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From local wisdom to community-based governance: Managing mangrove ecotourism in Aceh, Indonesia

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ABSTRACT

This study examines how local wisdom functions as a constitutive element of community-based governance in mangrove ecotourism in Aceh, Indonesia. Using a qualitative case study approach, data were collected through in-depth interviews, participant observation, document analysis, and focus group discussions involving stakeholders from government, customary institutions, communities, and the private sector. The findings demonstrate that cultural practices such as *meuseuraya*, *duek pakat*, and *peumulia jamee* operate as constitutive governance mechanisms that structure collective action, decision-making, and socio-ecological relations. Governance emerges not as a fixed institutional arrangement, but as a relational and negotiated process shaped by the interaction of cultural norms, institutional configurations, and power dynamics. The coexistence of customary and formal systems produces hybrid governance structures that enable coordination while generating tensions, asymmetries, and contested outcomes. This study reconceptualizes local wisdom as governance infrastructure, demonstrating that governance outcomes are not solely determined by institutional design, but are mediated by culturally grounded meanings and socially structured power relations. The results underscore that effective community-based governance depends on the institutionalization of culturally grounded practices, inclusive deliberative processes, and relational coordination across actors. These insights contribute to advancing socio-ecological systems and social capital perspectives by foregrounding culture as an operational mechanism of governance, while offering practical direction for designing context-sensitive and adaptive governance strategies in ecotourism settings.

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Introduction

Environmental sustainability has become a central concern in contemporary socio-ecological debates, particularly in coastal regions where ecological degradation intersects with complex governance challenges. Mangrove ecosystems, widely recognized for their roles in carbon sequestration, shoreline protection, biodiversity conservation, and livelihood provision, are among the most threatened ecosystems globally (Vierros, 2017; Yamamoto, 2023). Despite increasing policy attention, many conservation initiatives continue to rely on top-down governance models that insufficiently account for local socio-cultural dynamics. Such approaches often produce limited and short-lived outcomes, as they overlook the ways in which resource management is rooted in community practices, informal institutions, and culturally grounded norms (Kumar et al., 2021). This indicates that environmental degradation is not solely an ecological problem, but also a governance failure.

From a socio-ecological perspective, governance failures are manifested in fragmented institutional arrangements, exclusionary decision-making processes, and the marginalization of local knowledge systems (Ostrom, 2009; Partelow, 2018). These limitations highlight the need to move beyond state-centric approaches toward governance frameworks that recognize the role of communities as active agents in managing natural resources. Community-based governance has gained increasing attention as an alternative approach that integrates ecological sustainability with social legitimacy, collective action, and institutional adaptability.

Indonesia exemplifies these dynamics. As a country that contains approximately 20% of the world's mangrove ecosystems, it represents both a site of ecological richness and significant environmental (Kopnina et al., 2024; Mustika et al., 2025; Wurarah & Mulyanto, 2024). Extensive mangrove degradation driven by aqua culture expansion, coastal development, and overexploitation reflects not only environmental pressures but also governance limitations in coordinating multiple actors and interests (Ju et al., 2025). These conditions reveal a persistent gap between formal environmental governance and locally grounded practices, suggesting that effective management requires a more integrated and context-sensitive governance approach.

At the local level, Langsa City in Aceh Province offers a compelling case for examining these issues. Historically characterized by extractive uses of mangrove resources, such as charcoal production and aquaculture, Langsa has undergone a transition toward conservation-oriented livelihoods through mangrove-based ecotourism (Latif et al., 2024; Tari et al., 2020). While this transformation has generated new economic opportunities and increased environmental awareness, it

has also introduced governance challenges related to inclusivity, equitable benefit distribution, and the adaptability of customary institutions under conditions of commercialization. These dynamics reveal a fundamental tension between conservation objectives and livelihood needs, raising critical questions about how governance is negotiated and enacted in practice (Fisher et al., 2018; Hajad et al., 2025).

Within this context, local wisdom and cultural values emerge as crucial yet often under-theorized elements of governance. In Acehnese society, practices such as *meuseuraya* (mutual cooperation), *duek pakat* (deliberative consensus), and *peumulia jamee* (hospitality) are not merely cultural expressions but constitute culturally grounded governance practices that structure collective action, regulate resource use, and sustain social cohesion. These practices shape how decisions are made, how authority is legitimized, and how cooperation is maintained within communities. These practices are not only cultural expressions but also part of everyday interactions through which communities negotiate roles, responsibilities, and access to resources. Importantly, they extend beyond conventional sociological constructs such as cooperation or reciprocity, as they are embedded within culturally specific governance arrangements that define norms, obligations, and institutional relationships.

Previous studies have highlighted the role of local wisdom in environmental conservation and ecotourism development, emphasizing its contribution to ethical behavior, social capital formation, and community resilience (Auer et al., 2020; Iriyani et al., 2024; Samal & Dash, 2023). However, much of this literature remains predominantly descriptive, treating local wisdom as a cultural or ethical resource rather than examining its function as a governance mechanism within socio-ecological systems (Turnhout et al., 2020). Moreover, existing research often underexplores how these practices interact with formal governance structures and respond to contemporary pressures such as tourism commercialization, environmental change, and internal power asymmetries (Husna et al., 2022; Saputra et al., 2024). As a result, there remains a limited understanding of how governance is actually produced, negotiated, and experienced at the community level (DeCaro et al., 2025).

However, existing studies tend to treat local wisdom as a cultural or ethical resource, with limited attention to how it operates as a governance mechanism in managing socio-ecological systems (Armitage et al., 2008). This gap is particularly significant in the context of mangrove ecotourism, where governance involves continuous negotiation among environmental sustainability, economic interests, and social relations (Ban et al., 2025; Bennett et al., 2021). Addressing this gap requires a shift from descriptive approaches toward analytical frameworks that position local wisdom as an active component of governance.

In response, this study examines how local wisdom functions as community-based governance in the management and development of mangrove ecotourism in Langsa City, Aceh. It focuses on the interaction between cultural practices, customary institutions, and formal governance structures in shaping decision-making processes, resource management strategies, and socio-economic outcomes. By doing so, the study seeks to move beyond descriptive accounts and provide a more theoretically grounded understanding of governance within socio-cultural contexts.

Conceptually, this study draws on the Socio-Ecological Systems (SES) framework and social capital theory. The SES framework emphasizes the interdependence between ecological and social systems, highlighting

how governance is shaped through dynamic interactions among actors, institutions, and environmental conditions (Ostrom, 1990; Partelow, 2018). Complementing this, social capital theory, drawing on (Bourdieu, 1979; Coleman, 1988; Putnam, 1994), explains how trust, norms, and networks facilitate collective action and institutional coordination. These perspectives enable the conceptualization of local wisdom as a form of socio-ecological capital integrated within governance processes (Berkes, 2017).

By positioning local wisdom as community-based governance, this study advances existing scholarship by reframing local wisdom as an active part of how communities organize, negotiate, and manage their environment. It contributes to sociological debates on environmental governance and community-based resource management by offering a more analytically grounded understanding of how culturally grounded practices are closely linked to everyday governance practices. In addition, the study provides practical insights for developing more inclusive, adaptive, and context-sensitive strategies for mangrove conservation and ecotourism development in coastal communities.

Method

This study employed a qualitative case study approach (Creswell, 2019) to examine how local wisdom operates as community-based governance in shaping mangrove ecotourism practices in Langsa City, Aceh, Indonesia. The site was selected due to its established mangrove ecotourism initiatives, characterized by collaboration among local government, Village-Owned Enterprises, private actors, and customary institutions.

Data were collected through in-depth interviews, participant observation, document analysis, and two Focus Group Discussions (FGDs). A total of 15 informants were selected using purposive sampling based on their direct involvement, experience, and relevance to mangrove ecotourism governance. The selection criteria included: (1) active participation in mangrove management or ecotourism activities, (2) institutional roles in government, customary, community, or private sectors, and (3) knowledge of local practices related to environmental management. Snowball sampling was subsequently used to identify additional key informants.

The informants consisted of tourism officials (3), private sector representatives (2), customary leaders (4), community members (5), and ecotourism managers (1). Table 1 summarizes the diversity of actors and their respective roles in mangrove ecotourism governance, enabling a comprehensive understanding of governance practices across stakeholder groups.

Two FGDs were conducted with ecotourism managers and community members, each involving 6–8 participants representing diverse local actors, including residents, youth, and practitioners.

Table 1. Informants and their roles in mangrove ecotourism governance

No	Informant Category	Number	Role in Governance
1	Tourism Officials	3	Policy-making and coordination of ecotourism programs
2	Company Representatives	2	Private sector support and investment in ecotourism
3	Customary Leaders	4	Regulation of local norms and mediation of community decisions
4	Community Members	5	Participation in resource management and daily practices
5	Ecotourism Managers	1	Operational management and implementation

Source: Processed by Authors (2025)

The discussions were facilitated using semi-structured guidelines focusing on governance practices, local wisdom, and community participation. Each session lasted approximately 90–120 minutes and was audio-recorded with participants' consent. The FGD data were transcribed and integrated into the analysis to complement and validate findings from interviews.

Participant observation focused on management activities, stakeholder interactions, and everyday practices through which local wisdom is enacted in ecotourism governance. In addition, documents such as local regulations, institutional reports, and media materials were analyzed to provide contextual understanding and support data triangulation.

Data were analyzed using thematic analysis to identify patterns related to governance practices, institutional dynamics, and community interactions. Coding was conducted iteratively to capture how local wisdom informs decision-making, resource management, and collective action in mangrove ecotourism. This approach enables an interpretive understanding of how governance is practiced in everyday contexts. The analysis was guided by the Socio-Ecological Systems (SES) framework (Partelow, 2018) and social capital perspectives (Bourdieu, 1979; Coleman, 1988; Putnam, 1994), which together explain how interactions between communities, institutions, and ecological conditions shape governance practices.

To ensure rigor, method triangulation was applied by integrating data from interviews, observations, documents, and FGDs (Mishra, 2016). Source triangulation involved engaging diverse stakeholders across government, community, customary institutions, and private sectors. Data collection continued until saturation was reached, indicated by the absence of new themes after 15 interviews and two FGDs. This multi-method approach strengthens the validity of the findings and provides a comprehensive understanding of community-based governance in mangrove ecotourism.

Results and Discussion

Local wisdom as a governance mechanism

This section argues that local wisdom functions as a foundational mechanism of community-based governance in mangrove ecotourism, rather than merely as cultural expression. In Acehnese coastal communities, practices such as *meuseuraya*, *duek pakat*, and *peumulia jamee* operate socially defined norms that regulate behavior, coordinate collective action, and legitimize decision-making. Governance thus emerges from culturally grounded interactions among actors, institutions, and ecological conditions, where local wisdom is translated into norms, institutionalized in customary structures, and enacted through everyday practices.

From cultural values to governance norms

The findings reveal that cultural practices in Acehnese mangrove ecotourism operate as normative governance mechanisms that structure collective behavior and regulate socio-ecological relations. Practices such as *meuseuraya* (mutual cooperation), *duek pakat* (deliberative consensus), and *peumulia jamee* (hospitality) function as socially recognized rules that guide participation, decision-making, and environmental responsibility in everyday governance. These norms are not merely symbolic, but are enacted through culturally grounded expectations that define acceptable behavior within community life.

As reflected in an informant's account, cultural authority is embedded within local

leadership structures, where governance roles are simultaneously administrative and cultural:

> *"The village community has unique customs and cultural values that shape their way of life and their relationship with the environment… The village head acts not only as a government official but also as a guardian of these customs, helping to bridge community wisdom with development efforts." (Community members, Inf-04, interview)*

This indicates that governance norms are socially legitimized through shared cultural meanings rather than externally imposed rules. In practice, *duek pakat* establishes consensus-based expectations in decision-making and conflict resolution, while *meuseuraya* reinforces collective labor as a socially obligatory practice. Participation, therefore, is not an individual choice but a normative expectation integrated within community life, reinforcing responsibility, coordination, and environmental stewardship (Agarwal, 2001; Haughton & Løvschal, 2024). In this context, practices such as *meuseuraya*, *duek pakat*, and *peumulia jamee* operate as normative rules that define acceptable behavior and collective responsibility within community-based governance.

From an analytical perspective, these findings position local wisdom as a normative infrastructure of governance that shapes coordination, legitimacy, and responsibility at the community level (Haider & Cleaver, 2023; Palmer et al., 2024; Reyes-García et al., 2019). While this resonates with social capital theory (Coleman, 1988; Putnam, 1994), the study extends it by demonstrating that norms are not generic relational resources, but culturally embedded rules that structure governance in context-specific ways. This shifts the analytical emphasis from governance as institutional design to governance as socially defined order.

As illustrated in Figure 1, existing research on mangrove ecotourism is predominantly oriented toward ecological functions and technical management (Hall, 2024), with comparatively limited attention to socio-cultural mechanisms underpinning governance processes.

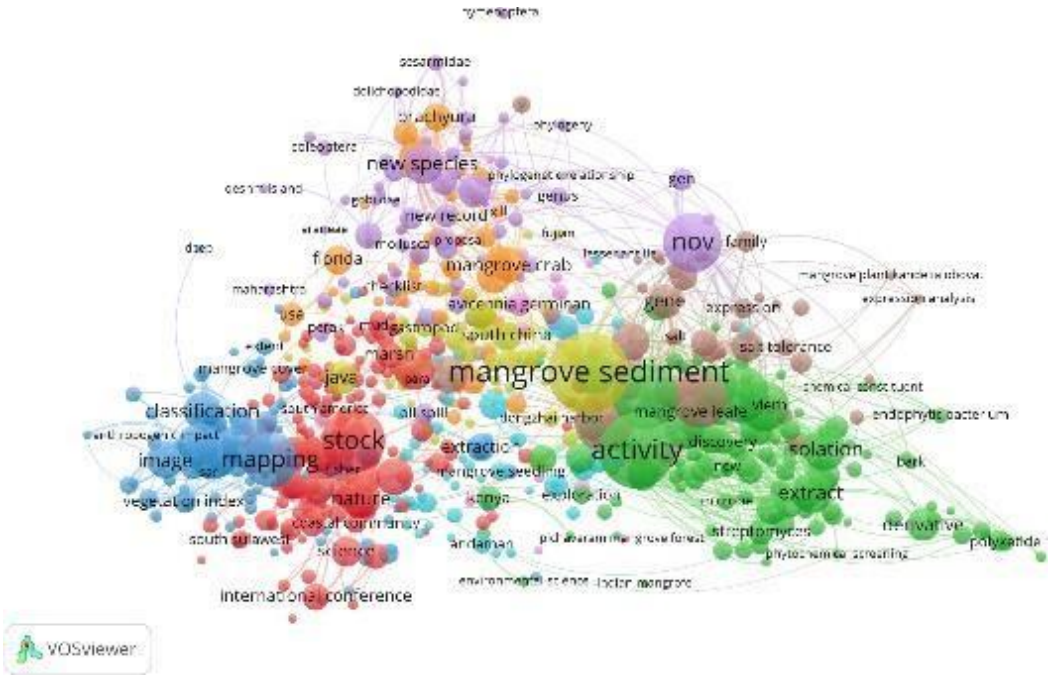
This indicates a critical gap in understanding how governance is socially produced through culturally grounded norms, rather than solely structured through formal or technical interventions. Addressing this gap, Figure 2 conceptualizes how local wisdom is translated into governance processes and outcomes through dynamic interactions between normative mechanisms, collective action, and institutional arrangements.

The model illustrates that local wisdom does not directly produce governance outcomes, but operates through mediating processes, particularly social capital and institutional interaction, that enable coordination, participation, and resource management. Governance thus emerges from the interplay between cultural norms, social relations, and institutional structures, producing both positive outcomes and contested outcomes. This suggests that while local wisdom provides the normative foundation of governance, its effectiveness depends on how these norms are institutionalized, enacted, and sustained within specific socio-ecological contexts.

Customary institutions as governance anchors

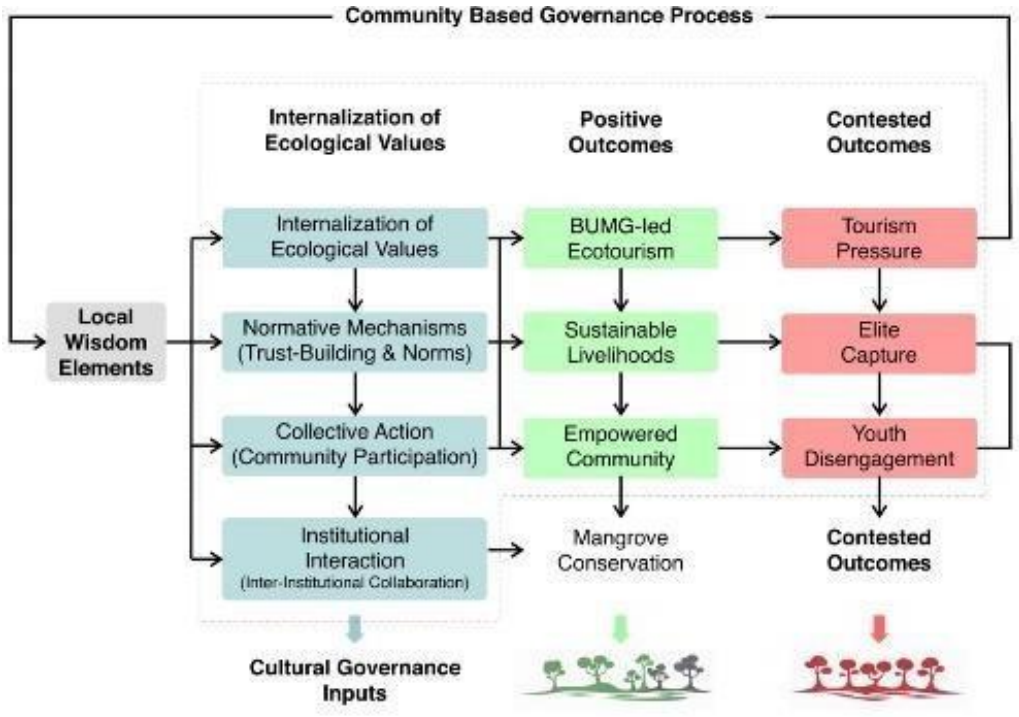
Customary institutions function as governance anchors that stabilize and operationalize local wisdom within mangrove ecotourism. Institutions such as village leadership (*keuchik*) and the Aceh Customary Council (*Majelis Adat Aceh*, MAA) do not merely preserve cultural values, but institutionalize them into

Figure 1. Previous research on mangrove ecotourism management



Source: VOSviewer (2025)

Figure 2. Input–process–output conceptual framework linking local wisdom, social capital, and ecotourism governance in Aceh



Source: processed by authors (2025)

authority, roles, and governance procedures that structure decision-making and resource management. In this way, local wisdom is translated from normative expectations into formally recognized governance arrangements. As reflected in field data, this institutionalization is embedded in everyday governance practices. One customary leader explained:

> *"In managing mangrove ecotourism, we always refer to duek pakat. Decisions are not taken individually, but discussed collectively to ensure they align with customary values and community interests." (Customary leader, Inf-03, interview).*

This indicates that governance authority is culturally legitimized through shared norms that are formalized within customary structures. From the perspective of local government actors, this cultural legitimacy is also recognized as a basis for coordination: "Government programs related to ecotourism are easier to implement when they follow customary processes, because the community already trusts these mechanisms." (Tourism official, Inf-02). In this context, *duek pakat* operates as an institutionalized mechanism that structures deliberation and conflict resolution, while leadership roles function as mediators between community values and policy implementation.

Beyond deliberation, customary institutions act as coordinative structures that organize environmental practices and collective action. A community member highlighted how this coordination operates in practice: "The village leadership coordinates community activities, from mangrove planting to tourism management, ensuring that all actions follow agreed rules and benefit the community." (Community member, Inf-04). This coordinating role is further reinforced by actors involved in operational management:

> *"From the management side, we rely heavily on village structures to mobilize participation and ensure that activities run smoothly. For example, when there are tourism programs or conservation efforts, coordination with local leaders helps us organize schedules, assign responsibilities, and maintain consistency. Without their involvement, it would be difficult to ensure participation and continuity of these activities." (Ecotourism manager, Inf-05, interview)*

At the same time, private sector actors also recognize the importance of customary institutions in shaping stable governance arrangements:

> *"From a business perspective, investment and collaboration tend to work better when there is clear and recognized local authority. Customary leaders provide that stability because they represent the community and ensure that agreements are understood and respected. This reduces potential conflicts and builds trust, which is very important for long-term cooperation." (Company representative, Inf-02, interview)*

From a Socio-Ecological Systems perspective, these institutions do not merely structure interactions between actors and ecological resources, but actively configure how governance is organized through the definition of roles, responsibilities, and arenas of coordination. Rather than simply enabling cooperation, they provide the structural conditions through which collective action is coordinated and sustained in practice. This distinguishes institutions from norms (as rule systems) and collaboration (as practice), positioning them as the structural layer of governance.

As illustrated in Table 2, this structural role is manifested through interconnected governance dimensions, including cultural legitimacy, deliberative mechanisms, and environmental coordination. These dimensions demonstrate that institutional effectiveness is not derived solely from formal

Table 2. Customary institutions as governance anchors in mangrove ecotourism

Governance Dimension	Empirical Illustration	Analytical Interpretation
Cultural legitimacy and authority	Keuchik acts as both administrative leader and cultural guardian	Legitimizes governance and enhances compliance through culturally embedded authority
Deliberation and conflict resolution	*Duek pakat* used for collective decision-making and resolving disputes	Enables inclusive, consensus-based governance and strengthens social cohesion
Coordination of environmental practices	Collective actions in mangrove rehabilitation and community awareness	Organizes participation and aligns local practices with conservation goals
Institutional mediation and emerging tensions	Customary institutions bridge local norms and formal governance while facing market pressures and overlapping authority	Reflects hybrid governance and highlights dynamic tensions, including risks of elite capture

Source: Processed by authors (2025)

authority, but from culturally embedded legitimacy that shapes participation, compliance, and collective responsibility. In this sense, the findings extend SES perspectives by showing that governance structures in community-based systems are deeply embedded in local cultural frameworks, rather than being externally designed or imposed.

As summarized in Table 2, customary institutions integrate cultural legitimacy, deliberation, and environmental coordination within governance processes. These dimensions demonstrate that governance is not reducible to formal institutional design, but is shaped by culturally legitimized authority that structures participation, responsibility and decision-making.At the same time, this anchoring role remains dynamic.

The expansion of ecotourism introduces new pressures, including market influences, shifting authority relations, and the risk of elite capture, as well as tensions arising from overlapping customary and formal governance systems.

In this context, local wisdom becomes institutionalized through customary structures that formalize norms into authority, roles, and governance procedures. Governance thus emerges from the interaction between cultural values and institutional arrangements, rather than from top-down systems alone. Customary institutions, therefore, function as anchoring mechanisms that translate local wisdom into operational governance processes, enabling coordination, legitimacy, and adaptability within socio-ecological systems.

Governing through collaboration and social interaction

Governance in mangrove ecotourism is enacted through collaborative and relational processes among multiple actors, where coordination emerges through interaction rather than hierarchical control. While customary institutions provide structural grounding, governance is realized through everyday engagements that connect community members, customary leaders, government officials, and private actors. Within this configuration, collaboration is not merely a coordinating mechanism, but the practical process through which local wisdom is translated into operational governance.

Empirically, collaboration is embedded in culturally grounded practices that structure how actors interact and assume shared responsibilities. Rather than being purely organizational, collaboration is socially embedded within norms that regulate participation and interaction. Practices such

as *meuseuraya* facilitate collective labor in mangrove rehabilitation and ecotourism activities, while *peumulia jamee* shapes relational engagement with visitors and external stakeholders, reinforcing trust and mutual recognition. As reflected by a community member:

> *"In our community, activities such as mangrove planting, maintaining facilities, and supporting ecotourism are usually carried out through meuseuraya. When there is an activity, people come together voluntarily because it is already understood as part of our shared responsibility. At the same time, peumulia jamee teaches us to treat visitors with respect, which helps build trust and maintain good relationships with outsiders, including tourists and partners." (Community member, Inf-04, interview).*

Collaboration is further reinforced through deliberative processes such as *duek pakat*, which function as arenas for negotiating diverse interests and collectively determining management strategies. These forums enable inclusive participation while embedding decision-making within culturally recognized procedures. As explained by a customary leader:

> *"When there are differences in opinion or emerging problems, we bring them into duek pakat. Everyone is given the opportunity to speak, and the discussion continues until a shared agreement is reached. Decisions are not imposed by authority, but built through consensus, so people feel responsible for implementing them." (Customary leader, Inf-03, interview)*

Through these interactional processes, governance is constituted as a negotiated and relational order in which authority is distributed and continuously reproduced through dialogue rather than imposed through formal hierarchy. This challenges conventional governance models that prioritize institutional design over lived practices of interaction and negotiation.

From a Socio-Ecological Systems (SES) perspective, these dynamics reflect the interdependence between actors, institutions, and ecological resources, where governance outcomes are produced through iterative and adaptive interactions rather than predetermined institutional arrangements. However, these interactions are not purely functional; they are mediated by culturally embedded meanings that shape how actors interpret responsibilities and negotiate decisions. From a social capital perspective, collaboration is sustained by trust, reciprocity, and shared norms that facilitate coordination and reduce transaction costs. At the same time, social capital is not neutral, but relational and power-laden, structuring both cooperation and exclusion within governance processes.

Importantly, collaboration is not inherently harmonious. The expansion of ecotourism introduces competing interests between conservation objectives and economic incentives, while increasing involvement of external actors reshapes local power relations. These dynamics generate asymmetries in participation and benefit distribution, creating risks of elite capture and marginalization. In this context, collaboration should be understood not simply as a mechanism of coordination, but as a dynamic arena in which governance is continuously produced, negotiated, and contested within socio-ecological systems.

Social capital and collective capacity

The findings demonstrate that social capital constitutes the relational capacity through which governance is sustained in mangrove ecotourism. Rather than being reducible to formal institutional arrangements, governance operates through culturally embedded relations of trust, reciprocity, and shared norms that enable coordination, stabilize expectations, and

sustain collective commitment over time. These relational dynamics are not merely supportive conditions, but actively structure how actors interpret responsibilities, negotiate roles, and engage in collective action. While this aligns with classical formulations of social capital (Bourdieu, 1979; Coleman, 1988; Putnam, 1994), the findings extend these perspectives by showing that social capital functions as a culturally embedded governance mechanism, shaping both legitimacy and participation in context-specific ways.

Empirically, social capital is enacted through practices such as *meuseuraya*, *duek pakat*, and *peumulia jamee*, which institutionalize reciprocity and collective obligation within everyday governance. However, rather than treating these practices as mere expressions of cooperation, the findings reveal their role in structuring governance processes. *Meuseuraya* not only facilitates collective labor, but also normalizes participation as a social obligation, while *duek pakat* does not simply enable deliberation, but defines legitimate decision-making procedures. In this sense, participation is not an individual choice, but a socially embedded expectation, indicating that governance is sustained through normative alignment rather than formal enforcement.

These relational mechanisms also underpin collective capacity by enabling communities to mobilize resources, coordinate environmental management, and sustain livelihood activities linked to ecotourism. Importantly, the findings highlight that social capital operates across both bonding and bridging dimensions. While bonding ties reinforce internal cohesion and shared responsibility, bridging networks connect communities with external actors, expanding access to resources, knowledge, and opportunities. From a Socio-Ecological Systems (SES) perspective, this demonstrates that governance outcomes emerge from dynamic interactions between social relations, institutions, and ecological conditions, where social capital facilitates adaptive coordination under changing socio-economic pressures.

To synthesize these dynamics, Table 3 presents the key dimensions of social capital that underpin governance processes. The table demonstrates that trust, reciprocity, deliberation, and relational networks operate as interconnected mechanisms that sustain cooperation while structuring participation and responsibility.

Table 3. Social capital mechanisms in mangrove ecotourism governance

Social Capital Dimension	Empirical Practice	Analytical Interpretation
Trust and cultural legitimacy	*Peumulia jamee* (hospitality and respect toward visitors and external actors)	Produces relational trust and cultural legitimacy that stabilizes interaction and facilitates cooperation beyond formal enforcement
Reciprocity and collective obligation	*Meuseuraya* (collective labor in mangrove management and ecotourism activities)	Normalizes participation as a social obligation, enabling sustained coordination and shared responsibility in governance processes
Deliberative interaction	*Duek pakat* (consensus-based deliberation and decision-making)	Structures legitimate participation and negotiated decision-making, reinforcing collective legitimacy and social cohesion
Relational networks (bonding and bridging)	Interaction among community members, customary leaders, government actors, and private stakeholders	Connects local actors with external resources and knowledge, enabling adaptive governance while shaping inclusion and exclusion dynamics

Source: Processed by authors (2025)

As illustrated in Table 3, governance is not solely structured by formal rules, but emerges through relational infrastructures embedded in cultural practices. In this context, social capital functions as a mediating mechanism that connects local wisdom with institutional arrangements and governance outcomes, enabling communities to maintain cohesion while adapting to environmental and socio-economic change.

At the same time, these relational capacities are not without limitations, as the expansion of ecotourism introduces new pressures that may disrupt existing social relations through unequal access to benefits, shifting participation patterns, and the potential concentration of power among particular actors. Such dynamics underscore that social capital is not inherently equitable, but can also reproduce exclusion and inequality within governance processes. In this context, sustaining community-based governance requires not only strengthening relational ties, but also ensuring that institutional arrangements promote transparency, accountability, and inclusive participation. Accordingly, social capital should be understood not merely as a source of cohesion, but as a relational structure that simultaneously enables cooperation while shaping patterns of inclusion and exclusion.

Negotiating tensions and contextual governance

The expansion of mangrove ecotourism reconfigures the relationship between conservation, livelihoods, and local institutions, generating governance challenges that cannot be adequately explained through equilibrium-based or purely institutional approaches. Rather than assuming coherence between environmental and economic objectives, the findings reveal that governance is shaped by tensions that are continuously negotiated within specific socio-ecological contexts. These tensions are not anomalies, but constitutive elements of how governance operates in practice.

Emerging tensions in ecotourism governance

The findings reveal that the expansion of mangrove ecotourism generates structural tensions that unsettle the assumed compatibility between conservation and development. While ecotourism is often framed as a "win–win" strategy, empirical evidence suggests that this alignment is inherently contingent and unstable (Montes & Kafley, 2022; Youdelis, 2013). Increasing tourism pressure intensifies demands on mangrove ecosystems, frequently exceeding local ecological capacities and undermining long-term resilience. Sustainability outcomes, therefore, are not inherent to ecotourism, but depend on how ecological limits are governed in practice (Luu, 2022; Saarinen & Hall, 2025).

A key tension lies in the temporal mismatch between economic and ecological logics. Although community-based ecotourism is frequently associated with livelihood generation alongside conservation (Hunsberger et al., 2017; Kasmad & Alwi, 2018), the findings indicate that economic rationalities tend to prioritize short-term gains over long-term environmental sustainability. This divergence produces governance dilemmas in which conservation-oriented practices may be gradually displaced, weakening the normative foundations of environmental stewardship.

These dynamics are further shaped by the involvement of external actors who introduce competing institutional logics. While collaborative governance is often associated with improved coordination (Ansell & Gash, 2008; Teniwut et al., 2023), the findings show that external interventions may not align with locally embedded norms

and can reconfigure local decision-making processes. This supports critical perspectives that view participation as a site where power relations are reproduced rather than neutralized (Parsons et al., 2025).

At the cultural level, ecotourism expansion contributes to the commodification of both natural resources and local practices. Cultural values such as *meuseuraya* and *peumulia jamee*, which historically function as normative foundations of collective action, risk being reframed as performative assets within tourism economies. This reflects broader processes of cultural commodification (Bai & Weng, 2023; Montes & Kafley, 2022), where meanings are reshaped under market pressures, potentially weakening their regulatory role.

These findings challenge dominant narratives that portray community-based governance as inherently cohesive, instead aligning with political ecology perspectives that view governance as a contested and dynamic process shaped by competing interests, socio-ecological constraints, and divergent institutional logics (Abdillah & Prayogo, 2020; Wandi, 2019). Rather than emerging from the resolution of tensions, governance is constituted through the continuous capacity of actors to negotiate them, revealing ecotourism governance not as a stable alignment between conservation and development, but as a structurally contingent process shaped by competing temporalities and interests, thereby questioning sustainability narratives that assume inherent compatibility between ecological and economic objectives.

Institutional complexity and power dynamics

The tensions identified above are not only outcomes of ecological and economic pressures, but are mediated and reconfigured through complex institutional arrangements characterized by the coexistence of customary and formal governance systems. While hybrid governance is often associated with flexibility (Siwale et al., 2021; Sturdy et al., 2016), the findings reveal that such arrangements also generate ambiguity, overlapping authority, and contestation in decision-making processes. Rather than forming a coherent system, institutions operate within partially intersecting jurisdictions, producing fragmented and negotiated governance.

This institutional overlap creates uncertainty regarding roles and responsibilities. Customary leaders derive legitimacy from culturally embedded norms, while formal actors operate through legal-bureaucratic mandates. As highlighted in legal pluralism literature, such coexistence often produces competing claims to authority rather than seamless integration (Setijaningrum et al., 2025). Governance is thus shaped less by formal alignment than by ongoing negotiation between parallel institutional logics. Power relations are central to these dynamics. Drawing on Bourdieu (1979), governance can be understood as structured by unequal distributions of economic, social, and symbolic capital, which enable certain actors to exert disproportionate influence. Actors with greater access to resources and institutional authority are better positioned to shape outcomes, reinforcing existing hierarchies within community-based systems (Hajad, 2021).

One key manifestation is elite capture. As ecotourism generates new economic opportunities, local elites or politically connected actors may consolidate control over resources and benefits, reflecting broader patterns identified in development studies (Hadi et al., 2020; Setijaningrum et al., 2025). At the same time, exclusion operates alongside elite capture, particularly in relation to participation. Although deliberative mechanisms such as *duek pakat* are designed

to promote inclusivity, participation is often shaped by gender norms, generational hierarchies, and social status. As argued in feminist governance scholarship, formal inclusion does not necessarily translate into substantive participation (Kiguwa, 2019; Zaremba et al., 2021)

These findings underscore that governance is inherently political, shaped not only by institutional arrangements but by the power relations that determine access, authority, and legitimacy. Understanding governance, therefore, requires moving beyond institutional design toward a critical analysis of how power is distributed, negotiated, and reproduced within socio-ecological systems. In this sense, governance outcomes are not neutral products of institutional arrangements, but are shaped by asymmetrical power relations that structure access, participation, and control over resources.

Toward a contextual model of community-based governance

Building on these dynamics of tension and power, this study proposes a contextual model of community-based governance that integrates local wisdom, social capital, and institutional processes within a socio-ecological framework. Rather than treating governance as a linear or rule-based system, the model conceptualizes it as an emergent and relational process shaped by the interaction of cultural norms, social relations, and institutional arrangements. At its core, local wisdom functions as a normative foundation that structures collective expectations and environmental practices; however, it is not static, but dynamic and contested (Agarwal, 2001).

Within this framework, social capital operates as a mediating mechanism that translates culturally embedded values into coordinated action. Moving beyond Putnam's (1994) functional perspective, this study emphasizes, following Bourdieu (1979), that social capital is inherently relational and power-laden, simultaneously enabling cooperation while structuring inclusion and exclusion. Institutional arrangements provide the arenas through which these interactions are organized, (Abadi et al., 2023), yet they remain embedded within broader power relations and external pressures, rendering governance processes contingent and uneven.

The model further incorporates multi-scalar influences, including market forces and policy interventions, which continuously reshape local governance dynamics (Partelow, 2018). As a result, governance outcomes, ranging from sustainability and livelihood development to community empowerment, emerge not as predetermined results, but as negotiated products of these interactions. By explicitly integrating cultural norms, relational capacities, and power dynamics into a single analytical framework, rather than treating them as separate dimensions, the model offers a more holistic and process-oriented account of governance.

Building on this integrative foundation, the study advances existing theoretical perspectives by foregrounding the relational, contextual, and contested nature of governance. It reconceptualizes local wisdom not merely as a symbolic cultural attribute, but as a form of governance infrastructure that actively structures coordination, legitimacy, and collective action, thereby shifting the analytical focus from culture as context to culture as an operational mechanism. In doing so, governance is understood as being continuously produced through embedded social and cultural practices rather than externally imposed structures.

Furthermore, the study extends the Socio-Ecological Systems (SES) framework by demonstrating that governance outcomes are not only shaped by interactions

between social and ecological components (Ostrom, 2009; Partelow, 2018), but are also mediated by culturally embedded meanings and practices. At the same time, it advances social capital theory beyond universalist assumptions (Putnam, 1994) by emphasizing its context-specific and power-laden character, consistent with (Bourdieu, 1979), where social capital simultaneously enables cooperation while structuring inclusion and exclusion. These contributions frame governance as a relational, processual, and culturally embedded system produced through ongoing interaction, negotiation, and contestation, and reconceptualize community-based governance as an emergent outcome of the interplay between culture, social relations, and power within socio-ecological systems.

Conclusion

This study demonstrates that local wisdom functions as a constitutive element of community-based governance in mangrove ecotourism, positioning it as an operational governance infrastructure rather than merely a cultural expression. Governance is enacted through culturally embedded mechanisms that organize collective action, shape decision-making, and sustain socio-ecological relations. The findings further show that governance is not a stable or inherently harmonious arrangement, but a relational and contested process shaped by the interaction of cultural norms, institutional configurations, and power dynamics. The coexistence of customary and formal systems produces hybrid governance arrangements that enable coordination while simultaneously generating ambiguity and asymmetrical outcomes, indicating that sustainability is an emergent condition negotiated through competing ecological, economic, and cultural interests.

Theoretically, this study advances sociological debates in three interrelated ways. First, it reconceptualizes local wisdom as governance infrastructure, shifting the analytical focus from culture as contextual background to culture as an operational mechanism. Second, it extends socio-ecological systems perspectives by demonstrating that governance outcomes are mediated by culturally grounded meanings, rather than solely by institutional or ecological interactions. Third, it advances social capital theory by emphasizing its context-specific and power-laden character, showing that social relations simultaneously enable coordination while structuring inclusion and exclusion. From a practical perspective, these findings suggest that strengthening community-based governance requires policy approaches that recognize and institutionalize local cultural mechanisms, while ensuring transparency, accountability, and equitable participation through support for customary institutions, inclusive deliberation, and collaborative networks.

This study is based on a single case and context-specific cultural dynamics, which may limit broader generalization. Future research could expand this analysis through comparative studies across diverse socio-cultural settings and examine how factors such as gender, generational change, and market integration reshape governance processes. Such efforts would contribute to a more comprehensive understanding of how community-based governance evolves within increasingly complex socio-ecological systems.

Declaration of Ownership

This article is our original work.

Conflict of Interest

There is no conflict of interest to declare in this article.

Ethical Clearance

This study was approved by the institution.

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