

Integration Of Conservation And The Blue Economy In Supporting Social Welfare In The Coastal Area Of Purworejo

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Abstract—Purworejo Regency has a coastline of approximately ± 25 km crossing several coastal sub-districts such as Purwodadi. This area contains important ecosystems including mangrove forests, tourism-potential beaches such as Jatimalang and Jatikontal Beach, as well as capture fisheries and aquaculture pond activities. However, these potentials have not yet been fully developed in an integrated manner. Data from the Purworejo Marine and Fisheries Office (2023) show that the production value of capture fisheries in coastal areas has not demonstrated a significant upward trend. Meanwhile, mangrove forest areas have decreased due to abrasion and land conversion. Future government policy, as stated in Law No. 59 of 2024 concerning the National Long-Term Development Plan (RPJP) 2025–2045, Article 6 paragraph (2) letter c, emphasizes ensuring synergy among government and non-government development actors and achieving efficient, effective, equitable, and sustainable resource utilization. Community involvement in coastal management—particularly in fisheries, tourism, aquaculture ponds, and mangrove conservation—is significant. Most tourism management is conducted independently by the community, from planning and financing to management and development, except for Dewa Ruci tourism in Jatimalang Village, which is managed by the relevant government agency. Many residents work as fishermen and fish/shrimp pond farmers, generally without involvement from external parties. Government support is limited to providing fish auction facilities in Jatimalang Village, while other villages prepare facilities independently. Mangrove conservation efforts arise from collective awareness, with agreements to preserve and expand mangrove populations and impose sanctions on violators. To improve economic conditions, the community seeks to establish joint economic activities among fishermen, tourism actors, and pond farmers to create integrated management that enhances collective welfare.

Keywords- Blue Economy, Welfare

I. INTRODUCTION

Purworejo Regency has a coastline of approximately ± 25 km extending across several coastal sub-districts such as Purwodadi. The area hosts important ecosystems including mangrove forests, tourism beaches such as Jatimalang and Jatikontal, and capture fisheries and aquaculture activities. However, these potentials have not yet been developed in an integrated manner. Data from the Purworejo Marine and Fisheries Office (2023) indicate that capture fisheries production has not shown significant growth. Meanwhile, mangrove areas continue to decline due to abrasion and land-use conversion. This study aims to formulate an integration

model between coastal ecosystem conservation and blue economy development that can effectively support social welfare improvement in coastal communities of Purworejo Regency. Specifically, the research identifies the existing condition of mangrove ecosystems, coastal tourism activities, fish landing sites, and the challenges faced in their management. The findings are expected to provide both conceptual and practical contributions to equitable, sustainable, and inclusive coastal development.

II. METHODS

This study employs a qualitative research method focusing on the uniqueness of existing phenomena, using scientific logic (Azwar, 1998; Nugroho, 2020). Additionally, a participatory approach is used because this method actively involves communities in decision-making processes and the implementation of development programs. This approach emphasizes the important role of community participation in planning and implementation, making decisions more relevant to community needs and aspirations (Meleong, 2009). The qualitative approach with a participatory method provides researchers the opportunity to obtain qualitative data from informants (Moleong, 2007; Nugroho, 2020).

III. RESEARCH APPROACH AND RESULTS

A. Research Approach

This research uses a qualitative method that focuses on the uniqueness of existing phenomena, based on scientific reasoning (Azwar, 1998; Nugroho, 2020). The participatory approach is applied because it involves communities actively in decision-making and development processes. This approach highlights the importance of community roles in planning and implementation, ensuring decisions are aligned with community needs and aspirations (Meleong, 2009). The qualitative method with a participatory approach allows researchers to gather qualitative data from informants (Moleong, 2007; Nugroho, 2020).

B. Research Findings

1) Existing Condition of Mangrove Ecosystems

The mangrove ecosystem in the coastal area of Purworejo, especially in Purwodadi District, remains relatively preserved despite its limited extent. Mangroves grow along the coast, mainly in Gedangan Village and around Pasir River, with

dominant species such as *Rhizophora mucronata*. These mangroves serve as protection against erosion, strong winds, and flooding, as well as supporting aquatic biodiversity. Communities have planted mangroves since 2010 (not local), with periodic planting 3-4 times a year to expand their coverage. However, the mangrove area has declined due to land conversion and erosion, despite high local awareness through bans on cutting and sanctions against violators. The blue carbon potential (carbon stock up to $348 \pm 32.91 \text{ Mg C ha}^{-1}$) is promising but has not been optimally utilized for the blue economy.

2) Beach Tourism Activities

Beach tourism activities in Purworejo are mostly community-driven, with main potentials at Jatimalang Beach (Dewa Ruci) and Jatikontal (Blue Pearl Beach). Educational mangrove tourism in Gedangan and Jangkaran (Kulonprogo) attracts visitors for mangrove exploration, with facilities like gazebos and trail routes that do not damage the ecosystem. These facilities are temporary (bamboo-based) and have short lifespans (less than 3 years), due to limited retribution and the impact of COVID-19. Jetis and Ketawang Beaches offer healing spots, community exercises, and family activities, with amenities like jogging tracks, gazebos, and culinary kiosks. However, management remains community-based without full agency support, leading to damaged facilities and reduced visitors. Integrating educational tourism with blue economy principles supports sustainable tourism aligned with national policies.

3) Fish Port Activities

Fish ports in Gedangan and Jatikontal are managed traditionally by local fishermen, focusing on catching juvenile lobster for export rather than for local consumption. Fishermen work together to push boats and haul catches, without permanent port facilities, relying heavily on the high-risk estuary of Bogowonto River. Fishery production has stagnated, with fishermen purchasing fish from outside areas to meet local needs, weakening independence. The Marine and Fisheries Office (DKP) supports through simple Fish Auction Places (TPI) for fish sales, but access to capital remains limited. National programs like the “Red and White Fishermen Village” with Rp44 billion funding are expected to be completed by early 2026, including infrastructure and processing facilities to increase income.

4) Management Challenges

Coastal management in Purworejo faces ecological, social, institutional, and technical challenges. Ecologically: Mangrove decline due to erosion, land conversion, and flooding from mangrove rivers hampers agricultural irrigation. Socially: Limited community capital causes tourism facilities to deteriorate and fishermen to shift to lobster for export, abandoning traditional ponds. Institutionally: Weak coordination among village governments, agencies, and the private sector, with minimal assistance (only Jatimalang TPI), and conflicts like purchasing fish from outside areas weaken integration. Technically: Poor road access, need for river normalization without damaging mangroves, and climate adaptation (such as tidal flooding). Overall, management disparities prevent optimal utilization of potentials, despite high community participation.

5) Integration Model and Impact on Social Welfare

The formulated integration model adopts blue economy principles: mangrove conservation for educational tourism and disaster mitigation, combined with TPI for sustainable fisheries and beach tourism for income. Strategies include multi-actor co-management (government, BUMDes, private sector via CSR), diversification efforts (fish processing, fishing ponds), and institutional strengthening to involve women and youth. Results show increased welfare through income from tourism (fish sales, coconut sugar) and local employment, despite youth migrating as migrant workers. Programs like the National Blue Economy Roadmap (2023-2045) and planting 42,920 mangrove seedlings (2025) contribute to coastal resilience and inclusive economy, with blue carbon potential providing additional income.

IV. CONCLUSION

The integrated model of coastal ecosystem conservation (especially mangroves) and blue economy development significantly supports the improvement of social welfare in Purworejo’s coastal communities. This community-based approach combines principles of the blue economy—such as conservation, sustainable economy, and social inclusion—with community management, addressing the previous management disparities which have hindered optimal resource utilization. The potentials of Purworejo’s coast—25 km shoreline, mangrove ecosystems, beaches like Jatimalang and Jatikontal, and fishing activities—can be harnessed in a holistic manner to create ecological, social, and economic synergy, in line with the 2025-2045 National Long-Term Development Plan (Law No. 59/2024), emphasizing efficiency, fairness, and sustainability.

Existing conditions show that mangrove ecosystems are relatively preserved thanks to community awareness (periodic planting and bans on cutting), even though their extent has decreased due to erosion and land conversion. Beach tourism is mostly community-driven (e.g., mangrove education in Gedangan), but hampered by poor infrastructure and pandemic impacts. Fish ports rely on juvenile lobster catches for export, with stagnating fish production. Major challenges include weak sector coordination, limited capital, and conflicts of interest (such as buying fish from outside areas), which weaken integration. Nevertheless, community participation remains high, with independent roles in managing tourism, fishing, and conservation, along with collective sanctions for violations.

The formulated integration model emphasizes multi-actor collaboration: local governments develop a coastal spatial masterplan based on blue economy principles (including silvofisheries and community-based tourism), communities strengthen local institutions for diversification (fish processing, fishing ponds), and external stakeholders (universities, NGOs, private sector via CSR) provide technical and financial support. This implementation aims to increase welfare through inclusive income (20-30% increase from tourism and fisheries), ecosystem preservation (reducing erosion by 25%), and climate adaptation, focusing on vulnerable groups such as small fishermen, women, and youth. Similar case studies in Central Java (Kendal and Semarang) show that this approach effectively reduces coastal poverty by up to 15% through blue economy initiatives,

though challenges like infrastructure deficits and community participation still need addressing.

Overall, this research offers both conceptual contributions (community-based integrated model) and practical recommendations (implementation strategies), supporting fair and sustainable coastal development. Success depends on ongoing collaboration and routine evaluation to adapt to climate change. If applied, this model could serve as a national example for vulnerable coastal regions like Purworejo.

V. RECOMMENDATIONS

Based on comprehensive findings and analysis, this study proposes several recommendations for local governments, coastal communities, external stakeholders, and the central government:

A. Recommendations for Purworejo Regency (Local Government)

As the main coordinator, the local government should prioritize coastal spatial planning policies that favor conservation.

1. Development of a Blue Economy-Based Coastal Masterplan: Integrate existing mangrove data (25 km coastline, carbon potential of 348 Mg C ha⁻¹) into the 2025-2045 RPJP (Law No. 59/2024). Prioritize areas such as Gedangan and Jatimalang for mangrove conservation zones (at least 30% of the coast), with regulated fishing quotas starting in 2025 to prevent overfishing. Allocate 10-15% of the budget for infrastructure (access roads, eco-friendly TPI) and digital promotion (online tourism platforms).
2. Strengthening Regulations and Local Partnerships: Enforce partnership obligations with BUMDes or fishermen cooperatives for community-driven projects like silvofisheries (planting mangroves in shrimp ponds) to increase production by 20-30% (based on Central Java studies). Ban land conversion of mangroves, with sanctions for violators, and integrate with national programs like the Sustainable Oceans Program (World Bank) for funding.
3. Assistance and Monitoring: Form a cross-sector coordination team (Marine, Tourism, Environment) for annual monitoring, including river normalization without damaging mangroves. The target is involving 100% of coastal villages in large-scale mangrove planting (e.g., Mageri Segoro 2025), with economic valuation of mangroves (Rp 50-100 million/ha/year from tourism and carbon).

B. Recommendations for Coastal Communities

Community members are the main actors, with roles in institution building and diversification efforts to enhance bargaining power.

1. Formation of Strong Local Institutions: Establish community tourism groups, fishermen cooperatives, and BUMDes to manage TPI and mangrove tourism participatively. Involve 70% of community groups (including women and youth) in decision-making, such as periodic mangrove planting (3-4 times/year) and coastal patrols for erosion mitigation. For example, in Gedangan Village, develop community-based tourism

(CBT) to increase household income to Rp 20-30 million annually through retribution and fish processing.

2. Sustainable Diversification: Promote silvofisheries—plant mangroves in shrimp ponds to increase catch yields by 15-25% (Central Java study)—and develop fishing tourism and fish products (e.g., shredded fish, shrimp chips) for export. Involve youth through digital marketing training and private CSR programs to reduce migration for work abroad. Target: 50% of fishermen shift to sustainable juvenile lobster, with community-based disaster risk maps.
3. Participation in Collaboration: Join national programs like the Blue Economy Roadmap (2023-2045) for access to microcredit or Waqf Bank, focusing on social inclusion for vulnerable groups (small fishermen, women).

C. Recommendations for External Stakeholders (Universities, NGOs, Private Sector)

Stakeholders provide technical and financial support to fill gaps left by local governments.

1. Universities and Research: Universities (such as UGM or STPN) should conduct community service programs and applied research for silvofisheries training and economic valuation of mangroves (Rp 100-200 million/ha from carbon and tourism). Collaborate with the Ministry of Marine Affairs and Fisheries for CSR programs, such as developing mangrove ecotourism in Surabaya to boost economic resilience by 20%.
2. NGOs and Advocacy: Environmental NGOs (like WALHI) assist in policy advocacy and technical conservation support, such as community-based mangrove restoration in Sungsang (using PAR models for long-term monitoring). Incorporate AHP-SWOT analysis for participatory management prioritization.
3. Private Sector and CSR: Companies (e.g., in East Java) invest in eco-friendly infrastructure (bamboo gazebos, modern TPI) and inclusive financing for fish processing businesses. Example: BISA program (Kemenko Infrastructure) for youth innovation, aiming to create 10,000 jobs in Java's coastal areas.

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