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Environmental Dimensions and Socio-Environmental Implications of Tourism Policy Implementation in Minahasa Utara, Indonesia

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Abstract

This study explores the environmental dimensions and socio-environmental implications of tourism policy implementation in Minahasa Utara, a rapidly developing tourism district designated as part of Indonesia's Special Economic Zone (KEK) Likupang. Despite its strategic status, the district experiences fragmented governance, unresolved land conflicts, and low institutional environmental capacity. These conditions create a policy environment where tourism expansion risks exacerbating environmental degradation. Using a qualitative case study approach grounded in policy implementation theory and environmental governance frameworks, this research investigates three key dimensions. First, the absence of a legalized Tourism Master Plan (RIPPARKAB) has led to unregulated tourism development, threatening ecological integrity in coastal and upland zones. Second, while community-based tourism (CBT) initiatives have generated localized environmental stewardship, their scalability is constrained by limited environmental literacy and the lack of institutional support. Third, structural limitations in local governance including staff capacity, inter-agency coordination, and fiscal dependency impede the integration of environmental considerations into tourism planning. The findings suggest that tourism policy in Minahasa Utara operates within a governance vacuum devoid of strong environmental anchors, producing long-term socio-ecological risks. This study contributes to environmental sciences by reframing tourism development as a function of environmental governance, rather than solely economic expansion. It proposes multi-level, evidence-based environmental management strategies aligned with SDG 13 (Climate Action) and SDG 15 (Life on Land), and offers a framework for integrating environmental safeguards into tourism policy implementation.

Keywords: *tourism policy, environmental governance, socio-environmental impacts, KEK Likupang, Minahasa Utara, community-based tourism, policy implementation.*

1. INTRODUCTION

Tourism has become a double-edged sector in global development—while contributing to economic growth and employment, it increasingly exerts multidimensional pressures on the environment. According to the United Nations World Tourism Organization (UNWTO), the tourism sector accounts for approximately 8% of global carbon emissions and contributes to biodiversity loss, freshwater overuse, and waste proliferation in many destination countries. These challenges are particularly acute in developing economies such as Indonesia, where rapid infrastructure-led tourism expansion often lacks proportional environmental safeguards. In Sulawesi Utara, the designation of North Minahasa as both a Special Economic Zone (SEZ) and a Super Priority Tourism Destination (DPSP) under national development policy was intended to stimulate inclusive growth. However, despite this strategic status, the tourism sector's contribution to the Gross Regional Domestic Product (GRDP) of North Minahasa in 2024 was merely 0.81%—significantly lower than Manado (4.01%) and Tomohon (2.05%) (BPS Sulawesi Utara, 2024), reflecting a persistent disconnect between economic expectations and environmental capacity.

The environmental repercussions of underperforming tourism policy in North Minahasa are increasingly visible. Field observations documented extensive marine litter accumulation in popular coastal destinations such as Likupang, caused by low environmental awareness among tourists and inadequate local waste management systems (Rondonuwu, 2023). In some coastal villages, piles of plastic waste were

found along beaches, threatening coral ecosystems and reducing the appeal of the region's natural assets. Moreover, the exploitation of endemic wildlife—such as tarsiers and reef fish—for commercial or touristic purposes further underscores the absence of environmental education among stakeholders. These environmental externalities are exacerbated by the lack of a formal environmental monitoring framework, such as destination-level sustainability indicators or ecosystem service assessments, within local tourism governance.

Compounding the ecological degradation is a prolonged land conflict in the SEZ Likupang area. Approximately 1,250 hectares of former HGU (Right to Cultivate) land owned by PTPN XIV remains entangled in unresolved legal status. Although the HGU license expired in 2015, the official handover process requires presidential authorization, which had not been obtained as of 2024 (Redaksi Mejahijau.com, 2023). During this legal vacuum, portions of the land were illegally sold to third-party investors by alleged land mafias, resulting in uncontrolled construction in sensitive mangrove and coastal zones. This case, which triggered public protests and community distrust, illustrates how regulatory inaction and poor land governance can undermine environmental planning, leading to landscape fragmentation and ecosystem disruption. Without a transparent ecological zoning mechanism, development pressures continue to threaten the region's environmental carrying capacity.

An equally urgent issue lies in the absence of a legally binding tourism planning document. As of the end of 2024, North Minahasa Regency had not enacted its Rencana Induk Pengembangan Pariwisata Kabupaten (RIPPARKAB), or Regional Tourism Development Master Plan, which is a prerequisite under Indonesian Law No. 10/2009 for regional tourism planning. This regulatory vacuum impedes environmental management because there is no enforceable guideline for land use, conservation zoning, or environmental impact mitigation in the tourism sector. The absence of RIPPARKAB also disqualifies the local government from accessing national tourism development funds tied to environmental compliance, thereby reducing its capacity to implement nature-based solutions or green infrastructure programs. As a result, most infrastructure developments in the Likupang SEZ—including access roads—proceeded without comprehensive environmental assessments (Ganda, 2023).

From an environmental governance perspective, the institutional capacity of the local tourism authority remains limited. According to Sumakul et al. (2020), the North Minahasa Tourism Office lacks technical staff with formal training in sustainable tourism or environmental management. Training programs conducted in the region were found to be sporadic and general in nature, failing to address the specific needs of environmental conservation or eco-certification. This human resource constraint not only weakens planning and supervision but also limits the agency's ability to mobilize community participation in environmental stewardship. Evidence from the field indicates that community engagement in tourism is largely economic in orientation, with minimal environmental co-benefits such as waste sorting, reef protection, or biodiversity monitoring (Navratilova et al., 2023).

Despite a strategic national designation, the implementation of tourism development in North Minahasa has thus resulted in what can be termed as an "environmental implementation deficit." The combination of weak regulatory frameworks, unresolved land conflicts, low environmental awareness, and insufficient institutional capacity has created a governance gap wherein tourism policy fails to align with the principles of environmental sustainability. This discrepancy not only threatens the ecological resilience of the region but also undermines the long-term viability of tourism as a development pathway. A sustainable tourism model in North Minahasa must therefore be built upon localized environmental governance, community-based ecological stewardship, and measurable environmental indicators aligned with the SDGs—particularly SDG 11 (sustainable cities), SDG 13 (climate action), and SDG 14 (life below water).

Against this backdrop, this study investigates the environmental implications of tourism policy implementation in North Minahasa, focusing on governance failures, ecological risks, and community-based adaptation strategies. The research aims to answer the following environmental questions: (1) What are the key environmental risks associated with tourism development in North Minahasa? (2) How do governance and institutional gaps hinder sustainable environmental outcomes in the KEK-DPSP Likupang area? (3) What forms of community participation can support localized environmental conservation within tourism systems? (4) What policy recommendations can be derived to bridge the gap between strategic tourism planning and ecological sustainability? Through a combination of policy

analysis and field-based observations, this study contributes to the interdisciplinary integration of environmental sciences into tourism planning frameworks—offering grounded insights for green policy transformation in emerging tourism economies.

2. METHOD

2.1 Research Design and Environmental Focus

This study adopts a qualitative-descriptive research design with a case study approach, reframed through a socio-environmental lens to examine the environmental implications of tourism policy implementation in North Minahasa. Philosophically, the research is positioned within an interpretivist paradigm, recognizing the complex interplay between governance structures, local communities, and ecological systems. This design is suitable for capturing the contextual nuances of environmental governance failures, particularly in policy environments characterized by institutional fragmentation, regulatory absence, and limited ecological accountability. By focusing on the implementation of the KEK and DPSP designations, the study explores how structural constraints in tourism planning affect environmental outcomes.

2.2 Data Collection and Environmental Indicators

Primary data were collected through in-depth interviews with key stakeholders including local government officials, tourism planners, and community leaders. While the original focus was on policy implementation and institutional dynamics, the data were reframed to extract environmental variables—such as perceptions of environmental degradation, land-use conflicts, waste management practices, and ecological impacts of infrastructure development. Secondary data—including planning documents, regional development plans, and statistical records—were reviewed to identify gaps in environmental governance instruments, particularly the absence of RIPPARKAB and AMDAL in project execution. Indicators relevant to environmental assessment were derived from community observations (e.g., coastal pollution, biodiversity loss), regulatory readiness (e.g., zoning frameworks), and local participation in conservation efforts.

2.3 Data Analysis and Environmental Assessment

Thematic analysis was employed to interpret the qualitative data, guided by an environmental governance framework that emphasizes institutional readiness, environmental planning, and community-based stewardship. Socio-environmental interactions were assessed by identifying causal linkages between governance failures and environmental degradation. The analysis also incorporated elements of implementation theory (Grindle, 1980; Edwards III, 1980) reframed through an environmental lens, focusing on how institutional capacity, regulatory clarity, and stakeholder coordination affect ecological outcomes. Particular attention was given to spatial asymmetries—such as land-use conflicts in KEK Likupang and the environmental implications of stalled infrastructure projects. The assessment highlights not only the policy-environment nexus but also the socio-cultural determinants of environmental behavior among local actors.

2.4 Validity and Environmental Relevance

Credibility was ensured through triangulation across multiple data sources, including interviews, field observations, and official documents. Environmental relevance was strengthened by focusing on governance indicators that directly affect ecological integrity, such as regulatory enforcement, land-use clarity, and participatory conservation mechanisms. Although the study does not include biophysical measurements, it offers a critical institutional diagnosis of environmental governance capacity in a nationally strategic tourism zone. A key limitation lies in the absence of longitudinal ecological data or geospatial analysis; however, the depth of qualitative insight provides a robust foundation for environmental policy recommendations and future interdisciplinary research.

4. RESULTS AND DISCUSSION

Table 1 Causal Mechanism Mapping (Environmental Tracing)

Observed Outcome	Immediate Cause	Underlying Structural Cause	Environmental Consequence

Low tourism GRDP (0.81%) in Minahasa Utara	Inactive RIPPARKAB; no clear zoning	Centralized policy without ecological localization	Policy-environment misalignment; unmanaged land conversion risks
Coastal waste accumulation in tourism villages	Low community awareness, absent waste infrastructure	Environmental illiteracy; lack of sustainability education	Marine pollution; degraded coastal ecosystem
Land conflict in KEK Likupang (1,250 ha)	HGU expired, delayed legal release	Overlapping land tenure governance	Destruction of mangroves; habitat fragmentation
Limited community role in conservation	Economic-centric CBT model	Lack of participatory environmental planning	Weak environmental stewardship; loss of local ecological knowledge

Table 2 Theoretical Integration Matrix

Theoretical Lens	Contribution to Analysis	Environmental Reframing
Implementation Theory (Grindle, 1980; Edwards III, 1980)	Explains gap between national policy and local outcomes	Expanded to include environmental policy feedback loops and ecological governance deficits
Environmental Governance	Interplay of regulation, institutions, and accountability	Highlights fragmented ecological authority at local level (no AMDAL, no RIPPARKAB)
Community-Based Environmentalism	Role of local actors in resource protection	Shows asymmetry in participation; community acts as host but lacks control over environmental decisions

Environmental Management Implications

The findings of this study reveal critical environmental management deficiencies in the implementation of tourism policies in North Minahasa, necessitating a shift toward integrated and adaptive environmental governance. Strategically, the absence of a legalized RIPPARKAB and the failure to enforce environmental zoning represent the most urgent intervention points. Therefore, a sequenced intervention strategy is proposed, beginning with the establishment of a legally binding environmental masterplan (RIPPARKAB), followed by the institutionalization of Environmental Impact Assessments (EIA) for all tourism infrastructure projects in KEK Likupang. These should be complemented by the formation of community-based environmental monitoring units, operating under decentralized governance frameworks, to ensure local accountability and ecological responsiveness.

Environmental management must operate across multiple levels. At the individual level, environmental awareness campaigns integrated into tourism education are essential to reshape visitor and resident behavior toward waste, resource use, and biodiversity. At the community level, establishing environmental stewardship councils within villages would facilitate collective ecological action and legitimize local knowledge in decision-making. At the institutional level, capacity-building programs targeting tourism and environmental officials should prioritize cross-sectoral coordination, policy coherence, and technical literacy in sustainable planning. At the systemic level, adaptive environmental governance mechanisms are necessary to accommodate uncertainty, enable feedback-based learning, and sustain long-term ecosystem services. Regular monitoring through sustainability indicators—such as land conversion rates, marine litter density, and biodiversity indices—should inform dynamic policy adjustment.

Policy Implications for Environmental Protection

The structural policy gap identified in North Minahasa—where strategic national designations (KEK/DPSP) exist without corresponding local readiness—demands a revision of Indonesia's tourism-environment integration framework. Policies must establish preconditions for strategic tourism zoning, including verified environmental governance capacity and the availability of a regional masterplan.

Regulatory mechanisms must incorporate not only environmental licensing but also enforceable sanctions for non-compliance and incentives for sustainable practices. For instance, green investment subsidies and eco-certification-linked funding can be employed to align private sector behavior with environmental goals. Institutional reforms should also focus on improving coordination between ministries, local governments, and environmental agencies. This includes establishing joint task forces for environmental planning in SEZs, with transparent stakeholder engagement protocols to ensure inclusive decision-making. Building institutional resilience requires not only legal instruments but also investment in technical and human capital—such as training local actors in spatial planning, conservation science, and environmental conflict resolution. Without such structural transformations, the risks of cumulative ecological degradation and socio-political backlash will persist.

Theoretical Contributions to Environmental Sciences

This study introduces the concept of *Environmental Implementation Deficit*, defined as the misalignment between policy designation and ecological readiness at the local level. This concept extends existing policy implementation theories (e.g., Grindle, 1980; Edwards III, 1980) by embedding environmental governance logic into the determinants of policy failure. The study challenges the assumption that formal institutional designations (such as KEK and DPSP) are sufficient for delivering sustainable outcomes. Instead, it posits that the absence of embedded environmental governance and community ecological agency constitutes a systemic vulnerability in tourism-environment systems.

Furthermore, the research integrates environmental stewardship theory with community-based tourism literature, revealing that economic participation does not automatically translate into environmental responsibility. This insight contributes to ongoing debates in environmental sciences regarding the conditions under which social capital fosters ecological resilience. Conceptually, the study also positions tourism destinations as nested socio-ecological systems, where environmental outcomes are emergent properties of interactions across institutional, communal, and individual levels. These theoretical refinements offer a scaffold for future empirical testing and model development in tourism-environment policy analysis.

The empirical and theoretical insights derived from this study highlight several priorities for future research. First, the development of integrated environmental governance indicators tailored to tourism destinations is imperative. These should capture institutional readiness, ecological integrity, and community engagement in a composite index. Second, there is a need for mixed-methods longitudinal studies that combine governance diagnostics with spatial and biophysical data—such as land cover change analysis, pollution mapping, and ecosystem service valuation.

Future theoretical inquiry should examine how environmental governance performance mediates the relationship between strategic policy instruments and actual environmental outcomes in emerging economies. Comparative studies across KEK zones in Indonesia—or globally across special tourism zones—would allow for testing the transferability of the Environmental Implementation Deficit framework. Technological innovations such as GIS, participatory mapping, and real-time environmental monitoring offer methodological opportunities for enhancing accuracy and community involvement in research.

In the long term, interdisciplinary research that bridges environmental sciences, policy studies, and critical geography will be crucial for designing adaptive systems that respond to climate-induced vulnerabilities, biodiversity loss, and socio-environmental injustice in tourism landscapes. International collaborations—particularly within Southeast Asia—are encouraged to foster comparative learning and policy harmonization.

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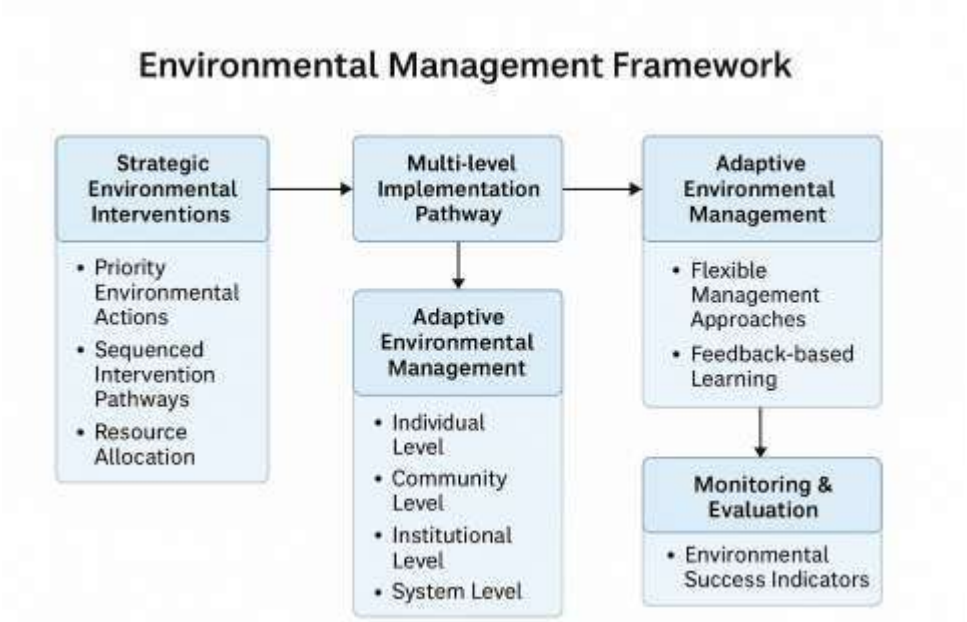


Gambar 1 Strategic Environmental Roadmap: From Foundational Interventions to Systemic Integration

To translate the empirical and analytical insights of this study into practical and time-bound transformations, a phased environmental roadmap is proposed, aligning short-term priorities with long-term systemic objectives. The roadmap reflects a temporal and strategic sequencing of interventions grounded in the findings, while integrating adaptive governance principles across individual, community, institutional, and systemic levels.

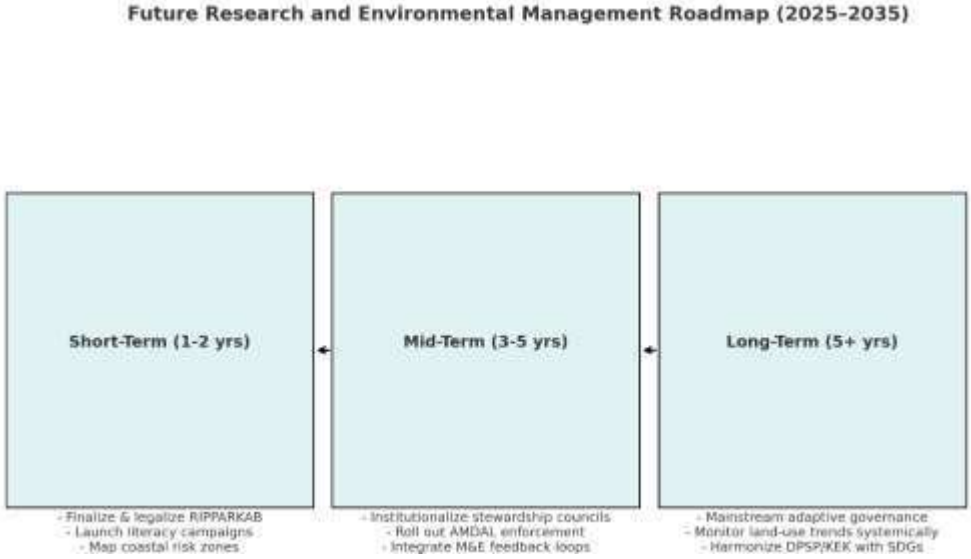
In the short-term phase (1–2 years), the immediate focus must center on regulatory formalization and behavioral change initiation. This includes the finalization and legalization of *Rencana Induk Pengembangan Pariwisata Kabupaten (RIPPARKAB)*, as the foundational planning instrument required for coherent environmental zoning and resource protection. Concurrently, environmental literacy campaigns targeting local communities and tourism actors are essential to trigger shifts in individual behavior and build a social foundation for stewardship. Risk mapping of ecologically sensitive areas—particularly coastal zones under threat from tourism infrastructure—must also be conducted to establish baselines for future monitoring.

The mid-term phase (3–5 years) should consolidate these foundations through the institutionalization of *community environmental stewardship councils*, functioning as localized governance bodies with co-management mandates. This aligns with the principle of subsidiarity in environmental governance and enables participatory ecological monitoring. Equally critical is the operational enforcement of *Analisis Mengenai Dampak Lingkungan (AMDAL)* procedures across all tourism projects, which requires cross-sectoral coordination and legal reinforcement. Feedback loops must be established through monitoring and evaluation systems that track indicators such as biodiversity change, waste levels, and land-use patterns, enabling iterative learning and policy refinement.

By the long-term phase (5+ years), the roadmap envisions a full integration of *adaptive environmental governance* into regional tourism development, particularly within KEK and DPSP frameworks. This includes embedding real-time monitoring, ecological thresholds, and resilience targets into policy design and implementation. At this stage, environmental objectives should be harmonized with national and global sustainability agendas, particularly the SDGs (Goals 11, 13, 14, and 15). Institutional alignment must be reinforced through inter-agency coordination and harmonization between spatial, economic, and environmental planning regimes.

This staged roadmap not only provides a structured pathway from fragmented governance to systemic sustainability, but also enables anticipatory capacity building. By sequencing interventions in alignment with institutional readiness and ecological urgency, the roadmap enhances feasibility while maximizing

environmental impact. It offers a replicable model for other emerging tourism economies struggling with policy-ecology misalignments, and provides a concrete contribution to the operationalization of sustainable development in peripheral and under-institutionalized regions.



5. CONCLUSION

The implementation of tourism policy in North Minahasa has given rise to complex socio-environmental dynamics, especially due to weak regulatory foundations and inadequate institutional capacity. The absence of formal regulations such as RIPPARKAB results in fragmentation in environmental governance, so that the development of tourism infrastructure in the Likupang SEZ area takes place without a standard ecological reference. This opens up loopholes for uncontrolled exploitation of coastal areas and river borders, which directly threaten biodiversity and land stability. Furthermore, the prolonged agrarian conflict between the provincial government and PTPN XIV exacerbates spatial uncertainty, hinders green infrastructure investment, and encourages illegal land clearing activities in vulnerable ecosystem areas.

On the other hand, community participation in the form of community-based tourism (CBT) as seen in Budo Village shows that the involvement of local residents can strengthen conservation actions such as waste sorting, coastal area monitoring, and coral reef protection. However, this positive impact has not been widespread because the environmental literacy gap is still a major obstacle in expanding the CBT model to other tourist villages. The imbalance in ecological understanding, both from the side of the community and tourists, contributes to maintaining environmentally damaging practices such as careless waste disposal and unsustainable use of resources.

The main obstacle in achieving sustainable environmental governance lies in the weak capacity of local institutions, both in terms of the quality of human resources in the tourism sector and the cross-sector coordination framework that has not been built in an integrated manner. Fiscal dependence on central transfers also directs budget allocation to short-term activities such as promotion, rather than building long-term infrastructure or environmental capacity. These findings suggest that environmental governance failures are not solely due to a lack of will, but rather structural unpreparedness and resource flows that are not aligned with sustainability goals.

Thus, environmental sustainability in tourism development in North Minahasa can only be achieved if there is a strengthening of regulatory instruments, an increase in ecological literacy, and a comprehensive improvement of institutional capacity, including restructuring budget allocation and investing sustainability values in the cross-sectoral decision-making process.

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