

Original Article

Questioning Ecological Justice in Indonesian Forestry Regulations

Sholahuddin Al-Fatih^{1,*}, Clarizze Yvoine Mirielle², Enas Qutieshat³, Uzoho Kelechi⁴, Narzullaev Olim Kholmamatovich⁵

¹ Faculty of Law, Universitas Muhammadiyah Malang, Malang, Indonesia.

² University of La Rochelle, La Rochelle, France.

³ Faculty of Law, Sohar University, Sohar, Oman.

⁴ Hutton School of Business, University of the Cumberland, Williamsburg, USA.

⁵ Department of Environmental Law, Tashkent State University of Law, Tashkent, Uzbekistan.

*Corresponding Author: salfatih@umm.ac.id

Abstract

This study examines forestry regulation from the perspective of ecological justice by analysing the relationship between state control, environmental protection, and the rights of indigenous peoples. The research employs a normative legal research method based on secondary data comprising primary and secondary legal materials. The approaches adopted include statutory, conceptual, and comparative approaches to assess forestry governance in Indonesia and to compare it with Canada. The findings indicate that, at the normative level, forestry regulations have accommodated the principles of sustainability and social justice; however, their implementation continues to face challenges, including centralised authority, tenure conflicts, and environmental degradation. The comparative analysis demonstrates the importance of integrating ecosystem protection, recognising the rights of indigenous peoples, and ensuring public participation. Accordingly, the reconstruction of forestry regulation is required to strengthen participation, to reaffirm the meaning of state control as a public mandate, and to enhance enforcement mechanisms grounded in environmental restoration for the benefit of intergenerational sustainability.

Keywords: Ecological; Forestry; Justice; Regulation; Sustainability;

Introduction

Indonesia occupies a pivotal position as the largest archipelagic state in the world, with approximately 120.5 million hectares, or around 63 per cent of its land area, designated as State Forest Areas. Notwithstanding that its terrestrial territory comprises only 1.3 per cent of the total global landmass, Indonesia is home to the third-largest tropical rainforest in the world, characterised by unparalleled biodiversity and endemic species.¹ From a juridical perspective, the governance of these resources is grounded in the Article 33, paragraph (3) of the 1945 Constitution, which stipulates that all natural resources are controlled by the state for the greatest possible prosperity of the people. Over time, national forestry regulation has undergone dynamic transformation. Commencing with Law No. 41 of 1999, the regulatory framework was subsequently integrated through Law No. 6 of 2023 concerning Job Creation (Omnibus Law). This transformation has been reinforced by implementing regulations, including Government Regulation No. 23 of 2021, as well as various Ministerial Regulations of the Ministry of Environment and Forestry governing technical particulars, ranging from land-use arrangements to investment licensing mechanisms in the forestry sector.²

¹ 'Forestix - Statistik Kementerian Kehutanan' <<https://statistik.kehutanan.go.id/statistic/show/angka-deforestasi-netto-di-dalam-dan-di-luar-kawasan-hutan>> [accessed 23 February 2026].

² Muhammad Subhan and H Moh Muhibbin, 'Analisis Dampak Pemberlakuan Uu Nomor 6 Tahun 2023 Tentang Cipta Kerja Terhadap Hak Masyarakat Adat Atas Tanah Ulayat', *Dinamika*, 31.1 (2025), 11388–402 <<https://jim.unisma.ac.id/index.php/jdh/article/view/26673>> [accessed 23 February 2026].



In light of the increasingly concerning condition of forest ecosystems, safeguarding their continued existence has become an imperative.³ Forest management must be guided by ecological justice. Its objective is to ensure the sustainability of forests as life support systems and as a source of welfare for present and future generations, as well as to realise justice that necessitates a reformulation of the human nature relationship from an anthropocentric orientation to an eco-centric one.⁴ In this regard, justice is not confined to human beings as its sole subjects, but extends to other species and to ecosystems as a whole. The term “ecological justice” underscores the urgent necessity of uniting societies across diverse social backgrounds worldwide to protect the environment and safeguard the socio-economic sustainability of communities.⁵

Accordingly, these forestry regulations are enacted with the objective of governing sustainable forest management to ensure the preservation of forests and enable their optimal utilisation for the benefit of humankind.⁶ Through such regulations, the state seeks to protect the ecological functions of forests as life-support systems, including maintaining climate balance, conserving biodiversity, and regulating hydrological systems to prevent floods and landslides. Furthermore, forestry regulation governs the utilisation of forest resources so that it is undertaken prudently, in a planned manner, and without causing environmental harm, thereby ensuring that the economic benefits derived from forests may be obtained without compromising their sustainability.⁷ On the other hand, these regulations provide legal certainty concerning the rights, obligations, and responsibilities of the Government, the public, and business actors in forest management, whilst also prescribing sanctions for violations. Accordingly, forestry regulation serves not only to protect forests but also to promote public welfare and the sustainable development.⁸

However, the effectiveness of forestry regulation following the implementation of the Job Creation Law remains a matter of significant academic debate. On the one hand, the streamlining of bureaucracy through the Online Single Submission (OSS) system is regarded as effective in enhancing investment efficiency and providing licensing certainty for business actors.⁹ On the other hand, the effectiveness of the forest protection function is facing serious challenges. The modification of the sanctions regime, which places greater emphasis on administrative fines as an *ultimum remedium*, reflects this development.¹⁰ Within the framework of ecological justice, sanctions for environmental degradation ought to be

³ Eno Suwarno, Dodik Ridho Nurrochmat, and Sigit Sunarta, ‘Negara, Hutan, Dan Masyarakat Dalam Undang-Undang Nomor 41 Tahun 1999: Sebuah Analisis Politik Ekologi’, *Jurnal Risalah Kebijakan Pertanian Dan Lingkungan*, 12.2 (2025), 108 <<https://doi.org/10.29244/jkebijakan.v12i2.64859>>.

⁴ Eno Suwarno and Irawan Harahap, ‘Analisis Kritis Akses Dan Eksklusi Dalam Regulasi Kehutanan Undang-Undang Nomor 41 Tahun 1999 Tentang Kehutanan’, *Andrew Aw Journal*, 4.1 (2025), 162–77 <<https://doi.org/10.61876/alj.v4i1.41>>.

⁵ Agus Surono and others, ‘Implementasi Penertiban Kawasan Hutan Dan Tantangan Keadilan Sosial Ekologis Di Indonesia Pasca Perpres No. 5 Tahun 2025’, *JIM: Jurnal Ilmiah Mahasiswa Pendidikan Sejarah*, 10.4 (2025), 55–69 <<https://doi.org/10.24815/sejarah.v10i4.52>>.

⁶ Taryadi Taryadi and Radhali Radhali, ‘Penegakan Hukum Pidana Terhadap Deforestasi Berbasis Prinsip Green Economy Indonesia’, *Locus Journal of Academic Literature Review*, 5.2 (2026), 161–74 <<https://doi.org/10.56128/ljoalr.v5i2.859>>.

⁷ Aldisanjaya, ‘Efektivitas Penegakan Hukum Terhadap Tindak Pidana Lingkungan Di Kawasan Hutan Lindung: Analisis Yuridis Dan Sosiologis’, *Indonesian Journal of Multidisciplinary Studies Global*, 1.1 (2025), 1–6 <<https://e-journal.nusantaraglobal.ac.id/index.php/ijmsg/article/view/48>> [accessed 23 February 2026].

⁸ Celine Clarentia, Rosmalinda, and Affila, ‘Analisis Penegakan Hukum Terhadap Kasus Perusakan Hutan Mangrove Di Desa Kwala Serapuh, Kabupaten Langkat’, *Adagium: Jurnal Ilmiah Hukum*, 4.1 (2026), 1–10 <<https://doi.org/10.70308/adagium.v4i1.256>>.

⁹ Fadhil and others, ‘Analisis Hukum Terhadap Pembiaran Penebangan Hutan Dan Alih Fungsi Lahan Menjadi Perkebunan Sawit Yang Memicu Banjir Bandang Di Sumatera’, *Adagium: Jurnal Ilmiah Hukum*, 4.1 (2026), 66–88 <<https://doi.org/10.70308/adagium.v4i1.267>>.

¹⁰ Syofiarti, Titin Fatimah, and Nur Aini, ‘Problematik Hukum Dan Perlindungan Hak Masyarakat Dalam Penggunaan Kawasan Hutan Untuk Kegiatan Perkebunan’, *Bina Hukum Lingkungan*, 10.1 (2025), 1–21 <<https://doi.org/10.24970/bhl.v10i1.468>>.



grounded in an ecological perspective and implemented through a criminal justice system that advances corrective justice (assessing whether transactional injustice has occurred between the parties concerned), restorative justice (restoring conditions in order to remedy harm), and rehabilitative justice (not merely punishing offenders, but also transforming their behaviour).¹¹

Another challenge posed by this regulatory framework is reflected in the removal of the minimum 30 per cent forest cover threshold, which is feared to weaken the deterrent effect against deforestation and environmental degradation at the site level.¹² Furthermore, Article 26 of the Job Creation Law stipulates that utilisation within protected forests may take the form of area utilisation, the utilisation of environmental services, and the collection of non-timber forest products. All such utilisations are undertaken under a business licence granted by the Central Government.¹³ Under the previous regulatory framework, Article 26 paragraph (2) of the Forestry Law did not provide legal certainty as to which authority was responsible for issuing business licences. While the simplification of the licensing process facilitates the submission of business permit applications, such a provision may reinforce disparities in the utilisation of forest resources between traditional communities and large-scale business enterprises within protected forests.¹⁴

Furthermore, amendments introduced by the Job Creation Law facilitate the entry of foreign investment into the management of protected forests. Consequently, on the one hand, a significant influx of foreign capital may potentially enter this sector.¹⁵ On the other hand, competition between small and large-scale enterprises is likely to occur unabated in the utilisation of protected forests, thereby reinforcing disparities in forest resource use between local communities and major business actors. Community access to forest management is increasingly constrained as they compete with large enterprises. As a result, the principles of popular sovereignty and the objective of collective prosperity are often marginalised by the strengthening of state administrative authority in the governance of these resources.¹⁶ To date, persistent challenges in Indonesian forestry remain evident, as demonstrated by forest and land fires in regions such as Sumatra and Kalimantan, mining activities in Lumajang, East Java, deforestation in Tana Papua, and land conflicts. These developments raise a pressing question; whether forestry regulation in Indonesia has been implemented effectively and, in a manner, consistent with ecological justice.¹⁷

According to the most recent forest cover monitoring data in 2024, Indonesia recorded a gross deforestation rate of approximately 216,000 hectares. After accounting for restoration or reforestation efforts covering roughly 40,000 hectares, the national net deforestation stands at around 175,000 hectares. This phenomenon of tree cover loss

¹¹ Abdurrahman Abdullah, Micah R. Fisher, and Muhammad Alif K. Sahide, 'Environmental Governance Challenges of Indigenous Forest Recognition: Climate Solution Ideal and Its Uneven Outcomes in Indonesia', *Forest and Society*, 8.2 (2024), 402–21 <<https://doi.org/10.24259/fs.v8i2.34423>>.

¹² M. R. Fisher and others, 'Assessing the New Social Forestry Project in Indonesia: Recognition, Livelihood and Conservation?', *International Forestry Review*, 20.3 (2018), 346–61 <<https://doi.org/10.1505/146554818824063014>>.

¹³ Subhan and Moh Muhibbin.

¹⁴ Fadhil and others.

¹⁵ Fathul Hamdani and others, 'Persoalan Lingkungan Hidup Dalam UU Cipta Kerja Dan Arah Perbaikannya Pasca Putusan MK Nomor 91/PUU-XVIII/2020', *Indonesia Berdaya*, 3.4 (2022), 977–86 <<https://doi.org/10.47679/ib.2022302>>.

¹⁶ Flourencia Gracia and Okane Muijs, 'Analisis Pergeseran Paradigma Otonomi Daerah Sebelum Dan Sesudah Undang-Undang Cipta Kerja', *INOMATEC: Jurnal Inovasi Dan Kajian Multidisipliner Kontemporer*, 1.03 (2026), 3123–5573 <<https://portalpublikasi.com/index.php/inomatec/article/view/764>> [accessed 23 February 2026].

¹⁷ Hario Danang Pambudhi and Arief Virgy, 'Kewenangan Pemerintah Daerah Dalam Pengelolaan Kehutanan Pasca Undang-Undang Cipta Kerja [The Authority Of Local Governments In The Context Of Forestry Management After The Law On Job Creation]', *Law Review*, 21.3 (2022), 363–88 <<https://doi.org/10.19166/lr.v0i3.4885>>.



exhibits highly specific characteristics, with over 90 per cent of the affected areas classified as secondary forest. Moreover, approximately 69 per cent of the logging or land conversion activities occur within State Forest Areas, indicating that challenges in administrative oversight remain substantial.¹⁸ Overall, these statistics confirm that, although the rate of forest degradation in Indonesia has declined significantly compared to the early 2000s, the reduction in forest area continues annually and requires sustained mitigation measures.

Research on forestry regulation in Indonesia has been conducted by several scholars, each focusing on different aspects of the subject. In her study on the juridical review of limited forest occupation in Kepau Jaya following the enactment of Law No. 6 of 2023 concerning Job Creation, Astri Ivo¹⁹ identified a gap between legal norms and their practical implementation in the field. This discrepancy has the potential to undermine the principles of the rule of law, particularly legal certainty and the supremacy of law, and poses a risk of disregarding the rights of indigenous communities as well as the ecological functions of forests. Muchammad Chanif²⁰ highlights that efforts to resolve access to land tenure within forest areas continue to face various structural obstacles, particularly due to weak data integration and inadequate coordination among governmental institutions. Meanwhile, Hario Danang²¹ examines the issue of centralised authority to grant forestry permits under the Job Creation Law, which is considered not fully aligned with the constitutional design for the division of powers between the central and regional governments in the management of forest resources. In addition, Syafira²² discusses the application of the *ultimum remedium* principle in forestry law enforcement, as well as the various implementation challenges encountered in practice.

Although these studies have made significant contributions to understanding the challenges of forestry regulation from normative, institutional, and law enforcement perspectives, comprehensive analyses that situate forestry regulation within the framework of ecological justice remain limited. This study addresses that gap by offering an analysis of forestry regulation in Indonesia through the lens of ecological justice, while also formulating directions for reforming forestry regulation with a focus on balancing legal certainty, environmental protection, and social justice. Accordingly, the novelty of this research lies in integrating legal and ecological perspectives within a framework for evaluating and reconstructing of forestry governance in Indonesia.

Method

This study employs a normative legal research methodology to examine the norms, principles, and legal doctrines governing forestry regulations within the framework of ecological justice.²³ This study applies a statutory approach, which involves the identification, review, and analysis of legislation and regulatory instruments relevant to forestry governance and environmental protection. In addition, a conceptual approach is employed to analyse theoretical perspectives on ecological justice, state control over natural resources, and

¹⁸ 'Forestix - Statistik Kementerian Kehutanan'.

¹⁹ Astri Ivo, 'Tinjauan Yuridis Okupasi Hutan Produksi Terbatas Di Desa Kepau Jaya: Implementasi Dan Hambatan Pasca-Uu Cipta Kerja', *Journal Education, Sociology and Law*, 1.4 (2025), 2068–81 <<https://publisherqu.com/index.php/edusola/article/view/4015>> [accessed 20 February 2026].

²⁰ Muchammad Chanif Chamdani, 'Penyelesaian Penguasaan Tanah Di Dalam Kawasan Hutan Pasca Pengaturan Undang-Undang Cipta Kerja', *Jurnal Hukum Lingkungan Indonesia*, 7.2 (2021), 221–53 <<https://doi.org/10.38011/jhli.v7i2.292>>.

²¹ Danang Pambudhi and Virgy.

²² Syafira, 'Implementasi Prinsip Ultimum Remedium Terhadap Keterlanjuran Kegiatan Perkebunan Kelapa Sawit Di Dalam Kawasan Hutan Berdasarkan Undang-Undang Cipta Kerja', *Delicti: Jurnal Hukum Pidana Dan Kriminologi*, 2.2 (2024), 1–9 <<https://doi.org/10.25077/delicti.v.2.i.2.p.1-9.2024>>.

²³ Tunggul Ansari and Setia Negara, 'Normative Legal Research in Indonesia: Its Originis and Approaches', *Audito Comparative Law Journal (ACLJ)*, 4.1 (2023), 1–9 <<https://doi.org/10.22219/ACLJ.V4I1.24855>>.



sustainable environmental governance.²⁴ A comparative approach is also employed to assess the differences and similarities in forestry regulations between Indonesia and Canada, to evaluate alternative models of ecosystem-based forest management and the recognition of indigenous rights.²⁵

This study relies on both primary and secondary legal materials. Primary legal sources include the 1945 Constitution of the Republic of Indonesia, Law No. 41 of 1999 on Forestry, Law No. 32 of 2009 on Environmental Protection and Management, Law No. 6 of 2023 concerning Job Creation, Constitutional Court Decision No. 35/PUU-X/2012, and regulations on Social Forestry issued by the Ministry of Environment and Forestry. Secondary legal materials include academic books, scholarly journal articles, policy reports, and expert legal opinions on forestry law, ecological justice, and environmental governance. All legal materials were collected through library research and analysed using qualitative juridical methods to interpret legal norms, evaluate their implementation, and formulate recommendations for reconstructing forestry regulations in accordance with the principles of ecological justice.

Results and Discussions

The Significance of Ecological Justice in Forestry

Rawls' theory offers three core pillars as solutions to issues of justice. First, the principle of equal liberty, which holds that every individual possesses the same basic rights and freedoms, so long as the exercise of these rights does not interfere with the similar rights of others. This idea aligns with Aristotle's concept of equality and with natural law, which recognise that all humans have an equal standing in the acquisition of rights. Second, Rawls introduces the difference principle, which serves as an adjustment to absolute equality: social and economic inequalities are permissible only if they are arranged to benefit all parties, particularly the least advantaged, and if access to positions and offices is open to all under conditions of transparency. Third, there is the principle of fair equality of opportunity, which mandates that the distribution of economic access be managed in such a way that every individual has an equal chance to benefit from it.²⁶ In its application to the environmental sector, this framework of justice serves as a crucial foundation for ensuring the sustainable and non-discriminatory rights of communities. The implementation of justice is no longer merely oriented towards fulfilling human needs but has transformed into a basis for maintaining ecosystem balance. This encompasses the harmonisation of relationships among natural components as well as the social dynamics that collectively constitute the environmental system.²⁷

Indonesia holds the status of the "lungs of the world" due to its vast expanses of tropical rainforest, rivalled only by the Amazon Forest in Brazil in terms of scale and density.²⁸ These forests serve as a key pillar in maintaining the stability of the global ecosystem, primarily through their remarkable capacity to absorb carbon dioxide emissions while simultaneously

²⁴ 'Global Forest Resources Assessment 2020', *Global Forest Resources Assessment 2020*, 2020 <<https://doi.org/10.4060/ca9825en>>.

²⁵ Zach Wirtz and others, 'What Makes Urban Forest Governance Successful? – A Study among Canadian Experts', *Urban Forestry & Urban Greening*, 58 (2021), 126901 <<https://doi.org/https://doi.org/10.1016/j.ufug.2020.126901>>.

²⁶ Musafir Musafir and others, 'Conceptualizing Criminal Fine Enforcement in Indonesia's Forestry Sector through Ecological Restoration', *Journal of Law, Environmental and Justice*, 3.3 (2025), 542–71 <<https://doi.org/10.62264/jlej.v3i3.181>>.

²⁷ Vincent Nijman and others, 'Quantifying Illegal Rosewood Trade, Seizures and Forestry Law Enforcement in Indonesia', *Applied Geography*, 176.1 (2025), 103509 <<https://doi.org/10.1016/j.apgeog.2025.103509>>.

²⁸ Elías Cisneros and others, 'Impacts of Conservation Incentives in Protected Areas: The Case of Bolsa Floresta, Brazil', *Journal of Environmental Economics and Management*, 111 (2022), 45–64 <<https://doi.org/10.1016/j.jeem.2021.102572>>.



producing vast quantities of oxygen.²⁹ With a territorial coverage spanning millions of hectares, Indonesia occupies a crucial position in the international mission to mitigate climate change and conserve the planet's biodiversity. These natural riches extend across major islands such as Kalimantan, Sumatra, Sulawesi, and Papua. For millions of inhabitants, forests are not merely environmental assets but constitute a primary livelihood, essential for meeting daily subsistence needs.³⁰ This is particularly pronounced for indigenous communities, for whom forests hold a deeper significance: not only as a source of economic livelihood but also as a living space and a core aspect of identity, inseparable from their very existence.³¹

Monitoring data from the Ministry of Environment and Forestry (KLHK) in 2022 revealed that approximately 96.0 million hectares, or 51.2 per cent of Indonesia's land area, remain under forest cover. Of this total area, the majority, around 92.0 per cent (88.3 million hectares) falls within legally recognised State Forest Areas.³² This legal status confirms that the majority of Indonesia's forested areas are under the regulatory protection and management of the state to ensure their sustainability. Within this legal framework, customary forests occupy a particularly essential position.³³ Indigenous communities across the archipelago not only reside within forests but also serve as the frontline guardians of these territories. For them, forests are integral to their very existence, where environmental preservation represents a tangible expression of respect for ancestral traditions and the maintenance of spiritual balance passed down through generations.³⁴ Under the 1945 Constitution of the Republic of Indonesia, as the nation's supreme law, the existence of indigenous communities and their rights are formally recognised. Their recognition is situated within the framework in Article 18B paragraph (2) of the 1945 Constitution.³⁵ The Article stipulates that the state recognises and respects the existence of indigenous legal communities and their traditional rights, provided that these communities continue to exist, remain in harmony with the times, and are consistent with the principles as regulated by statutory law.³⁶

The dynamics of forestry policy following the enactment of Law No. 6 of 2023 (Job Creation) indicate a paradigm shift towards bureaucratic simplification and accelerated investment. Through revisions to Articles 26 and 27, the law expands the scope of legal subjects entitled to manage forest areas and centralises all licensing authority in the Central Government's hands.³⁷ Although this approach is designed to enhance administrative efficiency and economic optimisation, the policy carries serious consequences for the distribution of rights, the scope of state control, and the narrowing of participatory space for local communities.³⁸ The implementation of this policy on the ground is often

²⁹ Suparto Suparto and others, 'The Concept of State Control over Forests and Forest Areas in Indonesia', *Journal of Law, Environmental and Justice*, 3.2 (2025), 201–28 <<https://doi.org/10.62264/jlej.v3i2.136>>.

³⁰ Jatna Supriatna and others, 'Deforestation on the Indonesian Island of Sulawesi and the Loss of Primate Habitat', *Global Ecology and Conservation*, 24.4 (2020) <<https://doi.org/10.1016/j.gecco.2020.e01205>>.

³¹ Subhan and Moh Muhibbin.

³² 'Forestix - Statistik Kementerian Kehutanan'.

³³ Herwansyah Herwansyah, 'Analisis Dampak Kehadiran Hak Pengelolaan (HPL) Bagi Tanah Ulayat Masyarakat Adat Pasca Disahkannya UU Cipta Kerja', *Jurnal Fundamental Justice*, 6.2 (2025), 165–76 <<https://doi.org/10.30812/fundamental.v6i2.5119>>.

³⁴ Syofiarti, Fatimah, and Aini.

³⁵ Surono and others.

³⁶ William R.I. Sopaheluwakan and others, 'Two-Decade Decentralization and Recognition of Customary Forest Rights: Cases from Special Autonomy Policy in West Papua, Indonesia', *Forest Policy and Economics*, 151 (2023), 102951 <<https://doi.org/10.1016/j.forpol.2023.102951>>.

³⁷ Grace Yee Wong and others, 'When Policies Problematize the Local: Social-Environmental Justice and Forest Policies in Burkina Faso and Vietnam', *Forest and Society*, 8.1 (2024), 296–313 <<https://doi.org/10.24259/fs.v8i1.34276>>.

³⁸ Aura Nafisah, Sesilia Grace Sitohang, and Zulkarnaini, 'Peran Kebijakan Lingkungan Dalam Pembangunan Berkelanjutan Di Indonesia: Studi Kasus Sektor Kehutanan', *NETIZEN: JOURNAL OF SOCIETY AND*



accompanied by tangible threats of deforestation, as observed in the customary territories of Tana Papua. Land exploitation by large corporations such as PT IAL, PT KCP, and PT SAS has resulted in the extensive loss of indigenous lands. The impact extends beyond the physical denial of communities' access to their natural livelihoods, also triggering social degradation. Indigenous peoples, who were once autonomous stewards of their land, are now compelled to work as wage labourers on their ancestral territories.³⁹

Deforestation is fundamentally driven by land conversion and forest utilisation practices that disregard the principles of sustainability. Such land use changes typically transform forest areas into non-forest zones, including mining sites, large-scale plantations, and agricultural land. Specifically, this phenomenon is propelled by two dimensions of factors.⁴⁰ First, internal factors include a weak forest monitoring and protection system, limited infrastructure, and the vastness of forest areas which outweigh personnel's capacity to maintain control. *Second*, external factors involve the socio-economic pressures faced by communities surrounding the forests. Low levels of welfare incentivise residents to clear new land within fertile forest areas to meet their basic subsistence needs.⁴¹

Although often justified as a means of accelerating economic development, the losses from deforestation are multidimensional.⁴² At the local level, habitat destruction triggers the loss of floral and faunal biodiversity and heightens the risk of hydrometeorological disasters, such as floods and landslides. At the global level, deforestation directly contributes to the deterioration of air quality.⁴³ The loss of tree stands reduces the capacity to absorb carbon dioxide, leading to higher atmospheric concentrations of greenhouse gases and exacerbating the climate crisis.⁴⁴ Furthermore, uncontrolled land conversion can be categorised as a violation of human rights. The dispossession of indigenous communities' living spaces results in the loss of livelihoods, leading to structural poverty and protracted agrarian conflicts. This process is frequently compounded by a lack of transparency, the absence of legitimate permits, and the disregard for indigenous peoples' participatory rights in decision-making over their ancestral lands.⁴⁵

The ecological implications of deforestation are closely intertwined with dimensions of social justice. Forest degradation does not impact all populations equally; rather, it tends to impose a greater burden on communities that rely directly on forest resources, particularly indigenous legal communities and local populations.⁴⁶ The loss of livelihoods, environmental degradation, and heightened vulnerability to climate change indicate that the ecological crisis

BUSINESS, 2.1 (2025), 21–30 <<https://languar.net/index.php/NETIZEN/article/view/509>> [accessed 23 February 2026].

³⁹ Batahan Fransiskus Sihombing, 'Critical Studies of the Land Mafia Practices: Evidence in Indonesia', *Beijing Law Review*, 14.01 (2023), 433–72 <<https://doi.org/10.4236/blr.2023.141023>>.

⁴⁰ David L.A. Gaveau and others, 'Slowing Deforestation in Indonesia Follows Declining Oil Palm Expansion and Lower Oil Prices', *PLoS ONE*, 17.3 March (2022) <<https://doi.org/10.1371/journal.pone.0266178>>.

⁴¹ Siti Romdonah and Ikomatussuniah Ikomatussuniah, 'Penegakan Hukum Terhadap Masyarakat Dalam Menghadapi Deforestasi Hutan Adat Papua', *Pikukuh: Jurnal Hukum Dan Kearifan Lokal*, 2.1 (2025), 56–69 <<https://jurnal.untirta.ac.id/index.php/pikukuh/article/view/30768>> [accessed 23 February 2026].

⁴² Mohammad Jamin and others, 'The Impact of Indonesia's Mining Industry Regulation on the Protection of Indigenous Peoples', *Hasanuddin Law Review*, 9.1 (2023), 88–105 <<https://doi.org/10.20956/halrev.v9i1.4033>>.

⁴³ Rosemary Ostfeld and David M. Reiner, 'Seeing the Forest through the Palms: Developments in Environmentally Sustainable Palm Oil Production and Zero-Deforestation Efforts', *Frontiers in Sustainable Food Systems*, 8 (2024) <<https://doi.org/10.3389/fsufs.2024.1398877>>.

⁴⁴ Dodik Ridho Nurrochmat and others, 'Transformation of Agro-Forest Management Policy under the Dynamic Circumstances of a Two-Decade Regional Autonomy in Indonesia', *Forests*, 12.4 (2021), e16115 <<https://doi.org/10.3390/f12040419>>.

⁴⁵ Romdonah and Ikomatussuniah.

⁴⁶ Antoni Ungirwalu and others, 'The Fall of the Kings: Power Relations and Dynamics in Papua's Indigenous Community in Forest Resource Management', *Forest Policy and Economics*, 172 (2025) <<https://doi.org/10.1016/j.forpol.2025.103424>>.



is also a crisis of social justice. Accordingly, forest protection constitutes not only an ecological obligation of the state but also a social duty to safeguard the fundamental rights of communities.⁴⁷

Law No. 41 of 1999 on Forestry affirms that the purpose of forestry management is to realise the greatest possible prosperity of the people in a just and sustainable manner (Article 3). This provision mandates the state to ensure the sustainability of forest functions through management that considers the proportional area and distribution of forest zones, the optimisation of conservation, protection, and production functions, and the participatory empowerment of communities.⁴⁸ Accordingly, forestry governance is oriented not only towards the utilisation of resources but also towards the protection of ecological carrying capacity and the social resilience of communities.⁴⁹

From a public law perspective, the state holds ownership rights over forests as stipulated in Article 4 of Law No. 41 of 1999. These ownership rights encompass the authority to regulate, manage, and determine the status of forest areas, as well as to govern the legal relationships between legal subjects and forest resources. However, the state authority functions as a management mandate, constrained by the obligation to respect the rights of local communities, particularly indigenous legal communities, insofar as their existence is recognised and does not conflict with national interests.⁵⁰ This provision indicates that state ownership should be understood as a mechanism for protecting public interests, aimed at ensuring the equitable distribution of benefits from forest resources and preventing exploitation that damages the ecosystem.⁵¹ Furthermore, the explanation of Article 67 of Law No. 41 of 1999 clarifies that: (1) the existence of an indigenous legal community is recognised if it factually fulfils several criteria, namely: the community still exists in the form of an association or *rechtsgemeenschap*; there are institutions represented by customary authorities; it possesses a clearly defined customary law territory; customary norms and legal mechanisms, including customary courts, are still respected and applied; and the community continues to manage forest resources in its surrounding areas to meet daily subsistence needs.

Indonesia has established a specific mechanism to protect community access to customary forests through the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia No. P.83/MENLHK/SETJEN.KUM.1/10/2016 on Social Forestry. Article 1, paragraph 1, affirms that local communities or indigenous legal communities are the principal actors in efforts to enhance welfare and maintain social and cultural balance through the management of customary forests.⁵² In other words, this regulation provides formal recognition and support for the role of local communities or

⁴⁷ Jae Soo Bae and others, 'Promises and Perils of Decentralized Forest Governance: The Case of Indonesia's Forest Management Units in Reducing Emission from Deforestation and Forest Degradation (REDD+)', *Society and Natural Resources*, 27.12 (2014), 1346–54 <<https://doi.org/10.1080/08941920.2014.945061>>.

⁴⁸ Taryadi and Radhali.

⁴⁹ 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), 3770–90 <<https://doi.org/10.2166/wcc.2023.417>>.

⁵⁰ William R.I. Sopaheluwakan and others, 'Two-Decade Decentralization and Recognition of Customary Forest Rights: Cases from Special Autonomy Policy in West Papua, Indonesia', *Forest Policy and Economics*, 151.3 (2023), 592 <<https://doi.org/10.1016/j.forpol.2023.102951>>.

⁵¹ Armida S. Alisjahbana and Jonah M. Busch, 'Forestry, Forest Fires, and Climate Change in Indonesia', *Bulletin of Indonesian Economic Studies*, 53.2 (2017), 111–36 <<https://doi.org/10.1080/00074918.2017.1365404>>.

⁵² Keith Andrew Bettinger, 'The Fight over the Forest: The State, Rural Communities, and Customary Law in Indonesia', *Worldviews: Environment, Culture, Religion*, 19.2 (2015), 123–43 <<https://doi.org/10.1163/15685357-01902004>>.



indigenous peoples in managing customary forests.⁵³ They possess primary access and responsibility for safeguarding forest sustainability, enhancing community welfare, and maintaining social and cultural balance.⁵⁴ This statement indicates that indigenous legal communities is formally recognised if they meet certain criteria demonstrating the continuity and authenticity of their existence. However, in practice, the respect for the traditional rights of indigenous peoples is often neglected, particularly when conflicts arise between economic and investment interests and the protection of indigenous rights. Many government policies and decisions tend to prioritise the exploitation of natural resources for commercial purposes, without involving indigenous communities in the decision-making process.⁵⁵ This creates an imbalance in which indigenous communities lose access to and control over their ancestral lands, which have long been an integral part of their cultural identity and the sustainability of their livelihoods.⁵⁶

Operationally, forest management encompasses forest zoning and management planning, utilisation and use of forest areas, rehabilitation and reclamation, and forest protection and nature conservation, as regulated in Chapter V of Law No. 41 of 1999. Forest zoning is established dividing by areas based on ecosystem characteristics and management functions to ensure optimal and sustainable utilisation.⁵⁷ The utilisation of forest areas is directed towards enhancing community welfare while simultaneously applying ecological restrictions within conservation zones.⁵⁸ Forest rehabilitation and reclamation, as regulated under Article 41, are carried out through reforestation, greening, soil conservation, and the restoration of critical land using a participatory community-based approach. Meanwhile, forest protection under Article 47 aims to prevent and limit forest damage caused by human activities or natural factors, while safeguarding the rights of the state, communities, and business actors over forest areas.

Social justice in forestry practice requires the equitable distribution of benefits, access, and participation in the management of forest resources.⁵⁹ The recognition of indigenous legal communities within the forestry system demonstrates that protecting collective rights is an integral part of just forest governance. However, the strengthening of risk-based based licensing mechanisms and the centralisation of authority in contemporary forestry policy have the potential to restrict community participation in the decision-making process.⁶⁰ This

⁵³ Sapta Suhardono and others, 'Community-Centric Importance and Performance Evaluation of Human-Orangutan Conflict Management in Aceh, Indonesia', *Trees, Forests and People*, 15 (2024) <<https://doi.org/10.1016/j.tfp.2024.100510>>.

⁵⁴ Fx Hastowo Broto Laksito, Aji Bawono, and Afridah Ikrimah, 'Reducing Community Participation in the Preparation of Environmental Impact Assessments (EIA): Evidence from Indonesia', *Journal of Law, Environmental and Justice*, 2.2 (2024), 137–61 <<https://doi.org/10.62264/jlej.v2i2.101>>.

⁵⁵ Jacqueline D. Lau, Georgina G. Gurney, and Joshua Cinner, 'Environmental Justice in Coastal Systems: Perspectives from Communities Confronting Change', *Global Environmental Change*, 66.4 (2021), 23–32 <<https://doi.org/10.1016/j.gloenvcha.2020.102208>>.

⁵⁶ Kaggie Orrick, Michael Dove, and Oswald J. Schmitz, 'Human–Nature Relationships: An Introduction to Social–Ecological Practice Theory for Human–Wildlife Interactions', *Ambio*, 53.2 (2024), 201–11 <<https://doi.org/10.1007/s13280-023-01945-x>>.

⁵⁷ Daniela Alba-Patiño and others, 'Environmental Justice Gaps in Human-Wildlife Conflict Research from a Social-Ecological Systems Perspective', *Biological Conservation*, 312.2 (2025), 111515 <<https://doi.org/10.1016/j.biocon.2025.111515>>.

⁵⁸ Jacqueline Loos and others, 'An Environmental Justice Perspective on Ecosystem Services', *Ambio*, 52.3 (2023), 477–88 <<https://doi.org/10.1007/s13280-022-01812-1>>.

⁵⁹ Sayantani M. Basak and others, 'Perceptions and Attitudes to Understand Human-Wildlife Conflict in an Urban Landscape – A Systematic Review', *Ecological Indicators*, 151.1 (2023), 83–100 <<https://doi.org/10.1016/j.ecolind.2023.110319>>.

⁶⁰ Melissa Leach and others, 'Equity and Sustainability in the Anthropocene: A Social-Ecological Systems Perspective on Their Intertwined Futures', *Global Sustainability*, 1 (2018) <<https://doi.org/10.1017/sus.2018.12>>.



situation sparks a misalignment between the principle of recognising community rights and management practices that are oriented towards administrative control and investment.

The forest management and utilisation model often generates disharmony between communities and the state.⁶¹ This occurs because current policies have yet to incorporate the interests and needs of local communities. Forestry policies enacted by the Government have largely failed to recognise localised elements and environmentally based social structures. This is attributable to the underlying policy concept's a state-centred perspective.⁶² Conversely, forest resource extraction conducted by corporate entities is frequently not accompanied by reforestation mandates or replanting initiatives, thereby precipitating significant environmental degradation. The absence of such restorative measures results in a progressive deterioration of forest conditions, undermining the statutory objectives of sustainable management.⁶³ In principle, local communities that have inhabited forest areas for generations rely upon the extraction of forest resources for their subsistence. However, the enactment of policies designating conservation forests as state property, coupled with the prohibition of unauthorised exploitation, demonstrates that the state has yet to prioritise communal interests. Such regulatory frameworks often overlook the customary entitlements of these populations, prioritising state-centric control over local livelihoods.⁶⁴

Consequently, it is imperative to formulate policies that prioritise communal interests to effectively resolve the aforementioned legal and social conflicts. The active participation of forest-dwelling communities in the legislative process is essential to circumvent technocratic policymaking, which often lacks a socio-ecological context. Such an inclusive approach serves as a catalyst for fostering public awareness, thereby incentivising local communities to engage in the stewardship and sustainable utilisation of forest ecosystems.⁶⁵ Accordingly, the concept of ecological justice within the Indonesian forestry sector necessitates a cogent integration of environmental protection, the formal recognition of communal rights, and the efficacy of state-centric governance. This tripartite synergy is essential for ensuring that the forest remains a sustainable asset, safeguarded through a legal framework that balances ecological integrity with social equity.⁶⁶ The harmonisation of state authority, licensing mechanisms, and the recognition of indigenous legal rights constitutes a normative prerequisite for achieving forestry governance that is just, participatory, and sustainable. Without such integration, forestry policy risks producing social inequities while accelerating environmental degradation, ultimately undermining the legal objectives of forestry, which are intended to ensure the sustainable prosperity of the people.⁶⁷

⁶¹ Sukasno and others, 'Cross-Sectoral Policy Integration of Forest Biomass for Renewable Energy in Indonesia', *Forest Policy and Economics*, 182.3 (2026), 103684 <<https://doi.org/10.1016/j.forpol.2025.103684>>.

⁶² Salsa Rizkia Meilinda, Darmawan Salman, and Sawedi Muhammad, 'Conflict and Compromise, Discourse and Action: Political Ecology in the Complexity of Land Management in Central Kalimantan, Indonesia', *Forest and Society*, 9.2 (2025), 422–48 <<https://doi.org/10.24259/fs.v9i2.40301>>.

⁶³ Micah R. Fisher, Ahmad Dhiaulhaq, and Muhammad Alif K. Sahide, 'The Politics, Economies, and Ecologies of Indonesia's Third Generation of Social Forestry: An Introduction to the Special Section', *Forest and Society*, 3.1 (2019), 152–70 <<https://doi.org/10.24259/fs.v3i1.6348>>.

⁶⁴ Heni Kurniasih and others, 'The Evolution of Community Forestry through the Growth of Interlinked Community Institutions in Java, Indonesia', *World Development*, 139.3 (2021) <<https://doi.org/10.1016/j.worlddev.2020.105319>>.

⁶⁵ Juan José Miranda and others, 'Effects of Protected Areas on Forest Cover Change and Local Communities: Evidence from the Peruvian Amazon', *World Development*, 78.1 (2016), 288–307 <<https://doi.org/10.1016/j.worlddev.2015.10.026>>.

⁶⁶ Suparto and others.

⁶⁷ Yosep Ruslim and others, 'Residual Stand Damage Caused by Logging Operations in Secondary Forest in Berau District, East Kalimantan, Indonesia', *Biodiversitas*, 26.5 (2025), 2148–56 <<https://doi.org/10.13057/biodiv/d260513>>.



Comparative Analysis of Forestry Policy Based on Ecological Justice

Indonesia and Canada share similarities in ecological characteristics while exhibiting significant differences in legal structures and natural resource governance. Both countries possess vast forest areas, high biodiversity, and communities that are economically and socially dependent on forest resources. These similarities make them relevant for comparative analysis in assessing how law regulates the balance between economic utilisation, ecosystem protection, and justice for communities living in and around forests.⁶⁸ From the perspective of ecological justice, forestry regulation in Canada and Indonesia has evolved from a history of resource exploitation towards sustainable management, albeit based on different legal foundations and institutional orientations.⁶⁹ Canada has undergone changes in forest governance since the European colonial era, during which forests were intensively exploited for industrial use and timber export. As public awareness of ecological impacts grew, Canadian forestry policy transformed into a sustainability-based management system that prioritises ecosystem integrity as its primary objective.⁷⁰ The country's legal framework is decentralised, as the constitution grants provincial government authority over natural resource management, while the federal government plays a role in research, the establishment of national standards, and the fulfilment of international environmental commitments.⁷¹ Policies such as the National Forest Strategy and various provincial laws, including forestry regulations in British Columbia and the Crown Forest Sustainability Act in Ontario, affirm that forests are no longer viewed solely as economic commodities but as ecological systems whose balance must be maintained for the benefit of present and future generations.⁷²

Although Canada's regulatory framework is relatively advanced conceptually, its implementation still faces challenges including harvesting practices that impact habitats, water quality, and overall ecosystem sustainability.⁷³ Critiques regarding the laxity of regulatory oversight and enforcement demonstrate that the existence of complex legal instruments does not, in itself, guarantee the attainment of ecological justice in practice. Nevertheless, the Canadian forestry management system exemplifies a robust integration of scientific policymaking, public participation, and the formal recognition of Indigenous peoples' rights.⁷⁴ The rights of First Nations, Inuit, and Metis are formally recognised within various forestry policies as a core component of ecological justice; a framework that not only preserves the environment but also safeguards the continuity of the communities' socio-cultural nexus with the forest. Within this context, ecological justice is actualised through a

⁶⁸ Jessica E Halofsky and others, 'Adapting Forest Management to Climate Change: The State of Science and Applications in Canada and the United States', *Forest Ecology and Management*, 421 (2018), 84–97 <<https://doi.org/https://doi.org/10.1016/j.foreco.2018.02.037>>.

⁶⁹ Effah Kwabena Antwi and others, 'The Role of Federal Guidelines in the Evolution of Cumulative Effects Assessment Research in the Canadian Forest Ecosystem', *Ecological Indicators*, 166 (2024), 112333 <<https://doi.org/https://doi.org/10.1016/j.ecolind.2024.112333>>.

⁷⁰ Camilo Ordóñez Barona and others, 'A Content Analysis of Urban Forest Management Plans in Canada: Changes in Social-Ecological Objectives over Time', *Landscape and Urban Planning*, 251 (2024), 105154 <<https://doi.org/https://doi.org/10.1016/j.landurbplan.2024.105154>>.

⁷¹ Yifat Holzman-Gazit and Eran S Kaplinsky, 'Urban Forest Regulations and Incentives for Preserving Trees on Private Land: A Legal Perspective', *Urban Forestry & Urban Greening*, 117 (2026), 129281 <<https://doi.org/https://doi.org/10.1016/j.ufug.2026.129281>>.

⁷² Salla Rantala and others, 'Forest Data Governance as a Reflection of Forest Governance: Institutional Change and Endurance in Finland and Canada', *Environmental Science & Policy*, 136 (2022), 751–60 <<https://doi.org/https://doi.org/10.1016/j.envsci.2022.07.031>>.

⁷³ Robbie S H Johnson and Younes Alila, 'Nonstationary Stochastic Paired Watershed Approach: Investigating Forest Harvesting Effects on Floods in Two Large, Nested, and Snow-Dominated Watersheds in British Columbia, Canada', *Journal of Hydrology*, 625 (2023), 129970 <<https://doi.org/https://doi.org/10.1016/j.jhydrol.2023.129970>>.

⁷⁴ Yanni Pu and others, 'The Impacts of Global Change on the Self-Thinning Lines for Six Timber Species in Canada', *Forest Ecology and Management*, 598 (2025), 123260 <<https://doi.org/https://doi.org/10.1016/j.foreco.2025.123260>>.



calibrated balance between ecosystemic protection, the equitable distribution of economic benefits, and the respect for the collective rights of indigenous peoples.⁷⁵

In Canada, forest management is constitutionally grounded in a federal structure that vests primary legislative authority over natural resources in the provincial governments pursuant to the Constitution Act 1867, particularly through the allocation of jurisdiction over natural resources to the provinces. At the national level, the framework is further reinforced by strategic policy instruments, including the National Forest Strategy (1992, 1998, and subsequent iterations), which articulate and consolidate guiding principles of sustainable development, ecosystem protection, and the recognition of the rights of Indigenous peoples. At the provincial level, the operational regulation of forestry activities is established through a range of statutory instruments. Notably, the Forest Practices Code of British Columbia Act 1995 prescribes standards governing timber harvesting practices and environmental protection measures within the Province of British Columbia. Similarly, the Crown Forest Sustainability Act 1994 mandates the preparation and implementation of forest management plans for Crown forests in accordance with principles of long-term sustainability. Furthermore, the federal government's role in forestry research, the development of national standards, and the administration of forestry data are exercised under the authority of the Department of Natural Resources Act 1994, which constitutes the institutional foundation for the Canada Forest Service.⁷⁶

The foregoing legal framework indicates that Canada has adopted an ecosystem-based forest management approach, whereby forests are conceived as integrated ecological systems whose equilibrium must be maintained across generations. Such an approach embodies the principle of intergenerational stewardship, requiring that forest governance be directed towards the preservation of ecological integrity and sustainability over the long term.⁷⁷ In practice, forestry policy is further shaped by the recognition of Indigenous rights, as affirmed through the evolution of constitutional jurisprudence and the corresponding duty of governmental authorities to consult. Such obligations require meaningful engagement with First Nations, Inuit, and Métis regarding the management and utilisation of natural resources.⁷⁸ Accordingly, ecological justice within Canada's legal system is realised through a composite framework encompassing the protection of ecosystems, the decentralisation of legislative and administrative authority, and the recognition of the collective rights of Indigenous peoples as an integral component of environmental governance.

By contrast, Indonesia's forestry regulation has evolved within a framework of state control over natural resources, with the primary objective of promoting the prosperity of the people. The Forestry Law affirms that forests are under state control and are to be managed for the welfare of society, while the Environmental Protection and Management Law reinforces the principles of sustainable development and environmental justice.⁷⁹ A significant development towards ecological justice has occurred through the recognition of customary forests as distinct from state forests, as well as through social forestry policies that grant local communities legal access to manage forest areas sustainably.⁸⁰ This approach

⁷⁵ Wirtz and others.

⁷⁶ Camilo Ordóñez and Peter N Duinker, 'An Analysis of Urban Forest Management Plans in Canada: Implications for Urban Forest Management', *Landscape and Urban Planning*, 116 (2013), 36–47 <<https://doi.org/https://doi.org/10.1016/j.landurbplan.2013.04.007>>.

⁷⁷ Guy Chiasson and others, 'Towards Collaborative Forest Planning in Canadian and Swedish Hinterlands: Different Institutional Trajectories?', *Land Use Policy*, 83 (2019), 334–45 <<https://doi.org/https://doi.org/10.1016/j.landusepol.2019.02.015>>.

⁷⁸ Voichita Timis-Gansac and others, 'Community-Based Conservation in Mountain Forests: Patterns, Challenges, and Policy Implications', *Trees, Forests and People*, 22 (2025), 101041 <<https://doi.org/https://doi.org/10.1016/j.tfp.2025.101041>>.

⁷⁹ Nafisah, Sitohang, and Zulkarnaini.

⁸⁰ Dinda Aprilia and others, 'Regulatory Model for Tourism Villages in Forest Areas Based on Sustainable Tourism', *Legality : Jurnal Ilmiah Hukum*, 33.1 (2025), 286–306 <<https://doi.org/10.22219/ljih.v33i1.40177>>.



demonstrates that Indonesia's forestry regulation seeks to balance ecological functions with the social and economic needs of the community, particularly in the equitable distribution of benefits derived from natural resources.

Nevertheless, structural challenges in the implementation of Indonesia's forestry regulation remain highly complex, particularly in relation to tenure conflicts, land conversion, and the consistency of law enforcement. The Indonesian forest management system is based on the functional classification of forest areas into conservation, protection, and production forests, which, in normative terms, is intended to maintain a balance between ecosystem protection and resource utilisation.⁸¹ Notwithstanding the foregoing, development pressures and economic demands frequently affect the effectiveness of ecological protection.⁸² In the context of ecological justice, Indonesia places greater emphasis on the distribution of access to and benefits derived from forests for the community, while strengthening the protection of ecosystem integrity through policy and institutional reforms.

Indonesia's forestry regulation is founded upon the principle of state control over natural resources as stipulated in Article 33, paragraph (3) of the 1945 Constitution, which provides that the land, waters, and natural resources therein shall be controlled by the state and utilised for the greatest possible prosperity of the people. This constitutional principle is subsequently elaborated in Law No. 41 of 1999 on Forestry, which establishes the legal status of forest areas, the functions of forests (conservation, protection, and production), and the state authority in the management of forest resources. The sustainability perspective is further strengthened by Law No. 32 of 2009 on Environmental Protection and Management, which integrates the principles of sustainable development, environmental protection, and intergenerational equity. A significant development towards ecological justice occurred through Constitutional Court Decision No. 35/PUU-X/2012, which affirms that customary forests do not form part of state forests, thereby providing a legal basis for the recognition of indigenous peoples' rights over their traditional management territories. Furthermore, Social Forestry policies, as regulated through various government and ministerial regulations, grant local communities' legal access to manage forests in a sustainable manner, while simultaneously serving as a community-based instrument for the distribution of ecological justice.

Conceptually, the Canadian legal framework positions the protection of ecosystem integrity as the point of departure for regulation, while distributing authority to the provinces and integrating Indigenous peoples' rights as an integral component of governance.⁸³ Meanwhile, the Indonesian legal framework ground regulation in state control and public welfare, with ecological sustainability and the recognition of community rights developing progressively through legal reforms and sectoral policies.⁸⁴ From the perspective of ecological justice, the two legal systems exhibit distinct yet conceptually complementary approaches: Canada emphasises ecological balance as a prerequisite for social justice, whereas Indonesia emphasis on social justice and community access as the pathway towards ecological sustainability.⁸⁵ This comparison demonstrates that the realisation of ecological

⁸¹ Reviansyah Erlianto, Galih Raka Siwi, and Wahyu Donri, 'Analisis Yuridis Tindak Pidana Illegal Logging Ditinjau Dari Perbandingan Hukum Indonesia, Filipina, Dan Malaysia', *UNES Law Review*, 4.1 (2021), 35–47 <<https://doi.org/10.31933/unesrev.v4i1.212>>.

⁸² Pisca A. Tias, Constance L. McDermott, and Mari E. Mulyani, 'Navigating the Nexus between Customary Norms and State Laws in Shaping Rural Forest Governance: A Case Study in Aceh Province, Indonesia', *Forest Policy and Economics*, 182.4 (2026), 103672 <<https://doi.org/10.1016/j.forpol.2025.103672>>.

⁸³ Indah Waty Bong and others, 'What Is Success? Gaps and Trade-Offs in Assessing the Performance of Traditional Social Forestry Systems in Indonesia', *Forest and Society*, 3.1 (2019), 1–21 <<https://doi.org/10.24259/fs.v3i1.5184>>.

⁸⁴ Fisher and others.

⁸⁵ Tody Sasmitha Jiwa Utama, 'Impediments to Establishing Adat Villages: A Socio-Legal Examination of the Indonesian Village Law', *Asia Pacific Journal of Anthropology*, 21.1 (2020), 17–33 <<https://doi.org/10.1080/14442213.2019.1670240>>.



justice depends not solely on legal norms but also on the structure of authority, the recognition of community rights, and the effectiveness of institutions in enforcing the principles of sustainability in forest governance practice.

Do Forestry Regulations Achieve Ecological Justice?

Efforts to realise ecological justice in forestry governance require regulatory reform that is directed not only to environmental protection, but also to achieving a balanced relationship among human beings, ecosystems, and future generations.⁸⁶ In the context of a comparison between Indonesia and Canada, improvements in forestry regulation may be aimed at strengthening public participation, enhancing the effectiveness of law enforcement, and integrating ecological justice principles into policy.⁸⁷ First, the reconstruction of regulations governing forest management and protection requires incorporating ecological justice values into the regulatory framework for forest governance. In this regard, the environment constitutes the foundation for the continuity of human life and the principal capital of development. However, the uncontrolled exploitation of natural resources has diminished environmental quality and has generated ecological injustice, as its adverse impacts are borne widely by society.

Second, the second reconstruction of forestry regulation is directed at clarifying the meaning of state control over forests and restructuring the mechanisms governing forest utilisation permits to ensure conformity with the principles of ecological justice and the protection of communities. This reconstruction focuses on normative amendments to Law No. 41 of 1999 on Forestry, as subsequently amended by Law No. 6 of 2023 on Job Creation, in particular with respect to Article 4 concerning state control over forests and Article 26 concerning permits for the utilisation of protection forests. The reconstruction of Article 4 affirms that the State's Right of Control (*Hak Menguasai Negara* or HMN) cannot be construed as an absolute authority to exploit forest resources. The state is positioned as a steward and regulator obliged to uphold the principles of precaution, environmental sustainability, and the protection of the public interest. Within this reconstructed framework, state control also prioritises the rights of local communities, including customary law communities, insofar as their existence is recognised. Accordingly, forest governance is not directed solely towards economic interests, but equally towards ecosystem sustainability and social justice.

The reconstruction of Article 26 concerning permits for the utilisation of protection forests is directed towards balancing the authority between the central government and regional governments. Amendments that vest permitting authority exclusively in the central government are considered to risk the centralisation of power and to disregard the local knowledge of regional authorities regarding the conditions of forest areas. Accordingly, the reconstruction proposes a tiered permitting mechanism, in which permits are issued by regional governments based on on-the-ground conditions, subject to the central government's approval as a form of national oversight. Through this reconstruction, forestry regulation is expected to strengthen environmental protection, prevent the abuse of authority in forest management, and ensure participatory, equitable, and sustainable forest management. This approach affirms that state control over forests constitutes a constitutional mandate to secure the welfare of the people while simultaneously preserving ecosystem sustainability for present and future generations.

Third, the third reconstruction is directed at strengthening the effectiveness of criminal sanctions for forest protection through the reform of sanction provisions in the Law on the Prevention and Eradication of Forest Destruction. Although the existing regulation contains

⁸⁶ Abdullah, Fisher, and Sahide.

⁸⁷ Muhammad Alif K. Sahide, Abdurrahman Abdullah, and Moira Moeliono, 'Policy Forum: Indigenous Forest Rights at a Crossroads? A Critical Look at Indonesia's Planned Forestry Law Amendment', *Forest Policy and Economics*, 185 (2026), 103730 <<https://doi.org/10.1016/j.forpol.2026.103730>>.



prohibitions against various forms of forest destruction and prescribes criminal penalties including imprisonment and the payment of compensation, its implementation is considered not to have produced a deterrent effect or legal certainty, as reflected in the continued prevalence of encroachment and illegal logging practices.

Accordingly, the reconstruction introduces community service as an additional penalty alongside principal penalties and compensatory payments. Community service is positioned as an alternative form of sentencing that is not solely repressive in nature, but also restorative and educational. Through this mechanism, offenders are required to undertake specified forms of social work related to environmental restoration or the public interest, thereby ensuring that sanctions do not merely punish, but also contribute to the remediation of ecological harm and the enhancement of offenders' legal awareness.⁸⁸ The introduction of community service as an additional penalty also reflects an enforcement orientation grounded in ecological justice, as it positions environmental protection and ecosystem restoration as integral components of the objectives of sentencing.⁸⁹ This approach is expected to enhance the effectiveness of forestry criminal law, strengthen certainty in law enforcement, and promote forest protection that is more effective, sustainable, and oriented towards the public interest as well as environmental preservation.⁹⁰

Within the framework of ecological justice, sanctions for environmental destruction ought to be grounded in an ecological perspective and administered through a criminal justice system that promotes corrective justice (assessing whether transactional injustice has occurred among the parties concerned), restorative justice (remedial measures aimed at repairing harm), and rehabilitative justice (not merely punishing offenders, but also transforming their conduct).⁹¹

Table 1. Reconstruction of Forest Management Norms in Statutory Regulations

Provision	Before Reconstruction	After Reconstruction	Purpose of Reconstruction
Article 4 of Law No. 41 of 1999 on Forestry (as amended by Law No. 19 of 2004 and Law No. 6 of 2023 on Job Creation)	The state controls forests and is authorised to regulate forest management, determine forest areas, and regulate legal relations while considering the rights of indigenous communities insofar as their existence is recognised.	State control over forests shall be exercised in accordance with the principles of precaution and environmental sustainability, while prioritising the rights of local communities, including customary law communities.	To limit the absolute interpretation of the State's Right of Control, strengthen environmental protection, and ensure social and ecological justice in forest governance.
Article 26 of Law No. 41 of 1999 on Forestry (as amended by Law No. 6 of 2023 on Job Creation)	The utilisation of protection forests is carried out through business permits issued by the Central Government.	The utilisation of protection forests shall be conducted through business permits issued by Regional Governments subject to the approval of the Central Government.	To prevent centralisation of authority, strengthen the role of regional governments, enhance supervision based on field conditions, and ensure participatory governance.

⁸⁸ Aldisanjaya.

⁸⁹ Ari Rakatama and Ram Pandit, 'Reviewing Social Forestry Schemes in Indonesia: Opportunities and Challenges', *Forest Policy and Economics*, 111.6 (2020) <<https://doi.org/10.1016/j.forpol.2019.102052>>.

⁹⁰ Pardede and others.

⁹¹ Atikah Mardhiya Rohmy, Hartiwiningsih, and I. Gusti Ayu Ketut Rachmi Handayani, 'Judicial Mafia and Ecological In-Justice: Obstacles to Policy Enforcement in Indonesian Forest Management and Protection', *Trees, Forests and People*, 17 (2024), 100613 <<https://doi.org/10.1016/j.tfp.2024.100613>>.



Article 108 of Law No. 18 of 2013 on the Prevention and Eradication of Forest Destruction	Sanctions consist of principal penalties, compensatory payments, and imprisonment where obligations are not fulfilled.	In addition to principal penalties and compensatory payments, community service shall be imposed as an additional sanction prior to imprisonment.	To strengthen deterrence, promote environmental restoration, and direct sentencing towards a restorative approach grounded in ecological justice.
---	--	---	---

Source: Compiled by the authors

The reconstruction of forestry regulation affirms a paradigm shift from exploitation-based management towards governance grounded in ecological justice, public participation, and intergenerational sustainability. Through the strengthening of norms governing state control, the restructuring of permitting authority, and the reform of the system of sanctions, forestry regulation is expected to realise equitable, effective, and sustainable forest protection for present and future generations.

Conclusion

Forestry regulation in Indonesia continues to face tensions between economic orientation, legal certainty, ecological protection, and the rights of indigenous peoples. Although the normative framework incorporates mandates of sustainability, participation, and social justice, its implementation is frequently constrained by centralisation of authority, weak institutional coordination, tenure conflicts, and forest utilisation practices that are not yet fully ecosystem based. Therefore, deforestation not only diminishes environmental quality but also deepens social injustice for communities dependent upon forests. Ecological justice requires a system of forest governance that harmonises ecosystem preservation, the equitable distribution of benefits, and the recognition of indigenous peoples' rights. This objective may be advanced through accountable decentralisation, science-based policy, and the strengthening of collective rights, as exemplified in Canada. Accordingly, reform of Indonesia's forestry regulation could reaffirm the meaning of state control as a mandate of stewardship for the public interest and environmental sustainability, restructure permitting mechanisms to be tiered and participatory, and strengthen law enforcement of a restorative and educational character. The integration of ecological justice principles into planning, permitting, and sanctioning constitutes a necessary condition for the realisation of forestry governance that is equitable, participatory, and sustainable for present and future generations.

References

- Abdullah, Abdurrahman, Micah R. Fisher, and Muhammad Alif K. Sahide, 'Environmental Governance Challenges of Indigenous Forest Recognition: Climate Solution Ideal and Its Uneven Outcomes in Indonesia', *Forest and Society*, 8.2 (2024), 402–21 <<https://doi.org/10.24259/fs.v8i2.34423>>
- Alba-Patiño, Daniela, Berta Martín-López, Miguel Delibes-Mateos, Juan M. Requena-Mullor, and Antonio J. Castro, 'Environmental Justice Gaps in Human-Wildlife Conflict Research from a Social-Ecological Systems Perspective', *Biological Conservation*, 312.2 (2025), 111515 <<https://doi.org/10.1016/j.biocon.2025.111515>>
- Aldisanjaya, 'Efektivitas Penegakan Hukum Terhadap Tindak Pidana Lingkungan Di Kawasan Hutan Lindung: Analisis Yuridis Dan Sosiologis', *Indonesian Journal of Multidisciplinary Studies Global*, 1.1 (2025), 1–6 <<https://e-journal.nusantaraglobal.ac.id/index.php/ijmsg/article/view/48>> [accessed 23 February 2026]
- Alisjahbana, Armida S., and Jonah M. Busch, 'Forestry, Forest Fires, and Climate Change in Indonesia', *Bulletin of Indonesian Economic Studies*, 53.2 (2017), 111–36 <<https://doi.org/10.1080/00074918.2017.1365404>>
- Ansari, Tunggul, and Setia Negara, 'Normative Legal Research in Indonesia: Its Origins and



- Approaches', *Audito Comparative Law Journal (ACLJ)*, 4.1 (2023), 1–9 <<https://doi.org/10.22219/ACLJ.V4I1.24855>>
- Aprilia, Dinda, Abdul Kadir Jaelani, Mulyanto, Isharyanto, and Itok Dwi Kurniawan, 'Regulatory Model for Tourism Villages in Forest Areas Based on Sustainable Tourism', *Legality: Jurnal Ilmiah Hukum*, 33.1 (2025), 286–306 <<https://doi.org/10.22219/ljih.v33i1.40177>>
- Bae, Jae Soo, Yeon Su Kim, Lawrence Fisher, Moira Moeliono, and Jessica DeShazo, 'Promises and Perils of Decentralized Forest Governance: The Case of Indonesia's Forest Management Units in Reducing Emission from Deforestation and Forest Degradation (REDD+)', *Society and Natural Resources*, 27.12 (2014), 1346–54 <<https://doi.org/10.1080/08941920.2014.945061>>
- Basak, Sayantani M., Ekaterina Rostovskaya, Johnny Birks, and Izabela A. Wierzbowska, 'Perceptions and Attitudes to Understand Human-Wildlife Conflict in an Urban Landscape – A Systematic Review', *Ecological Indicators*, 151.1 (2023), 83–100 <<https://doi.org/10.1016/j.ecolind.2023.110319>>
- Bettinger, Keith Andrew, 'The Fight over the Forest: The State, Rural Communities, and Customary Law in Indonesia', *Worldviews: Environment, Culture, Religion*, 19.2 (2015), 123–43 <<https://doi.org/10.1163/15685357-01902004>>
- Bong, Indah Waty, Moira Moeliono, Grace Yee Wong, and Maria Brockhaus, 'What Is Success? Gaps and Trade-Offs in Assessing the Performance of Traditional Social Forestry Systems in Indonesia', *Forest and Society*, 3.1 (2019), 1–21 <<https://doi.org/10.24259/fs.v3i1.5184>>
- Chamdani, Muchammad Chanif, 'Penyelesaian Penguasaan Tanah Di Dalam Kawasan Hutan Pasca Pengaturan Undang-Undang Cipta Kerja', *Jurnal Hukum Lingkungan Indonesia*, 7.2 (2021), 221–53 <<https://doi.org/10.38011/jhli.v7i2.292>>
- Chiasson, Guy, Per Angelstam, Robert Axelsson, and Frederik Doyon, 'Towards Collaborative Forest Planning in Canadian and Swedish Hinterlands: Different Institutional Trajectories?', *Land Use Policy*, 83 (2019), 334–45 <<https://doi.org/https://doi.org/10.1016/j.landusepol.2019.02.015>>
- Cisneros, Elías, Jan Börner, Stefano Pagiola, and Sven Wunder, 'Impacts of Conservation Incentives in Protected Areas: The Case of Bolsa Floresta, Brazil', *Journal of Environmental Economics and Management*, 111 (2022), 45–64 <<https://doi.org/10.1016/j.jeem.2021.102572>>
- Clarentia, Celine, Rosmalinda, and Affila, 'Analisis Penegakan Hukum Terhadap Kasus Perusakan Hutan Mangrove Di Desa Kwala Serapuh, Kabupaten Langkat', *Adagium: Jurnal Ilmiah Hukum*, 4.1 (2026), 1–10 <<https://doi.org/10.70308/adagium.v4i1.256>>
- Danang Pambudhi, Hario, and Arief Virgy, 'Kewenangan Pemerintah Daerah Dalam Pengelolaan Kehutanan Pasca Undang-Undang Cipta Kerja [The Authority Of Local Governments In The Context Of Forestry Management After The Law On Job Creation]', *Law Review*, 21.3 (2022), 363–88 <<https://doi.org/10.19166/lr.v0i3.4885>>
- Erlianto, Reviansyah, Galih Raka Siwi, and Wahyu Donri, 'Analisis Yuridis Tindak Pidana Illegal Logging Ditinjau Dari Perbandingan Hukum Indonesia, Filipina, Dan Malaysia', *UNES Law Review*, 4.1 (2021), 35–47 <<https://doi.org/10.31933/unesrev.v4i1.212>>
- Fadhil, Ahda Muhaiyaadden, Farhan Gunawan, Naura Jasmine Aulia, Muhammad Imam Syahid, and Adil Munsif Ahmad, 'Analisis Hukum Terhadap Pembiaran Penebangan Hutan Dan Alih Fungsi Lahan Menjadi Perkebunan Sawit Yang Memicu Banjir Bandang Di Sumatera', *Adagium: Jurnal Ilmiah Hukum*, 4.1 (2026), 66–88 <<https://doi.org/10.70308/adagium.v4i1.267>>
- Fisher, M. R., M. Moeliono, A. Mulyana, E. L. Yuliani, A. Adriadi, Kamaluddin, and others, 'Assessing the New Social Forestry Project in Indonesia: Recognition, Livelihood and Conservation?', *International Forestry Review*, 20.3 (2018), 346–61 <<https://doi.org/10.1505/146554818824063014>>
- Fisher, Micah R., Ahmad Dhiaulhaq, and Muhammad Alif K. Sahide, 'The Politics, Economies, and Ecologies of Indonesia's Third Generation of Social Forestry: An Introduction to the Special Section', *Forest and Society*, 3.1 (2019), 152–70 <<https://doi.org/10.24259/fs.v3i1.6348>>



- <<https://statistik.kehutanan.go.id/statistic/show/angka-deforestasi-netto-di-dalam-dan-di-luar-kawasan-hutan>> [accessed 23 February 2026]
- Gaveau, David L.A., Bruno Locatelli, Mohammad A. Salim, Husnayaen, Timer Manurung, Adria Descals, and others, 'Slowing Deforestation in Indonesia Follows Declining Oil Palm Expansion and Lower Oil Prices', *PLoS ONE*, 17.3 March (2022) <<https://doi.org/10.1371/journal.pone.0266178>>
- 'Global Forest Resources Assessment 2020', *Global Forest Resources Assessment 2020*, 2020 <<https://doi.org/10.4060/ca9825en>>
- Gracia, Flouencia, and Okane Muijs, 'Analisis Pergeseran Paradigma Otonomi Daerah Sebelum Dan Sesudah Undang-Undang Cipta Kerja', *INOMATEC: Jurnal Inovasi Dan Kajian Multidisipliner Kontemporer*, 1.03 (2026), 3123–5573 <<https://portalpublikasi.com/index.php/inomatec/article/view/764>> [accessed 23 February 2026]
- Halofsky, Jessica E, Sheri A Andrews-Key, Jason E Edwards, Mark H Johnston, Harry W Nelson, David L Peterson, and others, 'Adapting Forest Management to Climate Change: The State of Science and Applications in Canada and the United States', *Forest Ecology and Management*, 421 (2018), 84–97 <<https://doi.org/https://doi.org/10.1016/j.foreco.2018.02.037>>
- Hamdani, Fathul, Ana Fauzia, Eduard Awang Maha Putra, Eno Liska Walini, Bagus Ageng Pambudi, and Lalu Nahudatu Akbariman, 'Persoalan Lingkungan Hidup Dalam UU Cipta Kerja Dan Arah Perbaikannya Pasca Putusan MK Nomor 91/PUU-XVIII/2020', *Indonesia Berdaya*, 3.4 (2022), 977–86 <<https://doi.org/10.47679/ib.2022302>>
- Herwansyah, Herwansyah, 'Analisis Dampak Kehadiran Hak Pengelolaan (HPL) Bagi Tanah Ulayat Masyarakat Adat Pasca Disahkannya UU Cipta Kerja', *Jurnal Fundamental Justice*, 6.2 (2025), 165–76 <<https://doi.org/10.30812/fundamental.v6i2.5119>>
- Holzman-Gazit, Yifat, and Eran S Kaplinsky, 'Urban Forest Regulations and Incentives for Preserving Trees on Private Land: A Legal Perspective', *Urban Forestry & Urban Greening*, 117 (2026), 129281 <<https://doi.org/https://doi.org/10.1016/j.ufug.2026.129281>>
- Ivo, Astri, 'Tinjauan Yuridis Okupasi Hutan Produksi Terbatas Di Desa Kepau Jaya: Implementasi Dan Hambatan Pasca-Uu Cipta Kerja', *Journal Education, Sociology and Law*, 1.4 (2025), 2068–81 <<https://publisherqu.com/index.php/edusola/article/view/4015>> [accessed 20 February 2026]
- Jamin, Mohammad, Abdul Kadir Jaelani, Mulyanto, Reza Octavia Kusumaningtyas, and Duc Quang Ly, 'The Impact of Indonesia's Mining Industry Regulation on the Protection of Indigenous Peoples', *Hasanuddin Law Review*, 9.1 (2023), 88–105 <<https://doi.org/10.20956/halrev.v9i1.4033>>
- Jiwa Utama, Tody Sasmitha, 'Impediments to Establishing Adat Villages: A Socio-Legal Examination of the Indonesian Village Law', *Asia Pacific Journal of Anthropology*, 21.1 (2020), 17–33 <<https://doi.org/10.1080/14442213.2019.1670240>>
- Johnson, Robbie S H, and Younes Alila, 'Nonstationary Stochastic Paired Watershed Approach: Investigating Forest Harvesting Effects on Floods in Two Large, Nested, and Snow-Dominated Watersheds in British Columbia, Canada', *Journal of Hydrology*, 625 (2023), 129970 <<https://doi.org/https://doi.org/10.1016/j.jhydrol.2023.129970>>
- Kurniasih, Heni, Rebecca M. Ford, Rodney J. Keenan, and Barbara King, 'The Evolution of Community Forestry through the Growth of Interlinked Community Institutions in Java, Indonesia', *World Development*, 139.3 (2021) <<https://doi.org/10.1016/j.worlddev.2020.105319>>
- Kwabena Antwi, Effah, Priscilla Toloo Yohuno (Apronti), John Boakye-Danquah, Evisa Abolina, Anna Dabros, and Akua Nyamekye Darko, 'The Role of Federal Guidelines in the Evolution of Cumulative Effects Assessment Research in the Canadian Forest Ecosystem', *Ecological Indicators*, 166 (2024), 112333 <<https://doi.org/https://doi.org/10.1016/j.ecolind.2024.112333>>
- Laksito, Fx Hastowo Broto, Aji Bawono, and Afridah Ikrimah, 'Reducing Community Participation in the Preparation of Environmental Impact Assessments (EIA): Evidence from Indonesia', *Journal of Law, Environmental and Justice*, 2.2 (2024), 137–61



<<https://doi.org/10.62264/jlej.v2i2.101>>

- Lau, Jacqueline D., Georgina G. Gurney, and Joshua Cinner, 'Environmental Justice in Coastal Systems: Perspectives from Communities Confronting Change', *Global Environmental Change*, 66.4 (2021), 23–32 <<https://doi.org/10.1016/j.gloenvcha.2020.102208>>
- Leach, Melissa, Belinda Reyers, Xuemei Bai, Eduardo S. Brondizio, Christina Cook, Sandra Díaz, and others, 'Equity and Sustainability in the Anthropocene: A Social-Ecological Systems Perspective on Their Intertwined Futures', *Global Sustainability*, 1 (2018) <<https://doi.org/10.1017/sus.2018.12>>
- Loos, Jacqueline, Felipe Benra, Marta Berbés-Blázquez, Leah L. Bremer, Kai M.A. Chan, Benis Egoh, and others, 'An Environmental Justice Perspective on Ecosystem Services', *Ambio*, 52.3 (2023), 477–88 <<https://doi.org/10.1007/s13280-022-01812-1>>
- Martin, Adrian, M. Teresa Armijos, Brendan Coolsaet, Neil Dawson, Gareth A. S. Edwards, Roger Few, and others, 'Environmental Justice and Transformations to Sustainability', *Environment*, 62.6 (2020), 19–30 <<https://doi.org/10.1080/00139157.2020.1820294>>
- Meilinda, Salsa Rizkia, Darmawan Salman, and Sawedi Muhammad, 'Conflict and Compromise, Discourse and Action: Political Ecology in the Complexity of Land Management in Central Kalimantan, Indonesia', *Forest and Society*, 9.2 (2025), 422–48 <<https://doi.org/10.24259/fs.v9i2.40301>>
- Miranda, Juan José, Leonardo Corral, Allen Blackman, Gregory Asner, and Eirivelthon Lima, 'Effects of Protected Areas on Forest Cover Change and Local Communities: Evidence from the Peruvian Amazon', *World Development*, 78.1 (2016), 288–307 <<https://doi.org/10.1016/j.worlddev.2015.10.026>>
- Musafir, Musafir, Andi Muhammad Sofyan, Haeranah Haeranah, Kartini Malarangan, and Devi Triasari, 'Conceptualizing Criminal Fine Enforcement in Indonesia's Forestry Sector through Ecological Restoration', *Journal of Law, Environmental and Justice*, 3.3 (2025), 542–71 <<https://doi.org/10.62264/jlej.v3i3.181>>
- Nafisah, Aura, Sesilia Grace Sitohang, and Zulkarnaini, 'Peran Kebijakan Lingkungan Dalam Pembangunan Berkelanjutan Di Indonesia: Studi Kasus Sektor Kehutanan', *NETIZEN: JOURNAL OF SOCIETY AND BUSSINESS*, 2.1 (2025), 21–30 <<https://languar.net/index.php/NETIZEN/article/view/509>> [accessed 23 February 2026]
- Nijman, Vincent, Jessica Chavez, Devon Simons, Penthai Siriwat, Ratna Ayu Widiawari, and Magdalena S. Svensson, 'Quantifying Illegal Rosewood Trade, Seizures and Forestry Law Enforcement in Indonesia', *Applied Geography*, 176.1 (2025), 103509 <<https://doi.org/10.1016/j.apgeog.2025.103509>>
- Nurrochmat, Dodik Ridho, Ristiano Pribadi, Hermanto Siregar, Agus Justianto, and Mi Sun Park, 'Transformation of Agro-Forest Management Policy under the Dynamic Circumstances of a Two-Decade Regional Autonomy in Indonesia', *Forests*, 12.4 (2021), e16115 <<https://doi.org/10.3390/f12040419>>
- Ordóñez Barona, Camilo, Annick St Denis, Jackson Jung, Corinne G Bassett, Sylvain Delagrangé, Peter Duinker, and others, 'A Content Analysis of Urban Forest Management Plans in Canada: Changes in Social-Ecological Objectives over Time', *Landscape and Urban Planning*, 251 (2024), 105154 <<https://doi.org/https://doi.org/10.1016/j.landurbplan.2024.105154>>
- Ordóñez, Camilo, and Peter N Duinker, 'An Analysis of Urban Forest Management Plans in Canada: Implications for Urban Forest Management', *Landscape and Urban Planning*, 116 (2013), 36–47 <<https://doi.org/https://doi.org/10.1016/j.landurbplan.2013.04.007>>
- Orrick, Kaggie, Michael Dove, and Oswald J. Schmitz, 'Human–Nature Relationships: An Introduction to Social–Ecological Practice Theory for Human–Wildlife Interactions', *Ambio*, 53.2 (2024), 201–11 <<https://doi.org/10.1007/s13280-023-01945-x>>
- Ostfeld, Rosemary, and David M. Reiner, 'Seeing the Forest through the Palms: Developments in Environmentally Sustainable Palm Oil Production and Zero-Deforestation Efforts', *Frontiers in Sustainable Food Systems*, 8 (2024) <<https://doi.org/10.3389/fsufs.2024.1398877>>



- Pardede, Marulak, Mosgan Situmorang, Syprianus Aristeus, Ismail Rumadan, Henry Donald Lumban Toruan, Diogenes, 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), 3770–90 <<https://doi.org/10.2166/wcc.2023.417>>
- Pu, Yanni, Cong Tang, Yujie Xiao, Sida Lai, Tong Jiang, Weifan Li, and others, 'The Impacts of Global Change on the Self-Thinning Lines for Six Timber Species in Canada', *Forest Ecology and Management*, 598 (2025), 123260 <<https://doi.org/https://doi.org/10.1016/j.foreco.2025.123260>>
- Rakatama, Ari, and Ram Pandit, 'Reviewing Social Forestry Schemes in Indonesia: Opportunities and Challenges', *Forest Policy and Economics*, 111.6 (2020) <<https://doi.org/10.1016/j.forpol.2019.102052>>
- Rantala, Salla, Brent Swallow, Anu Lähteenmäki-Uutelala, and Riikka Paloniemi, 'Forest Data Governance as a Reflection of Forest Governance: Institutional Change and Endurance in Finland and Canada', *Environmental Science & Policy*, 136 (2022), 751–60 <<https://doi.org/https://doi.org/10.1016/j.envsci.2022.07.031>>
- Ridwan, Qamer, Zishan Ahmad Wani, Nahila Anjum, Jahangeer Ahmad Bhat, Mohd Hanief, and Shreekar Pant, 'Human-Wildlife Conflict: A Bibliometric Analysis during 1991–2023', *Regional Sustainability*, 4.3 (2023), 309–21 <<https://doi.org/10.1016/j.regsus.2023.08.008>>
- Rohmy, Atikah Mardhiya, Hartiwiningsih, and I. Gusti Ayu Ketut Rachmi Handayani, 'Judicial Mafia and Ecological In-Justice: Obstacles to Policy Enforcement in Indonesian Forest Management and Protection', *Trees, Forests and People*, 17 (2024), 100613 <<https://doi.org/10.1016/j.tfp.2024.100613>>
- Romdonah, Siti, and Ikomatussuniah Ikomatussuniah, 'Penegakan Hukum Terhadap Masyarakat Dalam Menghadapi Deforestasi Hutan Adat Papua', *Pikukuh: Jurnal Hukum Dan Kearifan Lokal*, 2.1 (2025), 56–69 <<https://jurnal.untirta.ac.id/index.php/pikukuh/article/view/30768>> [accessed 23 February 2026]
- Ruslim, Yosep, Diah Rakhmah Sari, Rochadi Kristiningrum, Emi Purwanti, Widia Sri Utami, Slamet Ashari, and others, 'Residual Stand Damage Caused by Logging Operations in Secondary Forest in Berau District, East Kalimantan, Indonesia', *Biodiversitas*, 26.5 (2025), 2148–56 <<https://doi.org/10.13057/biodiv/d260513>>
- Sahide, Muhammad Alif K., Abdurrahman Abdullah, and Moira Moeliono, 'Policy Forum: Indigenous Forest Rights at a Crossroads? A Critical Look at Indonesia's Planned Forestry Law Amendment', *Forest Policy and Economics*, 185 (2026), 103730 <<https://doi.org/10.1016/j.forpol.2026.103730>>
- Sihombing, Batahan Fransiskus, 'Critical Studies of the Land Mafia Practices: Evidence in Indonesia', *Beijing Law Review*, 14.01 (2023), 433–72 <<https://doi.org/10.4236/blr.2023.141023>>
- Sopaheluwakan, William R.I., Sepus M. Fatem, Pande M. Kutaneegara, and Ahmad Maryudi, 'Two-Decade Decentralization and Recognition of Customary Forest Rights: Cases from Special Autonomy Policy in West Papua, Indonesia', *Forest Policy and Economics*, 151 (2023), 102951 <<https://doi.org/10.1016/j.forpol.2023.102951>>
- , 'Two-Decade Decentralization and Recognition of Customary Forest Rights: Cases from Special Autonomy Policy in West Papua, Indonesia', *Forest Policy and Economics*, 151.3 (2023), 592 <<https://doi.org/10.1016/j.forpol.2023.102951>>
- Subhan, Muhammad, and H Moh Muhibbin, 'Analisis Dampak Pemberlakuan Uu Nomor 6 Tahun 2023 Tentang Cipta Kerja Terhadap Hak Masyarakat Adat Atas Tanah Ulayat', *Dinamika*, 31.1 (2025), 11388–402 <<https://jim.unisma.ac.id/index.php/jdh/article/view/26673>> [accessed 23 February 2026]
- Suhardono, Saptia, Laili Fitria, Iva Yenis Septiariva, Mega Mutiara Sari, Nova Ulhasanah, Wisnu Prayogo, and others, 'Community-Centric Importance and Performance Evaluation of Human-Orangutan Conflict Management in Aceh, Indonesia', *Trees, Forests and People*, 15 (2024) <<https://doi.org/10.1016/j.tfp.2024.100510>>



- Sukasno, Nunuk Supriyatno, Johanes P.G. Sutapa, and Ahmad Maryudi, 'Cross-Sectoral Policy Integration of Forest Biomass for Renewable Energy in Indonesia', *Forest Policy and Economics*, 182.3 (2026), 103684 <<https://doi.org/10.1016/j.forpol.2025.103684>>
- Suparto, Suparto, Admiral Admiral, Ardiansyah Ardiansyah, and Sultanova Dilshoda Namazovna, 'The Concept of State Control over Forests and Forest Areas in Indonesia', *Journal of Law, Environmental and Justice*, 3.2 (2025), 201–28 <<https://doi.org/10.62264/jlej.v3i2.136>>
- Supriatna, Jatna, Myron Shekelle, Habiburrahman A.H. Fuad, Nurul L. Winarni, Asri A. Dwiyahreni, Muhammad Farid, and others, 'Deforestation on the Indonesian Island of Sulawesi and the Loss of Primate Habitat', *Global Ecology and Conservation*, 24.4 (2020) <<https://doi.org/10.1016/j.gecco.2020.e01205>>
- Surono, Agus, Zaitun Abdullah, Agung Iriantoro, Adnan Hamid, and Maslihati Nur Hidayati, 'Implementasi Penertiban Kawasan Hutan Dan Tantangan Keadilan Sosial Ekologis Di Indonesia Pasca Perpres No. 5 Tahun 2025', *JIM: Jurnal Ilmiah Mahasiswa Pendidikan Sejarah*, 10.4 (2025), 55–69 <<https://doi.org/10.24815/sejarah.v10i4.52>>
- Suwarno, Eno, and Irawan Harahap, 'Analisis Kritis Akses Dan Eksklusi Dalam Regulasi Kehutanan Undang-Undang Nomor 41 Tahun 1999 Tentang Kehutanan', *Andrew Aw Journal*, 4.1 (2025), 162–77 <<https://doi.org/10.61876/alj.v4i1.41>>
- Suwarno, Eno, Dodik Ridho Nurrochmat, and Sigit Sunarta, 'Negara, Hutan, Dan Masyarakat Dalam Undang-Undang Nomor 41 Tahun 1999: Sebuah Analisis Politik Ekologi.', *Jurnal Riset Kebijakan Pertanian Dan Lingkungan*, 12.2 (2025), 108 <<https://doi.org/10.29244/jkebijakan.v12i2.64859>>
- Syafira, 'Implementasi Prinsip Ultimatum Remedium Terhadap Keterlanjuran Kegiatan Perkebunan Kelapa Sawit Di Dalam Kawasan Hutan Berdasarkan Undang-Undang Cipta Kerja', *Delicti : Jurnal Hukum Pidana Dan Kriminologi*, 2.2 (2024), 1–9 <<https://doi.org/10.25077/delicti.v.2.i.2.p.1-9.2024>>
- Syofianti, Titin Fatimah, and Nur Aini, 'Problematisasi Hukum Dan Perlindungan Hak Masyarakat Dalam Penggunaan Kawasan Hutan Untuk Kegiatan Perkebunan', *Bina Hukum Lingkungan*, 10.1 (2025), 1–21 <<https://doi.org/10.24970/bhl.v10i1.468>>
- Taryadi, Taryadi, and Radhali Radhali, 'Penegakan Hukum Pidana Terhadap Deforestasi Berbasis Prinsip Green Economy Indonesia', *Locus Journal of Academic Literature Review*, 5.2 (2026), 161–74 <<https://doi.org/10.56128/ljoalr.v5i2.859>>
- Tias, Pisca A., Constance L. McDermott, and Mari E. Mulyani, 'Navigating the Nexus between Customary Norms and State Laws in Shaping Rural Forest Governance: A Case Study in Aceh Province, Indonesia', *Forest Policy and Economics*, 182.4 (2026), 103672 <<https://doi.org/10.1016/j.forpol.2025.103672>>
- Timis-Gansac, Voichita, Lucian Dinca, Nicu Constantin Tudose, Cristinel Constandache, Gabriel Murariu, Gabriel Cheregi, and others, 'Community-Based Conservation in Mountain Forests: Patterns, Challenges, and Policy Implications', *Trees, Forests and People*, 22 (2025), 101041 <<https://doi.org/https://doi.org/10.1016/j.tfp.2025.101041>>
- Ungirwalu, Antoni, J. R. Mansoben, Yubelince Y. Runtuboi, Sepus M. Fatem, Mariana H. Peday, Jonni Marwa, and others, 'The Fall of the Kings: Power Relations and Dynamics in Papua's Indigenous Community in Forest Resource Management', *Forest Policy and Economics*, 172 (2025) <<https://doi.org/10.1016/j.forpol.2025.103424>>
- Wirtz, Zach, Shannon Hagerman, Richard J Hauer, and Cecil C Konijnendijk, 'What Makes Urban Forest Governance Successful? – A Study among Canadian Experts', *Urban Forestry & Urban Greening*, 58 (2021), 126901 <<https://doi.org/https://doi.org/10.1016/j.ufug.2020.126901>>
- Wong, Grace Yee, Mawa Karambiri, Pham Thu Thuy, Alizée Ville, Tuan Long Hoang, Chi Dao Thi Linh, and others, 'When Policies Problematize the Local: Social-Environmental Justice and Forest Policies in Burkina Faso and Vietnam', *Forest and Society*, 8.1 (2024), 296–313 <<https://doi.org/10.24259/fs.v8i1.34276>>

