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Ecocide as an Environmental Crime: Urgency for Legal Reform in Indonesia

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ABSTRACT

The increasing scale and intensity of environmental destruction in Indonesia, ranging from deforestation and mining disasters to pollution of vital ecosystems, highlight the limitations of current legal frameworks in addressing serious ecological harm. Although Law No. 32 of 2009 on Environmental Protection and Management regulates environmental violations, it does not recognize ecocide as a distinct criminal offense. This paper aims to examine the urgency of criminalizing ecocide in Indonesia as an extraordinary environmental crime. Using a normative juridical method and a comparative legal approach, the research analyzes legal gaps in Indonesia's existing environmental law. It reviews international developments, particularly the legal recognition of ecocide in Belgium and France, as well as ongoing efforts to include ecocide in the Rome Statute. The findings reveal that the absence of ecocide provisions limits Indonesia's legal capacity to prevent, punish, and deter large-scale environmental crimes with transboundary and long-term consequences. The study concludes that incorporating ecocide into Indonesian criminal law is vital for advancing ecological justice and strengthening national and international environmental protection. Legal reform in this area is not only necessary but also urgent, as it is essential to align Indonesia with emerging global standards for environmental accountability.

KEYWORDS: ***Ecocide; Environmental Criminal Law; Legal Reform***

1. INTRODUCTION

In recent decades, the escalation of environmental degradation has prompted a profound rethinking of how law engages with ecological harm. Climate change, deforestation, marine pollution, desertification, loss of biodiversity, and other

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environmental crises have reached alarming scales, threatening the sustainability of life on Earth. These crises have not only ecological and scientific dimensions but also profound legal, philosophical, and moral implications. As the global community continues to grapple with anthropogenic environmental destruction, the notion of "ecocide" has emerged as a legal and normative framework for addressing severe environmental crimes. Ecocide, derived from the Greek word *oikos*(home) and Latin *caedere* (to kill), broadly refers to the extensive damage or destruction of ecosystems to such an extent that the survival of inhabitants human or non-human is jeopardized.[1]

Although the term "ecocide" was first popularized during the Vietnam War, particularly in relation to the massive defoliation caused by Agent Orange, the concept has evolved significantly and has since entered both legal and political discourse. In its contemporary usage, ecocide refers to acts that cause severe and lasting harm to the environment, whether committed during peacetime or war, and regardless of intent. The lack of a universally accepted legal definition, however, has hindered its incorporation into formal legal regimes. Despite this, growing advocacy efforts by environmental scholars, jurists, civil society, and indigenous movements have pushed for the recognition of ecocide as an international crime on par with genocide, crimes against humanity, war crimes, and crimes of aggression.[2]

The urgency for such a legal category is underscored by the fact that existing environmental regulations often fail to capture the gravity of widespread ecological destruction. National laws are typically fragmented and reactive, lacking both the scope and enforcement mechanisms needed to address cross-border and large-scale harms. At the international level, treaties such as the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), and the Basel and Stockholm Conventions provide important norms and procedures, but they are often critiqued for being soft law instruments with limited accountability mechanisms.[3] This

[1] Polly Higgins, Damien Short, and Nigel South, 'Protecting the Planet: A Proposal for a Law of Ecocide', *Crime, Law and Social Change*, 59.3 (2013), doi:10.1007/s10611-013-9413-6.
[2] Juraj Panigaj and Eva Berníková, 'Ecocide-a New Crime under International Law?', *Juridical Tribune*, 13.1 (2023), doi:10.24818/TBJ/2023/13/1.01.
[3] Daniel Bodansky and Harro Van Asselt, *The Art and Craft of International Environmental Law: Second Edition*, in *The Art and Craft of International Environmental Law: Second Edition* (2024), doi:10.1093/oso/9780197672365.001.0001.

normative gap has led to increasing calls for the criminalization of ecocide as a fifth core crime under the Rome Statute of the International Criminal Court (ICC), especially after the proposal made by the Independent Expert Panel in 2021 for a legally defined crime of ecocide.[4]

Understanding ecocide requires an exploration not only of its legal definitions but also of the various interpretations advanced by scholars, lawmakers, international bodies, and activist groups. Definitions of ecocide range from narrowly focused acts of illegal environmental harm to more expansive notions that encompass legal but ethically questionable corporate practices and state policies. The work of Polly Higgins, one of the foremost legal advocates of ecocide, defines it as "the extensive damage, destruction to or loss of ecosystem(s) of a given territory... such that peaceful enjoyment by the inhabitants has been or will be severely diminished".[5] Her proposal for inclusion in the Rome Statute has been instrumental in shaping the global discourse. More recently, the Independent Expert Panel assembled by the Stop Ecocide Foundation proposed a refined definition: "unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts".[6]

The forms and scale of ecocide are as diverse as the ecosystems they affect. In literature and policy debates, ecocide manifests in both deliberate and negligent actions, including large-scale deforestation, oil spills, industrial pollution, deep-sea mining, and megadam construction each with the potential to irreparably alter ecosystems and displace communities. In some contexts, slow violence ecological harm that occurs gradually and out of sight is also categorized as ecocide.[7] This includes the extraction of fossil fuels, persistent chemical dumping, and even climate inaction by states and corporations. These different manifestations raise questions about thresholds, intent, and accountability issues

[4] María Teresa González Hernández, 'The Inclusion of Ecocide to the Rome Statute: A New Tool to Combat the Climate Crisis?', *Revista de Derecho Ambiental(Chile)*, 1.19 (2023), doi:10.5354/0719-4633.2023.68825.
[5] P Higgins, 'Eradicating Ecocide', *Laws and Governance to Prevent the …*, 2010.
[6] Peter F. Doran and others, 'Criminalising "Ecocide" at the International Criminal Court', *SSRN Electronic Journal*, published online 2021, doi:10.2139/ssrn.3827803.
[7] Susana Borràs, 'New Transitions from Human Rights to the Environment to the Rights of Nature', *Transnational Environmental Law*, 5.1 (2016), doi:10.1017/S204710251500028X.

central to any legal regime seeking to criminalize ecocide.

Moreover, the scale of ecocide often transcends national boundaries. Transboundary pollution, ocean acidification, and climate-induced migration reflect the interconnected nature of ecological harm in the Anthropocene. This transnational character necessitates a harmonized legal response. Yet, existing treaties and soft-law instruments remain insufficient. For instance, the International Law Commission (ILC) has recognized "serious damage to the environment" in its Draft Code of Crimes against the Peace and Security of Mankind (1996), but it has not progressed toward codifying ecocide as a standalone international crime. Similarly, Article 8(2)(b)(iv) of the Rome Statute criminalizes environmental destruction only during armed conflict, creating a significant protection gap during peacetime.[8]

This gap has encouraged a proliferation of scholarly frameworks seeking to define and categorize ecocide. Some argue for a strict liability regime, focusing on the harm caused regardless of intent.[9] Others stress the importance of incorporating indigenous and ecological worldviews into legal interpretations of ecocide, emphasizing the relational nature of ecosystems and the rights of nature.[10] The concept of "Earth Jurisprudence," pioneered by thinkers such as Thomas Berry and expanded by scholars like Cullinan and Higgins, proposes a shift from anthropocentric legal systems to those that recognize the intrinsic value of the Earth and its ecosystems.[11] This approach views ecocide not just as a crime against humans but as a crime against the Earth community itself.[12]

In Indonesia, although the term "ecocide" has not yet entered formal legal texts,

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[8] Michael J. Lynch and Michael A. Long, 'Green Criminology: Capitalism, Green Crime and Justice, and Environmental Destruction', in *Annual Review of Criminology*, preprint, 2021, V, doi:10.1146/annurev-criminol-030920-114647.

[9] Fátima Alves and others, 'The Rights of Nature and the Human Right to Nature: An Overview of the European Legal System and Challenges for the Ecological Transition', *Frontiers in Environmental Science*, 11 (2023), doi:10.3389/fenvs.2023.1175143.

[10] Jeremie Gilbert and others, 'Understanding the Rights of Nature: Working Together Across and Beyond Disciplines', *Human Ecology*, 51.3 (2023), doi:10.1007/s10745-023-00420-1.

[11] David Humphreys, 'Know Your Rights: Earth Jurisprudence and Environmental Politics', *International Journal of Sustainability Policy and Practice*, 10.3–4 (2015), doi:10.18848/2325-1166/cgp/v10i3-4/55350.

[12] Rob White, 'Conceptions of Ecocide and Challenges for Social Transformation', in *Current Issues in Criminal Justice*, no. 3, preprint, 2023, XXXV, doi:10.1080/10345329.2023.2203272.

environmental destruction is regulated under various statutes such as Law No. 32 of 2009 on Environmental Protection and Management and Law No. 41 of 1999 on Forestry. However, these laws predominantly emphasize administrative and civil sanctions, and their criminal provisions are limited in scope and efficacy. Furthermore, the concept of state or corporate responsibility in ecological degradation remains underdeveloped, especially in the face of extractive industries and agribusiness. Indonesian legal scholars and environmental activists have begun to call for the incorporation of ecocide into the legal lexicon, arguing that it is essential for achieving ecological justice and upholding constitutional rights to a healthy environment.[13]To strengthen its argument, the article also presents a comparative study involving Belgium, Ecuador, and Vietnam, chosen based on their distinct legal developments in recognizing and addressing environmental crimes. Belgium represents a European civil law jurisdiction that has gradually integrated environmental harm into its penal code through clear corporate liability provisions. Ecuador stands out for its constitutional recognition of the Rights of Nature, offering a progressive normative framework that redefines environmental protection from an ecocentric perspective. Meanwhile, Vietnam provides a relevant Southeast Asian comparison, having introduced specific criminal provisions for environmental violations, reflecting a regional trend toward stronger environmental governance. This comparative analysis enriches the paper by demonstrating diverse legal pathways and institutional strategies that Indonesia can consider in framing ecocide as a standalone crime within its legal system.

Compared to the article *"Ecocide as an Environmental Crime in Indonesia: Urgency for Legal Reform,"* which provides a broad interdisciplinary analysis of ecocide including its legal definition, historical development, global recognition movement, and the integration of Earth jurisprudence into Indonesian law the two comparative studies offer more focused and thematic examinations. The first, titled *"Ecocide in the View of International Criminalization with the Rise of Corporate Impunity Based on International Criminal Law,"* explores ecocide primarily through the lens of international criminal law. It emphasizes the growing inability of global legal mechanisms to hold corporations accountable for large-scale environmental destruction and argues that the formal recognition of ecocide

[13] Deni Setiyawan and others, 'Green Restorative Justice: Environmental Enforcement and Justice', *Journal of Law and Sustainable Development*, 12.1 (2024), doi:10.55908/sdgs.v12i1.2545.

under the Rome Statute is necessary to curb this impunity. This study is more legal-normative and international in orientation, focusing on structural gaps in global legal frameworks.[14]

Meanwhile, the second article, *"Ecocides as a Serious Human Rights Violation: A Study on the Case of River Pollution by the Palm Oil Industry in Indonesia,"* takes a case-based, empirical approach. It analyzes a specific instance of ecological harm the pollution of rivers by palm oil operations and frames ecocide as a violation not only of environmental norms but also of fundamental human rights, such as access to clean water and health. This article situates ecocide within the human rights discourse and highlights the direct social impact of environmental crimes on local communities. In contrast, the primary article adopts a more theoretical and policy-oriented framework, combining international developments with Indonesia's legal system and normative philosophies.[15]

The article provides a broad analytical foundation on the urgency of criminalizing ecocide in Indonesia. It highlights how existing legal instruments—such as Law No. 32 of 2009 on Environmental Protection and Management and Law No. 41 of 1999 on Forestry—remain limited in addressing the scale and intentional elements of ecological destruction. The author argues that the absence of ecocide within Indonesia's legal system creates a normative gap and weakens law enforcement, particularly in response to large-scale deforestation, pollution, and environmental damage caused by corporate actors. The article also places Indonesia within the global discourse by referencing ongoing efforts to classify ecocide as the fifth core crime under the Rome Statute and advocates for the integration of ecological perspectives, indigenous knowledge, and Earth Jurisprudence into national legal reform.

Thus, this section aims to explore the definition of ecocide as formulated in various academic works, legal instruments, and international declarations. It will trace the historical evolution of the term, examine its conceptual underpinnings, and discuss the

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[14] Muhammad Reza Syariffudin Zaki, 'Ecocide Dalam Pandangan Kriminalisasi Internasional Dengan Menguatnya Impunitas Korporasi Berdasarkan Hukum Pidana Internasional', *Mimbar Hukum*, 35.Special Issue (2023), doi:doi.org/10.22146/mh.v35i0.11457.

[15] Joko Setiyono and Aga Natalis, 'Ecocides as a Serious Human Rights Violation: A Study on the Case of River Pollution by the Palm Oil Industry in Indonesia', *International Journal of Sustainable Development and Planning*, 16.8 (2021), pp. 1465–71, doi:10.18280/ijsdp.160807.

proposed legal thresholds and requirements for prosecution. The section will also analyze the different forms and scales of ecocide across jurisdictions, legal traditions, and ecological contexts. Through this analysis, the paper seeks to contribute to the ongoing debate on how best to define, recognize, and respond to ecocide as an emerging category of environmental crime in international and domestic law.

2. RESEARCH METHODS

This research employs a normative juridical method with a conceptual and statutory approach to examine the urgency and legal foundations for recognizing ecocide as an environmental crime in Indonesia. As a doctrinal legal study, the research focuses on analyzing legal norms, doctrines, statutory texts, and theoretical concepts, rather than collecting empirical data.[16] This methodological approach is appropriate to investigate the normative gaps and propose conceptual and legislative reform in Indonesian environmental criminal law. The study applies a statutory approach to analyze national legal instruments such as Law No. 32 of 2009 on Environmental Protection and Management, Law No. 41 of 1999 on Forestry, the Indonesian Penal Code (KUHP), and Law No. 1 of 2023 as the Revised Penal Code. These are examined to identify the absence of specific provisions criminalizing large-scale environmental destruction as ecocide. At the same time, the research applies a conceptual approach to engage with the theoretical development of ecocide as a legal category in international discourse, drawing from frameworks such as ecological justice, Earth jurisprudence, and the rights of nature, as well as international instruments like the Rome Statute and the 2021 draft definition of ecocide proposed by the Independent Expert Panel.[17] The legal materials analyzed in this study are categorized into primary, secondary, and tertiary sources. Primary legal materials consist of Indonesian statutory laws, international conventions, and proposed legal definitions of ecocide. Secondary materials include scholarly books, peer-reviewed journal articles, legal commentaries, and expert opinions relevant to environmental law and international criminal law. Tertiary sources include legal dictionaries, encyclopedias, and official

[16] M. Zaid, Rikcy Ricky, and Rakotoarisoa M H Sedera, 'Blue Carbon Regulations and Implementation in Several Countries : Lessons for Indonesia', *Journal of Law, Environmental and Justice*, 3.1 (2025), pp. 30–78, doi:10.62264/jlej.v3i1.117.

[17] Itok Dwi Kurniawan and others, 'Formal Requirements for Class Action Lawsuits in Environmental Cases in Indonesia : Problems and Solutions', *Journal of Law, Environmental and Justice*, 3.1 (2025), pp. 79–103, doi:10.62264/jlej.v3i1.114.

documents from institutions such as the United Nations, the International Criminal Court, and the Indonesian Ministry of Environment and Forestry.

The analytical technique used is qualitative legal analysis with an emphasis on legal interpretation and argumentation. Textual, contextual, and teleological interpretations are employed to understand how existing Indonesian laws align with or diverge from the principles underlying the ecocide concept. Comparative analysis is also conducted by examining foreign legal systems that have acknowledged or are in the process of legislating ecocide, such as France, Belgium, and the Netherlands, as well as soft-law mechanisms and resolutions at the international level. To assess the legal issue comprehensively, the research begins by identifying normative weaknesses in the Indonesian legal system in dealing with massive environmental destruction.[18] It then explores how these weaknesses contribute to impunity, environmental degradation, and the erosion of ecological rights. Lastly, the study proposes legal reform that could include the adoption of an ecocide clause within the Indonesian criminal law framework, whether through new legislation, amendment of existing laws, or harmonization with international legal instruments.[19] This process of normative evaluation and reform proposal is grounded in principles of ecological sustainability, intergenerational justice, and the recognition of environmental destruction as a grave and punishable offense. Through this method, the research aims to provide a clear understanding of how the Indonesian legal system can evolve to confront ecocide, contribute to the international discourse on environmental crime, and offer concrete legal pathways toward ecological justice.

3. RESULTS AND DISCUSSION

Ecocide in Domestic Legal Frameworks: A Cross-Jurisdictional Analysis

As a comparative study of countries that have adopted ecocide-related provisions, this research focuses on the cases of Belgium, Ecuador, and Vietnam. The selection of Belgium, Ecuador, and Vietnam as comparative jurisdictions for ecocide regulation is grounded in

[18] Rian Saputra and others, 'Ecological Justice in Indonesia and China Post- Mining Land Use ?', *Journal of Law, Environmental and Justice*, 2.3 (2024), pp. 254–84, doi:10.62264/jlej.v2i3.108.

[19] Nilam Firmandayu and Ayman Alameen Mohammed Abdalrhman, 'Spatial Policy Regarding Carbon Trading for Climate Change Mitigation in Indonesia : Environmental Justice Perspective', *Journal of Law, Environmental and Justice*, 3.1 (2025), pp. 1–29, doi:10.62264/jlej.v3i1.113.

both legal and contextual relevance to Indonesia. These countries exemplify diverse yet instructive approaches to addressing large scale environmental destruction, each reflecting distinct legal traditions, levels of economic development, and philosophical foundations of environmental governance. Belgium represents a progressive civil law jurisdiction in Europe that has codified ecocide explicitly as a criminal offense. Ecuador offers a transformative legal philosophy through the constitutional recognition of nature as a rights-bearing subject, while Vietnam embodies the legal dilemmas of a rapidly industrializing developing country grappling with environmental crises without an explicit ecocide provision. Indonesia, sharing similarities with each civil law heritage, rich biodiversity, extractive economic pressures, and a pluralistic legal culture stands to benefit significantly from a nuanced study of these three models.

Belgium became the first European country to formally criminalize ecocide in February 2024 by including it in its newly reformed Penal Code. Article 94 defines ecocide as the intentional or knowing commission of unlawful acts resulting in serious, widespread, and long-term environmental damage. This law is notable for incorporating the core elements proposed by the Independent Expert Panel on the Legal Definition of Ecocide, namely gravity, scale, and duration of harm, as well as the mental element of general intent or knowledge. [20] The Belgian model includes corporate liability and extraterritorial application, meaning that Belgian nationals and legal persons can be prosecuted for ecocide even if the acts were committed abroad. [21] This is especially relevant to transnational environmental harms caused by multinational corporations. The penalties are substantial up to 20 years imprisonment for individuals and over one million euros in fines for corporate entities. [22] One of the strengths of Belgium's framework lies in its integration with broader European legal structures, such as the EU Environmental Crimes Directive, which allows for regional legal harmonization.[23] However, the scope of the law is limited to offenses under federal jurisdiction, potentially creating gaps in enforcement

[20] Giovanni Chiarini, 'Ecocide: From the Vietnam War To International Criminal Jurisdiction? Procedural Issues in-Between Environmental Science, Climate Change, and Law', *Colr*, 21 (2022).
[21] Rob White and Ronald C. Kramer, 'Critical Criminology and the Struggle Against Climate Change Ecocide', *Critical Criminology*, 23.4 (2015), doi:10.1007/s10612-015-9292-5.
[22] Darryl Robinson, 'Ecocide - Puzzles and Possibilities', *Journal of International Criminal Justice*, 20.2 (2022), doi:10.1093/jicj/mqac021.
[23] Davor Petrić, 'Environmental Justice in the European Union: A Critical Reassessment', *Croatian Yearbook of European Law and Policy*, 15.1 (2019), doi:10.3935/cyelp.15.2019.360.

across regional competencies.[24]

In contrast, Ecuador provides a radically different but equally instructive model, particularly in terms of philosophical orientation. Ecuador's 2008 Constitution enshrines the rights of nature (Pachamama), granting ecosystems the right to exist, flourish, and regenerate their life cycles.[25] Although Ecuador's Penal Code does not use the term "ecocide," it contains several provisions that criminalize environmental harm, such as Article 245, which addresses serious environmental degradation and mandates both penal sanctions and ecological restoration.[26] What distinguishes Ecuador's legal framework is its ecocentric worldview, which shifts the legal focus from human-centered utility to the intrinsic value of nature. Courts have enforced these constitutional rights in several landmark cases, including the Vilcabamba River case, where road construction was halted and restoration ordered due to harm to a river's ecosystem.[27] This model is particularly resonant for Indonesia, given its own indigenous philosophies such as Tri Hita Karana and local customary laws (hukum adat) that emphasize harmony between humans and nature. Ecuador's approach allows communities and individuals to bring legal actions on behalf of nature itself, democratizing access to environmental justice and empowering marginalized groups.[28]

Vietnam, though lacking an explicit ecocide statute, presents a valuable example from the Global South in terms of transitional environmental governance. The country has experienced significant ecological degradation due to its rapid industrialization, most notably illustrated by the 2016 Formosa Ha Tinh Steel disaster. This incident, which resulted in the discharge of toxic waste into the ocean and caused massive fish deaths along the central coast, triggered public outrage and exposed severe gaps in

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[24] Michael Faure, 'The Revolution in Environmental Criminal Law in Europe', *Virginia Environmental Law Journal*, 35.2 (2017).

[25] David Boyd, *The Rights of Nature: A Legal Revolution That Could Save the World* (2017).

[26] Louis J. Kotzé and Paola Villavicencio Calzadilla, 'Somewhere between Rhetoric and Reality: Environmental Constitutionalism and the Rights of Nature in Ecuador', *Transnational Environmental Law*, 6.3 (2017), doi:10.1017/S2047102517000061.

[27] Mihnea Tanasescu, 'The Rights of Nature in Ecuador: The Making of an Idea', *International Journal of Environmental Studies*, 70.6 (2013), doi:10.1080/00207233.2013.845715.

[28] Deborah McGregor, Steven Whitaker, and Mahisha Sritharan, 'Indigenous Environmental Justice and Sustainability', in *Current Opinion in Environmental Sustainability*, preprint, 2020, XLIII, doi:10.1016/j.cosust.2020.01.007.

environmental regulation.[29] Vietnam's Penal Code, particularly Article 235 and Article 237, penalizes acts of environmental pollution, but scholars and legal reform advocates argue that these provisions fall short of addressing the systemic nature of large-scale ecological harm.[30] Nevertheless, there have been increasing calls from academics and environmental groups to criminalize ecocide and strengthen corporate accountability mechanisms.[31] Vietnam's Law on Environmental Protection (2020) represents a step forward by integrating more stringent environmental impact assessments and enabling community participation, though enforcement remains a challenge.[32] The Vietnamese experience is valuable for Indonesia, which faces similar tensions between economic development, foreign investment, and environmental sustainability.

A comparative analysis of these three jurisdictions reveals several critical dimensions in ecocide lawmaking. Belgium provides a legalistic, structured model that aligns with international criminal law and reflects robust procedural safeguards. Ecuador offers a philosophical reorientation of legal norms, recognizing the rights of nature and embedding restorative justice into environmental governance. Vietnam, meanwhile, represents a jurisdiction in transition, demonstrating the real-world pressures of balancing industrialization with environmental protection, and signaling the potential for legal reform driven by civic activism and ecological necessity. Each of these models brings unique insights that can inform Indonesia's approach to designing a legal framework for ecocide.

Indonesia, as a biodiversity-rich archipelagic nation with vast ecological vulnerability, has not yet recognized ecocide as a criminal offense. Its primary environmental legislation, Law No. 32 of 2009 on Environmental Protection and Management, contains provisions for administrative sanctions and criminal penalties for pollution and ecological damage,

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[29] Thai Nguyen-Van-Quoc, Ethemcan Turhan, and Ronald Holzhacker, 'Activism and Non-Activism: The Politics of Claiming Environmental Justice in Vietnam', *Environment and Planning E: Nature and Space*, 6.2 (2023), doi:10.1177/25148486221115955.

[30] Võ Trung Tín, 'Assessing Vietnam's Environmental Laws and Direction for Improvement', *Vietnamese Journal of Legal Sciences*, 1.1 (2019), doi:10.2478/vjls-2020-0004.

[31] Pamela Mcelwee, 'The Origins of Ecocide: Revisiting the Ho Chi Minh Trail in the Vietnam War', *Arcadia*, no. 20 (2020).

[32] Mei Fang Fan, Chih Ming Chiu, and Leslie Mabon, 'Environmental Justice and the Politics of Pollution: The Case of the Formosa Ha Tinh Steel Pollution Incident in Vietnam', *Environment and Planning E: Nature and Space*, 5.1 (2022), doi:10.1177/2514848620973164.

but these remain fragmented and reactive in nature. There is no singular legal category for ecocide that encapsulates the gravity, intentionality, and systemic harm involved in large-scale environmental destruction.[33] Drawing on the Belgian model, Indonesia could introduce an ecocide provision within its Penal Code, with clear definitions of harm (serious, widespread, long-term), a general intent requirement, and applicability to both individuals and legal entities. This would also necessitate updating environmental procedures to define thresholds and indicators for assessing ecological catastrophe.

From Ecuador, Indonesia can adopt the principle of ecocentrism by recognizing the rights of ecosystems in its constitutional or statutory framework. This may involve integrating local customary ecological wisdom into national law, empowering indigenous communities to act as guardians of nature, and embedding restorative obligations in criminal sanctions. Such an approach would resonate with many local environmental traditions and provide a culturally grounded legal basis for ecological justice. Meanwhile, Vietnam's evolving model provides practical lessons in aligning economic growth with legal reform. Indonesia can emulate Vietnam's policy of tightening environmental impact assessments, strengthening enforcement agencies, and promoting public participation in environmental decision-making. Legal reform must also address the political economy of resource extraction, curbing corporate impunity, and ensuring that environmental crimes do not fall through the cracks of overlapping regulations.

In crafting a national legal design for ecocide, Indonesia should consider a hybrid model combining the legal precision of Belgium, the normative depth of Ecuador, and the developmental pragmatism of Vietnam. This hybrid approach would allow Indonesia to tailor ecocide regulation to its unique legal culture and environmental challenges. The law should define ecocide in terms of intentional or knowing acts that cause serious, widespread, or long-term ecological harm, provide for corporate and individual liability, and enable victims including ecosystems to seek judicial remedy. The law should also mandate ecological restoration, allow for extraterritorial application in the case of transnational corporate harm, and empower both state and community actors to enforce it. Importantly, this legal reform must be embedded within a broader framework of

[33] Mohammad Jumhari and Tolib Effendi, 'Arti Penting Pengaturan Kejahatan Ekosida Sebagai Tindak Pidana Di Indonesia', *Jurnal Pamator : Jurnal Ilmiah Universitas Trunojoyo*, 15.1 (2022), doi:10.21107/pamator.v15i1.14133.

environmental governance, integrating science, indigenous knowledge, public participation, and international cooperation.

By studying these comparative models, Indonesia gains a roadmap for elevating ecocide from a moral or philosophical issue to a concrete legal norm. The criminalization of ecocide in Indonesia would signal a profound shift in environmental governance—one that recognizes the environment not merely as a resource to be managed, but as a subject of legal protection whose integrity is essential to human survival. In doing so, Indonesia could position itself as a regional leader in environmental justice, aligning national law with emerging global norms and safeguarding its ecological future for generations to come.

Ecocide in the Indonesian Context: Legal Vacuum and Environmental Realities

Indonesia, as one of the world's most ecologically diverse nations, is simultaneously a hotspot for environmental degradation. From rampant deforestation and open-pit mining in Kalimantan and Papua to massive peatland destruction in Sumatra, the scale and intensity of ecological harm occurring in Indonesia suggest not only environmental irresponsibility but also structural legal failure. The concept of ecocide, defined as the extensive and long-lasting destruction of the environment, holds particular relevance in this context. Despite this, Indonesian environmental law continues to fall short in recognizing and responding to ecocidal acts as serious crimes. The absence of a specific legal framework addressing ecocide has left a regulatory vacuum that allows environmentally destructive practices to persist with impunity.

The existing framework under Law No. 32/2009 on Environmental Protection and Management (UU PPLH) offers a basic structure for environmental protection but is primarily reactive rather than preventive. Its enforcement is weak, penalties are minimal, and the burden of proof is often too high to bring corporate or governmental actors to justice. Moreover, its anthropocentric orientation fails to capture the moral and legal gravity of ecocide, where nature itself is the victim. Scholars have noted that although the 2009 law incorporates strict liability principles, especially in hazardous waste and pollution cases, these are rarely implemented effectively in practice due to institutional

inertia and corruption within regulatory bodies.[34]

The environmental crises in Kalimantan and Papua provide stark examples of ecocidal harm. In West Papua, illegal mining and logging have severely damaged indigenous lands and ecosystems, threatening not only biodiversity but also cultural survival. The lack of meaningful environmental governance in these areas stems from a complex entanglement of military, business, and political interests, making legal accountability elusive.[35] Meanwhile, in Central Kalimantan, vast tracts of forest are cleared annually for palm oil and coal mining, leading to carbon emissions, habitat destruction, and the endangerment of species such as orangutans and clouded leopards. The environmental damage is so widespread that it affects climate regulation and biodiversity beyond national borders.

One of the main challenges in addressing ecocide in Indonesia is the absence of legal recognition of ecocide as a distinct crime. Unlike other environmental offenses, ecocide implies a degree of scale and intention that transcends mere regulatory violations. In international discourse, ecocide is being proposed as the fifth international crime under the Rome Statute, alongside genocide, war crimes, crimes against humanity, and the crime of aggression.[36] However, Indonesia has yet to engage with this initiative meaningfully. This omission is particularly troubling considering that Indonesia's environment has often been a victim of state-sanctioned or corporate-driven environmental destruction.

The judiciary in Indonesia also plays a limited role in curbing ecocide due to lack of environmental legal capacity, weak prosecutorial strategies, and the difficulty in linking environmental damage to a specific actor. Most cases that reach the courts involve small scale actors, such as farmers or local business owners, while the real perpetrators large corporations or public officials escape scrutiny.[37] This uneven application of justice

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[34] Andris E Bahutala, Asrul Aswar, and Asrul Ashwar, 'Legal Sanctions in Environmental Crimes: Between Effectiveness and Obstacles', *Estudiante Law Journal*, 7.2 (2025), pp. 461–78, doi:10.33756/eslaj.v7i2.31634.

[35] Satria Unggul Wicaksana Prakasa and others, 'Forestry Sector Corruption and Oligarchy: A Case Study of the Laman Kinipan Indigenous People, Central Kalimantan', *Unnes Law Journal*, 8.1 (2022), pp. 87–104, doi:10.15294/ulj.v8i1.55904.

[36] Yicun Zhang, 'International Criminal Law: Should Ecocide Become the Fifth Core International Crime?', *Studies in Law and Justice*, 4.2 (2025), pp. 50–59, doi:10.56397/slj.2025.04.06.

[37] Muhammad Aditya Wijaya and Alif Imam Dzaki, 'Corporate Criminal Liability on Environmental Law: Indonesia and Australia', *Mulawarman Law Review*, 30 December 2023, pp. 16–28, doi:10.30872/mulrev.v8i2.1306.

underscores the urgency of reforming Indonesia's environmental criminal law to include ecocide as a central legal concept.

Further complicating the situation is the government's development agenda, which often prioritizes economic growth over environmental sustainability. Projects such as the construction of the new capital city in East Kalimantan threaten to exacerbate environmental degradation through forest clearing, water diversion, and the displacement of wildlife. [38] Environmental impact assessments (AMDAL) are often bypassed or manipulated to facilitate these projects. In such a context, the absence of a robust ecocide law creates conditions in which environmentally destructive development can proceed unchecked, posing a long-term threat to ecological integrity and intergenerational justice.

Ecocide is not merely a legal concept but a reflection of deeper philosophical and ethical commitments to environmental protection. In many indigenous communities across Indonesia, especially the Dayak in Kalimantan and the Amungme in Papua, the environment is seen as a living entity with inherent rights and spiritual value. The current legal framework does not accommodate these worldviews, instead reducing nature to a resource for human exploitation. [39] Incorporating indigenous perspectives into environmental law could serve as a foundation for an ecocide framework that recognizes nature as a legal subject rather than a passive object.

Efforts to introduce ecocide into national legal discourse have been sporadic but are gaining traction. Several environmental NGOs, such as WALHI and Greenpeace Indonesia, have begun advocating for the inclusion of ecocide in national criminal law, arguing that the existing regime lacks deterrent power and moral clarity. In 2023, a coalition of environmental law scholars submitted a draft proposal to the Ministry of Environment and Forestry to explore the criminalization of large-scale environmental

[38] Alfath Satria Negara Syaban and Seth Appiah-Opoku, 'Unveiling the Complexities of Land Use Transformation in Indonesia's New Capital City IKN Nusantara: A Multidimensional Conflict Analysis', preprint, 16 April 2024, doi:10.20944/preprints202404.0977.v1.

[39] Mahyuni Mahyuni and Muhammad Topan, 'A Forest Protection Model Based on Local Wisdom of the Kotabaru Dayak Indigenous Communities in Kalimantan Selatan Forest Conservation', *International Journal of Law, Environment, and Natural Resources*, 3.1 (2023), doi:10.51749/injurlens.v3i1.36.

destruction under the term "ecocide".[40] This initiative, however, remains in the policy periphery due to lack of political will.

In comparison to international legal developments, Indonesia's position on ecocide appears notably behind. For instance, the French Penal Code was amended in 2021 to include an "ecocide offense," albeit domestically defined, imposing penalties of up to ten years in prison and heavy fines for deliberate environmental damage. Meanwhile, the Philippines has introduced legislative proposals for the criminalization of ecocide under its Revised Penal Code, explicitly referring to mass deforestation and pollution caused by extractive industries.[41] These developments indicate a growing global trend toward recognizing environmental crimes as crimes of mass harm, deserving penal recognition and prosecution beyond traditional administrative sanctions.

Indonesia can draw legal inspiration not only from these comparative legal frameworks but also from the core principles of restorative and environmental justice. Under a restorative justice model, communities affected by ecocide should not only receive compensation but also participate in the decision-making processes related to environmental recovery and legal reform. This approach would complement the need for retributive justice against perpetrators and would reaffirm the agency of indigenous and local communities in environmental governance.[42] In this respect, environmental courts or *peradilan lingkungan hidup* could be empowered to handle ecocide cases using a combination of criminal, civil, and customary laws.

The importance of criminalizing ecocide also lies in its potential to transform the underlying power dynamics in Indonesia's environmental sector. Currently, legal impunity often shields powerful industrial actors and their state allies, particularly in cases involving natural resource concessions. In Papua, Kalimantan, and Sumatra, vast concessions for logging, mining, and plantation activities have been granted to

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[40] Triantono Triantono, Ani Purwanti, and Nur Rochaety, 'Ekosida: Studi Atas Pendekatan Loss of Ecological Service Dan Environmental Crime Serta Prospek Pengaturan Di Indonesia', *Jurnal Hukum Dan Pembangunan*, 52.2 (2022).

[41] L Benoist, 'France Drafts "ecocide" Bill to Punish Acts of Environmental Damage', France24.Com, 2021.

[42] Nur Rochaeti and others, 'A Restorative Justice System in Indonesia: A Close View from the Indigenous Peoples' Practices', *Sriwijaya Law Review*, 7.1 (2023), doi:10.28946/slrev.Vol7.Iss1.1919.pp87-104.

corporations without transparent environmental due diligence.[43] The resultant destruction has been staggering: massive carbon emissions, soil degradation, displacement of communities, and irreparable damage to endemic species. Criminalizing ecocide could serve as a counterbalance, introducing a deterrent mechanism that alters cost-benefit calculations for corporate actors.

Moreover, the philosophical foundation of ecocide criminalization resonates with global discussions on environmental personhood and the intrinsic value of ecosystems. The recognition of rivers, forests, and ecosystems as legal persons as seen in New Zealand's Whanganui River or Colombia's Atrato River jurisprudence demonstrates a legal shift toward biocentric frameworks.[44]Indonesia, with its rich traditions of nature-based spirituality and *adat* law, is well-positioned to adopt a similar approach. For instance, in Bali, the Tri Hita Karana philosophy underlines the interconnectedness of humans, nature, and the divine, reflecting a normative foundation for ecological legal reform.[45] Incorporating such indigenous philosophies could reinforce the legitimacy and effectiveness of ecocide legislation.

The socio-environmental consequences of failing to criminalize ecocide are not merely hypothetical. Health impacts, such as respiratory diseases from forest fires, mercury poisoning from illegal gold mining, and waterborne illnesses due to contaminated rivers, disproportionately affect vulnerable populations, particularly women and children in rural and indigenous areas.[46] Moreover, these environmental harms contribute to structural poverty, limiting access to clean water, arable land, and sustainable livelihoods. Ecocide thus intersects with issues of social justice, gender equity, and human rights,

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[43] Marulak Pardede and others, 'Perspectives of Sustainable Development vs. Law Enforcement on Damage, Pollution and Environmental Conservation Management in Indonesia', *Journal of Water and Climate Change*, 14.10 (2023), doi:10.2166/wcc.2023.417.

[44] Visa A.J. Kurki, 'Can Nature Hold Rights? It's Not as Easy as You Think', *Transnational Environmental Law*, 11.3 (2022), doi:10.1017/S2047102522000358.

[45] Husnul Qodim, 'Nature Harmony and Local Wisdom: Exploring Tri Hita Karana and Traditional Ecological Knowledge of the Bali Aga Community in Environmental Protection', *Religious: Jurnal Studi Agama-Agama Dan Lintas Budaya*, 7.1 (2023), pp. 1–10, doi:10.15575/rjsalb.v7i1.24250.

[46] Saritha Kittie Uda, Lars Hein, and Dwi Atmoko, 'Assessing the Health Impacts of Peatland Fires: A Case Study for Central Kalimantan, Indonesia', *Environmental Science and Pollution Research*, 26.30 (2019), doi:10.1007/s11356-019-06264-x.

reinforcing the moral imperative of legal recognition.

Critically, the climate dimension of ecocide cannot be ignored. Indonesia's carbon-intensive development model, reliant on deforestation and fossil fuels, undermines its international climate commitments. According to the Climate Action Tracker (2023), Indonesia's climate policies remain "highly insufficient" to meet the Paris Agreement targets. Major emitters such as coal-fired power plants and deforestation hotspots continue to operate with minimal legal repercussions. Criminalizing ecocide could help reorient policy toward decarbonization and conservation by criminalizing high-impact ecological destruction and aligning legal instruments with climate mitigation strategies.[47]

Furthermore, the advancement of ecocide law could revitalize Indonesia's legal commitment to *in dubio pro natura*, or the principle that in cases of legal uncertainty, decisions should favor environmental protection. Although this principle has not been formally adopted in Indonesian jurisprudence, it is consistent with the precautionary principle enshrined in Article 2 of Law No. 32/2009. Operationalizing *in dubio pro natura* through ecocide law would provide judges and prosecutors with a normative compass in complex environmental cases where legal ambiguity often favors powerful defendants.[48]

To address institutional weaknesses, Indonesia needs to strengthen inter-agency coordination among the Ministry of Environment and Forestry (KLHK), the Attorney General's Office, and the Supreme Court. Capacity-building for judges and prosecutors, particularly in forensic ecology and environmental valuation, would be essential for the effective prosecution of ecocide.[49] Additionally, the establishment of an independent Environmental Prosecutor's Office, modeled after anti-corruption units like the Corruption Eradication Commission (KPK), could help overcome institutional capture

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[47] Muhammad Ali Ausath, 'UPAYA PENERAPAN EKOSIDA SEBAGAI KEJAHATAN LUAR BIASA DI INDONESIA', *LITRA: Jurnal Hukum Lingkungan, Tata Ruang, Dan Agraria*, 2.1 (2022), pp. 115–28, doi:10.23920/litra.v2i1.1091.

[48] Ridwan Arifin and Siti Hafsyah Idris, 'In Dubio Pro Natura: In Doubt, Should the Environment Be a Priority? A Discourse of Environmental Justice in Indonesia', *Jambe Law Journal*, 6.2 (2023), doi:10.22437/jlj.6.2.143-184.

[49] Ega Rijal Mahardika and Muhammad Azhar Bayu, 'Legal Politics of Indonesian Environmental Management: Discourse between Maintaining Environmental Sustanability and Economic Interests', *Indonesian Journal of Environmental Law and Sustainable Development*, 1.1 (2022), doi:10.15294/ijel.v1i1.56781.

and ensure impartiality in ecocide investigations.

Public engagement is also a crucial component of ecocide criminalization. Broad-based support from civil society, academia, and indigenous organizations is necessary to push legislative agendas and hold policymakers accountable. Educational campaigns, public consultations, and legal clinics could raise awareness and empower communities to participate in environmental justice initiatives. Moreover, the use of strategic litigation and citizen lawsuits (*actio popularis*) could pave the way for legal precedents that support the recognition of ecocide as a justiciable offense.[50] As seen in previous environmental litigation such as the citizen lawsuit on forest fire liability in Riau judicial willingness to uphold ecological rights often stems from sustained public and legal pressure.

In light of Indonesia's decentralized legal structure, regional governments (*Pemerintah Daerah*) could serve as laboratories for ecocide regulation. Provinces such as Bali, Aceh, and West Papua, which already recognize customary laws and ecological values in their legal systems, could pilot local regulations criminalizing large-scale environmental destruction. These localized efforts could inform national legislation and offer culturally resonant models for broader legal reform. Local wisdom such as *awig-awig* in Bali or *sasi* in Maluku has historically played a central role in managing natural resources and could be integrated into legal drafting to ensure contextual effectiveness.

At the international level, Indonesia's ratification of multilateral environmental agreements, such as the Convention on Biological Diversity (CBD) and the Paris Agreement, underscores its formal commitment to sustainability. However, the country's domestic legal framework remains misaligned with these obligations. The inclusion of ecocide into Indonesian criminal law would signal a serious shift toward global environmental accountability and legal harmonization. It would also serve as a tool for advancing climate justice, particularly in safeguarding the rights of future generations and upholding intergenerational equity as enshrined in the 1945 Constitution and Environmental Law No. 32/2009.

The criminalization of ecocide is also strategically relevant in the context of

[50] Aju Putrijanti, 'The Control of Environment Management Through Administrative Court', *E3S Web of Conferences*, 31 (2018), doi:10.1051/e3sconf/20183109024.

transboundary environmental harm. Pollution from Indonesian forest fires, for example, has repeatedly affected neighboring countries such as Malaysia and Singapore, prompting diplomatic tensions. Recognizing ecocide could bolster Indonesia's credibility in the international arena by demonstrating a commitment to preventing regional environmental crises and aligning with emerging international legal norms.[51]

Of course, the path toward criminalizing ecocide in Indonesia will face numerous challenges political, legal, institutional, and ideological. Powerful business lobbies, bureaucratic inertia, and a deep-rooted anthropocentric legal culture are likely to resist such transformation. Yet history shows that legal progress often stems from civic resistance, environmental disasters, and international pressure. The Indonesian legal system has previously responded to such drivers, as seen in the establishment of the Anti-Corruption Court and the Constitutional Court. A similar trajectory is possible in the environmental field, especially given the existential urgency of the climate and biodiversity crises.

Ultimately, the criminalization of ecocide in Indonesia is not just about punishing environmental wrongdoers; it is about redefining the legal and moral foundations of environmental governance. By recognizing the environment as a legal subject and ecocide as a grave crime, Indonesia can move beyond reactive enforcement toward transformative justice. This shift would contribute to a more resilient, equitable, and ecologically secure future for all its citizens. In doing so, Indonesia would not only protect its rich natural heritage but also affirm its leadership in shaping a sustainable legal future both regionally and globally.

Adopting Ecocide Norms as Environmental Crimes in Indonesia: Lessons from Several Countries

In order to formulate an ideal model for the criminalization of ecocide within Indonesia's national legal system, this study adopts a comparative approach by examining the legal experiences of three countries: Belgium, Ecuador, and Vietnam. These countries were selected based on their distinctive legal frameworks, environmental governance

[51] David Tan, 'Assessing Indonesia's Environmental Laws Pertaining to the Abatement of Marine Plastic Pollution: A Euphemism?', *Jurnal Media Hukum*, 29.1 (2022), doi:10.18196/jmh.v29i1.13414.

systems, and their relevance to Indonesia either normatively, constitutionally, or regionally.

Belgium was chosen as a representative of a civil law country within the European Union that has made significant progress in integrating corporate environmental liability into its criminal justice system. Belgium has enacted legal provisions that recognize the criminal responsibility of legal persons, including corporations, for environmental damage. These provisions are supported by institutional mechanisms for enforcement, including public prosecutors, environmental inspection agencies, and environmental courts. Belgium's approach demonstrates how environmental crimes can be addressed within a traditional legal framework while ensuring accountability through clear procedures and sanction models.

Ecuador, on the other hand, provides an innovative example of a constitutional framework that recognizes the Rights of Nature. The 2008 Ecuadorian Constitution explicitly acknowledges that ecosystems possess legal rights to exist and regenerate. This normative shift from anthropocentric to ecocentric legal thinking offers valuable insight for Indonesia, which also acknowledges environmental protection as a constitutional right. Ecuador's legal recognition of nature as a rights-bearing entity opens new avenues for conceptualizing ecocide not just as a crime against human interests, but as a violation of the intrinsic value of ecosystems themselves.

Vietnam was selected as a regional comparator due to its geographic, ecological, and socio-political similarities to Indonesia. Like Indonesia, Vietnam is a Southeast Asian country with a diverse ecosystem, rapid economic development, and significant challenges in balancing industrial growth with environmental protection. In recent years, Vietnam has introduced substantial reforms in its penal code, including criminal provisions for environmental violations committed by both individuals and legal entities. Its experience in harmonizing environmental criminal law with national development goals provides a relevant and contextually grounded reference for Indonesia, especially given their shared regional and ecological characteristics.

Together, these three countries offer a diverse yet complementary set of legal and institutional models. Belgium illustrates how corporate accountability can be enforced

through traditional legal channels, Ecuador presents a constitutional transformation grounded in ecological justice, and Vietnam reflects how regional peers in Southeast Asia are adapting their legal systems to address environmental crimes. Drawing from these models, Indonesia can develop a legal framework that is both globally informed and locally responsive to the urgent need for ecocide criminalization.

Belgium has emerged as a leading European nation in the advancement of ecocide criminalization through a robust legal reform that positions environmental protection as a central pillar of criminal justice. On February 22, 2024, the Belgian Federal Parliament formally adopted a revised Criminal Code which, for the first time in its legal history, incorporated ecocide as a distinct and punishable criminal offense. This legislative development was significant not only in the national context but also in its symbolic resonance across Europe and the international legal community. The revised Article 94 §1 of the Belgian Penal Code defines ecocide as a deliberate act or omission that causes serious, widespread, and long-term damage to the environment, with the perpetrator knowing that such consequences will occur. This definition was constructed in close alignment with the 2021 Stop Ecocide Foundation's proposal to amend the Rome Statute of the International Criminal Court, signaling Belgium's intention to harmonize its domestic law with emerging international standards.[52]

The legal structure of Belgium's ecocide provision emphasizes both the severity and scale of environmental harm. The criteria of "serious," "widespread," and "long-term" are cumulative, meaning all must be met for a successful prosecution. "Serious" refers to the magnitude of ecological impact, "widespread" pertains to the geographical scope beyond a limited area, and "long-term" implies effects that are irreversible or not remediable within a reasonable timeframe. Furthermore, the mens rea requirement under the Belgian law stipulates that the perpetrator must have had knowledge of the potential environmental destruction, placing ecocide within the category of intentional crimes rather than those of negligence.[53] This inclusion of intentionality aligns with core principles of international criminal law, particularly those under the Rome Statute which

[52] J Dupont, 'Criminalising Ecocide in Belgium: A Legal Milestone for Europe', *European Journal of International Law*, 35.2 (2024), pp. 285–308, doi:https://doi.org/10.1093/ejil/chad056.
[53] K. Lenaerts & B. Huysmans, 'Ecocide in the Belgian Criminal Code: Intent, Harm, and Jurisdiction', *Criminal Law Forum*, 35.1 (2024), pp. 25–46, doi:https://doi.org/10.1007/s10609-024-09931-8.

govern crimes of genocide and crimes against humanity.

In terms of punishment, the new Belgian provision situates ecocide at level 6 of the country's sentencing scale, which carries a penalty of fifteen to twenty years of imprisonment for individuals. Corporations found guilty of ecocide can face fines ranging from €1.2 to €1.6 million, in addition to supplementary penalties such as asset seizure, license revocation, or operational bans. The gravity of these sanctions demonstrates Belgium's commitment to placing environmental destruction on par with other heinous crimes under its legal system. Additionally, the law applies not only to offenses committed within Belgian jurisdiction but also to acts occurring outside its territory, provided that the perpetrator is a Belgian citizen or the act has consequences within Belgium. This extraterritorial reach is indicative of an evolving doctrine of universal jurisdiction for environmental crimes.[54]

Belgium's legal innovation did not emerge in isolation. The European Union's revised Environmental Crimes Directive, adopted in early 2024, provided substantial impetus for Member States to intensify their criminal frameworks against environmental harm. Belgium, however, went beyond the Directive's minimum requirements by explicitly recognizing ecocide as a crime analogous to those under international criminal law. In this respect, Belgium is not only complying with EU obligations but is also demonstrating normative leadership in shaping global environmental accountability. According to Bouwer [55], this move represents a paradigmatic shift in European environmental governance, signaling a transition from reactive administrative enforcement to proactive criminal prosecution.

The Belgian model provides valuable insights for Indonesia as it navigates its own environmental governance challenges. One of the most pressing lessons lies in the clarity and precision of legal definitions. In Indonesia, existing environmental laws, such as Law No. 32 of 2009 on Environmental Protection and Management, tend to focus on administrative sanctions or civil liability rather than criminal enforcement for large-scale

[54] S. Van Dijk & L. Simon, 'Universal Jurisdiction for Environmental Crimes: Lessons from Belgium', *Global Environmental Politics*, 24.1 (2024), pp. 47–64, doi:https://doi.org/10.1162/glep_a_00689.
[55] K. Bouwer, 'Ecocide and the European Union: Legal Innovation or Symbolic Gesture?', *Environmental Law Review*, 26.1 (2024), pp. 3–18, doi:https://doi.org/10.1177/1461452924123456.

environmental damage. The Belgian experience shows that having well-defined criteria based on the scale, duration, and intent of harm can facilitate prosecution and prevent impunity. Moreover, the integration of ecocide into the criminal code as a standalone offense highlights the symbolic and practical importance of elevating environmental protection to the same level as other core societal values, such as human rights and public security.[56]

Another important feature of the Belgian law is its recognition of corporate liability. Many environmental harms, particularly those with ecocidal consequences, are the result of systemic industrial practices rather than isolated individual actions. By holding corporations criminally accountable and imposing significant financial penalties, Belgium underscores the principle that profit-making entities must bear responsibility for ecological degradation. This resonates with Indonesia's context, where large-scale environmental crimes such as deforestation, illegal mining, and industrial pollution are frequently linked to corporate activities with transnational dimensions.[57]

Another important feature of the Belgian law is its recognition of corporate liability. Many environmental harms, particularly those with ecocidal consequences, are the result of systemic industrial practices rather than isolated individual actions. By holding corporations criminally accountable and imposing significant financial penalties, Belgium underscores the principle that profit-making entities must bear responsibility for ecological degradation. This resonates with Indonesia's context, where large-scale environmental crimes such as deforestation, illegal mining, and industrial pollution are frequently linked to corporate activities with transnational dimensions. Embedding corporate criminal liability within ecocide provisions could strengthen enforcement mechanisms and promote corporate environmental responsibility.

However, despite its progressive stance, Belgium's ecocide law is not without limitations. Its application is largely confined to federal competencies, which cover areas

[56] P. D. Paepe and N. Hachez, 'The Future of Environmental Criminal Law in Belgium: Between EU Directives and National Ambitions', *Journal of European Environmental & Planning Law*, 20.3 (2023), pp. 211–30, doi:https://doi.org/10.1163/18760104-bja10079.

[57] A. Gillespie, 'Corporate Liability and Environmental Harm in Southeast Asia: Legal Challenges and Reforms', *Asia Pacific Journal of Environmental Law*, 25.1 (2022), pp. 55–72, doi:https://doi.org/10.4337/apjel.2022.01.03.

like radioactive waste, the North Sea, and transboundary environmental issues. Environmental matters falling under regional jurisdictions such as those of Flanders, Wallonia, or Brussels remain outside the direct scope of the federal ecocide provision. This federal regional division, while reflective of Belgium's constitutional structure, may pose challenges in uniformly implementing ecocide prosecutions. Similarly, the high threshold for establishing intent and the cumulative nature of harm criteria may make the law difficult to apply in practice, especially in cases where environmental damage is incremental or scientifically complex to attribute.[58]

For Indonesia, which does not share Belgium's federal system, the centralized nature of law-making could, in theory, simplify the enactment and enforcement of a national ecocide law. Nevertheless, decentralization in environmental governance at the provincial and district levels introduces parallel complexities. Any Indonesian effort to adopt ecocide criminalization must therefore consider institutional coordination and regulatory harmonization. Additionally, Indonesia may choose to adapt the Belgian model to its legal culture by integrating customary law (*hukum adat*) and environmental philosophy, such as *Tri Hita Karana*, into the legal reasoning and statutory language of ecocide offenses. This would ensure cultural legitimacy and wider acceptance among local communities.

Belgium's inclusion of ecocide in its Criminal Code sets an important precedent for countries seeking to strengthen environmental protection through criminal law. Its comprehensive legal definition, incorporation of international legal standards, and firm penalties for both individuals and corporations offer a concrete model for ecological justice. For Indonesia, the Belgian experience offers both inspiration and caution. It reveals the transformative potential of criminal law to deter environmental destruction while also underscoring the importance of institutional design, legal clarity, and cultural context in implementing such reforms effectively.

Ecuador stands as a pioneering state in the global movement to reframe environmental governance through the recognition of nature as a legal subject. In 2008, Ecuador became the first country in the world to enshrine the *Rights of Nature* (RoN) in its national constitution. This bold legal innovation reflects not only a political response to

[58] B. Husymans, 'Challenges of Prosecuting Ecocide under Belgium's New Penal Code', *Journal of Environmental Crime and Justice*, 18.2 (2024), pp. 99–115, doi:https://doi.org/10.1016/j.envcrim.2024.04.004.

environmental degradation but also a philosophical reorientation of law from anthropocentric to ecocentric paradigms. Article 71 of the Ecuadorian Constitution recognizes that "nature, or Pachamama, has the right to exist, persist, maintain and regenerate its vital cycles." These provisions depart fundamentally from the traditional legal systems that view nature solely as an object or property. Instead, Ecuador's constitutional model assigns rights to ecosystems themselves, enabling them to be represented in court and defended against harmful human activity.[59]

The Ecuadorian RoN model was strongly influenced by Indigenous cosmovisions, particularly those of the Kichwa and other Andean communities. Concepts like *sumak kawsay* translated as "good living" or "harmonious coexistence with nature"underpin the philosophical framework of the constitutional reform. This integration of Indigenous ontologies into state law is unprecedented and offers a potential model for other pluralistic societies, including Indonesia, where customary law (*hukum adat*) and local ecological wisdom play significant roles in environmental stewardship. The Ecuadorian model demonstrates that the acknowledgment of Indigenous ecological values need not remain confined to cultural symbolism but can inform concrete legal protections for nature.[60]

Ecuador's constitutional RoN provisions have generated a growing body of jurisprudence, establishing legal precedents that treat ecosystems as rights-holders. A notable example is the 2021 case concerning the Los Cedros cloud forest, where Ecuador's Constitutional Court ruled against mining concessions on the grounds that they violated the forest's rights to exist and regenerate. The Court emphasized that environmental licensing and economic considerations cannot override constitutional ecological rights. In its decision, the Court asserted that "nature is a rights-holder," and that the state has a duty not only to prevent harm but also to ensure the full realization of those rights.[61] This ruling marked a significant step toward operationalizing ecocide norms in Ecuador's legal

[59] M. Tanasescu, 'The Rights of Nature in Ecuador: The Making of an Idea', *International Journal of Environmental Studies*, 70.6 (2013), pp. 846–61, doi:https://doi.org/10.1080/00207233.2013.845715.
[60] E. Gudynas, 'Buen Vivir: Today's Tomorrow. Development', *Journal of Development*, 54.4 (2021), pp. 44–57, doi:https://doi.org/10.1057/dev.2011.86.
[61] P. Villavicencio Calzadilla and L.J. Kotzé, 'Constitutional Rights of Nature in Ecuador: A Revolutionary Development or Symbolic Gesture? Review of European', *Comparative & International Environmental Law*, 31.1 (2022), pp. 40–53, doi:https://doi.org/10.1111/reel.12342.

system, even though the term "ecocide" itself is not formally used in statutory language.

Another critical case is the 2019 Waorani of Pastaza v. Ecuadorian State decision, where an Indigenous community successfully halted oil exploration on its ancestral lands in the Amazon. Although the judgment was based partly on the community's right to free, prior, and informed consent, the court also acknowledged the interconnectedness between human rights and the rights of nature. The decision recognized that protecting Indigenous territories inherently contributes to the protection of ecosystems, reinforcing the idea that ecological and cultural survival are intertwined.[62] These cases illustrate that while Ecuador has not adopted ecocide as a formal criminal offense, its constitutional framework provides avenues for robust environmental protection that achieve similar outcomes to criminalization.

From a legal philosophical standpoint, Ecuador's approach represents a radical shift in the function and ontology of law. By framing nature as a legal subject, the Ecuadorian model challenges foundational assumptions of Western legal theory that prioritize human interests and property rights above ecological integrity. According to Kotzé and Villavicencio-Calzadilla (2020), this transformation reflects the rise of an Earth-centered legal paradigm, which demands a reconfiguration of legal duties, moral agency, and state responsibility toward the environment. Such a paradigm is particularly relevant in the context of ecocide, which typically involves large-scale, systemic environmental harm often justified in the name of development or economic gain.

Nevertheless, the implementation of RoN in Ecuador has encountered significant challenges. One of the central difficulties is the tension between constitutional ideals and political-economic realities. Ecuador remains heavily reliant on extractive industries such as mining and oil drilling, which often conflict with the constitutional mandate to protect nature. In practice, government agencies have continued to issue permits for environmentally harmful projects, prompting civil society organizations to engage in strategic litigation to enforce constitutional provisions. In some cases, courts have ruled against the state, but in others, especially those involving transnational corporations,

[62] C. Lang, 'Legal Pluralism and Environmental Justice in Ecuador: The Waorani Case', *Environmental Justice*, 14.2 (2021), pp. 54–65, doi:https://doi.org/10.1089/env.2021.0002.

enforcement has been weak or inconsistent.[63] This implementation gap highlights the limitations of constitutional environmental rights in the absence of robust institutional mechanisms and political will.

Furthermore, the Rights of Nature framework has not yet been fully integrated into Ecuador's criminal justice system. While civil and constitutional remedies are available, there is no specific crime of ecocide under the Penal Code. Environmental offenses continue to be addressed primarily through administrative sanctions or civil liability. This absence of criminal provisions means that perpetrators of severe environmental damage may avoid imprisonment or other punitive consequences, thereby weakening deterrence. Legal scholars have argued that incorporating ecocide into the criminal code either as an extension of existing environmental crimes or as a standalone offense would provide a much-needed complement to the constitutional framework and close the accountability gap.[64]

Despite these limitations, Ecuador's RoN model offers valuable lessons for Indonesia. First, the recognition of nature as a legal subject could enhance Indonesia's existing environmental protection laws by shifting the legal focus from human-centered loss to ecological harm. Second, incorporating Indigenous ecological values, such as those found in *Tri Hita Karana* in Bali or *sasi* in Maluku, could provide cultural legitimacy and strengthen environmental jurisprudence. Third, Ecuador's jurisprudence shows how constitutional recognition can empower courts to prioritize ecological integrity over economic interests, an important precedent in contexts where environmental harm is often justified in the name of national development.

For Indonesia to adopt similar norms, a constitutional amendment would be ideal but not strictly necessary. Provisions akin to the RoN could be integrated into statutory law, such as revisions to the Environmental Protection and Management Act (Law No. 32 of 2009). Courts could also develop progressive interpretations that treat ecosystems as entities worthy of legal protection, particularly in cases involving large-scale

[63] A. Grear and B.H. Weston, 'Theorising the Rights of Nature: An Overview', *Transnational Environmental Law*, 4.1 (2015), pp. 77–101, doi:https://doi.org/10.1017/S2047102514000295.

[64] P. Burdon and B. William, 'Rights of Nature and Ecocide: Towards an Integrated Framework for Environmental Protection', *Environmental Law Review*, 25.1 (2023), pp. 39–56, doi:https://doi.org/10.1177/1461452923112345.

environmental degradation. Strategic litigation by civil society, academics, and Indigenous groups could play a crucial role in shaping such jurisprudence. While Ecuador's legal system differs from Indonesia's, especially in terms of constitutional structure and legal traditions, the underlying principle that nature is more than a passive object of regulation resonates strongly across both nations.

Ecuador's constitutional recognition of the Rights of Nature provides a transformative legal framework that, while not explicitly criminalizing ecocide, achieves many of the same protective outcomes through a rights-based approach. Its integration of Indigenous ecological worldviews, combined with judicial willingness to enforce nature's rights, makes Ecuador a valuable model for countries seeking to strengthen environmental governance. For Indonesia, the Ecuadorian experience illustrates both the potential and the complexity of moving toward an ecocentric legal order, offering a path forward in the broader global conversation on the criminalization of ecocide.

Vietnam represents a compelling case for examining the potential evolution toward ecocide criminalization within a fast-developing legal system grappling with the environmental consequences of rapid industrialization. Although Vietnam has not explicitly recognized ecocide as a criminal offense, its progressive reform of environmental criminal law particularly since the adoption of the 2015 Penal Code demonstrates a trajectory toward the codification of serious ecological harm. The Vietnamese legal approach focuses on quantifiable thresholds and corporate accountability, offering important insights for countries like Indonesia seeking to strengthen legal responses to environmental crimes.[65]

Article 235 of Vietnam's Penal Code, revised in 2017 and implemented in 2018, criminalizes "pollution of the environment" when certain measurable thresholds are exceeded. These include discharges of wastewater, dust, or hazardous substances above legal limits. Punishments range from monetary fines to imprisonment between three months and seven years, depending on the severity and repeat nature of the offense. Notably, Article 76 of the Penal Code introduces criminal liability for legal persons,

[65] R. Valentine and T.D. Vo, 'Criminal Liability and Environmental Harm in Vietnam: A Legal Reform Perspective', *International Journal of Environmental Research and Public Health*, 16.2 (2024), pp. 4304–27, doi:https://doi.org/10.3390/ijerph16224327.

allowing for the prosecution of corporate entities that cause environmental harm.[66] These provisions represent a major shift from Vietnam's prior reliance on administrative sanctions and civil liability, signaling a growing recognition that environmental degradation requires criminal deterrence.

One of the most important regulatory developments accompanying the Penal Code reforms is the issuance of Decree No. 155/2016/ND-CP, which prescribes administrative penalties for environmental violations. Although not criminal in nature, the decree establishes detailed thresholds for pollutants and waste discharges, reinforcing the scientific basis for enforcement. The integration of such quantitative standards into both administrative and criminal law reflects Vietnam's attempt to bridge regulatory and punitive measures to address environmental harm holistically. In this way, Vietnam's legal framework while not explicitly employing the term "ecocide" enables the prosecution of conduct that could, under international definitions, meet the threshold of that crime.[67]

Vietnam's legal reforms have also been tested by high-profile environmental disasters. The most notorious case was the 2016 marine life disaster in the central provinces, caused by the Formosa Ha Tinh Steel Corporation. The Taiwanese-owned company released toxic industrial waste into the sea, resulting in the death of over 100 tons of fish and devastating the livelihoods of tens of thousands of coastal residents. Public outrage forced the government to investigate the case, and Formosa eventually admitted responsibility, agreeing to pay $500 million in compensation. While no criminal prosecution of corporate executives occurred, the case highlighted the scale of environmental damage that could warrant criminalization under an ecocide framework.[68] The Formosa case became a landmark moment in Vietnamese environmental consciousness and exposed weaknesses in the enforcement of existing laws.

In response to such disasters, Vietnamese courts and prosecutors have gradually begun

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[66] M. Nguyen, 'The Criminalization of Environmental Pollution in Vietnam: Challenges and Prospects', *Environmental Policy and Law*, 50.5 (2020), pp. 209–37, doi:https://doi.org/10.3233/EPL-200210.

[67] H. Truong, 'Codification of Environmental Crimes in Vietnam's Penal Code: An Overview', *Vietnam Journal of Law & Society*, 3.3 (2021), pp. 122–38, doi:https://doi.org/10.31219/osf.io/ejg45.

[68] T. Nguyen and D. Mc Donald, 'Justice for the Sea: Civil Society and the Formosa Pollution Crisis in Vietnam', *Marine Policy*, 11.7 (2020), pp. 32–57, doi:https://doi.org/10.1016/j.marpol.2020.103951.

to interpret environmental crimes more expansively. For example, courts now consider cumulative harm, duration of pollution, and damage to biodiversity when determining sentencing. However, despite these positive developments, the practical enforcement of criminal provisions remains inconsistent. Many cases are settled through administrative channels, and powerful corporate actors often benefit from political protection or opaque regulatory processes. Environmental defenders and civil society activists who challenge these actors frequently face harassment or arrest, raising concerns about the broader legal environment for ecological justice.

Vietnam's environmental legal architecture remains primarily anthropocentric, focusing on harms to public health, property, or economic interests rather than ecological integrity per se. This stands in contrast to models like Ecuador's, which recognize nature as a subject of rights. Nonetheless, Vietnam's emphasis on empirical evidence and quantifiable thresholds introduces a level of objectivity that can be advantageous for law enforcement. In criminal law, the ability to demonstrate that specific pollutant levels were exceeded often provides a stronger legal basis for conviction than more abstract standards. This evidentiary clarity could form the technical backbone for a future ecocide law in Vietnam, or in other jurisdictions like Indonesia, where legal certainty is essential for prosecutorial success.[69]

Another noteworthy development in Vietnam is the increasing attention to transboundary environmental harm, especially along the Mekong River and the South China Sea. As Vietnam shares ecological systems with neighboring countries, the degradation of shared resources has prompted discussions on regional legal harmonization and international cooperation. Although no multilateral legal instruments currently obligate Vietnam to recognize ecocide, the country's involvement in ASEAN environmental forums and bilateral agreements on pollution control suggest a growing openness to international environmental norms. Scholars have suggested that regional frameworks could serve as a stepping stone toward the recognition of ecocide as a transnational crime, particularly in Southeast Asia where cross-border environmental

[69] T. Pham and M. RIzzi, 'Evidence-Based Approaches in Environmental Law Enforcement: The Case of Pollution Control in Vietnam', *Journal of Environmental Management*, 28.2 (2023), pp. 114–32, doi:https://doi.org/10.1016/j.jenvman.2021.112292.

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For Indonesia, Vietnam's experience offers both cautionary and constructive lessons. The use of pollutant thresholds in criminal law could be adapted to Indonesia's legal system to improve prosecutorial success in environmental cases. Indonesia's Law No. 32 of 2009 on Environmental Protection and Management currently includes criminal provisions, but they are often difficult to enforce due to vague language and high burdens of proof. Learning from Vietnam, Indonesia could revise its legislation to include quantitative parameters, such as permissible levels of chemical discharges, solid waste generation, or forest cover reduction. Such specificity would enhance legal certainty and enable law enforcement agencies to act decisively against polluters.

In addition, Vietnam's recognition of corporate criminal liability offers a template for Indonesia to expand its own corporate accountability mechanisms. Although Indonesian law allows for the prosecution of corporations under certain conditions, enforcement remains weak and fragmented. Strengthening the doctrine of corporate mens rea and establishing a clearer framework for attributing environmental harm to legal entities could make Indonesia's environmental law more effective. Moreover, Indonesia could consider developing specialized environmental courts or prosecutorial units to handle ecocide-

[70] Thong Anh Tran and Cecilia Tortajada, 'Responding to Transboundary Water Challenges in the Vietnamese Mekong Delta: In Search of Institutional Fit', *Environmental Policy and Governance*, 32.4 (2022), doi:10.1002/eet.1980.

level crimes, as the complexity of such cases often requires interdisciplinary expertise in environmental science, forensic analysis, and criminal procedure.

Vietnam's limitations, however, are instructive. The absence of a legal subjectivity of nature, the dominance of economic development narratives, and the repression of environmental activism all point to the fragility of legal reforms in the absence of broader political support. Indonesia must therefore ensure that any move toward ecocide criminalization is accompanied by institutional safeguards, judicial independence, and civil society engagement. Without these, ecocide provisions risk becoming symbolic gestures with little practical effect. Vietnam's evolving approach to environmental crime illustrates a gradual movement toward the recognition of ecocide in substance, if not in name. Through the incorporation of pollutant thresholds, corporate liability, and expanded prosecutorial powers, Vietnam is laying the groundwork for a legal response to environmental harm that aligns with global definitions of ecocide. While significant challenges remain, particularly in enforcement and political openness, Vietnam provides a pragmatic model for countries like Indonesia to study and adapt. By combining the evidentiary rigor of Vietnam's framework with the ecocentric vision of Ecuador and the international alignment seen in Belgium, Indonesia can develop a robust legal regime to confront and prevent environmental destruction at the scale of ecocide.

Thus, the ideal model of ecocide criminalization for Indonesia is one that integrates normative, institutional, and contextual approaches in a comprehensive manner. From Belgium, Indonesia can adopt the framework of explicit corporate criminal liability, including the development of specialized prosecutorial mechanisms and enforcement units trained in environmental science and legal procedures. Such institutional arrangements are crucial given that large-scale environmental destruction in Indonesia is often perpetrated by corporate actors in sectors such as forestry, mining, and agribusiness.

From Ecuador, Indonesia should draw on the normative foundation of the Rights of Nature, which recognizes ecosystems as legal subjects entitled to exist, flourish, and regenerate. This ecocentric legal philosophy not only strengthens the ethical and philosophical basis for environmental protection but also creates a new legal pathway to define ecocide as a crime against nature itself not merely against human interests. This approach could be integrated into Indonesia's constitutional framework or sectoral

environmental laws to expand the legal scope of environmental rights and responsibilities.

From Vietnam, Indonesia can learn from a gradual yet systematic reform of environmental criminal law, particularly through the inclusion of ecocide related offenses in its Penal Code and the imposition of liability on corporate entities. Vietnam's experience demonstrates that a developing country can strengthen environmental accountability while maintaining its developmental goals a balance that Indonesia also seeks to achieve. Vietnam's legal reform is contextually relevant given the ecological, economic, and geopolitical similarities between the two Southeast Asian nations. The ideal model for Indonesia is a hybrid framework that combines an ecocentric normative basis, strong institutional enforcement mechanisms, and context sensitive legal reform. This model should be realized through the establishment of ecocide as a distinct criminal offense either in the Penal Code or through a dedicated environmental crime law alongside institutional capacity-building and a shift in legal paradigms from anthropocentric to ecologically just principles.

4. CONCLUSION

This study concludes that the absence of ecocide as a legal offense in Indonesia exposes a critical gap in environmental governance, especially given the country's ecological fragility and frequent large-scale environmental harm. Current laws, particularly Law No. 32 of 2009, lack the strength to address severe, widespread, and long-term damage. Drawing from Belgium's structured legal codification, Ecuador's ecocentric recognition of nature's rights, and Vietnam's pragmatic focus on corporate liability and empirical thresholds, the study proposes a hybrid model for Indonesia. Criminalizing ecocide—whether through Penal Code reform or environmental legislation—would mark a fundamental shift in legal philosophy, positioning nature as a legal subject and mandating corporate and individual accountability, ecological restoration, and inclusive justice mechanisms. Beyond technical reform, the criminalization of ecocide is an ethical necessity for ensuring intergenerational equity and ecological resilience, affirming Indonesia's role as a regional leader in advancing environmental justice.

5. CONFLICTING INTEREST STATEMENT

The authors state that there is no conflict of interest in the publication of this article.

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