

Legal Governance Failures in Environmental Supervision: A Constitutional Analysis of Flash Flood Disasters in Indonesia

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Abstract

The November 2025 hydrometeorological disaster in Aceh, North Sumatra, and West Sumatra, which caused approximately 800 fatalities and displaced hundreds of thousands of residents, raises a fundamental constitutional question: whether the disaster resulted from natural forces or systemic governance failure. This normative legal research examines that question through legislative, conceptual, and case-based approaches, analyzing Law No. 32 of 2009 on Environmental Protection and Management, Law No. 41 of 1999 on Forestry, and Law No. 18 of 2013 on Forest Destruction Prevention. The research identifies a tripartite governance failure: permissive licensing that authorized ecologically destructive activities in upstream watersheds, supervisory fragmentation that prevented timely regulatory intervention, and reactive enforcement oriented toward administrative sanction rather than ecological restoration. This research makes a distinct theoretical contribution by reframing governance-driven ecological disasters as constitutional accountability failures under Article 28H paragraph (1) of the 1945 Constitution, rather than as mere administrative irregularities, thereby elevating the standard of the institutional remedy required. The research recommends restructuring the AMDAL instrument, clarifying inter-institutional supervisory jurisdiction to operationalize accountability under Article 112, and mandating restorative obligations as legally enforceable consequences of environmental harm.

Keywords

Constitutional Law; Environmental Law Enforcement; Environmental Legal Governance; Flash Floods; Forestry Supervision

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1. INTRODUCTION

Indonesia is an archipelagic nation endowed with rich tropical forest ecosystems that serve vital hydrological functions. However, uncontrolled exploitation of natural resources has systematically threatened this ecological balance (Husein & Iuchi, 2025). This threat materialized concretely in the hydrometeorological disaster that struck three provinces on the island of Sumatra: Aceh, North Sumatra, and West Sumatra between November 25 and 27, 2025. According to data from the National



Disaster Management Agency (BNPB) recorded from late November to early December 2025, the number of casualties and affected residents continued to rise significantly, making this event one of the largest hydrometeorological disasters in recent years. (Riau, n.d.)

The scale of this disaster raises a fundamental empirical question: was this catastrophe solely the product of extreme rainfall, or was it the consequence of systemic governance failures in environmental and forestry management? Evidence points strongly toward the latter (Mehryar & Surminski, 2020). A press release from WALHI (Indonesian Forum for the Environment) dated December 1, 2025, revealed that nearly 1.4 million hectares of forest areas across Aceh, North Sumatra, and West Sumatra were cleared between 2016 and 2025, driven by companies holding mining permits, palm oil plantation concessions, forest utilization permits (PBPH), geothermal permits, and power plant construction licenses. Further corroborating this, Furqan (Furqan & Yamani, 2024) documented a loss of 1,066 hectares of forest cover in the Krueng Peusangan watershed in Aceh within a single year (2022–2023), directly reducing soil infiltration capacity and disrupting the region's hydrological balance. The physical presence of logs swept away by floodwaters serves as a tangible indicator of either illegal logging or inadequate supervision of protected forest areas. (Abubakar & Handayani, 2023)

The scientific literature firmly establishes the causal link between upstream land degradation and increased flood risk. Candraningtyas et al. (2023) demonstrated that land-cover changes in the Bengawan Solo watershed significantly reduced flood-control functions and increased surface runoff during heavy rainfall events. These findings confirm that degradation of upstream forest areas directly correlates with the frequency and intensity of flash floods. When forest ecosystems in upstream areas are damaged, their ecological function as water-catchment zones is lost, causing rainfall to become destructive flash floods that carry landslide debris.

Despite the accumulation of empirical evidence linking deforestation to disaster risk, existing literature has not sufficiently examined the constitutional and administrative governance dimensions of this problem in the Indonesian context. Studies on environmental supervision, such as Alsa et al. (2023), establish that administrative oversight is the primary preventive instrument against environmental damage, particularly for natural resource-based industries. (ALVIN, 2026) further demonstrates that weak implementation of supervisory mechanisms and administrative sanctions is a recurring driver of environmental degradation. However, these studies do not systematically analyze how the failure of government oversight structures at both the central and regional levels constitutes a constitutional violation, nor do they examine the specific legal accountability mechanisms available under Indonesian law in the aftermath of large-scale environmental disasters. (Satya et al., 2026)

This gap is significant. Under the framework of a rule of law state (*Rechtsstaat*), both central and regional governments in Indonesia bear a constitutional obligation to protect the environment, as enshrined in Article 28H paragraph (1) of the 1945 Constitution of the Republic of Indonesia, which guarantees every citizen the right to a clean and healthy environment. Law Number 32 of 2009 on Environmental Protection and Management further operationalizes this obligation by mandating authorized officials to supervise compliance of parties responsible for businesses and activities (Articles 71 and 72), and by establishing criminal liability under Article 112 for officials who intentionally neglect their supervisory duties resulting in pollution, environmental damage, or loss of life (Fardiansyah & Fikri, 2026). The November 2025 disaster thus reveals two concurrent governance failures: a *preventive failure*, reflected in suboptimal administrative oversight of business license holders with potential to cause environmental damage; and a *repressive failure*, evident in weak law enforcement following environmental damage and disasters.

Addressing this gap, this research examines the governance and legal accountability dimensions of the November 2025 Sumatra disaster from a Constitutional Law perspective. It contributes to the literature by integrating constitutional law analysis with environmental governance, offering a framework for understanding state accountability in the context of hydrometeorological disasters caused by governance failure rather than natural forces alone (无效森林和林火多法规制灾害管理政策在印度尼西亚轻灾害风 & 险中的意义, 2021). Specifically, this research aims to: (1) analyze the mechanisms of supervision and environmental and forestry governance in the provinces of Aceh, North Sumatra, and West Sumatra; and (2) examine the available law enforcement methods that can be applied following environmental and forest damage in these three provinces. The findings are expected to provide both theoretical contributions to the study of constitutional environmental law in Indonesia and practical recommendations for strengthening the legal framework governing environmental oversight and accountability.

2. METHODS

This study employs normative legal research (*penelitian hukum normatif*), which examines law as a system of norms, principles, and doctrines derived from authoritative legal sources rather than empirical social phenomena (Djulaeka & Devi Rahayu, 2020). This approach is appropriate given the research objectives: to analyze the constitutional and administrative framework governing environmental and forestry oversight in Indonesia, and to assess the legal accountability of state institutions in the context of the November 2025 Sumatra disaster. Three complementary approaches are applied in an integrated manner:

The juridical approach forms the primary analytical foundation. It involves a systematic examination of the applicable legal hierarchy, including the 1945 Constitution of the Republic of Indonesia (particularly Article 28H paragraph (1)), Law No. 32 of 2009 on Environmental Protection and Management, Law No. 41 of 1999 on Forestry, and relevant regulations governing the authority of central and regional governments in environmental and forestry oversight. Legal norms are analyzed through doctrinal interpretation, applying both grammatical interpretation (the literal meaning of statutory provisions) and systematic interpretation (the relationship between provisions within and across legal instruments) to construct a coherent understanding of the supervisory obligations imposed on state actors.

The conceptual approach supplements doctrinal analysis by situating the legal norms within broader theoretical frameworks, including the theory of the rule of law (*Rechtsstaat*), the principle of legality (*legaliteitsbeginsel*), theories of state authority and institutional accountability, and the doctrine of good governance (Jonaedi Efendi et al., 2018). These frameworks are employed not merely as background context, but as analytical tools to evaluate whether existing legal structures adequately operationalize constitutional environmental guarantees and to identify normative gaps where legal reform is warranted.

The case approach grounds the normative analysis in concrete empirical reality. The flash floods that struck Aceh, North Sumatra, and West Sumatra between November 25–27, 2025, serve as the primary case study, examined through the lens of the legal frameworks identified above. This approach enables the research to assess how environmental damage, failures of administrative oversight, and post-disaster law enforcement interact in practice, and to evaluate the extent to which existing legal mechanisms were applied, ignored, or proven insufficient.

Legal materials are collected through systematic library research and are classified into three tiers. Primary legal materials comprise constitutional texts, statutes, government regulations, and any available court decisions relevant to environmental and forestry governance. Secondary legal materials include academic books, peer-reviewed journal articles, and official publications from institutions such as BNPB, the Ministry of Environment and Forestry (KLHK), and WALHI. Tertiary legal materials, including legal encyclopedias and dictionaries, are consulted where definitional clarification is required.

The analytical process proceeds in three structured stages. First, relevant legal materials are identified, inventoried, and classified according to their hierarchical position and thematic relevance. Second, the content of these materials is interpreted through doctrinal and systematic legal reasoning to determine the scope of state supervisory obligations and the legal consequences of their breach. Third, the findings are applied to the case study through comparative and evaluative analysis, assessing the

gap between the normative framework as written and its implementation in the context of the Sumatra disaster. This final stage enables the research to conclude both the adequacy of existing legal instruments and the accountability of responsible state institutions.

3. FINDINGS AND DISCUSSION

3.1. Framework for Environmental and Forestry Governance Regulation in Three Provinces

Indonesia possesses a relatively comprehensive normative framework for environmental and forestry governance. The three principal statutes structuring this domain are Law No. 32 of 2009 on Environmental Protection and Management (*Undang-Undang Perlindungan dan Pengelolaan Lingkungan Hidup/UUPPLH*), Law No. 41 of 1999 on Forestry as amended by Law No. 19 of 2004, and Law No. 18 of 2013 on the Prevention and Eradication of Forest Destruction (P3H) (Kalalo, 2022). Together, these instruments establish a tripartite legal architecture governing permit issuance, area utilization, supervisory obligations, and the enforcement of administrative, civil, and criminal sanctions against environmental violators (Helmi, 2022). Their constitutional anchor is Article 28H paragraph (1) of the 1945 Constitution, which guarantees every citizen the right to a clean and healthy environment, thereby imposing an affirmative obligation on the state to maintain ecological conditions that make this right realizable.

However, a critical examination of this regulatory architecture reveals not merely implementation gaps but deeper structural tensions within the framework itself that undermine its internal coherence and practical effectiveness (Anggusti & Saragih, 2026). The most significant normative conflict lies between the UUPPLH and the Forestry Law regarding their approaches to permit-based authorization. The UUPPLH operates on an integrated environmental protection principle, requiring that environmental impact assessments (*AMDALs*) and environmental permits be preconditions for any business or activity with potential environmental consequences (Articles 22–40). The Forestry Law, by contrast, establishes a sectoral permit regime for forest utilization permits (PBPH) and forest area borrowing permits (*izin pinjam pakai kawasan hutan/IPPKH*), administered by the Ministry of Environment and Forestry, with its own procedural logic. (Akrrie et al., 2023)

The law on P3H further introduces a separate enforcement regime with distinct definitional boundaries for what constitutes illegal forest destruction (Alsa et al., 2023). Rather than operating as complementary layers of a unified system, these three instruments create overlapping jurisdictional claims over the same geographical and regulatory space. A single palm oil concession in an upstream watershed area may simultaneously implicate the UUPPLH permit regime, the Forestry Law's area-use authorization system, and the P3H enforcement framework, with no clear statutory hierarchy governing which instrument prevails in cases of conflict. (Wicaksono & Prasetya, 2026)

This regulatory fragmentation is compounded by the problem of authority distribution introduced by Indonesia's decentralization framework. Following Constitutional Court Decision No. 137/PUU-XIII/2015 and the enactment of Law No. 23 of 2014 on Regional Government, supervisory authority over environmental and forestry matters was partially recentralized to the provincial level, withdrawing certain competencies from district and municipal governments (Al-Fatih & Rustamovich, 2026). However, the boundary between central, provincial, and district authority in practice remains ambiguous. Helmi (2022) notes that the environmental permit supervision system continues to operate sectorally, without effective integration across the forestry, mining, and spatial planning sectors. The consequence is a structural accountability vacuum: when environmental damage occurs in an upstream watershed area subject to multiple overlapping permits issued by different levels of government, no single authority bears unambiguous legal responsibility for supervisory failure (Imawan et al., 2026). Each institution can credibly attribute its inaction to jurisdictional uncertainty, thereby rendering Article 112 of the UUPPLH, which criminalizes the intentional neglect of supervisory duties, practically unenforceable. (Fatkul Fikri et al., 2025)

The case of Aceh Province introduces an additional layer of normative complexity. Aceh's special autonomy status under Law No. 11 of 2006 empowers the provincial government to enact *qanun* (regional Islamic regulations) with the force of regional law, including instruments governing environmental protection and spatial planning (Nopindo, 2026). In principle, this provides Aceh with a stronger regional governance instrument than ordinary provinces. In practice, however, the *qanun* framework has not resolved the underlying coordination failures; instead, it has created an additional normative layer that may conflict with or operate independently of the national regulatory hierarchy, further complicating the determination of which legal standards apply and which authority is accountable for their enforcement (Dadek et al., 2020). The gap between *das sollen* and *das sein* in Aceh's environmental governance is therefore not merely an implementation failure; it reflects an unresolved structural tension between special autonomy and the uniform application of national environmental law.

Nasution & Fauzan (2025) and Sutrisno (2021) both document the downstream consequences of these structural deficiencies: inadequate monitoring capacity, inconsistent enforcement practices, weak administrative sanctions, and low community participation in oversight mechanisms. These are legitimate findings, but they should be understood as symptoms rather than causes. The root problem is a regulatory architecture that distributes authority without clearly assigning accountability, mandates integration without providing the institutional mechanisms to achieve it, and imposes supervisory obligations on officials whose jurisdictional boundaries remain contested. Until these normative conflicts are resolved through either statutory harmonization or authoritative judicial interpretation,

the legal framework governing environmental and forestry governance will remain structurally incapable of preventing the conditions that enabled the disaster in Sumatra in November 2025.

3.2. Supervisory Mechanisms, Systemic Failures in Governance

From the perspective of constitutional and administrative law, environmental and forestry supervision is not merely a technical regulatory function; it is a direct expression of the state's constitutional obligation to guarantee citizens' right to a clean and healthy environment under Article 28H paragraph (1) of the 1945 Constitution (Fajrian & Adnan, 2025). The failure of this supervisory function, therefore, constitutes not only an administrative deficiency but a constitutional violation, triggering questions of institutional accountability that extend beyond ordinary bureaucratic inefficiency.

The Institutional Architecture and Its Structural Deficiencies

The supervisory framework formally distributes authority across multiple institutional actors: the Ministry of Environment and Forestry (KLHK) and its Directorate General of Law Enforcement at the central level, and the Provincial Environmental and Forestry Services and District/City Governments at the regional level. In theory, this distribution reflects Indonesia's post-reformasi decentralization design, premised on the principle of subsidiarity that governance functions should be exercised at the level closest to the regulated activity (Aini et al., 2025). In practice, however, this institutional architecture produces what administrative law theory identifies as a *principal-agent accountability deficit*: authority is dispersed across multiple levels, but the mechanisms for ensuring that each agent fulfills its supervisory mandate remain structurally underdeveloped.

Decentralization theory, as elaborated by Rondinelli and subsequently applied to Indonesian governance contexts, distinguishes among *deconcentration* (administrative delegation within a unified hierarchy), *delegation* (transfer of managerial responsibility to semi-autonomous bodies), and *devolution* (the genuine transfer of authority to subnational governments with independent accountability). Indonesia's environmental supervisory framework ambiguously combines all three modalities without clearly specifying which applies in which circumstance. The result, as Nakita & Najicha (2022) observe, is that deforestation continues not because of the absence of legal norms but because of the structural weakness in the implementation of oversight. This finding points directly to this unresolved institutional ambiguity rather than to any individual actor's negligence.

Empirical Evidence of Systemic Failure

WALHI's field findings from the three affected provinces provide concrete empirical grounding for this institutional analysis. The documented evidence includes 62 illegal gold mining operations active in West Sumatra, 5,208 hectares of forest conversion recorded in Aceh, and damage to 954

watersheds across the disaster-affected region. These figures are not incidental; they represent the measurable output of a supervisory system that failed at multiple institutional levels simultaneously. Under Articles 71 and 72 of Law No. 32 of 2009, authorized officials are expressly mandated to supervise the compliance of business and activity permit holders. The existence of 62 illegal mining operations and over 5,000 hectares of unauthorized forest conversion in areas under active regulatory jurisdiction is direct evidence that this mandate was not discharged. (Hidayat, 2026)

From an administrative law standpoint, this failure can be analyzed through the doctrine of *onrechtmatige overheidsdaad* (unlawful government act), which holds that the state bears legal liability not only for wrongful acts but also for wrongful omissions, specifically, the failure to exercise legally mandated supervisory powers. The Dutch administrative law tradition from which this doctrine derives, and which has significantly influenced Indonesian administrative law through the legacy of the colonial legal system, establishes that where a public authority possesses both the legal power and the legal duty to act, its deliberate or negligent failure to act gives rise to state accountability. Applied to the present case, the failure of KLHK and provincial environmental agencies to prevent the documented forest destruction in Aceh, North Sumatra, and West Sumatra constitutes precisely such a wrongful omission.

The Accountability Vacuum and Its Constitutional Implications

The deeper structural problem, however, lies in what may be termed an *institutional accountability vacuum* produced by the intersection of fragmented authority and unclear jurisdictional boundaries. When supervisory failure occurs across multiple institutional levels simultaneously, as the WALHI data suggests, the existing legal framework provides no clear mechanism for attributing responsibility to a specific institutional actor (HARLAND, 2025). Each level of government can credibly invoke jurisdictional uncertainty to deflect accountability upward or downward within the institutional hierarchy. This dynamic is not merely a governance inconvenience; it directly undermines the principle of the rule of law (*Rechtsstaat*), which requires state power to be exercised within clearly defined legal boundaries and to be subject to effective accountability mechanisms. (Jasinta & Septiryani, 2026)

Article 112 of Law No. 32 of 2009 establishes criminal liability for officials who intentionally neglect their supervisory duties, resulting in environmental pollution, damage, or loss of life. However, the practical enforceability of this provision is severely compromised by the same jurisdictional fragmentation that enables supervisory failure in the first place. Criminal prosecution under Article 112 requires proof of individual official negligence within a defined area of legal responsibility. This burden becomes nearly impossible to satisfy when that responsibility is distributed across overlapping institutional actors without clear demarcation. The provision thus remains largely aspirational, its deterrent effect neutralized by the structural conditions it was designed to address but cannot, under

current institutional arrangements, effectively reach.

The November 2025 Sumatra disaster, therefore, reflects a systemic governance failure that is simultaneously empirical, institutional, and constitutional in character. It is empirical in the documented scale of unauthorized forest destruction; institutional in the demonstrated inability of the supervisory architecture to detect, prevent, or sanction that destruction; and constitutional in the resulting violation of citizens' guaranteed right to a clean and healthy environment. Addressing this failure requires not merely stronger enforcement of existing provisions, but a fundamental restructuring of the institutional accountability framework governing environmental and forestry supervision in Indonesia.

3.3. Post-Environmental and Forest Damage Law Enforcement Methods

Following the November 2025 flash floods in Aceh, North Sumatra, and West Sumatra, state institutions demonstrated an institutional response through several concrete measures: investigations by the Attorney General's Office into licensed companies allegedly operating in upstream watershed areas, deployment of the Forest Area Enforcement Task Force (*Satgas PKH*), sealing of companies suspected of conducting activities in upstream river basins, and temporary suspension of business operations deemed likely to exacerbate environmental damage (Kembara, 2026). Administratively, these actions represent a formal exercise of state supervisory and enforcement authority under the existing legal framework.

Structural Weaknesses of the Current Approach

However, substantive analysis reveals that these measures remain predominantly short-term, administrative, and repressive in character. Temporary business suspension, permit revocation, and inspection of licensing documents address the visible symptoms of environmental destruction without confronting its structural cause: the failure of the preventive supervisory system to detect and halt deforestation, land conversion, and upstream exploitation before ecological thresholds were breached. The enforcement response was triggered by disaster, not by supervision, a sequencing that itself constitutes an institutional failure.

This reactive pattern reflects a deeper doctrinal problem. The existing enforcement framework concentrates legal accountability on corporate actors and field operators while largely insulating the government officials whose supervisory negligence created the conditions for disaster. No systematic mechanism exists to evaluate whether officials with authority over forestry permits, environmental oversight, spatial planning, and business licensing had discharged their legal duties prior to the disaster. (Taryadi & Radhali, 2026) confirm that a purely repressive enforcement approach is insufficient to address the structural complexity of forest and environmental damage in Indonesia, and that effective

law enforcement requires systematic preventive supervision, enhanced inter-agency coordination, and spatial data-based monitoring systems, none of which the post-disaster response adequately addressed.

Constitutional Implications

From a constitutional law perspective, this enforcement deficit carries implications that extend beyond administrative inadequacy. Article 28H paragraph (1) of the 1945 Constitution guarantees every citizen the right to a clean and healthy environment. It imposes an affirmative obligation on the state to protect the environment (Fatchullah et al., 2022). When state officials with legally defined supervisory authority fail to exercise that authority, thereby permitting the environmental degradation that made the disaster possible, that failure is not merely an administrative irregularity but a constitutional breach.

Article 112 of Law No. 32 of 2009 directly addresses this dimension, establishing criminal liability for officials who intentionally neglect their supervisory duties and thereby cause environmental pollution, damage, or loss of life. The provision operationalizes the constitutional accountability principle within the enforcement framework (Wasito, 2025). However, as analyzed in section 3.2, the structural fragmentation of supervisory authority across institutional levels renders Article 112 practically unenforceable: criminal liability requires proof of individual negligence within a defined area of legal responsibility. This burden is nearly impossible to satisfy when that responsibility is distributed among overlapping actors without clear jurisdictional demarcation. The provision thus remains largely unenforced, its deterrent function neutralized by the institutional architecture it was designed to discipline. (Astoni, 2025)

Toward a Comprehensive Enforcement Model

An enforcement model adequate to both the constitutional obligations at stake and the structural complexity of the problem must integrate three dimensions that the current reactive approach treats as separate or sequential (Amimah et al., 2025). The *preventive dimension* requires mandatory, data-driven spatial monitoring of upstream watersheds, systematic compliance audits of permit holders operating in ecologically sensitive zones, and enforceable early-warning mechanisms that trigger regulatory intervention before ecological damage becomes irreversible (Khairunissa et al., 2025). The *repressive dimension* must be expanded beyond corporate liability to encompass the administrative and criminal accountability of supervising officials under Article 112, with clear institutional protocols for attributing supervisory responsibility when failures occur across multiple jurisdictional levels. The *restorative dimension* demands legally mandated watershed rehabilitation, forest-area recovery programs that are binding on responsible permit holders, and systematic permit review following documented environmental damage.

This integrated model is further strengthened by incorporating participatory governance principles. Indigenous peoples and local communities in forest-adjacent areas possess irreplaceable local knowledge (*kearifan lokal*) regarding watershed conditions, land cover patterns, and ecological change knowledge that formal monitoring systems consistently fail to capture. Their structured integration into forest area supervision not only enhances the practical effectiveness of oversight but also reflects the participatory democracy principles embedded in Indonesia's constitutional framework. The state cannot discharge its constitutional environmental protection obligation through centralized institutional mechanisms alone when those mechanisms have demonstrably failed to prevent the conditions that produced the November 2025 disaster.

3.4. Analysis of Governance Implications and the Direction of Legal Reform

The preceding analysis across sections 3.1 through 3.3 converges on a single diagnostic conclusion: the November 2025 Sumatra disaster was not produced by a legislative vacuum but by a tripartite governance failure, permissive licensing, supervisory fragmentation, and reactive enforcement operating simultaneously within a nominally adequate legal framework (Al Amruzi & Hasan, 2025). This section synthesizes those findings into a conceptual model and, from it, derives the direction of necessary legal reform (Andrew, 2025). This research proposes that the relationship between governance failure and hydrometeorological disaster can be understood through a three-stage causal chain: permissive governance generates accumulated ecological risk, which reactive enforcement fails to interrupt, resulting in a preventable disaster. Each stage corresponds to a distinct institutional failure identified in the preceding sections.

At the first stage, the licensing regime functions as what this research terms disaster legalization, the formal authorization of ecologically destructive activities through state administrative instruments. During 2016–2025, 631 legally licensed companies operated in areas subsequently struck by flash floods. The AMDAL procedure, which Article 22 of Law No. 32 of 2009 designates as the primary preventive instrument for ecological risk assessment, functioned in practice as an administrative formality for permit acquisition rather than a substantive ecological safeguard. Parnika et al. (Parnika, K. O., Kholillah, I. R., Ahmad, K. L., &... - Google Scholar, n.d.) confirm that AMDAL recommendations are routinely issued without mechanisms for monitoring their implementation, while Fatchullah (Fatchullah et al., 2022) identifies substantive weaknesses in the OSS licensing system that systematically enable permit issuance without adequate ecological assessment. The state thus became, through its own administrative apparatus, a structural contributor to the conditions that produced the disaster, a finding with direct implications under the constitutional law doctrine of abuse of administrative authority (*détournement de pouvoir*).

At the second stage, the supervisory architecture's fragmentation, as analyzed in section 3.2, prevented the detection and interruption of the accumulated ecological risk. The gap between *das sollen* and *das sein* in environmental governance is not, as it is sometimes characterized, merely a resource or capacity problem. Andin (Andin et al., 2025) establishes that the primary obstacle in environmental law enforcement is weak norm implementation by regional governments and technical agencies, and an institutional accountability failure rather than a technical one. Budget constraints and monitoring infrastructure deficiencies are real, but they function as enabling conditions for accountability evasion rather than as root causes (Ely & Widjajanti, 2025). The root cause is an institutional architecture that distributes supervisory authority without assigning enforceable accountability, allowing each institutional actor to deflect responsibility when the system as a whole fails credibly.

At the third stage, the reactive enforcement response documented in section 3.3 confirmed rather than corrected the systemic failure. By responding to disaster consequences rather than preventing disaster causes, the enforcement apparatus validated the implicit institutional assumption that intervention is triggered by damage rather than by risk, precisely inverting the preventive logic that Article 28H paragraph (1) of the 1945 Constitution requires.

The conceptual model carries a normative implication that this research advances as its central theoretical contribution: when the state's administrative apparatus systematically enables ecological destruction through permissive licensing, and its supervisory apparatus fails to interrupt that destruction, and its enforcement apparatus responds only after irreversible harm has occurred, the cumulative institutional failure constitutes a violation of the constitutional guarantee of environmental rights not merely a series of administrative irregularities. This framing moves the analysis beyond the conventional governance-failure narrative, which treats environmental disasters as implementation problems, and repositions them as constitutional accountability problems requiring constitutional-level remedies.

This distinction matters practically. Administrative irregularities are addressed through bureaucratic reform and increased resource allocation. Constitutional violations require institutional redesign, enforceable accountability mechanisms at the level of individual officials, and judicial oversight of the kind contemplated in Article 112 of Law No. 32 of 2009, but, as demonstrated in section 3.2, cannot currently be delivered due to jurisdictional fragmentation. The reform agenda implied by this model operates across three corresponding dimensions. First, licensing reform must transform AMDAL from an administrative gateway into a substantive ecological risk-management instrument, with mandatory post-issuance compliance monitoring, binding ecological carrying-capacity assessments for upstream watershed areas, and moratorium provisions that prohibit new extractive permits in ecologically critical zones. The OSS system requires substantive revision to close the

procedural gaps that currently enable ecologically inadequate permits to be issued without accountability.

Second, supervisory reform must resolve the institutional accountability vacuum by establishing clear, non-overlapping jurisdictional boundaries between central and regional supervisory authorities, creating enforceable inter-agency coordination protocols, and developing spatial data-based early warning systems that generate legally actionable monitoring outputs (Ar-Rusd et al., 2025). Critically, supervisory reform must include mechanisms for attributing individual official accountability when systemic failures occur, a prerequisite for Article 112 to function as a meaningful deterrent rather than a symbolic provision.

Third, enforcement reform must reorient the legal response from repressive-administrative to preventive-repressive-restorative. As Taryadi & Radhali (2026) argue, environmental criminal law must be redesigned to serve both restorative and punitive functions. In the context of the Sumatra disaster, this means that every enforcement action must include binding obligations for watershed restoration, upstream reforestation, forest cover rehabilitation, and biodiversity recovery, not as discretionary conditions but as mandatory legal consequences for demonstrated environmental harm. Official accountability under Article 112 must be operationalized through clear institutional protocols for determining supervisory responsibility across fragmented governance structures.

Taken together, these three reform dimensions constitute a coherent legal reform agenda grounded in the conceptual model this research develops. The goal is not merely stronger enforcement of existing law but a fundamental realignment of Indonesia's environmental governance architecture from a system that currently enables and then responds to ecological disaster, to one that constitutionally prevents it.

4. CONCLUSION

This research establishes that the November 2025 hydrometeorological disaster in Aceh, North Sumatra, and West Sumatra resulted from a failure of tripartite governance, permissive licensing, supervisory fragmentation, and reactive enforcement, operating within a nominally adequate legal framework. The core finding is that Indonesia's environmental governance deficit is not legislative but institutional and constitutional in character. This research advances a conceptual reframing: governance-driven ecological disasters should be analyzed as failures of constitutional accountability rather than administrative irregularities. When the state's licensing, supervisory, and enforcement apparatus collectively fail to protect citizens from foreseeable ecological harm, the cumulative failure constitutes a breach of Article 28H paragraph (1) of the 1945 Constitution. This framing elevates the required standard of remedy, from bureaucratic reform to institutional redesign, with enforceable

individual accountability for officials.

Three reform priorities follow directly from the analysis. First, AMDAL must be restructured from an administrative permit gateway into a substantive ecological risk management instrument with mandatory post-issuance compliance monitoring. Second, supervisory authority must be clarified across institutional levels to eliminate the accountability vacuum that currently renders Article 112 of Law No. 32 of 2009 unenforceable in practice. Third, enforcement responses must incorporate binding restorative obligations, watershed rehabilitation, upstream reforestation, and forest cover recovery as mandatory legal consequences of demonstrated environmental harm. As a normative legal study, this research relies on secondary empirical sources and is limited to three provinces within a single disaster event. Future research should examine judicial enforcement patterns under Article 112, assess the effectiveness of geospatial monitoring in preventive oversight, and conduct comparative analyses across Indonesian regions to test the generalizability of the governance failure model proposed here.

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