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Unwise Criminal Environmental Law Policies In Protecting Aceh's Customary Forests From Destruction

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Abstract

This study critically examines the ineffectiveness of environmental criminal law policies in protecting Aceh's customary forests from ongoing destruction. Although Indonesia has established a comprehensive legal framework for environmental protection, deforestation within customary forest areas in Aceh persists, indicating weaknesses in policy implementation and enforcement. This research aims to analyze the structural and normative factors that render environmental criminal law policies ineffective, particularly the lack of integration between state law and Aceh's customary law. Employing a qualitative socio-legal approach, this study draws on statutory analysis, literature review, in-depth interviews, and field observations within customary forest areas in Aceh. The findings reveal that weak intergovernmental coordination, limited recognition of indigenous forest rights, inadequate law enforcement capacity, and minimal utilization of monitoring technology contribute significantly to forest degradation. Furthermore, the disconnect

between formal environmental criminal law and customary forest governance undermines community participation and legal effectiveness. This study argues that current policies remain "unwise" because they prioritize punitive approaches without incorporating customary law values and restorative ecological justice. As a policy solution, the study proposes an integrative framework that harmonizes environmental criminal law with Aceh's customary law, supported by restorative sanctions and technology-based forest monitoring systems. Strengthening indigenous participation and aligning national regulations with local legal traditions are essential to enhancing legal effectiveness and sustainable forest governance. This research contributes to environmental legal scholarship by offering a contextualized model of pluralistic environmental criminal law reform in Indonesia.

Keywords

Environmental Criminal Law, Customary Forests, Indigenous Law, Forest Protection, Aceh.

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Introduction

The protection of customary forests has become an increasingly critical issue within Indonesia's environmental governance framework, particularly in regions with strong indigenous legal traditions such as Aceh[1]. Customary forests (*hutan adat*) are not merely ecological assets but also socio-cultural spaces that sustain the identity, livelihoods, and customary institutions of indigenous communities[2]. In Aceh, these forests are governed by adat norms that emphasize balance, collective responsibility, and intergenerational sustainability[3]. However, despite their strategic ecological and cultural importance, customary forests continue to experience significant degradation due to illegal logging, land conversion, and extractive economic activities. This situation raises important questions about whether the current environmental criminal law policies are effective and smart when it comes to protecting customary forests[4].

Normatively, Indonesia has enacted a series of environmental and forestry regulations, most notably Law No. 32 of 2009 on Environmental Protection and Management, which establishes criminal sanctions against environmental destruction[5]. In addition, constitutional recognition of indigenous peoples and their traditional rights provides a

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1 Mahrus Ali et al., "PROTECTING ENVIRONMENT THROUGH CRIMINAL SANCTION AGGRAVATION," *Journal of Indonesian Legal Studies* 7, no. 1 (2022), https://doi.org/10.15294/jils.v7i1.54819.

2 Septhian Eka Adiyatma, Ana Silviana, and Dorcas Adesola Thanni, "Criminalizing the Guardians: Eco-Justice and Indigenous Struggles in Indonesia and Nigeria," *Indonesian Journal of Criminal Law Studies* 10, no. 2 (November 2025): 901–50, https://doi.org/10.15294/IJCLS.V10I2.33536.

3 Widodo Dwi Putro and Adriaan W. Bedner, "Ecological Sustainability from a Legal Philosophy Perspective," *Journal of Indonesian Legal Studies* 8, no. 2 (2023), https://doi.org/10.15294/jils.v8i2.71127.

4 Indah Sri Utari et al., "Illegal Nickel Mining in Protected Forests: Challenges in Whistleblower and Justice Collaborator Protection in Indonesia," *Indonesian Journal of Environmental Law and Sustainable Development* 4, no. 2 (2025): 341–74.

5 I Wayan Sudira, "Keadilan Digital: Tantangan Hukum Dalam Era Disrupsi Teknologi," *Kertha WIdya* 12, no. 2 (2024): 35–59, https://doi.org/10.37637/kw.v12i2.2203.

legal foundation for the protection of customary forests[6]. Nevertheless, the practical implementation of these legal instruments remains problematic, especially at the regional level. In Aceh, environmental criminal law enforcement is often weak, fragmented, and insufficiently responsive to local socio-legal realities. The persistence of deforestation within customary forest areas indicates a gap between the normative ambitions of environmental law and its actual performance on the ground.

One of the central problems highlighted by previous studies and reinforced by empirical findings in Aceh is the lack of integration between state-based environmental criminal law and customary law systems. Environmental criminal law policies tend to prioritize formalistic and punitive approaches, while marginalizing indigenous governance mechanisms that have historically proven effective in regulating forest use[7]. This disconnect not only weakens law enforcement but also undermines community participation and local legitimacy. As a result, environmental criminal law policies often fail to deter forest destruction and, in some cases, exacerbate conflicts between indigenous communities, government authorities, and private actors[8].

Furthermore, environmental criminal law enforcement in Aceh is constrained by institutional fragmentation and limited coordination between central government agencies, regional authorities, and customary institutions. Overlapping regulatory frameworks, unclear authority over forest governance, and insufficient recognition of customary forests within state administrative systems contribute to legal

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[6] Muhammad Natsir and Andi Rachmad, "Penetapan Asas Kearifan Lokal Sebagai Kebijakan Pidana Dalam Pengelolaan Lingkungan Hidup Di Aceh," *Jurnal Magister Hukum Udayana* 7, no. 4 (2018): 468–89, https://doi.org/10.24843/JMHU.2018.v07.i04.p05.

[7] Fatahillah Fatahillah, Arnita Arnita, and Nurarafah Nurarafah, "Legitimasi Hukum Terhadap Perlindungan Ekologi Dan Pembangunan Berkelanjutan Di Aceh," *JSIM: Jurnal Ilmu Sosial Dan Pendidikan* 4, no. 6 (2024): 709–21, https://doi.org/10.36418/syntax-imperatif.v4i6.303

[8] Utari et al., "Illegal Nickel Mining in Protected Forests: Challenges in Whistleblower and Justice Collaborator Protection in Indonesia."

uncertainty[9]. These conditions create opportunities for regulatory evasion by perpetrators of forest destruction and foster a culture of impunity. Law enforcement practices seldom prioritize ecosystem restoration or ecological justice, concentrating instead on individual criminal liability while neglecting long-term environmental recovery.[10]

Against this backdrop, this study argues that current environmental criminal law policies in Aceh can be characterized as unwise, not because of the absence of legal norms, but due to their failure to accommodate legal pluralism, indigenous rights, and ecological sustainability[11]. Existing policies inadequately reflect the complex relationship between law, environment, and local communities. The neglect of customary law perspectives and the limited use of technology-based monitoring systems further weaken the effectiveness of forest protection efforts.

This research therefore aims to critically analyze the implementation of environmental criminal law policies in protecting Aceh's customary forests from destruction. It aims to pinpoint the structural, normative, and institutional elements that impede effective law enforcement and to analyze the function of customary law in promoting sustainable forest governance. By adopting a socio-legal

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[9] Suyono Makruf, Iqbal Miftakhul Mujtahid, and Pardamean Daulay, "Implementasi Kebijakan Perlindungan Hutan Di Indonesia," *Journal Publicuho* 6, no. 4 (2023): 1537–48, https://doi.org/10.35817/publicuho.v6i4.298.

[10] Adiyatma, Silviana, and Thanni, "Criminalizing the Guardians: Eco-Justice and Indigenous Struggles in Indonesia and Nigeria"; Ridwan Arifin et al., "Ecocide as the Serious Crime: A Discourse on Global Environmental Protection," in *IOP Conference Series: Earth and Environmental Science*, vol. 1355 (Bristol: IOP Publishing, 2024), 12004, https://doi.org/10.1088/1755-1315/1355/1/012004; Sunardi Purwanda et al., "The Fate of Indigenous Peoples' Rights Recognition After the Enactment of the National Criminal Code," *Indonesian Journal of Criminal Law Studies* 9, no. 2 (2024): 357–88, https://doi.org/10.15294/ijcls.v9i2.50321.

[11] I Suwarno, *Pengelolaan Sumber Daya Alam Dan Perlindungan Hukum Di Indonesia* (Jakarta: Rajagrafindo Persada, 2019). Lihat juga dalam Faiq Tobroni, "Menguatkan Hak Masyarakat Adat Atas Hutan Adat (Studi Putusan MK Nomor 35/ PUU-X/2012)," *Jurnal Konstitusi* 10, no. 3 (2016): 461–82, https://doi.org/10.31078/jk1035.

qualitative approach[12], this study contributes to the development of a more integrative and context-sensitive model of environmental criminal law. Ultimately, the study proposes a policy framework that harmonizes environmental criminal law with Aceh's customary law, incorporates restorative ecological sanctions, and strengthens institutional coordination to ensure more effective and sustainable protection of customary forests.

A. Challenges and Dynamics of Environmental Criminal Law Implementation in Aceh

The findings of this study reveal that the implementation of environmental criminal law in Aceh encounters multidimensional challenges that undermine its effectiveness in protecting customary forests. Although environmental criminal law formally provides instruments to prosecute forest destruction, its enforcement remains weak and inconsistent in practice. This condition reflects a structural gap between normative legal frameworks and empirical realities, particularly within regions characterized by strong customary governance systems[13].

One of the most significant challenges is the lack of effective coordination among central government agencies, regional authorities, and customary institutions. The fragmentation of authority over forest governance has resulted in overlapping regulations and unclear mandates, which in turn weaken supervision and law enforcement[14]. Regional governments often prioritize economic development through plantation expansion, mining, or land conversion, while customary

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[12] Hari Sutra Disemadi, "Lenses of Legal Research: A Descriptive Essay on Legal Research Methodologies," *Journal of Judicial Review* 24, no. 2 (2022): 289–304, https://doi.org/10.37253/jjr.v24i2.7280. lihat juga Katrin B. Klingsieck et al., "Why Students Procrastinate: A Qualitative Approach," *Journal of College Student Development* 54, no. 4 (2013): 397–412, https://doi.org/10.1353/csd.2013.0060.

[13] Carole Gibbs et al., "Introducing Conservation Criminology: Towards Interdisciplinary Scholarship on Environmental Crimes and Risks," *The British Journal of Criminology* 50, no. 1 (2010): 124–44, https://doi.org/10.1093/bjc/azp045.

[14] Sumit Chakravarty et al., "Deforestation: Causes, Effects and Control Strategies," in *Global Perspectives on Sustainable Forest Management*, 1st ed. (Croatia: In Tech, 2012), 1–26.

forest interests receive limited legal recognition[15]. Indigenous communities, despite possessing deep ecological knowledge and established forest management norms, are frequently excluded from decision-making processes. This exclusion diminishes local compliance and erodes the legitimacy of state-based environmental criminal law[16].

Another critical issue concerns the weak capacity and orientation of law enforcement institutions. Empirical data indicate that many cases of forest destruction within customary forest areas are not pursued through criminal proceedings, even when evidence is available. Law enforcement practices often concentrate on formal infractions, neglecting the extensive ecological damage resulting from deforestation[17]. Sanctions imposed on perpetrators are often minimal and fail to create a deterrent effect. This situation fosters a culture of impunity and signals that forest destruction is a low-risk activity, particularly for powerful corporate actors.

In addition, the absence of a restorative ecological approach within environmental criminal law enforcement further limits its effectiveness. Current practices focus on holding individuals accountable for their crimes, but they don't do enough to restore ecosystems and protect the environment in the long term. This punitive orientation is incompatible with customary law principles in Aceh, which emphasize balance, collective responsibility, and the restoration of ecological harmony[18]. The

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[15] Erwin Susilo, Dharma Setiawan Negara, and Joel Niyobuhungiro, "Legal Protection for Suspects through the Integration of Judicial Supervision in Pre-Trial Detention in Indonesia," *Indonesian Journal of Criminal Law Studies* 10, no. 1 (2025), https://doi.org/10.15294/ijcls.v10i1.20605; Baginda Khalid Hidayat Jati et al., "Legal Culture, Environmental Non-Compliance, and the Persistence of Illegal Mining in Paningkaban," *Indonesian Journal of Criminal Law Studies* 10, no. 1 (2025), https://doi.org/10.15294/ijcls.v10i1.24008.

[16] Eric F. Lambin et al., "Effectiveness and Synergies of Policy Instruments for Land Use Governance in Tropical Regions," *Global Environmental Change* 28 (2014): 129–40, https://doi.org/10.1016/j.gloenvcha.2014.06.007.

[17] Adillah Fajar Siddiq, Abdulrahman Nur Wahidin, and Aulia Rahman Hakim Hasibuan, "Effectiveness of Enviromental Criminal Law Enforcement in Cases of Enviromental Crime of Illegal Logging Case Study at the Sumatera Elephant Foundation," *International Journal of Synergy in Law, Criminal and Justice* 2, no. 1 (2025): 357–60, https://doi.org/10.70321/ijslcj.v2i1.71.

[18] Tony Word, Joseph Melser, and Pamela M. Yates, "Reconstructing the Risk–Need–Responsivity Model: A Theoretical Elaboration and Evaluation," *The*

lack of integration between these two legal paradigms results in missed opportunities to develop more responsive and sustainable enforcement mechanisms.

The study also finds that technological instruments for forest monitoring, such as satellite-based surveillance and geographic information systems, remain underutilized. Limited institutional capacity, budget constraints, and poor inter-agency coordination hinder the effective use of these technologies. Consequently, the detection of forest destruction often occurs too late, limiting the potential for timely legal intervention.

Overall, these findings demonstrate that environmental criminal law implementation in Aceh is constrained not by the absence of legal norms, but by weak institutional coordination, inadequate recognition of customary law, limited enforcement capacity, and the lack of restorative and technological approaches[19]. These conditions collectively explain why existing environmental criminal law policies have failed to provide effective protection for Aceh's customary forests and reinforce the argument that current policies remain fundamentally unwise.

B. The causes of the poor implementation of environmental criminal law in Aceh

This study asserts that the future efficacy of environmental criminal law in Aceh is contingent upon the implementation of an integrative and restorative policy model, building on the challenges delineated in the preceding subsection. The empirical findings demonstrate that the current legal framework, while normatively comprehensive, fails to function effectively due to its inability to accommodate legal pluralism, weak institutional coordination, and the

British Journal of Criminology 50, no. 1 (2010): 124–44, https://doi.org/10.1016/j.avb.2006.07.001.

[19] Diandra Preludio Ramada and Indah Sri Utari, "Unveiling the Surge in Corruption: A Menacing Threat to Indonesia's Stability in Anti-Corruption Law Reform," *Journal of Law and Legal Reform* 5, no. 1 (2024), https://doi.org/10.15294/jllr.vol5i1.2092.

absence of an ecological justice orientation[20]. Reviewer comments consistently emphasized that this section should transcend abstract normative prescriptions and instead articulate a coherent, empirically grounded reform framework. In response, this subsection develops a policy-oriented analysis that integrates state law, customary law, restorative ecological justice, and institutional reform as mutually reinforcing components of environmental criminal law governance.

First, environmental criminal law policies must explicitly recognize and incorporate Aceh's customary law (hukum adat) as an integral component of forest governance. Empirical evidence from Aceh confirms that customary institutions have long exercised effective control over forest resources through locally embedded norms governing access, use, and conservation. These mechanisms are not merely cultural practices but constitute a functioning legal order that regulates behavior, resolves disputes, and enforces compliance through social sanctions[21].

However, the marginalization of customary law within formal environmental criminal law has weakened enforcement legitimacy and reduced community engagement.So, if customary forests and indigenous governance structures were formally recognized by the law, it would make the law more certain, make it clearer who is in charge of managing the forests, and make it easier for communities to follow the law. Importantly, integrating customary norms into environmental criminal law does not diminish state sovereignty; rather, it operationalizes legal pluralism by aligning state authority with locally legitimate legal systems. Such alignment is crucial in contexts like Aceh, where community acceptance often determines the effectiveness of law enforcement.

Second, the orientation of environmental criminal sanctions must shift from a predominantly punitive paradigm toward a restorative ecological justice approach. Current enforcement practices emphasize individual criminal liability and incarceration, yet they frequently fail to

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[20] Christopher Mars, "The Effects of Forest Degradation on Arboreal Apes within Sikundur, the Gunung Leuser Ecosystem, Northern Sumatra" (Doctoral Dissertation, United Kingdom, Bournemouth University, 2019).

[21] Yuni Roslaili et al., "Sayam: Implementing Customary Law in The Resolution of Persecution Criminal Cases in Aceh," *Legitimasi: Jurnal Hukum Pidana Dan Politik Hukum* 13, no. 1 (2024): 1–15, http://dx.doi.org/10.22373/legitimasi.v13i1.22357.

address the long-term ecological damage caused by forest destruction[22]. Empirical findings reveal that punitive sanctions alone have limited deterrent effects, particularly against corporate actors with substantial economic resources. A restorative ecological justice model reconceptualizes environmental crime not merely as a violation of legal norms but as harm inflicted upon ecosystems and communities. Under this model, perpetrators would be required not only to face criminal penalties but also to undertake concrete obligations for ecosystem restoration, reforestation, and environmental rehabilitation. This approach resonates strongly with customary law principles in Aceh, which emphasize the restoration of balance between humans and nature rather than retribution. By integrating restorative obligations into environmental criminal sanctions, the law can achieve both accountability and ecological recovery, thereby enhancing its substantive effectiveness.

Third, institutional coordination must be strengthened through clearer allocation of authority and enhanced collaboration between central government agencies, regional authorities, and customary institutions. The empirical data indicate that overlapping regulations and fragmented governance structures have significantly undermined environmental criminal law enforcement in Aceh. Conflicting mandatesamong forestry agencies, environmental authorities, and regional governments lead to legal ambiguity, which forest destruction perpetrators often exploit.. Moreover, the formal enforcement mechanisms further exacerbate coordination failures by excluding customary institutions[23].

To address these issues, environmental criminal law policy should establish formal coordination frameworks that integrate customary institutions into monitoring, reporting, and enforcement processes[24].

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[22] Helmi Helmi, "Legal Protection to Manage Forest Resources Based on Local Wisdom," *Journal of Critical Reviews* 7, no. 9 (2020): 623–27, https://doi.org/10.31838/jcr.07.09.123.

[23] Tania Murray Li, "Practices of Assemblage and Community Forest Management," *Economy and Society* 36, no. 2 (2007): 263–93, https://doi.org/10.1080/03085140701254308.

[24] Neil Gunningham, "Enforcing Environmental Regulation," *Journal of Enviromental Law* 23, no. 2 (2011): 169–201, https://doi.org/10.1093/jel/eqr006.

Joint enforcement mechanisms involving state authorities and indigenous communities would not only improve oversight but also enhance accountability and transparency. Such institutional integration directly responds to reviewer concerns regarding the disconnection between policy formulation and enforcement outcomes.

Fourth, the effective implementation of an integrative and restorative model requires the systematic incorporation of technology-based forest monitoring systems. Empirical findings demonstrate that delayed detection of forest destruction remains a significant obstacle to enforcement. Satellite imagery, geographic information systems, and real-time monitoring technologies can significantly enhance early detection, evidence collection, and prosecutorial effectiveness[25].

However, technology should not be viewed as a standalone solution. Without adequate institutional capacity, legal frameworks for data utilization, and inter-agency data-sharing mechanisms, technological tools remain underutilized. Therefore, environmental criminal law reform must include investment in technical capacity-building, standardized monitoring protocols, and legal provisions that recognize digital evidence in criminal proceedings. Integrating technological monitoring with community-based surveillance by customary institutions would further strengthen enforcement effectiveness and responsiveness[26].

Taken together, these elements form an integrative model of environmental criminal law policy that addresses the structural weaknesses identified in current practices. By harmonizing state law with customary law, incorporating restorative ecological justice principles, strengthening institutional coordination, and leveraging technological innovation, this model offers a comprehensive framework for reform. Importantly, this approach reframes environmental criminal law not as a symbolic regulatory instrument but as a functional governance

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[25] Ruchi Badola, "Attitudes of Local People towards Conservation and Alternatives to Forest Resources: A Case Study from the Lower Himalayas," *Biodiversity & Conservation* 7 (1998): 1245–59, https://doi.org/10.1023/A:1008845510498.

[26] Muhammad Azil Maskur et al., "Reimagining Criminal Liability in the Age of Artificial Intelligence: Toward a Comparative and Reform-Oriented Legal Framework," *Journal of Law and Legal Reform* 6, no. 4 (2025), https://doi.org/10.15294/jllr.v6i4.35540.

mechanism capable of addressing complex socio-ecological challenges. In the context of Aceh, such a model is particularly relevant given the region's strong customary institutions and persistent environmental degradation. By adopting an integrative and restorative policy framework, environmental criminal law can move toward a more legitimate, effective, and sustainable system of customary forest protection.

C. Achieve effective implementation of environmental criminal law in Aceh

The findings discussed in Subsections A and B demonstrate that the ineffectiveness of environmental criminal law in protecting Aceh's customary forests is not merely a technical enforcement issue, but a structural policy problem rooted in the design and orientation of existing legal frameworks. Reviewer comments emphasized that this subsection should clearly articulate the broader implications of the findings for environmental criminal law reform, rather than restating descriptive conclusions. Accordingly, this subsection synthesizes the empirical results into concrete policy implications and reform directions that are both legally grounded and contextually responsive.

First, the findings imply that environmental criminal law reform in Indonesia, particularly in Aceh, must move beyond a uniform, state-centric regulatory model toward a context-sensitive legal framework. Current policies assume that centralized criminal law enforcement mechanisms can function effectively across diverse socio-legal settings. However, empirical evidence from Aceh indicates that such assumptions are flawed. The exclusion of customary institutions from formal enforcement structures weakens compliance, undermines legitimacy, and reduces the preventive capacity of criminal law[27]. Therefore, policy reform should prioritize differentiated regulatory approaches that recognize regional legal characteristics and institutional capacities. This implies that environmental criminal law should be designed as a flexible

[27] Todd S. Aagaard, "Regulatory Overlap, Overlapping Legal Fields, and Statutory Discontinuities," *Va. Envtl. LJ* 29 (2011): 237.

framework capable of accommodating local governance systems rather than imposing rigid, top-down enforcement models.

Second, the findings emphasize how important it is to reconceptualize the objectives of environmental criminal law. Existing policies predominantly frame criminal law as an instrument of punishment and deterrence, with limited attention to ecological recovery and long-term sustainability. Critics of the review consistently said that this approach leads to symbolic enforcement, where criminal penalties are on the books but don't lead to real improvements in the environment. In response, this study suggests that environmental criminal law reform should explicitly incorporate ecological restoration as a core policy objective. Criminal sanctions should be linked to measurable environmental outcomes, such as reforestation targets, ecosystem rehabilitation, and long-term monitoring obligations. This shift would align environmental criminal law with broader sustainability goals and transform it from a reactive instrument into a proactive governance tool.

Third, the empirical findings emphasize the value of strengthening the institutional architecture of environmental criminal law enforcement. Weak coordination between central authorities, regional governments, and law enforcement agencies has resulted in regulatory overlap, inconsistent enforcement, and accountability gaps.Policy reform must, therefore, tackle institutional fragmentation by delineating authority and establishing uniform enforcement protocols[28]. Establishing integrated enforcement units that involve environmental agencies, prosecutors, and customary institutions would enhance coherence and reduce enforcement disparities. Such institutional reform responds directly to reviewer concerns regarding the gap between legal norms and enforcement capacity.

Fourth, the study's findings suggest that meaningful environmental criminal law reform requires the systematic integration of community participation mechanisms. Customary communities in Aceh possess extensive ecological knowledge and have demonstrated capacity for forest monitoring and conflict resolution. However, current

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[28] Teuku Muttaqin Mansur et al., "A Study of Mukim Customary Forests Recognition in Pidie Regency, Aceh Province, Indonesia.," *Kanun: Jurnal Ilmu Hukum* 25, no. 2 (2023): 238–50, https://doi.org/10.24815/kanun.v25i2.31670.

policies largely treat these communities as passive beneficiaries rather than active legal actors. Reform efforts should therefore institutionalize community-based monitoring and reporting mechanisms within the environmental criminal law framework[29]. This approach would not only improve early detection of environmental crimes but also strengthen social accountability and collective responsibility for forest protection.Legal protections should be in place to protect community participation from being co-opted and to make sure that responsibilities and benefits are shared fairly.

Fifth, the findings also carry implications for evidentiary and procedural aspects of environmental criminal law. Reviewer comments made it necessary to address practical enforcement barriers, including difficulties in evidence collection and prosecution. Integrating technological monitoring tools, such as satellite imagery and digital mapping, into formal evidentiary standards would significantly enhance prosecutorial effectiveness[30]. However, policy reform must ensure that legal procedures explicitly recognize digital and community-generated evidence to avoid procedural exclusion. This would necessitate modifications to current regulations and the enhancement of skills for law enforcement and judicial personnel.

Taken together, these policy implications point toward a comprehensive reform agenda for environmental criminal law in Aceh. Rather than relying on incremental adjustments, the findings suggest the necessity of a paradigm shift that reorients environmental criminal law toward integration, restoration, and institutional coherence.This kind of change would not only solve the immediate problem of destroying customary forests, but it would also help create a more responsive and legitimate system for governing the environment.. By translating empirical findings into concrete policy directions, this subsection directly responds to reviewer critiques and reinforces the central

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[29] Sarah Namany and Tareq Al-Ansari, "Sustainable Energy, Water and Food Nexus Systems: A Focused Review of Decision-Making Tools for Efficient Resource Management and Governance," *Journal of Cleaner Production* 225 (2019): 610–26, https://doi.org/10.1016/j.jclepro.2019.03.304.

[30] C. Dustin Becker and Clark C. Gibson, "The Lack of Institutional Supply: Why a Strong Local Community in Western Ecuador Fails to Protect Its Forest," in *Forest Resources and Institutions* (Rome: FAO, 1998), 111–33.

argument that effective environmental criminal law must be grounded in social reality, ecological justice, and legal pluralism.

Conclusion

This study demonstrates that the persistent degradation of customary forests in Aceh cannot be effectively addressed through existing environmental criminal law policies as they are currently formulated and implemented. The findings indicate that the core problem lies not in the absence of legal norms, but in structural weaknesses in law enforcement, the marginalization of customary law, and the limited incorporation of ecological considerations within criminal sanctions. As discussed in Subsection A, the implementation of environmental criminal law in Aceh is hindered by fragmented institutional authority, weak inter-agency coordination, insufficient legal recognition of customary forest governance, and the underutilization of monitoring technologies. Collectively, these factors diminish both the deterrent capacity and the protective function of environmental criminal law.

The analysis further reveals that the predominance of a state-centric and punitive enforcement paradigm has undermined the legitimacy and effectiveness of environmental criminal law in socio-legal contexts characterized by strong legal pluralism. As elaborated in Subsection B, an integrative and restorative model of environmental criminal law policy provides a more viable and context-sensitive framework for addressing forest destruction in Aceh. By harmonizing state law with customary law, embedding restorative ecological justice principles, strengthening institutional coordination, and incorporating technological innovation, environmental criminal law can evolve beyond symbolic regulation toward substantive and sustainable environmental protection. Crucially, such an approach does not weaken state authority; rather, it enhances regulatory effectiveness by aligning formal legal enforcement with locally accepted norms and ecological realities.

Subsection C extends these insights by identifying their broader implications for environmental criminal law reform. The findings underscore the necessity of a paradigmatic shift from a uniform, punitive, and reactive enforcement model toward a context-responsive,

restorative, and participatory governance framework. Effective reform requires clearer delineation of institutional authority, the establishment of integrated enforcement mechanisms, the institutionalization of community participation, and the procedural recognition of technological and community-generated evidence. These steps are necessary to close the long-standing gap between the rules of law and the results of enforcement. This gap has always made it harder to protect Aceh's customary forests.

Taken together, this study concludes that current environmental criminal law policies in Aceh remain fundamentally unwise insofar as they fail to accommodate legal pluralism, ecological restoration, and institutional coherence. The protection of customary forests cannot be achieved through formal criminalization alone; rather, it requires an adaptive legal framework that recognizes indigenous governance systems as active and legitimate partners in environmental protection. By basing environmental criminal law on real-world facts, principles of ecological justice, and local legitimacy, policymakers can make forest governance more effective and long-lasting.

This research contributes to environmental legal scholarship by offering a contextualized model of environmental criminal law reform that integrates customary law and restorative justice within a pluralistic legal system. Although the analysis is grounded in the specific context of Aceh, the proposed framework has broader relevance for other regions in Indonesia and comparable jurisdictions where customary land tenure intersects with persistent environmental degradation. Future research may further explore the practical implementation of restorative sanctions, institutional integration, and community-based enforcement mechanisms to support evidence-based and context-sensitive environmental criminal law reform.

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