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license**ENVIRONMENTAL GOVERNANCE, SOCIAL PARTICIPATION, AND SUSTAINABLE COASTAL TOURISM IN EASTERN INDONESIA****Wahab Tuanaya^{1*}**¹Universtas Pattimura, Jalan Ir. M. Putuhena, Ambon 97233, Indonesia

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wahab.tuanaya@lecturer.unpatti.ac.idDOI: <https://doi.org/10.30598/baileofisipvol3iss3pp829-848>**ABSTRACT**

Coastal areas in Eastern Indonesia possess significant ecological and economic potential through mangrove-based ecotourism development. Nevertheless, sustainable coastal tourism remains challenged by environmental degradation, limited community participation, weak institutional collaboration, and the persistent tension between environmental conservation and local livelihood needs. This study examines environmental governance practices and social participation in the development of sustainable coastal tourism in Waiheru Village, Ambon City. Employing a qualitative case study approach, data were collected through observation, in-depth interviews with village authorities, youth organizations, community leaders, coastal residents, visitors, and relevant stakeholders, as well as documentation of environmental policies and tourism initiatives. Data were analyzed using the interactive model of data condensation, data display, and conclusion drawing, supported by triangulation and member checking to ensure validity. The findings reveal that collaborative environmental governance enhances mangrove conservation and promotes sustainable coastal tourism through active community engagement. Youth organizations play a strategic role in mobilizing participation, strengthening environmental awareness, and reinforcing local social capital. In addition, village regulations and collective monitoring mechanisms contribute to ecosystem protection and local economic empowerment. This study offers a novel contribution by integrating environmental governance, social participation, and sustainable tourism into a community-based governance framework within the socio-cultural context of Eastern Indonesia.

Keywords: Collaborative Governance, Community Participation, Coastal Tourism, Environmental Governance, Social Capital

INTRODUCTION

Coastal regions have increasingly become strategic spaces where ecological sustainability, community livelihoods, and economic development intersect in complex ways. Across developing countries, coastal tourism has emerged not only as an economic growth sector but also as an arena where environmental governance practices are tested through interactions among local institutions, public authorities, private actors, and community organizations (Nurhayati et al., 2019; Singgalen, 2020). In Indonesia, particularly in eastern coastal regions, these interactions become even more significant because coastal communities remain strongly

dependent on natural resources while simultaneously facing mounting pressures from environmental degradation and tourism expansion. The challenge, therefore, is not merely how to increase tourism attractiveness but how to ensure that tourism development remains socially inclusive, ecologically resilient, and institutionally sustainable (Nurhayati et al., 2019; Wiyono et al., 2023).

Indonesia possesses one of the largest coastal ecosystems in the world, with extensive mangrove forests that provide critical ecological functions, including shoreline protection, carbon sequestration, biodiversity preservation, and livelihood support for coastal populations (Jaya et al., 2024; Nutsugbodo & Mensah, 2020). Yet despite their ecological importance, Indonesian mangroves continue to experience substantial degradation caused by land conversion, infrastructure expansion, urban growth, and unsustainable economic activities (Ismail & Habibah, 2020; King et al., 2020). Eastern Indonesia presents a particularly important context because its coastal ecosystems remain relatively less industrialized while experiencing increasing tourism-oriented development. Although such development offers economic opportunities, unmanaged tourism expansion risks accelerating ecosystem deterioration and social inequality.

Recent reports indicate that coastal tourism destinations frequently encounter tensions between environmental conservation objectives and local economic interests (Hengky, 2018; Sugito et al., 2019). These tensions become more visible in mangrove-based tourism areas where communities are expected to simultaneously protect ecosystems and generate economic benefits. Studies have demonstrated that tourism initiatives relying solely on top-down governance approaches often produce limited long-term outcomes because local communities remain positioned as passive beneficiaries rather than active decision-makers (Kunjuraman, 2022; Sugito et al., 2019; Wibowo et al., 2023). Consequently, sustainable tourism increasingly requires governance arrangements that emphasize participation, collaborative decision-making, and community empowerment.

Within this context, environmental governance offers an analytical framework capable of explaining how environmental management is negotiated among multiple actors through institutional arrangements, participation mechanisms, and social accountability (Kummitha et al., 2021; Snyman, 2020; Widiartanto et al., 2022). Environmental governance moves beyond state-centered regulation by recognizing that environmental sustainability depends on interactions among governmental institutions, local communities, civil society organizations, and informal social networks. In tourism contexts, such governance structures become essential because tourism development directly influences ecological conditions and social relationships at local levels.

The case of Waiheru Village in Ambon City represents an emerging example of these dynamics. As one of the coastal areas with growing mangrove ecotourism initiatives, Waiheru has increasingly adopted participatory approaches involving village authorities, community members, youth organizations, and local stakeholders in conservation and tourism development activities. Community engagement extends from mangrove planting and environmental

monitoring to tourism promotion and collective management of local resources. However, despite these initiatives, questions remain regarding how governance structures are formed, how participation is sustained, and how these processes contribute to the long-term sustainability of coastal tourism.

The relationship between environmental governance and community participation has received growing scholarly attention in recent years. Governance literature increasingly emphasizes that environmental management outcomes are shaped not only by formal institutions but also by social relations, trust, and collective action (Kunjuraman et al., 2022; Lukman et al., 2025; Zoysa, 2022). Community participation has similarly evolved from being understood as public consultation toward recognition of communities as co-governors and active producers of sustainable outcomes (Chitambara et al., 2022; Lenao & Basupi, 2016; Walter et al., 2018). Nevertheless, the translation of these theoretical perspectives into tourism governance remains uneven across empirical contexts.

Previous studies have provided important insights into coastal and mangrove tourism management. Research by Osman et al. (2018) and Putri & Rino (2023) highlighted the importance of collaborative mangrove governance in supporting marine ecotourism development and demonstrated that institutional cooperation contributes positively to conservation outcomes. However, the study concentrated primarily on organizational arrangements and did not extensively investigate the sociological dimensions of participation. Similarly, Sentanu et al. (2021) and Widowati et al. (2025) found that community-based ecotourism contributes to strengthening mangrove conservation while generating local economic opportunities. Yet their analysis focused largely on ecological outcomes and gave limited attention to institutional interactions and local governance processes.

Research conducted by Morgan & Winkler (2020) and Tseng et al. (2019) further demonstrated that community participation significantly improves local quality of life in nature-based tourism settings. Their findings emphasized that participatory tourism contributes to social well-being and destination sustainability. However, participation in their framework was treated mainly as a development mechanism rather than as a component embedded within broader environmental governance structures. In another study, Chan et al. (2021) and Syamsi & Lee (2021) argued that participatory communication strengthens community engagement and supports mangrove ecotourism development through local economic creativity. Although valuable, this work did not fully examine how environmental decision-making processes shape participation patterns.

Beyond Indonesian cases, international scholarship has increasingly recognized the importance of integrating governance and sustainability perspectives. Ávila-Foucat et al. (2021) and Sobhani et al. (2022) argued that sustainable tourism governance requires collaborative institutional arrangements capable of balancing economic and ecological objectives. Lelloltery et al. (2021) and Tien et al. (2024) demonstrated that tourism governance depends heavily on local social capital and institutional adaptability. Meanwhile, Ahmad & Balisany (2024) and Prasetyo

et al. (2020) emphasized that governance structures directly influence environmental outcomes in tourism destinations. Other scholars have shown that governance effectiveness increases when community institutions possess sufficient capacity and social legitimacy (Kia, 2021; Singgalen, 2020).

Parallel discussions within environmental sociology have highlighted the importance of social participation in shaping environmental outcomes. Putnam (1993) emphasized that social capital strengthens collective action and institutional performance through trust and social networks. Lelloitery et al. (2020), through the ladder of participation model, demonstrated that meaningful participation requires actual influence in decision-making rather than symbolic involvement. More recently, Wardhani & Susilowati (2021) argued that stakeholder participation improves environmental decision quality by incorporating local knowledge and increasing legitimacy. These perspectives collectively suggest that sustainable environmental management cannot be separated from social processes and institutional arrangements.

Despite the expansion of this literature, several patterns remain evident. Existing studies tend to examine coastal tourism through fragmented perspectives that separately emphasize tourism economics, ecological conservation, community empowerment, or institutional governance. There remains limited integration between environmental governance frameworks and sociological understandings of participation, particularly within coastal tourism settings. Furthermore, local organizations such as youth groups frequently appear as supporting actors rather than central governance agents. Empirical evidence from Eastern Indonesia also remains underrepresented in international discussions despite the region's distinctive cultural and institutional characteristics.

This study therefore positions coastal sustainability as a product of negotiated relationships among environmental institutions, community actors, and local social structures. Rather than viewing conservation and tourism as competing agendas, this research approaches them as mutually reinforcing processes shaped through collective environmental stewardship. Particular attention is directed toward how village governance, community participation, and youth-led initiatives interact in creating conditions for sustainable coastal tourism. Through this perspective, the study extends discussions on environmental governance beyond regulatory dimensions and situates local participation as an active mechanism of ecological and social transformation.

Drawing on qualitative inquiry in Waiheru Village, Ambon City, this study seeks to examine how environmental governance is enacted in mangrove ecotourism management, explore patterns of social participation among communities and youth organizations, explain the relationship between governance practices and coastal tourism sustainability, and formulate an empirically grounded model of sustainable coastal tourism that reflects the socio-environmental realities of Eastern Indonesia. By doing so, the study contributes to broader debates in environmental sociology, community-based tourism, and sustainable development while offering practical insights for strengthening locally embedded approaches to coastal governance.

RESEARCH METHOD

This study employed a qualitative approach with a case study design to explore how environmental governance and social participation are formed, negotiated, and sustained in the context of sustainable coastal tourism development. A qualitative strategy was selected because the research sought to understand social processes, institutional interactions, local meanings, and collective experiences that cannot be adequately captured through quantitative measurement alone. Environmental governance in coastal areas involves complex relationships between actors, values, and environmental practices that emerge through everyday interactions rather than through observable numerical indicators. Therefore, this approach enabled the study to generate contextual and in-depth explanations regarding how governance structures and participation mechanisms operate within local social realities (Deason et al., 2022). The case study design was particularly relevant because it allows researchers to investigate contemporary phenomena within their real-life setting and to examine multiple sources of evidence simultaneously.

The research was conducted in Waiheru Village, Ambon City, Maluku Province, Eastern Indonesia. The selection of this location was purposeful rather than random. Waiheru represents an emerging coastal tourism area characterized by the coexistence of ecological potential and social transformation through mangrove ecotourism initiatives. The village has developed community-oriented conservation activities involving local residents, village authorities, youth organizations, and external stakeholders. At the same time, Waiheru reflects broader challenges commonly experienced across coastal regions in Eastern Indonesia, including environmental pressure, institutional coordination, community empowerment, and balancing conservation with economic aspirations. This setting provided an appropriate empirical context for observing how environmental governance is translated into local practices and how participation contributes to tourism sustainability.

Informants were selected using purposive sampling followed by snowball sampling to identify individuals who possessed direct knowledge and active involvement in mangrove governance and tourism development (Afdhal, 2023; Sabandar, 2025). A total of 18 informants participated in this study, consisting of three village government representatives, including village leadership and administrative officials responsible for environmental and tourism programs; four members of Karang Taruna, selected because of their active involvement in environmental campaigns and community mobilization; five coastal community members, representing residents directly affected by tourism and conservation activities; two local community leaders, who provided historical and institutional perspectives; two visitors to the ecotourism area, to capture perceptions regarding sustainability practices; and two stakeholders from environmental and tourism-related institutions involved in supporting local initiatives. These informants were chosen not to represent statistical proportions but to provide rich, diverse, and experience-based perspectives capable of illuminating governance dynamics from multiple social positions.

Data collection was conducted through observation, in-depth interviews, and documentation to strengthen analytical depth and contextual understanding. Observation was undertaken to directly examine conservation activities, tourism interactions, community meetings, environmental monitoring practices, and daily social engagement surrounding the mangrove area. This method allowed the researcher to capture practices and behaviors that may not emerge through verbal narratives alone (Manuputty et al., 2025; Titing et al., 2025). In-depth interviews were conducted using semi-structured guidelines to provide flexibility for informants to articulate experiences, perceptions, and interpretations in their own terms (Rusli et al., 2023). Interviews explored themes including environmental decision-making, community participation, institutional collaboration, local challenges, and perceptions of tourism sustainability. Documentation complemented these methods through the collection and examination of village regulations, environmental reports, photographs, tourism records, community activity archives, and policy-related documents that provided historical and institutional context.

Data analysis followed the interactive model proposed by Rusli et al. (2023), consisting of data condensation, data display, and conclusion drawing and verification. Data condensation involved organizing field notes, interview transcripts, and documents into meaningful categories. Data display was conducted through thematic matrices and narrative mapping to identify relationships between governance practices, participation patterns, and sustainability outcomes. Conclusions were developed iteratively throughout the research process and continuously tested against emerging evidence.

To ensure trustworthiness and research rigor, the study applied triangulation and member checking procedures (Mardani et al., 2023; Saiyed et al., 2023). Source triangulation was conducted by comparing information across government representatives, youth organizations, community members, visitors, and stakeholders to identify convergences and differences in perspectives. Technique triangulation was performed by cross-checking findings generated through observation, interviews, and documentary evidence. In addition, member checking was undertaken by returning preliminary interpretations to selected informants to confirm the accuracy of meanings and reduce researcher bias. Through these procedures, the study aimed to produce findings that remain credible, contextually grounded, and reflective of the lived realities of coastal communities in Waiheru.

RESULTS AND DISCUSSION

Reconfiguring Environmental Governance in Mangrove Ecotourism Development

The development trajectory of mangrove ecotourism in Waiheru Village demonstrates that environmental management in coastal areas increasingly extends beyond ecological intervention and evolves into a process of institutional and social negotiation. Although mangrove ecosystems have long been recognized as strategic ecological assets due to their role in shoreline protection, biodiversity maintenance, carbon storage, and local livelihood support

(Pricope Vancia et al., 2023; Šaparnienė et al., 2022), the sustainability of these ecosystems is closely determined by how governance arrangements are formed and maintained. This issue becomes particularly relevant in Eastern Indonesia, where coastal communities continue to depend directly on natural resources while simultaneously facing growing tourism development pressures.

Field findings indicate that the initial development of mangrove ecotourism in Waiheru emerged from local concerns regarding environmental degradation and declining awareness of coastal conservation. Several community members described that prior to the establishment of more organized conservation initiatives, portions of the mangrove area experienced gradual ecological pressure resulting from unmanaged land use, waste disposal, and limited community engagement. Environmental protection at that stage was largely perceived as the responsibility of government institutions rather than a collective community concern. However, the emergence of ecotourism initiatives gradually transformed local perceptions by introducing the idea that conservation could coexist with community welfare and local economic opportunities.

This transition was not initiated through a single institutional intervention but developed through interactions among village government, youth organizations, local residents, and external supporting actors. Data from interviews and observations suggest that governance arrangements evolved incrementally through formal and informal mechanisms. The village government assumed a coordinating and regulatory role by facilitating community meetings, supporting environmental programs, and encouraging institutional participation in conservation activities. One village official (Informant AV) explained that environmental programs became more sustainable only after community actors began to perceive mangrove conservation as directly connected to village development and future economic opportunities rather than solely environmental obligations.

At the community level, Karang Taruna emerged as one of the most influential actors in operationalizing environmental governance. Their involvement extended beyond voluntary environmental action and increasingly functioned as a bridge connecting institutional decisions with community mobilization. Members of the organization coordinated mangrove planting activities, organized collective maintenance programs, conducted environmental awareness campaigns, and encouraged youth participation in tourism-related activities. According to one youth representative (Informant RS), community participation became easier to mobilize when environmental initiatives were framed not merely as conservation activities but as efforts to protect shared resources while creating social and economic value for future generations.

The findings further reveal that environmental governance in Waiheru operates through distributed responsibilities rather than centralized authority. Coastal residents contributed through direct ecosystem maintenance and social monitoring practices, while village institutions provided legitimacy and administrative support. External stakeholders, including actors involved in tourism and environmental initiatives, supported technical guidance and expanded public visibility of mangrove ecotourism activities. This pattern reflects a governance arrangement

where authority and responsibility are negotiated across actors instead of concentrated within formal government structures.

Local regulatory mechanisms also played a significant role in reinforcing governance effectiveness. Village-level agreements and social norms functioned as informal environmental controls alongside administrative regulation. Informants reported that environmental violations, including destructive activities in mangrove areas, were increasingly addressed through social accountability mechanisms and collective monitoring. Rather than relying solely on punitive sanctions, environmental protection became embedded within community expectations and mutual responsibility. One community leader (Informant MT) emphasized that social disapproval often produced stronger behavioral effects than formal penalties because environmental stewardship had gradually become associated with collective village identity.

However, governance implementation remained dynamic and occasionally contested. Field data identified several coordination challenges, including differences in expectations between conservation objectives and economic interests, uneven participation across social groups, and dependence on a limited number of active actors. Some residents viewed tourism primarily as an economic opportunity, whereas others prioritized environmental protection. These differences occasionally generated negotiation processes regarding land use, visitor management, and development priorities. Nevertheless, such tensions did not necessarily weaken governance outcomes; instead, they created opportunities for institutional adaptation and dialogue.

These findings support recent arguments within Transformative Environmental Governance that effective environmental management emerges through locally legitimate institutions, distributed agency, and adaptive community capacity rather than top-down administrative control (Musavengane & Kloppers, 2020; Tölkes, 2020). In Waiheru, environmental governance became effective not because all actors possessed equal authority but because governance created mechanisms through which different interests could interact and produce collective environmental action.

Social Participation and Youth Agency in Building Coastal Sustainability

The development of mangrove ecotourism in Waiheru Village reveals that environmental sustainability is not generated solely through institutional regulation or conservation programs but is sustained through everyday social participation and the emergence of local actors capable of mobilizing collective action. Findings from observation, in-depth interviews, and document analysis indicate that participation in Waiheru has gradually evolved from community involvement as an implementation mechanism into a broader process of building social capacity and local ownership over environmental resources. In this context, Karang Taruna occupies a particularly strategic position by connecting environmental initiatives with community engagement and local development aspirations.

Field findings show that community participation in Waiheru occurred across multiple stages of environmental governance rather than being limited to operational activities. At the planning stage, village meetings and informal discussions became important spaces where residents, youth groups, and village authorities exchanged ideas regarding mangrove conservation and ecotourism priorities. Informants explained that environmental programs became more accepted when residents were involved early in identifying problems and determining collective objectives. One village representative (Informant SL) described that community attendance and involvement increased significantly once mangrove protection was framed not only as environmental preservation but also as a long-term investment for village welfare and local tourism development.

Participation became more visible during implementation activities. Observation data documented regular community involvement in mangrove planting, maintenance, cleaning activities, and visitor management within the ecotourism area. However, the process was not organized as a top-down mobilization effort. Instead, Karang Taruna emerged as the principal social intermediary capable of translating institutional objectives into community action. Members of the youth organization coordinated volunteer activities, communicated environmental messages through community networks, and encouraged participation among younger generations. One member of Karang Taruna (Informant RS) explained that environmental campaigns were intentionally designed around collective identity and future responsibility rather than environmental obligation alone, because residents were more responsive when conservation was linked to local pride and economic opportunity.

The role of Karang Taruna extended beyond environmental labor. Findings suggest that youth agency became increasingly visible through environmental education and tourism interpretation activities. Several initiatives introduced educational narratives to visitors regarding mangrove functions, ecosystem services, and conservation practices while simultaneously encouraging local residents to recognize environmental assets as community resources rather than idle land. Through these activities, Karang Taruna functioned not merely as volunteers but as social actors shaping environmental values and facilitating community learning processes.

Community participation also appeared through monitoring and evaluation mechanisms. Residents reported that environmental oversight increasingly occurred through informal social monitoring, where community members reminded each other regarding waste disposal, restrictions on mangrove cutting, and inappropriate land use. Village institutions reinforced this process through local regulations and social agreements, but monitoring effectiveness depended largely on community willingness to maintain collective commitments. One coastal resident (Informant MT) explained that environmental protection became more effective when residents perceived the mangrove area as belonging collectively to the village rather than being controlled exclusively by formal authorities.

The findings further indicate that participation was shaped by several interconnected drivers. First, local identity emerged as an important motivational factor. Community members

frequently associated mangrove conservation with protecting village heritage and preserving environmental conditions for future generations. Second, economic expectations strengthened participation. Residents recognized that ecotourism created opportunities for local income generation through visitor activities and related economic services. Third, social relationships and community trust encouraged sustained engagement. Existing social networks reduced barriers to participation and facilitated collective action.

Nevertheless, participation remained uneven and faced several constraints. Limited financial and technical resources occasionally reduced the scale and continuity of environmental activities. Community involvement also fluctuated depending on individual economic priorities and available time. Some residents remained more interested in short-term economic benefits than long-term conservation outcomes. Differences in expectations occasionally generated tensions regarding tourism expansion and environmental restrictions. However, rather than weakening participation, these dynamics encouraged adaptive negotiation among actors and reinforced the importance of maintaining dialogue across community groups.

These findings resonate with recent discussions within Community-Based Sustainable Tourism Governance, which argue that sustainable tourism emerges through collective ownership, local agency, and community legitimacy rather than externally imposed interventions (Dolezal & Novelli, 2022; Ghaisani & Afifi, 2022). The Waiheru case demonstrates that participation becomes transformative when communities are not positioned as beneficiaries but as active producers of environmental and tourism outcomes. This interpretation is also consistent with previous findings showing that collaborative mangrove management strengthens institutional capacity and improves ecotourism sustainability, while meaningful participation contributes to improving social well-being and local quality of life in nature-based tourism contexts (Sanusi & Sidik, 2022; Yusriadi, 2025).

Linking Environmental Governance and Sustainable Coastal Tourism Outcomes

Findings from Waiheru Village indicate that the relationship between environmental governance and sustainable coastal tourism extends beyond the implementation of conservation programs and should instead be understood as a cumulative social process that connects institutional coordination, community participation, and local adaptation. The empirical evidence collected through observation, in-depth interviews, and document analysis demonstrates that ecological protection and tourism sustainability are mutually reinforcing outcomes that emerge when governance arrangements successfully maintain community legitimacy and create opportunities for meaningful participation.

One of the most visible outcomes identified in this study concerns ecological improvement through strengthened mangrove protection. Informants consistently described that conservation efforts became more sustained after environmental responsibilities were distributed across village institutions, youth organizations, and community members. Prior to the establishment of more organized governance practices, environmental management tended to

occur sporadically and depended largely on external intervention. However, the emergence of coordinated conservation activities transformed environmental protection into a routine collective practice.

Interview findings revealed that Karang Taruna played an important role not only in planting activities but also in post-planting maintenance and environmental monitoring. A youth representative (Informant FE) explained that conservation activities became more effective once community members recognized that mangrove rehabilitation required long-term attention rather than ceremonial planting events. To support this effort, the village government facilitated coordination and established monitoring arrangements involving youth groups and local residents. A community leader (Informant KL) further emphasized that restrictions on settlement expansion and the prohibition of environmentally destructive practices contributed significantly to maintaining ecological integrity within the mangrove area.

Field observations support these accounts. Conservation activities in Waiheru increasingly included periodic monitoring, collective maintenance, environmental awareness campaigns, and informal reporting mechanisms when environmental disturbances occurred. These practices contributed to reducing environmental pressure on mangrove ecosystems and encouraged broader public awareness regarding coastal conservation. Rather than relying solely on formal enforcement mechanisms, environmental governance became embedded within social interaction and collective responsibility. This finding aligns with arguments that effective coastal conservation depends on community engagement and integrated ecosystem governance rather than regulatory control alone (Alcalá-Ordóñez & Segarra, 2025; Purwoko et al., 2023).

At the social level, governance arrangements generated outcomes that extended beyond environmental protection. Findings indicate that sustained participation contributed to strengthening local social capital and reinforcing solidarity among community members. Collective conservation activities created regular spaces for interaction between residents, village institutions, and youth organizations, fostering trust and shared responsibility. Community participation became increasingly associated with village identity and local pride. Several informants noted that environmental initiatives strengthened social cohesion because conservation activities were perceived as common efforts rather than externally imposed obligations.

The role of Karang Taruna was particularly important in this process. Their continuous engagement in environmental education, community mobilization, and tourism activities enabled the development of local organizational capacity. One village official (Informant AV) explained that youth involvement gradually encouraged broader community participation because environmental messages delivered by local actors were considered more relatable and socially legitimate. These findings suggest that governance contributes to sustainability not only through institutional coordination but also by generating social learning and strengthening community adaptive capacity.

Economic outcomes also emerged as an important dimension connecting governance and sustainability. Although ecotourism in Waiheru remains community-oriented and relatively small in scale, respondents identified growing opportunities for local economic diversification. Tourism-related activities created possibilities for local services, small-scale trading, visitor assistance, and village-based economic initiatives. Informants emphasized that while economic gains were not yet transformative, they contributed to changing local perceptions regarding the value of conservation. Environmental protection increasingly became understood as compatible with economic improvement rather than as a competing interest.

Importantly, the findings suggest that these ecological, social, and economic outcomes did not emerge independently. Instead, they were linked through a governance mechanism that strengthened participation and accumulated social resources over time. This mechanism demonstrates that environmental governance creates conditions for participation; participation generates trust, collective action, and local ownership; and these social resources ultimately support more sustainable tourism outcomes.

This interpretation resonates with recent discussions in Transformative Environmental Governance, which argue that sustainability outcomes emerge through adaptive governance arrangements that distribute authority, strengthen institutional legitimacy, and increase local capacity for collective action (Kassouha, 2019; Rastegar & Ruhanen, 2022). The findings are also consistent with previous studies showing that collaborative mangrove governance improves conservation performance and strengthens community resilience, while community-based ecotourism contributes to maintaining environmental sustainability alongside local socio-economic benefits (Li et al., 2022; Timur et al., 2025).

Towards a Community-Based Environmental Governance Model for Eastern Indonesia

The findings presented in the previous sections demonstrate that sustainable coastal tourism in Waiheru Village cannot be adequately explained through ecological conditions or tourism potential alone. Rather, sustainability emerges through continuous interaction between institutional arrangements, social participation, environmental stewardship, and local economic aspirations. The case of Waiheru illustrates that environmental governance becomes effective when environmental regulation, community engagement, and local leadership are connected within a mutually reinforcing system. This synthesis forms the basis for proposing a contextual governance model that reflects the socio-environmental realities of coastal communities in Eastern Indonesia.

Field findings indicate that village governance functions as the initial institutional layer that enables environmental action to occur. Rather than acting solely as an administrative authority, the village government operates as a facilitator that organizes coordination, establishes environmental boundaries, and creates legitimacy for collective conservation efforts. Interview data suggest that village authorities intentionally positioned conservation and ecotourism as interconnected agendas. One village representative (Informant SL) explained that

mangrove protection was not framed as environmental restriction but as an investment for maintaining ecological stability while creating future village economic opportunities. This institutional framing became important because it generated shared understanding among stakeholders regarding the purpose of environmental management.

The study further found that governance effectiveness was strengthened through the presence of regulatory instruments and enforcement mechanisms. Conservation activities in Waiheru were not limited to planting and maintenance but were reinforced through legal and social controls that protected the mangrove area from destructive practices. Informants consistently emphasized that environmental participation would lose effectiveness if unsupported by institutional certainty. The implementation of local environmental regulation, including restrictions on tree cutting, land conversion, and settlement expansion within protected mangrove areas, created governance predictability and strengthened collective compliance. As explained by one government informant (Informant AV), conservation initiatives became more sustainable after environmental obligations were institutionalized through village coordination and supported by existing regional environmental regulations.

However, regulation alone did not determine governance outcomes. Findings indicate that institutional legitimacy emerged because governance mechanisms remained closely connected to community participation. Community members and youth organizations became active actors in environmental monitoring, conservation activities, and tourism preparation processes. This pattern transformed environmental protection from a state-led initiative into a collectively owned social practice. The involvement of Karang Taruna was particularly important because youth participation created continuity between policy intentions and local implementation. Through environmental campaigns, monitoring activities, and public mobilization, youth groups contributed to producing local ownership over environmental resources.

Another important finding concerns the relationship between conservation and local economic expectations. Interviews revealed that residents increasingly viewed mangrove ecosystems not merely as ecological assets but also as potential sources of village development. Informants described future opportunities related to environmentally responsible tourism activities, including visitor services, small-scale businesses, community-managed facilities, and local economic circulation. One village representative (Informant SL) explained that conservation would become difficult to sustain if communities perceived environmental protection as limiting economic opportunities. Consequently, ecotourism development was designed as a mechanism through which conservation could generate tangible social and economic value.

This finding confirms that environmental stewardship in Waiheru is sustained through reciprocal relationships between ecological protection and community welfare. Mangrove conservation creates environmental resilience, while tourism provides incentives for maintaining conservation commitments. Social participation acts as the mechanism connecting these two dimensions. Such dynamics suggest that sustainability emerges not from ecological abundance

alone but from institutional capacity to organize participation and maintain legitimacy across actors.

These findings correspond with recent discussions in Transformative Environmental Governance, which emphasize that sustainability transitions depend on institutional legitimacy, distributed agency, and adaptive collaboration across governance levels (Šaparnienė et al., 2022; Yanti et al., 2023). They also support arguments from community-based tourism governance literature that local ownership and social legitimacy are fundamental conditions for achieving long-term tourism sustainability (Aprilani et al., 2022; Kholifah et al., 2021; Pricope Vancia et al., 2023). Previous studies similarly indicate that collaborative mangrove governance and supportive policy environments strengthen conservation outcomes and improve socio-economic benefits for local communities (Hermawan, 2024; Park & Widyanta, 2022).

CONCLUSION

This study demonstrates that the sustainability of coastal tourism in Eastern Indonesia is shaped not merely by the ecological value of coastal resources but by the quality of environmental governance and the capacity of local communities to participate in environmental management processes. Through the case of mangrove ecotourism development in Waiheru Village, the findings show that environmental governance operates as a socially embedded and collaborative process involving village institutions, youth organizations, local communities, and supporting stakeholders in managing conservation and development objectives simultaneously. Community participation was found to extend beyond implementation activities and function as a mechanism for generating local ownership, strengthening environmental awareness, and building social capital that supports long-term sustainability. Karang Taruna emerged as a strategic actor that connected institutional coordination with collective environmental action and facilitated continuity between conservation initiatives and local aspirations. The study further confirms that sustainable coastal tourism becomes more achievable when environmental regulation, participatory practices, and local economic opportunities are integrated within adaptive governance arrangements. Building on these findings, the study advances a community-based environmental governance perspective by integrating environmental governance, social participation, and sustainable tourism into a contextual framework for coastal development in Eastern Indonesia. Rather than proposing a universal model, this research offers an empirically grounded understanding that sustainability in coastal tourism is strengthened when institutional legitimacy, community ownership, environmental stewardship, and collaborative adaptation evolve together within local socio-cultural contexts. These findings contribute to the development of environmental sociology and sustainable tourism studies while providing practical direction for strengthening village-based governance and participatory coastal management policies.

ETHICAL STATEMENT AND DISCLOSURE

This study was conducted in accordance with established ethical principles, including informed consent, protection of informants' confidentiality, and respect for local cultural values. Special consideration was given to participants from vulnerable groups to ensure their safety, comfort, and equal rights to participate. No external funding was received, and the authors declare no conflict of interest. All data and information presented were collected through valid research methods and have been verified to ensure their accuracy and reliability. The use of artificial intelligence (AI) was limited to technical assistance for writing and language editing, without influencing the scientific substance of the work. The authors express their gratitude to the informants for their valuable insights, and to the anonymous reviewers for their constructive feedback on an earlier version of this manuscript. The authors take full responsibility for the content and conclusions of this article.

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