

EMPOWERING COASTAL COMMUNITIES THROUGH SUSTAINABLE MARINE-BASED ENTREPRENEURSHIP: A COMMUNITY ENGAGEMENT PROGRAM IN LOMBOK, INDONESIA

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Abstract

Coastal communities play a crucial role in the marine economy; however, many continue to face socioeconomic vulnerabilities despite the abundant marine resources available. In Lombok Island, Indonesia, coastal livelihoods remain constrained by low value-added production, limited entrepreneurial capacity, restricted market access, and high dependence on primary marine resource extraction. This study aims to examine the development of sustainable marine-based entrepreneurship as a strategy for empowering coastal communities and promoting inclusive blue economy development in Lombok. This study employs a descriptive qualitative approach using observation methods to explore coastal economic activities, marine resource utilization, community participation, and factors influencing the development of sustainable marine-based enterprises. The findings reveal that fisheries product innovation, community-based marine tourism, women's participation, and strengthening local institutions are key components in enhancing coastal community resilience. Value-added processing of fisheries and seaweed products contributes to improved economic opportunities by transforming communities from raw material suppliers into producers of higher-value marine products. Furthermore, community-based ecotourism provides alternative livelihoods, while gender-inclusive empowerment expands economic participation and household welfare improvement. The study also highlights that integrating local knowledge, community engagement, and sustainable resource management is essential for ensuring the long-term viability of marine-based entrepreneurship. Therefore, sustainable marine-based entrepreneurship should be developed through an integrated approach that combines economic empowerment, social inclusion, and environmental conservation. This approach provides an important pathway toward achieving an inclusive and equitable blue economy while strengthening the resilience of coastal communities in Lombok Island.

Keywords: sustainable marine-based entrepreneurship; coastal community empowerment; blue economy; community engagement; Lombok Island

INTRODUCTION

The ocean economy is increasingly recognized as a strategic sector capable of driving sustainable global economic development. The potential of marine resources extends beyond fisheries exploitation, encompassing a wide range of ecosystem services that play a critical role in ensuring food security, regulating climate systems, and supporting the livelihoods of coastal communities that depend on marine ecosystems. The global ocean economy is projected to expand significantly, reaching approximately USD 3 trillion by 2030, positioning the ocean as a new frontier for global economic development (Sumaila et al., 2021). This projection highlights that sustainable

ocean resource management is no longer merely an option but an essential requirement to achieve a balance between economic growth, social welfare, and environmental sustainability.

As the world's largest archipelagic country, Indonesia possesses substantial marine resources while maintaining a high level of dependence on coastal and ocean-based economic activities. The marine and fisheries sector represents an important pillar of the national economy, reflected in Indonesia's fisheries export value, which reached USD 6.24 billion in 2022 (Yusuf et al., 2025). Furthermore, approximately 960,000 households relied on capture fisheries activities, while more than 1.5 million households depended on aquaculture activities in 2016 (Stacey et al., 2021). The large number of people whose livelihoods depend on this sector demonstrates that marine economic development is not only crucial for national economic growth but also serves as a foundation for sustaining the livelihoods of millions of coastal residents.

Despite its substantial potential, the marine economy has not fully translated into improved welfare outcomes for coastal communities. Behind the significant contribution of the fisheries sector to the national economy, considerable socioeconomic disparities remain. Evidence indicates that approximately one-fifth of Indonesia's poor population originates from fishing households characterized by vulnerable social and economic conditions (Stacey et al., 2021). This situation suggests that abundant marine resources do not automatically generate improvements in the welfare of communities dependent on these resources. In other words, economic growth within the marine sector has not yet become fully inclusive, as the benefits generated remain unevenly distributed among coastal communities, who represent the primary actors in marine resource utilization.

This vulnerability is further intensified by multidimensional challenges faced by coastal communities in maintaining their livelihoods. Overfishing, destructive fishing practices, marine pollution, and increasing climate change impacts have contributed to the degradation of coastal ecosystems and heightened uncertainty in fishery yield (Stacey et al., 2021). Moreover, rising ocean temperatures and ocean acidification are projected to continue reducing marine biomass, directly affecting fisheries productivity, fishermen's income, and food security among communities dependent on marine resources (Sumaila et al., 2021). These conditions demonstrate that high dependence on capture fisheries without livelihood diversification increases the vulnerability of coastal communities to both economic shocks and environmental changes.

Various initiatives have been implemented to strengthen and diversify coastal livelihoods through alternative economic activities based on marine resources. Common interventions include seaweed cultivation, ecotourism development, and the processing of marine products into higher value-added commodities (Stacey et al., 2021). Seaweed farming has received considerable attention due to its relatively low capital requirements, simple cultivation techniques, and short production cycles, making it accessible for rural communities. Meanwhile, ecotourism development has been promoted as an approach capable of reducing dependence on extractive activities while creating economic incentives for coastal biodiversity conservation (Praptiwi et al., 2021). Nevertheless, previous studies indicate that the effectiveness and sustainability of these programs remain varied. Many community empowerment initiatives fail to continue after external support is withdrawn due to limited market access, inadequate infrastructure, and insufficient consideration of local social norms and community characteristics.

These findings indicate that successful coastal community empowerment depends not only on providing financial assistance or introducing new economic activities but also requires a more inclusive and equitable development paradigm. In this context, the concept of Blue Justice has emerged as an important complement to the Blue Economy framework. According to Bennett et al. (2021), a blue economy approach that primarily emphasizes economic growth may unintentionally lead to the marginalization of women, displacement of local communities, and unequal distribution of economic benefits. Therefore, coastal empowerment should be grounded

in principles of recognition justice, which acknowledges the rights and traditional practices of local communities; procedural justice, which ensures community participation in decision-making processes; and distributive justice, which promotes equitable allocation of development benefits. Furthermore, integrating a gender perspective is essential because women play significant yet frequently overlooked roles within fisheries value chains, particularly in post-harvest processing and seafood marketing activities (Bennett et al., 2021).

Similar challenges are evident among coastal communities in Lombok Island, West Nusa Tenggara Province, Indonesia. Despite possessing abundant marine resources, many coastal households in Lombok continue to experience socioeconomic constraints that contribute to a persistent deprivation trap. Based on Robert Chambers' framework, this poverty trap consists of five interconnected dimensions: poverty, physical weakness, geographical isolation, vulnerability to emergencies, and powerlessness (Hilyana et al., 2021). These challenges are exacerbated by limited human capital development, as nearly 95% of coastal communities in Lombok have only completed primary education or have never received formal education (Hilyana et al., 2021). Low educational attainment restricts access to broader economic opportunities, causing fishing and aquaculture activities to remain dominant livelihood choices that are often inherited across generations without significant income diversification.

Beyond human capital limitations, fishing communities in Lombok also face structural barriers that constrain their economic advancement. One major challenge is their high dependence on intermediaries through patron–client relationships, which limits fishermen's access to market price information and weakens their bargaining position within fisheries value chains (Stacey et al., 2021). Furthermore, many small-scale fishermen continue to sell their catch in fresh form without further processing due to limited skills and knowledge, resulting in low product value addition (Can et al., 2023). These challenges are further intensified by climate change impacts, including increasing sea surface temperatures, extreme weather events, and shifting fishing seasons, which have contributed to declining capture fisheries productivity and threatened the food security of coastal households.

Addressing these challenges requires a development paradigm that integrates ecological sustainability with improvements in coastal livelihoods. The Blue Economy approach provides such a framework by emphasizing efficient, innovative, and sustainable utilization of marine resources as a foundation for inclusive economic growth (Roendah et al., 2024). Within this framework, community empowerment should move beyond a charity-based approach and instead focus on capacity-building processes that position communities as active agents of development capable of identifying opportunities, making decisions, and managing their own enterprises independently (Husni et al., 2026). One strategic pathway is transforming coastal communities from primary suppliers of raw marine commodities into innovative entrepreneurs through the development of processed marine products with higher economic value (Yusuf et al., 2025).

Therefore, sustainable marine-based entrepreneurship represents a promising strategy for strengthening the economic resilience of coastal communities. This approach not only focuses on creating new business opportunities but also promotes livelihood diversification, increases product value-added, strengthens market access, and ensures the conservation of marine resources as a foundation for long-term development. Accordingly, community engagement programs should be designed through participatory approaches that integrate sustainability principles, entrepreneurial innovation, social justice, and local community potential. In this context, research on "Empowering Coastal Communities through Sustainable Marine-Based Entrepreneurship: A Community Engagement Program in Lombok, Indonesia" is essential to develop an empowerment model that not only enhances the economic capacity of coastal communities but also supports marine ecosystem sustainability and contributes to the realization of an inclusive and equitable blue economy.

METHODS

This study employs a descriptive qualitative approach using an observational method to examine the current conditions of coastal community empowerment through the development of sustainable marine-based entrepreneurship in Lombok. This approach was selected to obtain an in-depth understanding of coastal communities' economic activities, the utilization of marine resources as the foundation for entrepreneurial activities, and the identification of opportunities and challenges in developing sustainability-oriented entrepreneurship.

Data were collected through direct observation of coastal communities' economic activities and their socioeconomic conditions at the research location. The observations focused on several key aspects, including the types of marine-based enterprises developed by local communities, the utilization of marine resources as business inputs, forms of community participation in productive economic activities, and factors that support or hinder the development of sustainable marine-based entrepreneurship.

The collected data were subsequently analyzed using descriptive qualitative analysis to provide a comprehensive overview of coastal community empowerment conditions and the potential development of marine-based entrepreneurship in Lombok Island. The analytical findings were then used as a basis for formulating community empowerment strategies through marine-based entrepreneurship development that integrates economic, social, and environmental sustainability dimensions in accordance with the principles of the Blue Economy.

RESULTS AND DISCUSSION

Fisheries Product Innovation as a Strategy for Value Creation

One of the major challenges faced by coastal communities in Lombok Island is the limited value-added generation from fisheries products due to constraints in processing technology, entrepreneurial skills, and market access. Most fishermen continue to sell their catches in fresh form to intermediaries at relatively low prices, resulting in limited economic returns. This condition constrains income improvement despite the abundant marine resource potential available in Lombok's coastal areas. Therefore, the development of marine-based entrepreneurship should be directed toward value creation through innovation in fisheries-based products.

Previous studies indicate that product diversification represents an effective strategy for increasing the economic value of marine resources. In Gondang Village, for instance, various fisheries processing techniques have been introduced, including the production of pressure-cooked fish (ikan presto), boiled preserved fish (pindang), and shredded fish (abon ikan) while incorporating food hygiene and safety standards. The implementation of these processing techniques has successfully improved the technical knowledge of local communities from a low to a good category, with an achievement rate of 80% (Yusuf et al., 2025). Beyond improving technical skills, processed fisheries products possess longer shelf-life characteristics compared to fresh fish, allowing communities to expand their market reach beyond the village level. Thus, fisheries processing activities not only enhance product quality but also create new and more sustainable entrepreneurial opportunities.

Further innovation potential can be observed in the utilization of seaweed resources in the Mandalika area, particularly in Mertak Village. Traditionally, seaweed has mainly been marketed as dried raw material, with prices highly dependent on external buyers. Such dependence weakens the bargaining position of local communities and limits the economic benefits obtained from marine resources. Through product diversification into processed products such as crispy seaweed snacks, communities have begun to increase the value-added of local commodities while simultaneously utilizing the growing tourism sector in Central Lombok as a potential market. These

processed products not only contribute to higher community income but also strengthen the identity of local products with greater competitiveness compared to the sale of raw materials alone.

These findings demonstrate that the development of marine-based entrepreneurship should not merely focus on increasing fisheries production but must also emphasize product innovation, quality improvement, packaging development, and marketing strategies capable of generating greater economic value. The transformation of coastal communities from raw material suppliers into entrepreneurs producing value-added marine products represents a fundamental foundation for achieving sustainable marine-based entrepreneurship.

Marine Ecotourism Development as a Form of Community-Based Entrepreneurship

Beyond the fisheries sector, marine-based entrepreneurship can also be developed through the utilization of Lombok Island's marine tourism potential. Coastal areas possess natural resources that support the development of ecotourism as an alternative livelihood strategy for local communities. One widely implemented approach is Community-Based Tourism (CBT), which positions local communities as key actors in planning, managing, and benefiting economically from tourism activities.

The CBT approach provides opportunities for communities to develop various tourism-related businesses, including seafood-based food processing, tourism services, local product trading, and other supporting enterprises. Businesses such as tuna fish floss production demonstrate relatively high economic feasibility and potential for development as alternative income sources. Such livelihood diversification is particularly important because it reduces community dependence on capture fisheries, which remain highly vulnerable to seasonal fluctuations and weather uncertainties.

Nevertheless, the development of tourism-based entrepreneurship continues to face several challenges. Limited basic infrastructure, including access to clean water, electricity supply, and transportation connectivity to tourism destinations, remains a significant barrier to improving the competitiveness of coastal tourism areas. In addition, community capacity in utilizing digital technologies for marketing tourism products and services remains relatively limited. Destination promotion and local product marketing are still largely dominated by private-sector actors, preventing small-scale coastal entrepreneurs from obtaining optimal economic benefits. Therefore, strengthening community capacity in digital marketing, social media utilization, and local product branding is essential to expanding market access and improving the competitiveness of marine-based enterprises.

Community Participation in the Development of Marine-Based Entrepreneurship

Coastal community empowerment cannot be separated from the role of women as important contributors to household economic activities. In many coastal areas of Lombok, women are not only responsible for domestic activities but also actively contribute to household income through seafood processing, trading activities, and micro-enterprises based on local resources. In some farming households with limited land ownership, women even serve as one of the primary sources of household income.

Various empowerment programs in the Mandalika area demonstrate that strengthening women's capacity can encourage the development of productive economic activities. Through organizations such as the Family Welfare Empowerment Program (Pemberdayaan Kesejahteraan Keluarga/PKK) and the Indonesian Migrant Workers' Family Development Program (Bina Keluarga Tenaga Kerja Indonesia/BK-TKI), women receive training on managing remittances obtained from family members working overseas and utilizing these resources as productive business capital. The enterprises developed include handicrafts, seafood processing, and other micro-business activities that contribute to improving household income.

Women's involvement in entrepreneurial activities generates not only economic benefits but also strengthens their capacity in household decision-making processes. Improved financial

management practices can reduce consumptive behavior while encouraging the allocation of income toward productive activities. Therefore, gender mainstreaming represents an essential component of sustainable marine-based entrepreneurship development, as it expands community participation and promotes more inclusive economic benefits.

Sustainability, Local Institutions, and Community Engagement

The success of coastal community empowerment is not solely determined by product innovation and business development but also depends heavily on sustainable marine resource management and the strength of local institutions. In this context, community engagement plays a critical role by encouraging active community participation throughout the processes of resource management and marine-based economic development.

In Batu Nampar Selatan, community empowerment initiatives have been implemented by recognizing and incorporating local knowledge (valuing local knowledge) through customary regulations governing coastal resource management and the establishment of Marine Protected Areas (MPAs). These customary practices have enhanced community compliance with conservation efforts while strengthening local ownership of marine resources as the foundation of their livelihoods. This approach demonstrates that environmental conservation and community welfare improvement can be achieved simultaneously when communities are provided with opportunities to participate in decision-making processes.

A similar principle is applied through the Asset-Based Community Development (ABCD) approach in Malaka Village. Unlike conventional development approaches that emphasize community deficiencies, ABCD focuses on identifying and utilizing existing community assets, including diving skills, youth organizations such as the Turtle Conservation Community (TCC), and other coastal resources. The utilization of these local assets has proven effective in strengthening coral reef conservation efforts while supporting long-term improvements in fisheries productivity.

These findings indicate that the success of sustainable marine-based entrepreneurship development depends not only on economic factors but also requires synergy between business innovation, environmental conservation, local institutional strengthening, and active community participation. Therefore, community engagement should not be understood merely as community involvement in a development program, but rather as a collaborative process that positions communities as key actors in identifying opportunities, managing resources, developing enterprises, and maintaining coastal ecosystem sustainability. This approach provides an important foundation for achieving inclusive and sustainable coastal community empowerment aligned with the principles of the Blue Economy in Lombok Island.

CONCLUSION

The development of sustainable marine-based entrepreneurship represents an important strategy for promoting coastal community empowerment in Lombok Island. Despite possessing substantial marine resource potential, coastal communities continue to face various challenges, including limited value addition of fisheries products, inadequate entrepreneurial capacity, and constrained market access.

Innovations in marine product processing, the development of community-based ecotourism, and increased community participation are essential factors in creating more sustainable economic opportunities. Furthermore, strengthening local institutions and utilizing community-based knowledge play significant roles in supporting sustainable coastal resource management.

Therefore, coastal community empowerment should be directed toward an integrated approach that combines economic, social, and environmental dimensions through the principles of the Blue Economy. Positioning communities as key actors in the development of marine-based

enterprises can promote economic self-reliance while simultaneously ensuring the long-term sustainability of marine ecosystems in Lombok Island.

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