

Managing the Ocean as a Shared Resource: The Transition from the Tragedy of the Commons to Community-Based Governance in the Bengkulu Coast

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ABSTRACT

This study examines marine management as a shared resource in Enggano Island, Seluma Market, and Linau and Merpas Villages, Bengkulu, which face pressure on the use of coastal space and conflicts of interest. The purpose of the study is to analyze the dynamics of ocean governance through the integration of the concept of tragedy of the commons, the principles of institutional design of the commons, and the perspective of metabolic rift. The research uses a qualitative approach of case studies with field observation techniques, in-depth interviews with key informants, and analysis of policy documents. The results of the study show that the problem of marine management does not only stem from institutional weaknesses, but also from the orientation of spatial planning policies that tend to favor capital accumulation and marginalize indigenous communities and small fishers.

INTRODUCTION

The sea and coastal areas are one of the most strategic commons in supporting the sustainability of human life, both as a source of food, socio-cultural space, and a global ecological buffer. International reports show that more than one-third of the world's fish stocks are already under overexploitation, while the degradation of coastal ecosystems such as mangroves, seagrass meadows, and coral reefs continues to increase due to development pressures, climate change, and economic expansion based on natural resource extraction (FAO, 2024; UNEP, 2023; IPCC, 2023). In the context of developing countries, coastal areas face not only ecological threats, but also governance conflicts involving countries, markets, and local communities. Various studies show that coastal development policies often focus more on increasing investment and economic growth than on protecting the rights of traditional coastal communities and ecological sustainability (Bennett et al., 2021; Barbesgaard, 2023; Jentoft et al., 2022). This condition makes the coastal area an arena of contestation between the interests of conservation, economic development, and socio-ecological justice.

Similar phenomena are evident in various coastal areas of Indonesia. As the largest archipelago in the world, Indonesia has more than 17,000 islands and a roughly 108,000-kilometer coastline that holds enormous marine economic potential. However, various studies show that pressure on coastal resources continues to increase due to fisheries industrialization, mangrove conversion, coastal reclamation, mining expansion, and large-scale infrastructure development (Satria et al., 2022; Adhuri et al., 2023; Firdaus & Bush, 2024). In Bengkulu Province, these problems arise in the form of the entry of trawl fleets into the traditional fishing areas of small fishermen, the destruction of coastal habitats due to sedimentation from mining activities in the watershed, and the conversion of mangrove areas into cultivation areas and commodity-based investments. This condition has led to a decrease in fisheries productivity, degradation of coastal ecosystems, and increased conflicts in the use of space between local communities and economic actors who have greater access to capital and power. In the perspective of environmental justice, the phenomenon shows an unequal distribution of ecological benefits and burdens among the social groups involved (Schlosberg, 2021; Temper et al., 2023).

Theoretically, the debate over shared resource management has long been dominated by two main approaches. Garrett Hardin (1968) through the concept of the tragedy of the commons argues that common resources tend to be overexploited because each individual acts on his or her own interests. On the contrary, Elinor Ostrom (1990) shows that local communities can build effective collective institutions to manage the commons sustainably through mutually agreed rules, supervision, and sanction mechanisms. However, recent developments in studies suggest that both approaches still have limitations in explaining the influence of broader economic-political structures on the success and failure of commons governance (Cockburn et al., 2022; Kashwan et al., 2023; Partelow, 2024). Much contemporary commons research still focuses on local-level institutional design, but pays less attention to how the processes of capital

accumulation, privatization of space, and state development policies shape the power relations that determine access to coastal resources.

This research gap is increasingly seen in studies on coastal governance in Indonesia. A number of studies have discussed the effectiveness of fisheries co-management, community-based conservation, and the implementation of coastal zoning policies (Armitage et al., 2022; Nurhidayah et al., 2023; Ferse et al., 2024). Other research highlights the importance of recognizing the rights of indigenous peoples and traditional fishers in maintaining the sustainability of marine resources (Adhuri et al., 2023; Satria et al., 2022). However, most of these studies still analyze governance issues within institutional and policy frameworks without linking them to the dynamics of contemporary capitalism that drive the expansion of investment and the commodification of coastal spaces. On the other hand, the study of ecosocialism and metabolic rift that has developed in the international literature has shown that environmental crises cannot be understood only as institutional failures, but also as structural consequences of capitalistic production systems that separate human beings from the ecological basis of their lives (Angus, 2023; Foster & Clark, 2022; Moore, 2024). Until now, the integration between commons theory, coastal spatial planning, and metabolic rift perspectives is still very limited in the context of Indonesian coastal research, especially in Bengkulu.

Departing from this gap, this study aims to analyze the management of marine resources on Enggano Island, Seluma Market, and Linau and Merpas Villages by integrating the concept of tragedy of the commons, the principle of institutional design of commons, and metabolic rift theory. This research also aims to criticize how spatial planning instruments such as the Regional Spatial Plan (RTRW) and the Zoning Plan for Coastal Areas and Small Islands (RZWP3K), which are normatively designed to realize spatial justice and sustainable development, can in practice be distorted so as to better accommodate the interests of capital accumulation rather than the protection of the rights of coastal communities. In addition, this study seeks to identify the forms of metabolic rifts that arise in the relationship between coastal communities and marine ecosystems due to changes in economic structure and development policies.

The contribution of this research is theoretical and practical. Theoretically, this study expands the literature on the commons by linking Ostrom's institutional perspective and the concept of tragedy of the commons with an ecosocialist analysis of the metabolic rift, resulting in a more comprehensive analytical framework for understanding coastal governance crises. In practical terms, this study offers a Community-Based Marine Management (CBMM) model that integrates the recognition of marine customary rights, community-based co-management, and reform of coastal spatial planning instruments that are more oriented towards ecological justice and social sustainability. Thus, this research is expected to provide a conceptual and policy basis for the development of more inclusive, democratic, and sustainable marine governance in Indonesia's coastal areas.

LITERATURE REVIEW

Tragedy of the Commons: Peringatan Struktural Hardin

Hardin (1968) builds his argument on a simple but far-reaching logic: in *open access conditions*, each rational individual will maximize the use of resources because the benefits are enjoyed alone while the cost of the damage is borne together. In the context of the coastal sea of Bengkulu, this logic aptly describes the behavior of *trawl* fleets operating in traditional fishing areas: each operator is targeted to catch as many as possible before the other operators do, while habitat damage and stock decline are borne by the entire fishing community.

Yet Hardin's thesis contains critical epistemological weaknesses. He assumes that *commons* is synonymous with *open access*, even though the two are different categories. *Real Commons* always comes with community-negotiated access rules. What fails is not *the commons* as an institution, but the lack of recognition of the institution, which Hardin (1998) later admits in his correction: the real problem is *the unmanaged commons*, not the *commons* themselves. In Bengkulu, what happens is that the community has customarily managed *commons*, but the state does not recognize it, thus effectively creating *open access* for outside actors.

Ostrom Design Principles: The Institutional Foundations of Co-Management

Elinor Ostrom (1990) provides an empirical answer to Hardin's determinism. Based on a cross-continental comparative study, Ostrom found hundreds of cases of communities that managed the commons sustainably over the centuries. The key is not privatization or centralization, but rather the eight principles of institutional design that allow collaboration, self-oversight and conflict resolution without relying on the state.

Table 1. Ostrom Design Principles and Institutional Deficit Mapping on the Bengkulu Coast

No.	Ostrom Design Principles	Empirical Conditions in Bengkulu	Deficit Record
1	Clear boundaries between users and non-users	Customary territories exist, not recognized by law	Formal recognition deficit
2	Rules according to local conditions	Customary norms are rich, not legitimized	Legitimacy deficit
3	Community participation in rulemaking	Minimal consultation, above decision	Participation deficit
4	Credible monitoring	Informal patrols exist, not standard	Capacity deficit
5	Tiered sanctions	Social sanctions exist, they have no legal force	Defisit enforcement
6	Conflict resolution mechanisms	Customary deliberations exist, not facilitated by the state	Accessibility deficit

7	Minimal recognition from the state	Systematic absences	Defisit fundamental
8	Nested enterprises	Fragmentation between extreme agencies	Coordination deficit

Source: Adaptation of Ostrom, 1990; author's field data, 2023-2025)

Cox et al. (2010) in a meta-analysis of 91 empirical studies confirmed that the principle of clear boundaries (principle 1) and minimal recognition of the state (principle 7) had the strongest correlation with the success of commons management. In fact, these two principles are the most systematically absent in the three Bengkulu case study locations. This is no coincidence. This is a product of policy choice.

Ian Angus and the Metabolic Rift: The Structural Dimensions of the Ecological Crisis

Ian Angus (2016), in his work *Facing the Anthropocene: Fossil Capitalism and the Crisis of the Earth System*, developed the concept of *metabolic rift* which was originally formulated by Marx and later developed by John Bellamy Foster. This concept explains that capitalism is structurally creating a rift in the metabolic cycle between humans and nature. In the capitalistic system, nature is treated as a free resource that can be taken without limits and as a waste disposal site at no cost. As a result, the ecological cycles that allow the reproduction of life are systematically disrupted.

Angus (2016) argues that the Anthropocene, a new geological era marked by human impact on the Earth system, is actually *Capitalist*: a product of a particular economic system, not of a generic 'human'. This is analytically important because it directs attention from individual failures to system failures. Trawl fishermen who destroy habitats are not morally evil actors; they are agents of the logic of accumulation that incentivize exploitation and punish conservation.

In the context of coastal ecosystems, metabolic rift is manifested in three layers. First, the extraction layer: the extraction of fish, shrimp, and marine life in volumes that exceed the biological reproductive capacity of the ecosystem. Second, the conversion layer: the transformation of coastal habitats (mangroves, seagrasses, reefs) into capital production infrastructure (ponds, ports, industrial estates). Third, the discharge layer: the contamination of organic and chemical waste from upstream activities that break the coastal ecological chain. These three layers work synergistically, reinforce each other, and complicate ecosystem recovery.

Angus (2017), in *A Redder Shade of Green: Intersections of Science and Socialism*, asserts that the response to *the metabolic rift* cannot be solved through technical regulation or partial institutional improvement alone. He demanded a transformation in the relationship between community and ecosystem, which required the recognition of community rights to resources, the redistribution of managerial power, and the restriction of capital rights to expropriate the commons.

Ecosocialism is not just a combination of ecology and socialism. It is a recognition that ecological crises and social crises have the same roots: a system that prioritizes capital accumulation over the sustainability of life. An effective response should target the roots, not the symptoms.

(Angus, 2017, p. 147; author's translation)

Theoretical Synthesizers: Commons, Metabolic Rift, and the Space Crisis

These three theoretical frameworks complement each other hierarchically. Hardin diagnoses the symptoms: degradation occurs when access is not regulated. Ostrom provides an institutional prescription: proper community rules can prevent degradation. But Angus adds a deeper layer: why are existing community rules not recognized, and why do existing state institutions often facilitate exclusion rather than protection?

The answer lies in what Lefebvre (1991) calls *the production of space*: space is not just a geographical location, but a social product of power relations. RTRW and RZWP3K are space production instruments that reflect who has the power to define the use of space. When capital has greater access to the planning process than indigenous communities, then the instrument, however rhetorical of justice, will produce a space that serves capital.

Harvey (2003) calls this mechanism *accumulation by dispossession*: a primitive process that continues under contemporary capitalism, in which the commons are converted into private property or capital production space through legal and policy mechanisms. The de facto privatization of traditional fishing areas through trawl licensing is a precise example of *accumulation by dispossession* on the coast of Bengkulu.

METHODOLOGY

This study uses a qualitative approach with a multiple-case study design that aims to deeply understand the dynamics of marine resource governance as commons in different socio-ecological contexts but under similar structural pressures. The case study approach was chosen because it allows for a comprehensive exploration of the relationships between actors, institutions, policies, and ecological conditions in complex real-life contexts (Yin, 2018). The research also integrates the perspectives of political economy, environment, and political ecology to explain how power relations, capital accumulation processes, and spatial planning policies affect the distribution of access and control over coastal resources (Robbins, 2020; Bennett et al., 2021). Three research locations were selected purposively, namely Enggano Island, Seluma Market, and Linau and Merpas Villages in Kaur Regency. The three locations were chosen because they represent a variety of ecological characteristics, levels of territorial isolation,

local institutional structures, and the intensity of marine resource utilization conflicts, but they are both under pressure from open access regimes, resource exploitation, and implementation of coastal spatial policies.

Research participants were determined using purposive sampling techniques combined with snowball sampling to obtain informants who have knowledge, experience, and direct involvement in marine resource management at the research site (Campbell et al., 2020; Patton, 2023). A total of 47 key informants were involved in this study, consisting of 23 traditional fishermen, 6 traditional leaders, 5 village and sub-district officials, 4 officials of the Marine and Fisheries Service, 3 officers of the Protected Forest Management Unit (KPHL), and 6 civil society organization activists engaged in the field of environment and coastal community rights. The number of informants is determined based on the principle of data saturation, which is a condition when the information obtained has shown a repeating pattern and has not produced significant new categories (Hennink & Kaiser, 2022). In addition to individual interviews, the study also involved six Focus Group Discussions (FGDs), each twice at each research site, with participants ranging from 12 to 18 people representing fishermen, coastal women, community leaders, youth, and local government officials.

Data collection is carried out through a combination of several techniques to obtain a comprehensive understanding of the phenomenon being studied. First, field observations are carried out in stages throughout January 2023 to September 2025. Observations include fishing activities, the use of fishing gear, the condition of coastal ecosystems, interactions between actors, and forms of conflict in the use of marine space. Observations were conducted in a non-participatory and limited participatory manner to gain a contextual understanding of social and institutional practices taking place in coastal communities (Creswell & Poth, 2018). Second, semi-structured in-depth interviews were conducted using interview guidelines compiled based on the concept of commons governance, Ostrom's institutional design principles, metabolic rift theory, and environmental justice framework. Interview guidelines were first tested through pilot interviews with five informants outside the study site to ensure clarity of questions, relevance of context, and consistency of interpretation (Brinkmann & Kvale, 2021). Third, the Focus Group Discussion was used to validate the initial findings, identify differences in perspectives between actors, and build a collective understanding of coastal governance issues.

In addition to primary data, this study utilizes secondary data from various official and academic sources. The documents analyzed include the Coastal Area and Small Islands Zoning Plan (RZWP3K) of Bengkulu Province 2020–2040, the Regional Spatial Plan (RTRW) of Seluma Regency and Kaur Regency, capture fisheries business licensing documents, coastal resource conflict reports from the Marine and Fisheries Service, ecological monitoring data from the University of Bengkulu, reports from civil society organizations, and various national policy documents related to the management of coastal areas and small islands. Document analysis was carried out systematically to identify policy narratives,

institutional structures, distribution of access rights, and forms of development legitimacy contained in spatial planning instruments (Bowen, 2021).

To ensure the credibility, dependency, and confirmability of the data, the study applied a variety of validation strategies recommended in contemporary qualitative research (Lincoln et al., 2021; Creswell & Poth, 2018). Data validity is carried out through source triangulation, method triangulation, and theoretical triangulation. Source triangulation is carried out by comparing information from different groups of informants. The triangulation method was carried out through the comparison of observation results, interviews, FGDs, and document analysis. Theoretical triangulation is carried out by interpreting the findings using three different theoretical perspectives, namely tragedy of the commons, commons governance, and metabolic rift. In addition, member checking is carried out by presenting provisional results to representatives of the fishing community and local stakeholders to obtain confirmation of the researcher's interpretation. Trail audits are also structured to document the entire process of data collection and analysis so as to increase the transparency of the research.

The research procedure is carried out through five main stages. The first stage is a preliminary study which includes a literature review, identification of research sites, and initial mapping of actors and resource conflicts. The second stage is in the form of the preparation of research instruments and the management of research permits at the provincial, district, and village levels. The third stage is the collection of field data through observation, interviews, FGDs, and documentation. The fourth stage is the process of transcription, data reduction, coding, and categorization of findings. The fifth stage includes analysis, interpretation, validation of findings, and preparation of research reports and scientific articles.

Data analysis was carried out using thematic approaches and multidimensional critical analysis. In the initial stage, all interview and FGD data are transcribed and then analyzed using thematic analysis techniques that include open coding, axial coding, and selective coding to identify patterns, themes, and relationships between categories (Braun & Clarke, 2022). Furthermore, the Institutional Analysis and Development (IAD) Framework is used to analyze formal and informal rules, incentive structures, access rights, supervisory mechanisms, and institutional relationships that affect the management of marine resources (McGinnis & Ostrom, 2014). At the same time, Critical Discourse Analysis (CDA) is used to review RTRW and RZWP3K documents to identify the construction of development discourse, the representation of spatial justice, and the contradictions between normative policy objectives and space allocation practices that occur in the field (Fairclough, 2013). Data analysis is supported by NVivo 14 software for coding, theme grouping, concept network visualization, and relationship tracing between data categories. The integration of the results of institutional analysis, policy discourse, and socio-ecological conditions was carried out to produce a comprehensive understanding of the dynamics of the commons, the process of spatial exclusion, and the mechanism of metabolic rift that occurs in the coastal governance of Bengkulu.

RESEARCH RESULT AND DISCUSSION

Enggano Island: Marine Customary Rights, Metabolic Rifts, and Space Injustice

Enggano Island shows that the sea is not only an economic space, but also a living space for indigenous communities. In small-scale fisheries studies, the ocean is understood as a socio-ecological space that sustains the livelihoods, cultural identity, food security, and sustainability of coastal communities (FAO, Duke University, & WorldFish, 2023). Customary systems that regulate catch schedules, fishing gear, and access zoning have long served as a commons management mechanism. This pattern is in line with customary fisheries management practices in Indonesia that combine marine customary rights, traditional ecological knowledge, and community-based access restrictions (de la Rosa et al., 2021; Muawanah et al., 2021). However, this system does not gain strong recognition in positive law and formal zoning documents.

This condition shows the occurrence of metabolic rift, which is the disconnection of socio-ecological relations between local communities and the marine ecosystem that they have been managing. In an ecological-political perspective, metabolic rift explains how the logic of production and capital accumulation can break the reciprocal relationship between society and nature (Saito, 2020). The influx of ships from outside the island, including ships with destructive fishing gear, disrupts the ecological cycle guarded by indigenous peoples. In this context, the main problem is not only the destruction of ecosystems, but also the lack of recognition of marine customary rights in coastal spatial planning. A study of marine tenure rights in Indonesia shows that the recognition of local management rights is important to strengthen fisheries sustainability, clarify access, and protect coastal communities from external pressure (Muawanah et al., 2021).

In terms of spatial planning, the classification of Enggano waters as a public use area has not provided special protection for indigenous communities. As a result, spatial planning that appears to be administratively neutral actually results in spatial injustice because indigenous peoples are only placed as objects of consultation, not as rights holders of their marine areas. These findings are in line with criticism in marine spatial planning studies that show that marginalized groups, including small-scale fishers and local communities, often do not receive equal recognition and representation compared to stronger economic actors (Stalmokaitė et al., 2025; Singh et al., 2025).

Seluma Market: Trawl Conflict as a Manifestation of Accumulation by Dispossession

The Seluma market shows commons conflicts in a more open form, especially through conflicts between small fishermen and trawl fleets. The sea, which has been a traditional fishing space for fishermen, has turned into an arena for access due to the entry of large capital ships. This situation is in line with a common problem in common-pool resources, namely when shared resources are vulnerable to pressure due to weak access rules, weak supervision, and imbalance between resource users (Owusu et al., 2021).

In the perspective of the tragedy of the commons, this conflict does not occur solely because local communities fail to manage common resources. Instead, conflicts arise because formal licensing systems do not provide adequate protection for traditional fishing areas. Studies on common-pool resources show that resource users can prevent commons damage if there are communication, collective rules, and institutional mechanisms that support cooperation (Owusu et al., 2021). Therefore, the main problem in Pasar Seluma is more accurately read as a failure of institutional recognition and protection, rather than just a failure of the local community.

This condition shows the existence of accumulation by dispossession, which is the transfer of access rights from local communities to capital actors through administrative mechanisms. In the context of small-scale fisheries, weak recognition of tenure rights can make coastal communities excluded by the interests of industry, tourism, large-scale fisheries, or other forms of economic utilization (FAO, 2023; Muawanah et al., 2021). The RTRW, which normatively contains a vision of justice and sustainability, has not been translated into technical articles that protect traditional fishermen's fishing areas. As a result, the language of justice in the planning document is still declarative, not yet a substantive protection mechanism.

Linau and Merpas: Multi-Layered Metabolic Rift and Community Resilience

The villages of Linau and Merpas face more complex coastal pressures. These pressures not only come from trawl conflicts, but also from sedimentation due to upstream mining activities, domestic pollution, and shrimp pond expansion that changes the function of mangrove ecosystems. In coastal socio-ecological studies, such layered pressures can magnify the vulnerability of fishing communities because the ecosystems on which their livelihoods are based are degraded from various sources simultaneously (Lam et al., 2020; Martins & Gasalla, 2020).

This condition shows a layered form of metabolic rift. Coastal ecosystems are under pressure from land, coastal areas, and the sea simultaneously. Each pressure weakens the resilience of ecosystems and magnifies the vulnerability of small fishing communities. Climate change, habitat degradation, market pressures, and weak institutional support can increase the vulnerability of tropical fisheries, especially in communities that are directly dependent on coastal resources (Lam et al., 2020).

However, Linau and Merpas also showed community resilience. Fishing groups conduct self-monitoring, document violations, and report destructive activities to the village government. This practice shows that the local institutional capacity for co-management is actually growing. Participatory monitoring in community-based fisheries management can expand participation, strengthen local data, and improve the community's position in decision-making processes, especially if power relations and gender aspects are taken seriously (House et al., 2023). The problem is that this capacity has not been supported by formal recognition and state support.

Spatial Planning Instruments between Normative Justice and Implementation Reality

RTRW and RZWP3K are normatively designed to create a fair, productive, and sustainable spatial layout. In the context of managing the ocean as commons, these two instruments should be the basis for balancing ecological, social, cultural, and economic interests. Marine spatial planning ideally serves as a collaborative instrument that regulates the allocation of marine space in an integrated manner, reduces utilization conflicts, and strengthens inclusive ocean governance (Singh et al., 2025).

However, the findings of the study show that these normative goals have not been fully realized. Coastal spatial planning still tends to prioritize economic and investment utilization. Meanwhile, indigenous peoples and smallholder fishers who are most dependent on marine resources have not gained a strong position in the policy-making process. Recent studies on equity in marine spatial planning show that marginalized groups often experience limited recognition, representation, and access to the planning process compared to more politically and economically powerful strategic sectors (Stalmokaitė et al., 2025).

Spatial Distortion by Capital Interests

Spatial distortion occurs through several mechanisms. First, public participation in the preparation of RTRW and RZWP3K still tends to be procedural and ceremonial. Second, zoning opens more space for public use than the protection of community-managed areas. Third, business licensing is often not strictly connected to local zoning restrictions. Fourth, the value of coastal ecosystems is more often measured based on economic contribution than ecological, social, and cultural functions. Criticism of marine spatial planning suggests that an uninclusive planning process can result in symbolic governance that appears participatory, but does not always provide real benefits to local communities (Singh et al., 2025).

This condition shows that spatial planning instruments can turn into a legitimacy tool for capital expansion if they are not accompanied by a mechanism to protect community rights. Thus, the problem of marine governance in Bengkulu lies not only in the weakness of local institutions, but also in the orientation of spatial policies that have not been in favor of ecological and social justice. In the study of marine space justice, recognition, representation, benefit distribution, and capacity of vulnerable groups are important elements so that ocean planning does not reinforce existing inequalities (Stalmokaitė et al., 2025).

Contradiction of Ideological Goals and Reality of RTRW/RZWP3K Implementation

Table 2. The Contradiction between Ideological Goals and the Reality of RTRW/RZWP3K Implementation in Bengkulu

Dimensions	Ideological or Normative Goals	The Reality of Implementation in Bengkulu
Participation	FPIC; community as rights holders	Ceremonial consultations; community as an object of information
Zoning	Balance of protective and cultivation functions	Dominance of public use zones; Customary rights are not allocated
Licensing	Consistent with RZWP3K	OSS system can pass through RZWP3K; Trawl into the traditional zone
Ecosystem value	Multidimensional: ecological, social, cultural, economic	Reduced to extractive economic value such as GDP
Conflict	Resolved through the RZWP3K mechanism	RZWP3K has not provided a tenure conflict resolution mechanism
Spatial justice	Equitable distribution of benefits between groups	Profits tend to accumulate in capital; The burden is borne by indigenous communities and small fishermen

Source: Author's document analysis and field data, 2023–2025)

The table shows that the difference between normative goals and implementation realities is not only technical, but also political. Marine spatial planning that does not give strong recognition to local communities can weaken the position of smallholder fishers, limit access rights, and expand the dominance of stronger economic actors (FAO, 2023; Stalmokaitė et al., 2025).

RZWP3K as an Arena for Determining Public Interest

RZWP3K not only serves as a technical document, but also as a political arena that determines who has the right to use marine space. In practice, the definition of "public interest" is often closer to the interests of investment and economic development than to the interests of indigenous communities and small-scale fishers. Studies on marine spatial planning show that the marine planning process often faces problems when social goals, local knowledge, and community interests are not equally integrated into institutional design (Singh et al., 2025).

When community claims to traditional catchment areas are not recognized in zoning documents, the state indirectly strengthens administrative control over marine space. At this point, maritime conflict is not only a question of resources, but also a question of who has the power to define, regulate, and benefit from coastal space. In the Indonesian context, the revitalization of marine tenure rights is important because safe management rights can strengthen fisheries sustainability, protect livelihoods, and clarify the relationship between communities and states in coastal resource management (Muawanah et al., 2021).

Recognition of Marine Tenure Rights as the Basis for Commons Management

The main recommendation of this study is the strengthening of Community-Based Marine Management based on marine customary rights. The recognition of marine tenure rights is the first step to redress governance inequalities and restore relationships between local communities and coastal ecosystems. Secure and appropriate socio-cultural tenure rights are important for smallholder fishers because they determine access to fishing grounds, livelihood protection, and the ability of communities to manage resources sustainably (FAO, 2023; Muawanah et al., 2021).

This recognition can be done through participatory mapping, documentation of customary management areas, revision of RZWP3K, and integrating maritime customary rights into regional policies. In this way, communities are no longer just objects of development, but are the main subjects in marine management. The experience of customary fisheries management in Indonesia shows that a combination of marine customary rights, traditional ecological knowledge, and rights-based management principles can support the conservation and sustainability effectiveness of coral fisheries (de la Rosa et al., 2021).

Coastal Justice-Based RTRW and RZWP3K Reforms

Coastal spatial reform needs to be carried out on three levels. At the procedural level, indigenous peoples and small-scale fishers must be involved from the early stages of planning. At the substantive level, zoning documents must contain marine customary rights zones and traditional fishing area protection zones. At the coordination level, the licensing system must be closely connected with the RTRW and RZWP3K so that business licenses do not conflict with the community's management area. This need is in line with the principles of marine spatial planning that emphasizes collaborative governance, institutional integration, and recognition of local interests in marine spatial decision-making (Singh et al., 2025).

This reform is important so that spatial planning is not only an administrative instrument, but also a tool for correction of access inequality and ecological injustice. Equity-oriented marine spatial planning needs to pay attention to the distribution of benefits, recognition of vulnerable groups, representation in the planning process, as well as the ability of communities to influence decisions that impact their living spaces (Stalmokaitė et al., 2025).

Customary Co-Management through the Customary Sea Council

The establishment of the Customary Sea Council can be a form of institutional co-management that brings together communities, local governments, academics, and other stakeholders. This council can be given a role in the preparation of local zoning rules, the determination of fishing seasons, the supervision of fishing gear, the provision of sanctions, and the evaluation of permits that have an impact on community management areas. Community-based fisheries management requires cross-level institutional strengthening because the success of local management is strongly influenced by policy support, inter-stakeholder coordination, and community capacity to implement rules consistently (Steenbergen et al., 2022).

This institution is in line with the commons design principles that emphasize clear resource boundaries, rules that correspond to local conditions, resource user participation, monitoring, tiered sanctions, conflict resolution, and state recognition of community rights. Commons-based fisheries studies show that cooperation, communication, and institutional rules can prevent overexploitation as well as strengthen the sustainability of shared resources (Owusu et al., 2021; Steenbergen et al., 2022).

Participatory Monitoring and Community Data Strengthening

Participatory monitoring needs to be developed to strengthen the community's position in policy advocacy. Fishermen can be involved in recording trawl activities, changes in catches, coral reef damage, seagrass declines, pollution, and shoreline changes. In community-based fisheries management, participatory monitoring can increase participation, strengthen local databases, and open up space for previously underrepresented groups, including women and indigenous peoples (House et al., 2023).

This community data is important because it can be used as evidence in policy formulation, zoning revisions, law enforcement, and conflict resolution. Thus, local knowledge is not positioned as a complement, but as an essential part of the ocean governance system. Recognition of local knowledge and indigenous practices is also important in marine spatial planning because it can make marine governance more contextual, inclusive, and appropriate to the socio-ecological needs of coastal communities (Singh et al., 2025).

Commons-Based Economic Diversification

Community-based marine management needs to be supported by economic diversification that does not damage ecosystems. Alternatives that can be developed include fisheries cooperatives, value-added processing of marine products, community-based ecotourism, turtle spawning area protection, and sustainable fisheries management. Livelihood diversification is important because the vulnerability of smallholder fishers is not only affected by ecological conditions, but also by market access, institutional support, adaptation capacity, and climate change pressures (Lam et al., 2020; Martins & Gasalla, 2020).

Economic diversification is important so that people are not trapped in economic pressures that encourage overexploitation. This model also strengthens the bargaining position of small fishers in the face of large-capital actors. In the context of small-scale fisheries, a development approach that only looks at the economic value of the catch is not enough because fisheries also have social, cultural, nutritional, and survival functions of coastal communities (FAO, Duke University, & WorldFish, 2023).

Challenges and Mitigation Strategies

The implementation of Community-Based Marine Management based on marine customary rights faces several challenges. First, resistance from capitalized actors who benefit from the current licensing system. Second, the risk of strong interest dominance in the RTRW and RZWP3K revision process. Third, the weak position of women fishermen in decision-making forums. Fourth, the impact of climate change that increases the pressure on coastal ecosystems. This challenge is in line with the finding that marine spatial planning can fail to deliver local benefits if participation is only symbolic, institutional support is weak, and social goals are not placed as a core part of planning (Singh et al., 2025; Stalmokaitė et al., 2025).

Mitigation strategies need to be carried out through multi-actor alliances between communities, local governments, academics, civil society organizations, and the media. The spatial revision process must be transparent, documented, and publicly testable. The involvement of women fishermen needs to be guaranteed through quotas of representation and capacity building. Participatory monitoring studies show that participation is not automatically inclusive if power, gender, and marginalization relations are not considered since program design (House et al., 2023). In addition, co-management institutions must be adaptive in order to be able to adapt to changes in ecological conditions.

Thus, marine management on Enggano Island, Seluma Market, Linau, and Merpas needs to be directed towards a governance model that recognizes community rights, strengthens local institutions, limits the dominance of capital in coastal spaces, and restores the socio-ecological relationship between communities and the sea as a shared resource. This direction is in line with the latest literature that emphasizes the importance of marine tenure rights, co-management, participatory monitoring, and equitable marine spatial planning in supporting the sustainability of coastal communities (FAO, 2023; House et al., 2023; Muawanah et al., 2021; Steenbergen et al., 2022; Stalmokaitė et al., 2025).

CONCLUSIONS AND RECOMMENDATIONS

The marine governance crisis on the coast of Bengkulu is not an anomaly. It is a local expression of the global contradiction between the logic of the commons, which orients the management of resources on the reproduction of community life, and the logic of capital, which orients extraction on the accumulation of exchange rates without ecological limits. The integration of the three theoretical frameworks in this article allows for a deeper analysis than just a technical diagnosis. Hardin identified a symptom: *open access* results in overexploitation. Ostrom provides a recipe: the right community institutions can prevent it. But Angus adds a more fundamental question: why are existing community institutions not recognized, and why do state instruments designed for justice serve to facilitate exclusion?

The answer lies in the mediating function that the state plays in the capitalistic system: providing legal legitimacy for the process of accumulation by dispossession that transforms the commons into a space for capital production. RTRW and RZWP3K, as planning instruments that are ideologically committed to spatial justice and socio-economic sustainability, in practice Bengkulu has been distorted into an instrument of legitimization of capitalistic and exploitative economic interests.

The transformative framework recommended in this article is not naïve to the complexity of the problem. He recognizes that tenure, institutional, and policy reforms must go hand in hand, supported by strong multi-actor alliances, and be implemented within a long-term framework. What is being fought for is a transformation in the relationship between coastal communities, ecosystems, states, and capital: from the relationship of exclusion and extraction to the relationship of recognition, reproduction, and justice. Ultimately, managing the ocean as a just and sustainable commons is about restoring the right of coastal communities to be subjects, not objects, of ecosystem management that sustains their livelihoods. This is not an exaggerated ambition. This is the minimum requirement of justice.

ADVANCED RESEARCH

This study has several limitations. First, it focuses only on selected coastal areas in Bengkulu, namely Pulau Enggano, Pasar Seluma, Linau, and Merpas. Therefore, the findings cannot be generalized to all coastal regions in Indonesia. Second, this study uses a qualitative case study approach, so it has not yet measured ecological damage, fish stock decline, or socio-economic losses quantitatively.

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