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ADAPTIVE ENVIRONMENTAL GOVERNANCE WITHIN A LEGAL PLURALISM FRAMEWORK: A Case Study Of The Tengger Indigenous Community In Indonesia

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Abstract

This article examines the gap between the constitutional recognition of Indigenous peoples' rights and environmental governance practices in Indonesia. The study highlights the asymmetry between national environmental law and customary ecological governance within the Tengger community in the Bromo Tengger Semeru region of East Java. Its objective is to analyze the divergence between national law and customary law and to formulate an integrative model capable of bridging this gap. The study employs a socio-legal approach, combining normative legal analysis with empirical data obtained through in-depth interviews and focus group discussions conducted in Ngadas Village. The findings indicate that governance gaps arise not only from regulatory discrepancies but also from differing institutional perspectives. National law relies on administrative instruments, whereas Tengger customary law is grounded in moral-spiritual norms, collective rituals, and restorative sanctions. The study proposes the concept of Ecological Equilibrium Governance as an integrative framework that incorporates legal pluralism, adaptive governance, and principles of

commons-based resource management. Its primary contribution lies in advancing Ecological Equilibrium Governance as a novel model that enriches environmental law scholarship while offering both normative and practical foundations for more inclusive and participatory policymaking. The study's implications underscore the importance of institutional integration, adaptive co-management, and the strengthened participation of Indigenous communities.

Artikel ini mengkaji kesenjangan antara pengakuan konstitusional atas hak-hak masyarakat adat dan praktik tata kelola lingkungan di Indonesia. Studi ini menyoroti asimetri antara hukum lingkungan nasional dan tata kelola ekologi berbasis adat di komunitas Tengger di wilayah Bromo Tengger Semeru, Jawa Timur. Tujuan studi ini adalah untuk menganalisis kesenjangan antara hukum nasional dan hukum adat serta merumuskan model integratif yang mampu menjembatani kesenjangan tersebut. Studi ini menggunakan penelitian sosio-legal, menggabungkan analisis hukum normatif dan data empiris melalui wawancara mendalam dan diskusi kelompok fokus di Desa Ngadas. Temuan menunjukkan bahwa kesenjangan tata kelola tidak hanya disebabkan oleh kesenjangan regulasi tetapi juga oleh perbedaan perspektif kelembagaan, dengan hukum nasional berbasis instrumen administratif, sementara hukum adat Tengger bergantung pada norma moral-spiritual, ritual kolektif, dan sanksi restoratif. Studi ini merekomendasikan konsep Ecological Equilibrium Governance sebagai kerangka kerja integratif yang menggabungkan pluralisme hukum, tata kelola adaptif, dan prinsip pengelolaan sumber daya bersama. Kontribusi utama penelitian ini adalah pengembangan konsep Ecological Equilibrium Governance sebagai model baru yang memperkaya studi hukum lingkungan dan menawarkan landasan normatif dan praktis untuk kebijakan yang lebih inklusif dan partisipatif. Implikasi penelitian menekankan integrasi kelembagaan, pengelolaan bersama yang adaptif, dan penguatan partisipasi masyarakat adat.

Keywords: *legal pluralism, Tengger indigenous community, environmental law, adaptive governance, ecological equilibrium governance, traditional ecological knowledge*

Introduction

Global environmental governance[1] currently faces a structural challenge: a misalignment between state-centric, administrative legal approaches and the complexity of local socio-ecological systems. Instruments such as permits, zoning, and formal sanctions are designed on assumptions of rational compliance, yet often fail where they lack social legitimacy at the community level.[2] Recent studies indicate that the effectiveness of environmental regulation is determined not only by the strength of formal legal frameworks but also by the extent to which these norms are embedded in local social practices and values.[3]

Indigenous peoples worldwide have long acted as stewards of ecosystems through sustainable natural resource management practices.[4] These practices are grounded in Traditional Ecological Knowledge (TEK), transmitted across generations and proven adaptive to environmental change.[5] A global study by Garnett et al., published in *Nature Sustainability*, finds that areas managed by Indigenous peoples contain approximately 80% of the world's remaining biodiversity, underscoring the effectiveness of community-based environmental governance.[6] This evidence has contributed to growing international recognition of Indigenous roles in environmental governance, as reflected in the United Nations Declaration on the Rights of Indigenous

[1]Iwan Permadi, Weny Almoravid Dungga, and Azhani Arshad, "Ensuring Indigenous People's Rights Protection Through Normative Law in Land Acquisition for Indonesia's New National Capital City, Nusantara," *Jambura Law Review* 7, no. 01 (2025): 30–54.

[2] Thomas Dietz, Elinor Ostrom, and Paul C Stern, "The Struggle to Govern the Commons," *Science* 302, no. 5652 (2003): 1907–12, https://doi.org/10.1126/science.1091015.

[3] Iwan Permadi, Diah Pawestri Maharani, and Md Yazid Ahmad, "Legal Perspectives on Digitalising Land Certificates: Analysing Synchronisation and Hormonisation in Indonesia's Job Creation Law," *Jurisdictie: Jurnal Hukum Dan Syariah* 15, no. 2 (2024): 337–79.

[4] Fikret Berkes, *Sacred Ecology*, 3rd ed. (Routledge, 2012).

[5] Luchman Hakim, Budi Yanuwiadi, and Soemarno, "Indigenous Community Participation in Environmental Conservation: Lessons from the Tengger Community in Bromo Tengger Semeru National Park," *International Journal of Social Science Research and Review* 7, no. 1 (2024), https://doi.org/10.47814/ijssrr.v7i1.1787.

[6] Stephen T Garnett et al., "A Spatial Overview of the Global Importance of Indigenous Lands for Conservation," *Nature Sustainability* 1, no. 7 (2018): 369–74, https://doi.org/10.1038/s41893-018-0100-6.

Peoples (UNDRIP), particularly Articles 26, 29, and 32 concerning rights to lands and natural resources.[7]

In Indonesia, the existence of customary law communities is constitutionally recognized through Article 18B(2) of the 1945 Constitution of the Republic of Indonesia. Additionally, Article 28I(3) affirms respect for cultural identity and the rights of traditional communities as part of fundamental human rights. At the sectoral level, Law No. 32 of 2009 on Environmental Protection and Management (EPM Law) provides space for public participation (Articles 65 and 70) and recognizes local wisdom (Article 63). Nevertheless, such recognition remains largely declaratory and has not yet been operationalized through clear institutional mechanisms capable of integrating customary governance systems into the national environmental law framework.[8]

Within this context, TEK is increasingly recognized as a source of adaptive and context-specific knowledge for sustaining ecosystems.[9] Numerous studies demonstrate that Indigenous communities maintain ecological balance through systems of norms, rituals, and social mechanisms that do not necessarily depend on state intervention.[10] Nevertheless, this recognition remains predominantly normative and has yet to be fully integrated into the institutional design of modern environmental law.

This condition reflects a broader global problem: the inability of modern environmental legal systems to accommodate diverse knowledge systems and non-state governance structures.[11] In many jurisdictions, including Indonesia, the relationship between state law and customary practices remains characterized by unmanaged dualism, potentially

[7] Garnett et al.
[8] H R Achmadi et al., "Illegal Hunting Prevention by Indigenous People in Bromo Tengger Semeru National Park," *Jurnal Hukum Novelty* 10, no. 1 (2019): 65–73, https://doi.org/10.26555/novelty.v10i1.a13561.
[9] Barbara A Cosens et al., "The Role of Law in Adaptive Governance," *Ecology and Society* 22, no. 1 (2017): 30, https://doi.org/10.5751/ES-08731-220130.
[10] D Sulistiowati et al., "Conservation Partnership Strategy for the Tengger Tribe," *International Journal of Research and Innovation in Social Science* 7, no. 11 (2023), https://doi.org/10.47772/IJRISS.2023.7011125.
[11] Brian C Chaffin, Hannah Gosnell, and Barbara A Cosens, "A Decade of Adaptive Governance Scholarship," *Ecology and Society* 19, no. 3 (2014): 56, https://doi.org/10.5751/ES-06824-190356.

undermining the effectiveness of conservation policies.[12] The central challenge, therefore, is no longer merely to recognize Indigenous peoples, but to design governance models that can substantively and operationally bridge the divide between state legal systems and community-based ecological governance.

This broader issue is concretely illustrated in the Tengger Indigenous community of Ngadas Village, located within the Bromo Tengger Semeru National Park. On the one hand, the state enforces a conservation regime based on stringent formal regulations; on the other, the Tengger community applies ecological governance grounded in customary norms internalized through moral-spiritual values, collective rituals, and social sanctions. These practices have proven effective in maintaining environmental balance, yet they remain insufficiently accommodated within formal legal frameworks. This situation demonstrates that the challenge of governance integration is not merely conceptual, but an empirical reality marked by both tension and complementarity between state law and customary law.[13]

Several studies published in the past three years have highlighted the importance of Indigenous participation while also revealing limitations in existing approaches. First, Triyanto's research shows that Tengger community participation significantly contributes to conservation in the Bromo Tengger Semeru area. However, it remains largely descriptive and does not elaborate institutional mechanisms for integrating customary and state law.[14] Second, Iwan Permadi emphasizes the importance of protecting Indigenous rights within development policy but focuses primarily on normative dimensions, leaving unanswered how such recognition can be operationalized in

[12] Derek Armitage et al., "Adaptive Co-Management for Social–Ecological Complexity," *Frontiers in Ecology and the Environment* 7, no. 2 (2009): 95–102, https://doi.org/10.1890/070089.

[13] Carl Folke et al., "Adaptive Governance of Social-Ecological Systems," *Annual Review of Environment and Resources* 30 (2005): 441–73, https://doi.org/10.1146/annurev.energy.30.050504.144511.

[14] Triyanto et al., "Civic Engagement of Tengger Indigenous Community in Strengthening Ecological Citizenship," *Jurnal Civics: Media Kajian Kewarganegaraan* 22, no. 2 (September 19, 2025): 461–75, https://doi.org/10.21831/jc.v22i2.86869.

environmental governance.[15] Third, Dewi Sulistiowati examines conservation partnership strategies involving the Tengger community, yet the analysis is limited to practical collaboration models without a conceptual framework explaining the interaction between distinct legal systems.[16]

These studies reveal a clear research gap. First, there is no conceptual framework that systematically explains the differing institutional logics of state and customary law as the root cause of governance disparities. Second, prior research tends to be fragmented across normative, participatory, and collaborative approaches, without offering an operational and integrative model. Third, there is a lack of theoretical formulation capable of linking legal pluralism with adaptive governance in environmental policy contexts.

This gap is particularly evident in the Tengger community within the Bromo Tengger Semeru National Park, where state law and customary law operate in parallel without meaningful integration. This raises critical questions: why does governance dualism persist despite empirical evidence of the effectiveness of customary law, and are modern environmental legal designs inherently incompatible with community-based governance systems? These questions implicate not only issues of implementation but also the foundational assumptions underlying environmental legal frameworks.

This article offers novelty in two principal respects. First, it shifts the focus from merely introducing legal pluralism to a deeper analysis of the differing institutional logics of state and customary law as a primary source of governance imbalance, an approach that remains underdeveloped in recent scholarship. Second, it proposes a new conceptual framework, Ecological Equilibrium Governance (EEG), which integrates legal pluralism, adaptive governance, and commons-based resource management as an operational model to bridge governance dualism. Accordingly, this study contributes not only empirical insights through the Tengger case study but also advances

[15] Permadi, Dungga, and Arshad, "Ensuring Indigenous People's Rights Protection Through Normative Law in Land Acquisition for Indonesia's New National Capital City, Nusantara."
[16] Dewi Sulistiowati, Luchman Hakim, and Bagyo Yanuwiadi, "Conservation Partnership Strategy for the Tengger Tribe Community in The Management of The Bromo Tengger Semeru National Park Area , East Java Province , Indonesia," *IJRISS* VII, no. XI (2023): 1601–11, https://doi.org/10.47772/IJRISS.

theoretical development and policy-relevant implications for more inclusive and adaptive environmental governance.

Research Method

This study adopts a socio-legal approach, integrating normative legal analysis[17] with empirical data collection to examine the relationship between national environmental law and Tengger customary law in the governance of the Bromo Tengger Semeru conservation area. The normative analysis includes a review of key legal instruments[18] in environmental protection, conservation, and Indigenous rights, including the 1945 Constitution of the Republic of Indonesia, Law No. 32 of 2009, Law No. 5 of 1990, and Constitutional Court Decision No. 35/PUU-X/2012. This analysis is complemented by reference to international instruments, such as UNDRIP, and a comparative approach to enrich the institutional perspective.

The empirical component was conducted in Ngadas Village, an enclave within the Bromo Tengger Semeru National Park, representing a site of direct interaction between state and customary governance systems.[19] Data were collected through 15 semi-structured, in-depth interviews with purposively selected informants and focus group discussions (FGDs), each involving 8–12 participants. This approach enables triangulation of perspectives between Indigenous community members and state institutions in examining environmental governance dynamics.

Data adequacy was determined using the principle of theoretical saturation, reached when additional interviews no longer yielded significant

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[17] Hezron Sabar et al., "Governance of Mineral and Coal Mining Permits : Legal Dynamics in Indonesia and Nigeria," *Diponegoro Law Review* 10, no. 2 (2025): 234–53, https://doi.org/10.14710/dilrev.10.2.2025.234-253; Bagus Oktafian Abrianto and Hezron Sabar Rotua Tinambunan, "Challenging the ' Half - Hearted ' Fulfillment of the Rights of Workers with Disabilities," *Disable: Law Review* 1, no. 1 (2025): 103–16.

[18] Eduard Awang et al., "Alih Fungsi Lahan Hutan Lindung Sebagai Tempat Pembuangan Limbah Pertambangan : Perspektif Fungsi Perizinan Sebagai Instrumen Rekayasa Pembangunan," *Realism: Law Review* 2, no. 2 (2024): 102–18; Hezron Sabar Rotua Tinambunan et al., "Legal Protection Policy for the People in Handling COVID- 19 : A Comparison of Indonesia and Australia," *Realism: Law Review* 3, no. 1 (2025): 31–43.

[19] Hezron Sabar Rotua Tinambunan et al., "Recentralization of Mining Licensing Authority and Its Impact on Local Autonomy in Indonesia," *Jurnal Suara Hukum* 7, no. 2 (2025): 520–39, https://doi.org/10.26740/jsh.v7n2.p520-539.

new themes or insights. Saturation became evident as recurring themes, such as "zoning incompatibility with customary practices" and "divergent bases of legal legitimacy", consistently re-emerged and were further confirmed through FGDs. To enhance validity, the study applied source triangulation (interviews, FGDs, and policy documents) and limited member checking with key informants.

Data were analysed using thematic analysis following Braun and Clarke,[20] proceeding through systematic stages from coding to theme development. Moving beyond a purely descriptive approach, the study constructs an analytical framework by examining relationships among themes. The findings identify three interrelated core themes: (1) institutional gaps (misalignment between formal regulations and local practices), (2) normative duality (differences in the logic of legitimacy between state and customary law), and (3) restorative governance (community-based mechanisms of dispute resolution and ecological balance). These themes are causally linked, with differences in normative logics shaping institutional misalignments, which are subsequently addressed through customary restorative mechanisms.[21]

To clarify the relationships among these themes, the study develops a thematic map, as summarized below:

Table 1. Thematic Map

Main Theme	Substance	Relation
Normative Duality	Divergent bases of legitimacy (formal vs. moral-spiritual)	Root cause
Institutional Gap	Regulatory misalignment with local practices	Direct impact
Restorative Governance	Customary mechanisms for maintaining ecological balance	Adaptive response

Source: Author's processed data (2026).

[20] Virginia Braun and Victoria Clarke, "Using Thematic Analysis in Psychology," *Qualitative Research in Psychology* 3, no. 2 (2006): 77–101, https://doi.org/10.1191/1478088706qp063oa.
[21] Istislam et al., "Environmental Legal Protection Regulation through a Judicial Process Based on Legal Certainty and Anti-SLAPP Principles," *Jurnal Suara Hukum* 8, no. 1 (2026): 25.

This approach enables an analysis that is not only descriptive but also explanatory of the structural relationships among observed phenomena. All stages of the research were conducted in accordance with ethical principles, including informed consent, data anonymization, and cultural sensitivity in engaging with Indigenous communities.

Discussion

Customary Environmental Governance of the Tengger Community: Empirical Findings

Normative Structure of Tengger Environmental Governance

Findings from Ngadas Village reveal a structured, stable, and collectively enforced system of environmental management, despite the absence of formal codification. This system is grounded in customary norms understood as binding moral obligations embedded in the community's collective identity. The relationship between humans and nature is conceived as a mutually dependent spiritual-ecological nexus, shaping daily behaviour and transmitted across generations.[22]

One of the most salient norms is the prohibition against cutting live trees in designated areas, which is consistently enforced through internal social mechanisms. Violations are subject to customary sanctions, including material fines and obligations of environmental restoration, determined through customary deliberation (*musyawarah adat*). Sanctions are not merely punitive but are conceived as mechanisms to restore ecological balance.[23]

Water resource management is carried out through the protection of springs regarded as sacred. The community strictly prohibits activities that may pollute or degrade these water sources. Compliance is strongly maintained, and violations are treated as serious breaches of customary law. This practice contributes to the sustained quality and availability of water, supporting the village's year-round water resilience.[24]

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[22] Berkes, *Sacred Ecology*; Sulistiowati et al., "Conservation Partnership Strategy for the Tengger Tribe."

[23] Achmadi et al., "Illegal Hunting Prevention by Indigenous People in Bromo Tengger Semeru National Park."

[24] D Pratiwi, Luchman Hakim, and Budi Yanuwiadi, "Indigenous Community Participation in Environmental Conservation: Lessons from the Tengger Community in Bromo Tengger

Rituals as Reinforcement of Environmental Norms

Traditional leaders (dukun adat) perceive customary law not merely as a set of social rules but as a system of norms imbued with binding spiritual authority. In this sense, customary law operates beyond social regulation, carrying a spiritual dimension that reinforces its normative force within the community. Interview data indicate that access to certain spaces, particularly sacred areas, requires authorization from traditional authorities and must be preceded by ritual procedures: "If you enter a sacred forest, you must obtain permission from the dukun, followed by a ritual. You cannot simply take anything from there." This underscores that the enforcement of customary law relies not only on material sanctions but also on symbolic and spiritual forms of control that strengthen community compliance.

Customary rituals function as mechanisms for reinforcing environmental norms. Ceremonies such as Kasada, Karo, and Unan-unan internalize ecological balance values and cultivate collective awareness regarding environmental stewardship. A recent study by Setiawan et al. [25] demonstrates that sacred zones established during ritual periods effectively reduce anthropogenic activities, support the regeneration of endemic vegetation, and maintain higher levels of biodiversity in ritual zones compared to tourist areas.[26] Compliance emerges through cultural awareness rather than reliance on written legal instruments, enabling the continuous reproduction of customary values across generations.

Governance Dualism and Institutional Gaps

Interview findings reveal a persistent dualism in environmental governance: customary law is consistently enforced in everyday practice, while state law operates primarily through conservation zoning. This perspective is corroborated by state actors. The data indicate that zoning constitutes the

Semeru National Park," *International Journal of Social Science Research and Review* 7, no. 1 (2024), https://doi.org/10.47814/ijssrr.v7i1.1787.

[25] I Setiawan, "Traditional Ecological Knowledge of the Tengger Tribe in Bromo Tengger Semeru National Park," *Jurnal Manajemen Hutan Tropika* 28, no. 3 (2022): 123–35.

[26] I Setiawan, "Traditional Ecological Knowledge of the Tengger Tribe in Bromo Tengger Semeru National Park," *Jurnal Manajemen Hutan Tropika* 28, no. 3 (2022): 123–35.

principal instrument for managing conservation areas, structured in accordance with national regulations and conservation standards. It divides the landscape into categories such as core zones, forest zones, and utilization zones, each subject to distinct activity restrictions. However, implementation in practice presents challenges, particularly in terms of communication and public understanding. As one official stated: "*We have conducted outreach, but not all community members understand the details of zoning due to its technical and map-based nature. This remains a challenge in the field.*"

This statement suggests that limited public comprehension stems not only from insufficient dissemination but also from the technical complexity of the regulatory framework. At the same time, longstanding local practices, many of which support conservation objectives, continue to operate. Interviews indicate that the Tengger community possesses local wisdom in protecting forests and water resources, practices that are substantively aligned with conservation principles. However, because these practices are not fully accommodated within the formal legal framework, tensions arise between zoning regulations and customary systems.

This situation demonstrates that governance dualism is not only experienced by Indigenous communities but is also acknowledged by state actors as a policy implementation issue. Limited outreach, regulatory complexity, and the absence of integrative mechanisms between state and customary law have produced gaps in understanding at the local level. As a result, communities tend to rely more heavily on customary law, which is more accessible and contextually grounded, while state law functions as a formal framework that has yet to be fully internalized in everyday practice.

More specifically,[27] the marginalization of Tengger customary actor's manifests across several dimensions, underscoring fundamental differences between state and customary legal systems. First, in spatial planning, zoning decisions for the national park are determined by the TNBTS authority without systematic involvement of Tengger customary institutions. This results in misalignment between formal zoning and local practices, including restrictions on areas traditionally regarded as customary management spaces.

[27] "Wawancara Dengan Masyarakat Desa Ngadas Terkait Praktik Konservasi Dan Kearifan Lokal" (Desa Ngadas, Kabupaten Malang, 2025)."

For example, Tengger norms prohibit the cutting of live trees in certain sacred areas (*leuweung larangan* in local terminology), yet these norms are not reflected in the standardized zoning framework.

Second, in regulatory development, revisions to national conservation policies do not involve meaningful consultation with Indigenous communities. In practice, however, the Tengger maintain governance systems grounded in moral-spiritual norms, internalized through rituals such as Kasada and Karo, which function indirectly as mechanisms regulating natural resource use. Third, enforcement mechanisms differ significantly. State law relies on administrative and criminal sanctions, such as fines or activity prohibitions tied to zoning, whereas Tengger customary law operates through social and spiritual mechanisms. Violations, including the cutting of live trees or disturbance of sacred areas, may result in social sanctions (warnings or exclusion) and are believed to incur spiritual consequences (*kualat*), thereby reinforcing compliance without formal state intervention.

Fourth, in monitoring and evaluation, state legal systems have not systematically integrated Indigenous ecological knowledge. The Tengger community maintains ecological indicators derived from intergenerational experience, such as natural signs used to determine planting cycles or maintain environmental balance. Field data show that these customary mechanisms are both preventive and restorative, for example through collective obligations to repair environmental damage caused by violations. By contrast, formal monitoring systems tend to rely on technocratic indicators and are not always responsive to local dynamics. This divergence highlights that institutional gaps extend beyond participation to encompass fundamentally different paradigms of environmental governance and enforcement.

Community perceptions further reinforce this distinction. Interview data indicate that customary law is regarded as more responsive to local conditions, whereas state law is perceived as rigid and procedural. State law operates through formal mechanisms, zoning, permits, and penal sanctions, but is often not fully understood due to limited socialization. By contrast, customary law is embedded in daily practice, transmitted across generations, and enjoys strong social legitimacy rooted in the Tengger community's cultural and spiritual values.

These differences are particularly evident in enforcement practices. Field data document cases of illegal logging resolved through customary mechanisms, involving sanctions such as fines of 45 sacks of cement and obligations to replant trees at the site of violation. Although such acts carry significant criminal penalties under state law, these cases are often resolved within the customary system and deemed proportionate by both the community and local authorities. This illustrates the restorative orientation of customary law, in contrast to the more punitive character of state law.

Differences also emerge in terms of legitimacy and compliance. As one informant noted: *"We follow village rules because they come from our ancestors and protect our land. Government rules come from afar; sometimes we are not even aware when they change"* [28] This statement indicates that compliance is driven more by proximity to lived values and experience than by the mere existence of formal rules. Accordingly, customary norms function as the primary reference for environmental behavior, while state law remains an external framework whose effectiveness depends on securing social legitimacy at the local level.

Complementary Roles in Practice

Interview findings reveal a dualism in environmental governance: customary law is consistently enforced in daily practice, while state law operates primarily through conservation zoning.[29] This perspective is also confirmed by state actors. The data indicate that zoning constitutes the principal instrument for managing conservation areas, structured under national regulations and conservation standards. It divides the area into categories such as core zones, forest zones, and utilization zones, each subject to distinct activity restrictions. However, implementation on the ground faces challenges, particularly in terms of communication and public comprehension. As one official noted: "We have conducted outreach, but not

[28] "Wawancara Dengan Masyarakat Desa Ngadas Terkait Praktik Konservasi Dan Kearifan Lokal" (Desa Ngadas, Kabupaten Malang, 2025)."

[29] Myrna A S Afitri, "Dividing the Land : Legal Gaps in the Recognition of Customary Land in Indonesian Forest Areas," *Kasarinlan: Philippine Journal of Third World Studies* 30, no. 2 (2015): 31–48.

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This statement suggests that limited public understanding stems not only from insufficient dissemination but also from the technical complexity of the regulatory framework. At the same time, longstanding local practices, many of which align with conservation objectives—persist. Interviews indicate that the Tengger community possesses local wisdom in protecting forests and water sources, practices that are substantively consistent with conservation principles. However, because these practices are not fully accommodated within the formal legal framework, tensions arise between zoning regulations and customary systems.

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Second, in regulatory development, revisions to national conservation policies do not involve meaningful consultation with Indigenous communities. In practice, however, the Tengger apply governance systems

[30] E Iswandono et al., "Integrating Local Culture into Forest Conservation," *Jurnal Manajemen Hutan Tropika* 21, no. 2 (2015): 55–64, https://doi.org/10.7226/jtfm.21.2.55.

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Governance Gaps Between State Law and Tengger Customary Law: A Legal Pluralism Analysis

Defining Integration, Recognition, and Accommodation

Before proceeding with the analysis, it is essential to clarify the conceptual distinctions between recognition, accommodation, and integration as employed in this article. Although these terms are often used interchangeably in legal pluralism discourse, they carry distinct meanings and institutional implications. Recognition refers to the formal legal acknowledgment of the existence of Indigenous peoples and their rights, whether through constitutional provisions, statutory regulations, or judicial decisions. Within legal pluralism literature, recognition is understood as an initial step toward acknowledging non-state legal systems, but it does not automatically ensure their effective operation within governance practices. In this sense, recognition is largely declaratory and does not extend to the operational relationship between state law and customary law.[31]

Accommodation denotes the adjustment of the state legal framework to provide space for customary practices and norms, without fully conferring governance authority upon customary institutions. This concept is commonly associated with moderate legal pluralism approaches, in which the state remains the dominant actor, while customary law is only partially

[31] Brian Z Tamanaha, *A General Jurisprudence of Law and Society* (Oxford: Oxford University Press, 2001).

accommodated. In practice, accommodation often results in procedural forms of participation, without establishing an equal institutional relationship between the two legal systems.[32]

Integration, as conceptualized in this article, refers to the substantive and operational incorporation of customary law into the national environmental governance system. It goes beyond formal recognition to include institutional alignment that enables customary law to function as an active component of the regulatory framework. Integration encompasses several dimensions: (a) harmonization of regulatory frameworks between state and customary law; (b) formal recognition of customary institutions as governance actors; (c) the establishment of sustained mechanisms of interaction between legal systems; (d) the incorporation of customary principles into statutory law; and (e) the strengthening of customary institutional capacity through the delegation of defined authorities.[33]

Accordingly, integration is not construed as the subordination of customary law to state law, but rather as the development of a complementary and synergistic institutional relationship. This approach aligns with contemporary legal pluralism theory and adaptive governance frameworks, which emphasize the importance of dynamic interaction among multiple normative systems in natural resource management.

Structural Sources of the Governance Gap

The governance gap between state law and Tengger customary law stems from fundamental differences in institutional logic. Environmental law in Indonesia is dominated by administrative instruments, licensing, zoning, and bureaucratic supervision as regulated under the Environmental Protection and Management Law, which operate through hierarchical and sectoral governance structures. Customary law, by contrast, functions through

[32] John Griffiths, "What Is Legal Pluralism?," *Journal of Legal Pluralism* 24 (1986): 1–55.
[33] Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge University Press, 1990).

a holistic and relational logic grounded in moral–spiritual values, collective identity, and restorative mechanisms.[34]

From the perspective of classical legal pluralism, the relationship between state law and customary law is hierarchical and asymmetrical: state law occupies a formally dominant position while customary law is subordinate.[35] However, the findings of this study challenge this hierarchy. Although formally subordinate, Tengger customary law proves empirically more effective in local environmental governance. This phenomenon reveals a gap between normative legal validity and the social effectiveness of law, a gap that is rarely accommodated within the design of national environmental law.[36] Therefore, the concept of "integration" should not be understood as forcibly combining two systems that already coexist in practice, but rather as constructing institutional bridges that connect and synergize them functionally.

When examined through the lens of common-pool resource (CPR) management theory, Tengger environmental management practices align closely with the eight design principles proposed by Elinor Ostrom (1990).[37] These principles include: (1) clearly defined community and resource boundaries; (2) rules adapted to local conditions; (3) participatory decision-making through deliberation; (4) monitoring conducted by community members themselves; (5) graduated sanctions proportional to violations; (6) accessible conflict resolution mechanisms; (7) recognition of community rights to self-organize; and (8) nested governance structures. Tengger practices fulfill nearly all of these principles: rules are collectively formulated and internalized, compliance is monitored internally, sanctions are proportional and context-sensitive, and conflicts are resolved through restorative deliberation. These findings strengthen the argument that

[34] Jonas Ebbesson, "The Rule of Law in Governance of Complex Socio-Ecological Systems," *Global Environmental Change* 20, no. 3 (2010): 414–22, https://doi.org/10.1016/j.gloenvcha.2009.10.009.
[35] Merry, "Legal Pluralism."
[36] Benda-Beckmann and Turner, "Legal Pluralism, Social Theory, and the State."
[37] Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge University Press, 1990).

community-based resource management, in certain contexts, may be more effective and sustainable than centralized state management models.[38]

Islamic Law Perspectives on the Governance Gap

The examination of Islamic law in this article is not intended to directly explain the religious practices of the Tengger community given that the majority adhere to Hinduism but rather to identify points of convergence within the broader framework of national environmental governance. Empirical findings from Ngadas Village show that the Tengger community protects forest areas surrounding water sources, restricts the exploitation of certain fauna, and applies restorative sanctions for environmental violations through customary mechanisms. In Islamic legal terms, these practices substantively reflect core principles of environmental protection. The relationship between Tengger customary law and Islamic law is therefore not one of normative adoption, but of ethical convergence at the level of practice developed independently yet producing consistent values.

This convergence can be understood through the concept of ecological responsibility in Islamic law, grounded in the principle of *khalifah fil ardh* as articulated in Qur'an 2:30. This principle positions humans as trustees responsible for managing and maintaining the balance of the earth, framing the human–nature relationship as ethical rather than exploitative. Within this framework, environmental protection is not merely a policy option but a moral obligation inherent in human existence. This perspective provides a relevant normative foundation for reinforcing the argument that Tengger conservation practices align with broader ecological ethics.

Contemporary scholarship has further expanded the classical *maqasid al-shariah*, traditionally comprising the protection of religion (*hifz al-din*), life (*hifz al-nafs*), intellect (*hifz al-'aql*), lineage (*hifz al-nasl*), and property (*hifz al-mal*) to include a sixth objective: environmental protection (*hifz al-bi'ah*). As noted by Khuluq and Asmuni,[39] *hifz al-bi'ah* has evolved from environmental

[38] E. Buxton, A., & Wilson, "FPIC and the Extractive Industries: A Guide to Applying the Spirit of Free, Prior and Informed Consent in Industrial Projects," *IIED*, 2013.
[39] M K Khuluq and A Asmuni, "Hifz Al-Bi'ah as Part of Maqashid Al-Shari'ah and Its Relevance in the Context of Global Climate Change," *Indonesian Journal of Interdisciplinary Islamic Studies (IJIIS)* 7, no. 2 (2025), https://doi.org/10.20885/ijiis.vol7.iss2.art3.

jurisprudence (*fiqh al-bi'ah*) into an integral component of *maqasid al-shariah* at the level of *daruriyyat* (essential needs). Without a healthy environment, the realization of all other objectives becomes untenable. Jasser Auda's[40] systems approach to *maqasid al-shariah* further supports this expansion by incorporating environmental sustainability into a broader framework of human well-being protected by Islamic law.

In this article, *hifẓ al-bi'ah* is not positioned as a theological norm imposed upon the Tengger community, but as an interpretive framework that reveals substantive alignment between local values and broader normative principles. Tengger practices in maintaining ecological balance through regulated access to certain areas, restrictions on overexploitation, and the application of restorative sanctions demonstrate that environmental protection values can emerge organically within local communities, independent of any single formal legal system. In this sense, *hifẓ al-bi'ah* functions as a normative bridge linking local practices with universal ethical frameworks, while strengthening the legitimacy of integrating customary law into national environmental policy. The principle of *la darar wa la dirar* (no harm and no reciprocation of harm) provides a normative basis for preventive environmental protection, aligning with the precautionary principle in modern environmental law. The convergence between Tengger customary values and Islamic environmental ethics both emphasizing ecological balance, limits on exploitation, and collective responsibility reinforces the argument that customary-based governance reflects universal ecological ethics transcending specific legal systems.

This integration is further supported by environmental governance theory, particularly legal pluralism and adaptive governance approaches. The findings demonstrate that Tengger customary law operates as a form of living law, characterized by strong social legitimacy, community-based enforcement, and adaptive capacity to local conditions. These features align with principles of commons-based resource management, which emphasize locally grounded rules, community participation, and proportionate, restorative sanctions. Within this framework, *hifẓ al-bi'ah* may be positioned as a normative anchor

[40] Jasser Auda, *Maqasid Al-Shariah as Philosophy of Islamic Law: A Systems Approach* (London: International Institute of Islamic Thought, 2007).

that strengthens integration between customary and state law, rather than subordinating one system to the other.

From the perspective of national law, this integration gains constitutional legitimacy under Article 29(1) of the 1945 Constitution of the Republic of Indonesia, which affirms the openness of the Indonesian legal system to religious values. This allows principles such as *hifẓ al-bi'ah* to function as normative foundations in public policy formulation, particularly within a Muslim-majority context. Accordingly, Islamic law in this article is not presented as a system directly applied to the Tengger community, but as a normative framework that reinforces arguments for integration in national environmental governance.

The principal contribution of this integrative approach lies in its ability to bridge the normative and empirical dimensions of environmental governance. Tengger customary law provides empirical evidence of the effectiveness of community-based governance, while *maqasid al-shariah* offers normative legitimacy that can enhance policy acceptance at the national level. Their integration not only enriches legal pluralism discourse but also offers a more inclusive, adaptive, and sustainable model of environmental governance. Ultimately, this approach underscores that the success of environmental governance depends not solely on the strength of formal regulation, but on the capacity of legal systems to accommodate and synergize both local and universal values.

Comparative Perspectives: Lessons from Canada, New Zealand, Ecuador, and Bolivia

Canada. Canada demonstrates a progressive trajectory from recognition toward the integration of Indigenous governance in environmental management. Its constitutional foundation lies in Section 35 of the Constitution Act, 1982, which recognizes and affirms Aboriginal rights. This recognition has been operationalized through judicial decisions, most notably Haida Nation v. British Columbia (2004 SCC 73), which established the duty to consult and accommodate an obligation that arises even before Indigenous

rights are conclusively proven.[41] Beyond judicial recognition, Canada has developed co-management and shared governance mechanisms through modern treaties such as the Nunavut Land Claims Agreement (1993), which grants Indigenous institutions a direct role in decision-making over wildlife, water, and conservation areas. The adoption of the United Nations Declaration on the Rights of Indigenous Peoples Act (2021) into domestic law further strengthens this integrative approach. These forms of recognition and accommodation amount to functional integration, as they operationally incorporate Indigenous institutions and norms into state decision-making processes, rather than merely acknowledging their existence at a symbolic level.[42]

New Zealand (*Aotearoa*) Study. New Zealand offers a distinct yet instructive model for integrating *Māori* customary values. Its foundational framework is the Treaty of *Waitangi* (1840), an unwritten constitutional instrument. A prominent example is the *Te Awa Tupua* (Whanganui River Claims Settlement) Act 2017, which grants legal personhood to the Whanganui River, reflecting the *Māori* worldview that regards the river as an indivisible living entity. The institutional mechanism of *Te Pou Tupua* two guardians jointly appointed by the state and *Māori iwi* embodies a shared governance model that positions the state and Indigenous communities as equal partners.[43] Although the context of the Whanganui River differs from that of the Tengger community, its relevance lies in a shared principle: the integration of Indigenous ontology into formal legal systems enhances both conservation effectiveness and policy legitimacy. These comparative examples demonstrate that functional and operational recognition of customary law rather than symbolic acknowledgment is a critical precondition for effective and sustainable environmental governance. Such recognition does not diminish state sovereignty; rather, it expands the legitimacy base of public

[41] Martin Papillon and Thierry Rodon, "Proponent–Indigenous Agreements and the Implementation of the Duty to Consult," *Resources Policy* 52 (2017): 206–16, https://doi.org/10.1016/j.resourpol.2017.02.005.
[42] Deborah Curran and Tashi Dolkar, "Legal Pluralism and Environmental Governance," *Legal Pluralism and Critical Social Analysis* 54, no. 1 (2022): 68–95, https://doi.org/10.1080/27706869.2022.2087978.
[43] Erin O'Donnell and Julia Talbot-Jones, "Creating Legal Rights for Rivers," *Ecology and Society* 23, no. 1 (2018): 7, https://doi.org/10.5751/ES-09854-230107.

policy, reduces enforcement costs, enhances compliance, and minimizes social conflict in natural resource management.[44]

Ecuador Study. The 2008 Constitution of Ecuador represents a significant development in global environmental law, as it recognizes the rights of nature as part of the national legal system. Contemporary scholarship interprets this as a shift from an anthropocentric to an eco-centric approach, positioning nature as a legal subject with rights to exist and regenerate.[45] Contextually, this recognition is rooted in the cosmology of Andean Indigenous peoples through the concept of *Buen Vivir* (*sumak kawsay*), which emphasizes harmony between humans and nature. Comparative studies indicate that this approach is not merely symbolic but functions as a normative framework shaping environmental policy and sustainable development. It demonstrates that the integration of customary values into civil law systems can be achieved through the constitutionalizing of local norms into formal legal structures.[46] Recent studies, however, highlight a gap between normative recognition and implementation. Despite constitutional guarantees, state policies remain dominated by extractive interests, particularly in the mining and energy sectors. Empirical evidence shows that the rights of nature often undergo "operational reduction" when confronted with national economic priorities.[47] Thus, Ecuador's experience illustrates that while integrating customary law and ecological values into civil law systems is feasible, its effectiveness depends on policy coherence and institutional capacity. For Indonesia, the key lesson lies not only in normative recognition but in ensuring that integration is supported by effective implementation mechanisms rather than remaining merely symbolic.

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[44] Kirk Emerson and Tina Nabatchi, *Collaborative Governance Regimes* (Georgetown University Press, 2015).

[45] Diana Carolina Sánchez-Zapata and María Fernanda Cárdenas, "Rights of Nature as a Response to the Climate Crisis and Discourses on Sustainability," *Climate Change Ecology* 10, no. Novemebr (2025): 3, https://doi.org/10.1016/j.ecochg.2025.100101.

[46] Marie-christine Fuchs, *The Concept of Rights of Nature in Colombia and Ecuador: Lessons for a 'Good Life' in Urban Spaces*, vol. 18, 2025, https://doi.org/10.3828/whpge.63837646622524.

[47] Daniel Bonilla Maldonado, "The Rights of Nature: Their Conceptual Architecture," *Law & Literature*, no. January (January 6, 2025): 1–36, https://doi.org/10.1080/1535685X.2024.2431406.

Bolivia Study. Bolivia has adopted a similar but more explicit approach through the recognition of the Rights of Mother Earth in national legislation, particularly Law No. 071 (2010) and Framework Law No. 300 (2012). Recent literature characterizes this framework as a form of radical environmental law that integrates Indigenous cosmology into the state legal system. The concept of Mother Earth in Bolivian law positions nature as a collective entity with rights to life, equilibrium, and restoration. This approach is not purely normative but seeks to impose legal obligations on both the state and society to protect ecosystems. Comparative studies identify Bolivia as one of the strongest examples of legal pluralism within a civil law tradition, where customary law and cosmological values are formally embedded in national legislation.[48] However, implementation faces significant challenges. While the legal framework provides extensive recognition of the rights of nature, state economic policy continues to prioritize resource extraction. This reflects a lack of alignment between legal norms and development policy, resulting in a paradox between progressive legal recognition and persistently extractive practices.[49] Bolivia's experience underscores that recognition of customary and environmental law within civil law systems must be accompanied by strong institutional design and policy consistency. In the Indonesian context, the key lesson is that legislative integration alone is insufficient; it must be supported by governance mechanisms capable of balancing the interests of the state, Indigenous communities, and environmental stakeholders.

Table 2. Comparative Models of Customary Law Integration in Environmental Governance

Country	Legal Tradition	Integration Model	Strengths	Limitations	Relevance to Indonesia
Canada	Common Law	Duty to consult; co-	Substantive participatio	Dependent on litigation;	Consultative principles may

[48] Rawnak Miraj Ul Azam, Syeda Afroza Zerin, and Fahim Faisal Khan Alabi, "The Rights of Nature Movement: Legal, Cultural, and Policy Challenges in Implementing Eco-Centric Law," *Journal of Environmental Law and Policy* 05, no. 1 (2025): 87–116.

[49] Paola Villavicencio Calzadilla and Louis J Kotzé, "Living in Harmony with Nature? A Critical Appraisal of the Rights of Mother Earth in Bolivia," *Transnational Environmental Law* 7, no. 3 (2018): 397–424, https://doi.org/DOI: 10.1017/S2047102518000201.

		management; shared governance	n; strong Indigenous rights protection; high flexibility through judicial processes	complex and costly; less compatible with codified systems	be adapted, but full replication is difficult
New Zealand	Common Law	Co-governance; legal personhood (e.g., rivers)	Integration of Indigenous values into formal law; high legitimacy; institutional innovation	Dependent on historical treaties; specific Māori political context	Principles are relevant (shared governance), but institutional replication is limited
Ecuador	Civil Law	Constitutionalizing of rights of nature; limited Indigenous jurisdiction	Strong ecological recognition at constitutional level	Weak implementation; conflict with extractive policies	Highly relevant: demonstrates constitutional pathways for integration
Bolivia	Civil Law	Constitutional legal pluralism; Law of Mother Earth	Equal recognition of customary law; integration of Indigenous cosmology	Weak institutional capacity; conflict with extractive economic orientation	Relevant: illustrates integration within a civil law framework
Indonesia	Civil Law	Integrated legal	Adaptive; locally	Not yet institutionalize	Highly relevant: requiresa

(Potential)	pluralism (EEG)	grounded; capable of integrating customary, state, and religious norms	d; regulatory fragmentation	context-sensitive integrative model

Source : Author's Processed Data (2026)

The table demonstrates that successful integration of customary law is not determined by a single universal model, but by the alignment between institutional design and the legal system context. Common law jurisdictions such as Canada and New Zealand rely heavily on judicial development and political history, whereas civil law countries such as Ecuador and Bolivia depend on constitutional legitimacy. In Indonesia, which follows a civil law tradition, the most appropriate approach is not the direct transplantation of co-governance or legal personhood models, but the strengthening of legal pluralism through structured normative and institutional integration. This reinforces the argument that the Ecological Equilibrium Governance (EEG) model offers a more context-sensitive approach, as it does not import foreign frameworks wholesale but adapts universal principles within the national legal system.

Ecological Equilibrium Governance: Toward an Integrative Framework

Conceptual Foundations

The Ecological Equilibrium Governance (EEG) model is an environmental governance framework grounded in legal pluralism, integrating state law and customary law through adaptive institutional mechanisms to simultaneously achieve ecological balance, social legitimacy, and regulatory effectiveness. Unlike approaches that emphasize recognition or participation

alone, EEG places functional interaction between legal systems at the core of governance in pluralistic societies.[50]

In the Tengger context, customary law demonstrates adaptive capacity through ecological prohibitions, protection of water sources, and restorative sanctions grounded in Traditional Ecological Knowledge (TEK), while state law provides the formal regulatory framework. EEG positions these systems as complementary, linked through institutional mechanisms that enable coordinated operation. Conceptually, EEG is supported by five key elements: dual normative recognition, institutional linkage, adaptive capacity, restorative enforcement, and the integration of ecological feedback.[51]

These findings align with Elinor Ostrom's design principles,[52] which highlight the effectiveness of community-based governance institutions such as those observed in Tengger. However, while Ostrom's framework is analytically robust, it does not fully address structural asymmetries between state and customary law in postcolonial contexts, where the state continues to dominate legal legitimacy.

This limitation is particularly evident in the interaction between legal centralism and legal pluralism. Although pluralism acknowledges the coexistence of multiple legal systems, in practice, recognition often remains at the normative level without corresponding institutional integration. The distinction between recognition and integration further underscores that symbolic acknowledgment does not automatically translate into effective governance. In the Tengger case, despite the demonstrated effectiveness of customary practices, the absence of formal integration limits their contribution to the national policy framework.

EEG moves beyond this dichotomy by proposing a model that prioritizes institutional connectivity and operational integration across legal systems. Its principal contribution lies in shifting the focus from mere recognition toward functional and adaptive integration, ensuring that

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[50] Franz von Benda-Beckmann and Bertram Turner, "Legal Pluralism, Social Theory, and the State," *Journal of Legal Pluralism and Unofficial Law* 50, no. 3 (2018): 255–74, https://doi.org/10.1080/07329113.2018.1532674.

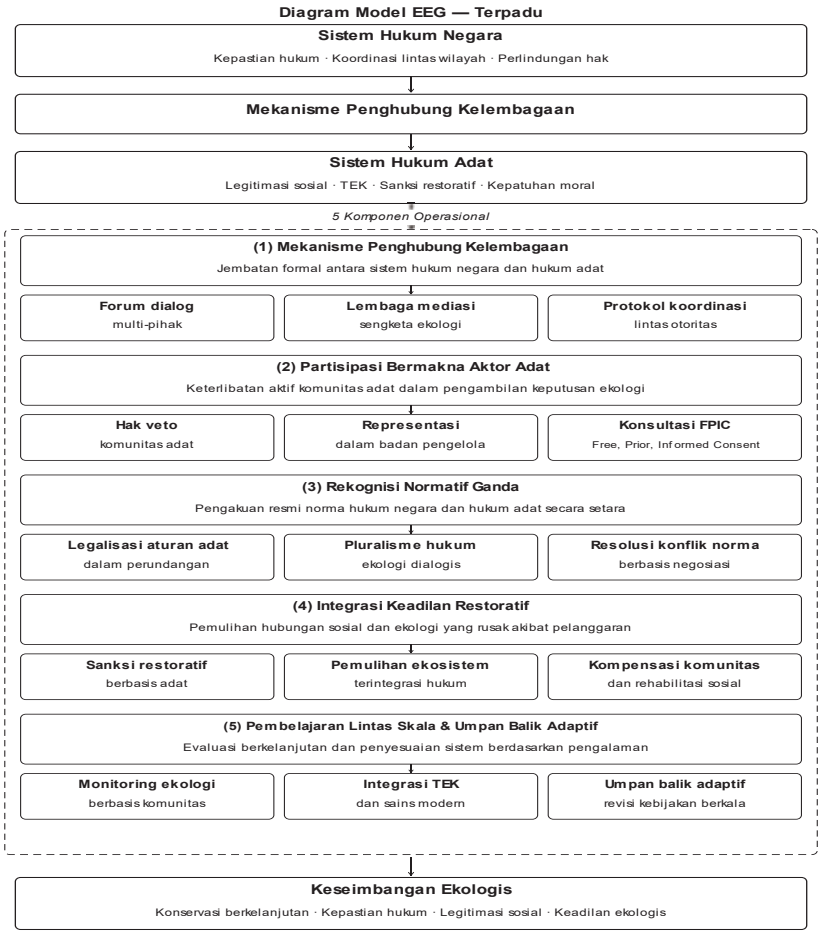
[51] Folke et al., "Adaptive Governance of Social-Ecological Systems"; Chaffin, Gosnell, and Cosens, "A Decade of Adaptive Governance Scholarship."

[52] Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*.

environmental governance depends not only on localized institutional design but also on the capacity of legal systems to continuously harmonize multiple sources of legitimacy.[53]

Diagrammatic Representation of the EEG Model

A diagram of the EEG model illustrating the relationships between the five components:



Source : Author's Processed Data (2026)

[53] Michael Cox, Gwen Arnold, and Sergio Villamayor Tomas, "A Review of Design Principles for Community-Based Natural Resource Management," *Ecology and Society* 15, no. 4 (2010): 38, https://doi.org/10.5751/ES-03704-150438.

The integrated EEG model illustrates a governance framework that connects the state legal system and customary law through institutional linkage mechanisms functioning as coordinating bridges. The state legal system provides legal certainty, cross-jurisdictional coordination, and rights protection, while customary law contributes social legitimacy, ecological wisdom (EQ), restorative sanctions, and morally grounded compliance. Institutional linkage mechanisms serve as the core interface enabling synergistic interaction between these systems, preventing normative conflict and instead fostering mutually reinforcing collaboration in natural resource governance.

The five operational components of the EEG model outline concrete, systematic, and participatory steps to strengthen this integration. Institutional linkage is operationalized through multi-stakeholder dialogue forums, ecological dispute mediation bodies, and cross-authority coordination protocols. Meaningful participation of Indigenous actors is ensured through veto rights, representation in governance bodies, and consultation based on the principle of Free, Prior, and Informed Consent (FPIC). Dual normative recognition guarantees equal acknowledgment of state and customary law, followed by the integration of restorative justice through customary sanctions, ecosystem restoration, and social compensation. Cross-scale learning and adaptive feedback further reinforce the system through community-based monitoring, integration of TEK with modern scientific knowledge, and periodic policy revision.

Ecological equilibrium, as the primary objective of the EEG model, reflects the outcome of dynamic, adaptive, and sustained interactions among these components. Adaptive feedback processes enable continuous evaluation of policy effectiveness and governance practices, allowing the system to respond to evolving ecological and social conditions. The integration of legal certainty, social legitimacy, and ecological justice ultimately produces a system of natural resource governance that is not only environmentally sustainable but also socially equitable and institutionally robust.

National and Global Relevance

The EEG model is relevant not only to the Tengger community but also to other Indigenous communities in Indonesia facing similar challenges. At the international level, the model aligns with the principles of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), particularly Article 26 (the right to own, use, develop, and control lands and resources), Article 29 (the right to environmental conservation and protection affirming that Indigenous peoples are entitled to the conservation of their environment and the productive capacity of their lands and resources, and that states must take effective measures to ensure such protection), and Article 32 (the right to determine development priorities within their territories, including the right to Free, Prior, and Informed Consent/FPIC). The model is also consistent with ILO Convention No. 169 (1989) concerning Indigenous and Tribal Peoples in Independent Countries, which affirms Indigenous rights to manage natural resources within their territories and obliges states to respect customary legal systems and institutions.

From a comparative law perspective, jurisdictions that have successfully integrated customary law into environmental governance tend to exhibit lower levels of environmental conflict and higher levels of public trust in state institutions. The EEG model offers a pathway for Indonesia to move beyond formal recognition toward operational integration, thereby strengthening both environmental outcomes and governance legitimacy.

Conclusion

This study concludes that the governance gap between national environmental law and Tengger customary environmental practices persists due to three interrelated factors: (1) limited legal recognition of customary law as an operational governance instrument; (2) weak institutional integration, resulting in parallel rather than synergistic functioning of state and customary law; and (3) insufficient meaningful participation of customary actors in environmental decision-making processes, particularly at the stages of planning and policy formulation. The study's principal theoretical contribution is the development of the Ecological Equilibrium Governance (EEG) model as an integrative framework that transcends the dichotomies of

legal pluralism versus legal centralism, and recognition versus integration. EEG introduces an operational mechanism institutional linkage that enables sustained interaction between state and customary legal systems. Unlike adaptive co-management frameworks that focus primarily on actor collaboration, EEG places legal system integration at the centre of analysis, thereby offering a novel contribution to environmental governance scholarship grounded in legal pluralism.

The policy implications suggest that environmental law reform in Indonesia should shift from a model of normative recognition toward substantive and context-sensitive integration. Based on empirical insights from the Tengger community, policy measures should: (i) recognize customary practices as operational instruments in protecting resources such as forests and water sources; (ii) establish institutional linkage mechanisms at the local level to bridge the TNBTS authority, regional government, and customary institutions; and (iii) ensure meaningful participation of Indigenous communities across all stages of policymaking, from planning to evaluation. Comparatively, experiences from civil law countries such as Ecuador and Bolivia demonstrate that integration of customary law can be achieved through constitutional frameworks, but its success depends on institutional implementation capacity. Meanwhile, the principle of Free, Prior, and Informed Consent (FPIC) in international law, alongside constitutional recognition of Indigenous peoples under the 1945 Constitution of Indonesia, provides a strong normative foundation for advancing this model.

This study is subject to limitations. It focuses on a single case study of the Tengger community, and thus its findings should be generalized with caution. Moreover, the proposed EEG model has not yet been empirically tested across broader contexts or through quantitative approaches. Future research should therefore examine the EEG model comparatively across diverse Indigenous communities in Indonesia and develop empirical indicators to assess the effectiveness of institutional integration in environmental governance.

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