Gazette. Retrieved October 10, 2025, https://lawphil.net/statutes/repacts/ra2009/ra_9729_2009.html
45. Republic of the Philippines. (1991). Republic Act No. 7160. Local Government Code of 1991. Official Gazette. Retrieved October 10, 2025, <https://elibrary.judiciary.gov.ph/thebookshelf/showdocs/2/53542>
46. Republic of the Philippines. (2018). Republic Act No. 11054. Organic Law for the Bangsamoro Autonomous Region in Muslim Mindanao. Retrieved October 10, 2025, https://lawphil.net/statutes/repacts/ra2018/ra_11054_2018.html
47. Republic of the Philippines. (1998). Republic Act No. 8550. Philippine Fisheries Code of 1998 Department of Agriculture–Bureau of Fisheries and Aquatic Resources. Retrieved October 10, 2025, <https://www.bfar.da.gov.ph/wp-content/uploads/2021/03/R.A.-8550.pdf>
48. Republic of the Philippines. (2010). Republic Act No. 10121. Philippine Disaster Risk Reduction and Management Act of 2010. Official Gazette. Retrieved October 10, 2025, <https://www.officialgazette.gov.ph/2010/05/27/republic-act-no-10121/>
49. Sahu, R. & Doppalapudi, R. (2025). Blue economy: Framework for integrating economic growth with marine ecosystem. International Journal of Marine Engineering Innovation and Research, 10(1), 165–174. <https://doi.org/10.12962/j25481479.v10i1.4758>
50. Saunders, M., Lewis, P., & Thornhill, A. (2015). Research methods for business students (7th ed.). Pearson. Retrieved October 1, 2025, <https://www.pearson.com/us/higher-education/program/Saunders-Research-Methods-for-Business-Students-7th-Edition/PGM1206458.html>
51. Scott, J. (1990). A matter of record: Documentary sources in social research. Polity Press. Retrieved October 1, 2025, <https://www.politybooks.com/bookdetail/?isbn=9780745602964>

-
52. Sturesson, A., Weitz, N., & Persson, Å. (2018). SDG 14: Life below water: A review of research needs (Technical annex to the Formas report Forskning för Agenda 2030: Översikt av forskningsbehov och vägar framåt). Stockholm Environment Institute. Retrieved October 29, 2025, <https://www.sei.org/wp-content/uploads/2018/11/sdg-14-life-below-water-review-of-research-needs-1.pdf>
 53. Tabe-Ojong, M. P. J., Ragasa, C., & Asfaw, S. (2025). Social protection and aquatic food systems: Lessons for climate resilience. *Environmental Science & Policy*, 168, 104043. ScienceDirect. <https://doi.org/10.1016/j.envsci.2024.104043>
 54. Vogel, I. (2012). Review of the use of 'Theory of Change' in international development: Review report. UK Department for International Development (DFID). Retrieved September 29, 2025, https://www.theoryofchange.org/pdf/Vogel_ToC_Review_Report.pdf
 55. Weiss, C. H. (1995). Nothing as practical as good theory: Exploring theory-based evaluation for comprehensive community initiatives for children and families. In J. Connell, A. Kubisch, L. Schorr & C. Weiss (Eds.), *New approaches to evaluating comprehensive community initiatives* (pp. 65-92). New York: The Aspen Roundtable Institute. Retrieved September 29, 2025, <https://files.eric.ed.gov/fulltext/ED383817.pdf>
 56. World Bank. (2012). Hidden harvest: The global contribution of capture fisheries (Report No. 66469-GLB). Retrieved October 2, 2025, <https://openknowledge.worldbank.org/handle/10986/11873>