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ECONOMIC RIGHT JUSTICE FOR INDIGENOUS PEOPLES IN CARBON TRADING IN THE FORESTRY SECTOR IN INDONESIA

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Abstract

Carbon trading in the forestry sector is vital for reducing greenhouse gas emissions to the targeted level and for implementing a green economy in Indonesia. Within this scope, indigenous peoples hold a strategic position, as major carbon-potential forests are located in areas that they cultivate and preserve. Although several regulations have recognised the involvement of indigenous peoples in carbon trading, its implementation still faces issues over economic rights justice. Departing from this issue, this research analyses the standing of indigenous peoples in carbon trading, particularly in the forestry sector, identifies economic rights justice issues, and formulates a reinforcement model from the perspective of green economy law. Using a normative method, supported by statutory, conceptual, and philosophical approaches, this research reveals that the legal framework for carbon trading has enabled the participation of indigenous peoples by recognising customary forests and several forest management schemes. However, access to economic benefits is hampered by communal carbon rights issues, procedural complexity, limited institutional capacity, and the suboptimal benefit-sharing mechanism. Therefore, regulation reinforcement and a transparent, proportional distribution model are

necessary. This research, therefore, offers a model of economic rights justice for indigenous peoples that integrates green economy law, justice theory, and the protection of customary rights into more inclusive and just carbon trading governance.

Perdagangan karbon di sektor kehutanan sangat penting untuk mengurangi emisi gas rumah kaca hingga mencapai tingkat yang ditargetkan dan untuk menerapkan ekonomi hijau di Indonesia. Dalam lingkup ini, masyarakat adat memegang posisi strategis, karena sebagian besar hutan yang berpotensi karbon berada di wilayah yang mereka kelola dan lestarikan. Meskipun beberapa regulasi telah mengakui keterlibatan masyarakat adat dalam perdagangan karbon, implementasinya masih menghadapi persoalan terkait keadilan hak ekonomi. Berangkat dari isu tersebut, penelitian ini menganalisis kedudukan masyarakat adat dalam perdagangan karbon, khususnya di sektor kehutanan, mengidentifikasi masalah keadilan hak ekonomi, dan merumuskan model penguatan dari perspektif hukum ekonomi hijau. Dengan menggunakan metode normatif yang didukung oleh pendekatan perundang-undangan, konseptual, dan filosofis, penelitian ini mengungkapkan bahwa kerangka hukum perdagangan karbon telah memungkinkan partisipasi masyarakat adat melalui pengakuan hutan adat dan beberapa skema pengelolaan hutan. Namun, akses terhadap manfaat ekonomi terhambat oleh masalah hak karbon komunal, kompleksitas prosedural, keterbatasan kapasitas kelembagaan, dan mekanisme pembagian keuntungan yang belum optimal. Oleh karena itu, diperlukan penguatan regulasi serta model distribusi yang transparan dan proporsional. Kontribusi penelitian ini adalah menawarkan model keadilan hak ekonomi bagi masyarakat adat yang mengintegrasikan hukum ekonomi hijau, teori keadilan, dan perlindungan hak-hak adat ke dalam tata kelola perdagangan karbon yang lebih inklusif dan berkeadilan.

Keywords: *Carbon Trading, Indigenous Peoples, Economic Rights Justice, Green Economy Law, Customary Forest, Climate Change*

Introduction

Climate change crises have transformed the paradigm of environmental management from an exploitative approach to sustainable and ecological justice-based natural resource governance. Soaring greenhouse gas emissions from deforestation, environmental degradation, and extractive economic activities pose a serious threat to the balance of the

global ecosystem and the sustainability of future generations' lives.[1] Within this context, several international laws, including the Paris Agreement to the United Nations Framework Convention on Climate Change, encourage countries to develop measurable mitigation mechanisms in response to climate change through instruments such as carbon pricing and economic valuation as part of a transitional strategy toward a green economy.[2]

Indonesia, with its third-largest tropical forest area worldwide, positions the forestry sector as a strategic instrument to achieve the Nationally Determined Contribution (hereinafter, NDC), targeting 29% of greenhouse gas emission reduction independently and 41% with assistance from other countries by 2030.[3] This commitment is institutionalised through Presidential Regulation No. 98 of 2021 on the Implementation of Carbon Economic Value, which is further reinforced by a technical regulation in the forestry sector. Within such a legal framework, carbon is positioned as a tradable economic asset under carbon trading to support national emission control.[4]

In this normative context, indigenous peoples are facing a dilemma. On the one hand, indigenous peoples are historically, socially, ecologically, and spiritually connected to the customary land that has so far contributed to the sustainability of forest ecosystems.[5] The recognition of customary forests under the Constitutional Court Decision No. 35/PUU-X/2012 affirms that customary forests are no longer part of the state's forests; instead, they fall within the rights of indigenous communities. On the other hand, forest conservation in the context of the carbon economy has led to another problem: the construction of economic rights to carbon within customary land. Murky regulations regarding ownership, access, and the distribution of carbon economic benefits may potentially raise structural imbalance and new marginalisation that harm indigenous communities.

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[1] Steffen Bauer Marie-Jeanne Kurdziel Gabriela Iacobuta Clara Brandi Jean Carlo Delphine Deryng Jonas Hanshom Niklas Höhne Sybrig Smit Srinivasa Srigiri Rodríguez, *Working Together to Achieve the Paris Climate Goals and Sustainable Development International Climate Cooperation and the Role of Developing Countries and Emerging Economies*, no. August (Germany, 2021).

[2] Paris Agreement (2015).

[3] Paulus Andrianus K.L Ratumakin Pantoro dan Tri Kuswardono, *Peran Daerah Di Dalam Pencapaian Target Nationally Determined Contribution (NDC) Indonesia (Laporan Riset PIKUL-IRID)* (Kupang, 2024).*Lembar Fakta Folu Net Sink 2030* (Jakarta, n.d.).

[4] Pasal 46-47 Peraturan Presiden Nomor 98 Tahun 2021

[5]https://greennetwork.id/ikhtisar/4-kearifan-masyarakat-adat-dalam-menjaga-lingkungan-dan-budaya/, accessed 7 January 2025

Some previous studies have investigated carbon trading from diverse perspectives. Studies on carbon market governance indicate that market-based mechanisms cannot consistently ensure justice in benefit-sharing for local communities. Rebecca Osborne has found that carbon commodification in market-based forest governance has often raised conflict between the objectives of climate mitigation and justice in benefit-sharing for communal right holders.[6] Rini Astuti and Andrew McGregor also argue that forestry carbon politics in Indonesia are likely to trigger green grabbing unless carbon schemes come with adequate tenurial recognition that favours indigenous communities.[7]

Studies on the involvement of indigenous communities in global carbon schemes also show representative problems and substantive recognition. Linda Wallbott and Eugenia Recio argue that formal recognition of indigenous community participation in REDD+ governance has not always been followed by the strengthening of their economic and political rights in the implementation.[8] Similar findings from recent research also highlight community resistance to international carbon mechanisms, showing that indigenous communities' resistance to carbon schemes reflects criticism of imbalanced power relations in global environmental governance.[9]

In Indonesia, some research highlights issues regarding the protection of indigenous communities' rights in the context of carbon trading governance and green economic policy. Azaria, Dirkareshza, and Nasution argue that carbon trading mechanisms are likely to render the rights of indigenous peoples vulnerable due to weak substantive participation and protection of rights in the process of national carbon policymaking. Their research emphasises the essence of the involvement of

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[6] Tracey Osborne, "Tradeoffs in Carbon Commodification: A Political Ecology of Common Property Forest Governance," *Geoforum* 67 (December 2015): 64–77, https://doi.org/10.1016/j.geoforum.2015.10.007.

[7] Rini Astuti and Andrew McGregor, "Indigenous Land Claims or Green Grabs? Inclusions and Exclusions within Forest Carbon Politics in Indonesia," *The Journal of Peasant Studies* 44, no. 2 (2017): 445–66, https://doi.org/10.1080/03066150.2016.1197908.

[8] Linda Wallbott and Eugenia Recio, "Practicing Human Rights across Scale: Indigenous Peoples' Affectedness and Recognition in REDD+ Governance," *Third World Thematics: A TWQ Journal* 3, nos. 5–6 (2018): 785–806, https://doi.org/10.1080/23802014.2018.1599691.

[9] Zeynep Durmaz and Heike Schroeder, "Indigenous Contestations of Carbon Markets, Carbon Colonialism, and Power Dynamics in International Climate Negotiations," *Climate* 13, no. 8 (2025): 158, https://doi.org/10.3390/cli13080158.

indigenous communities in consultation, legislation-making, and implementation of carbon projects to preclude any possibility of new carbon market-based exploitation.[10] Furthermore, Rangkuti et al. examined the likelihood of human rights violations in carbon trading within customary forest areas, arising from the state's suboptimal recognition of customary regions and unequal access to carbon-based forest management permits for indigenous communities.[11]

Other studies frequently place indigenous communities within the framework of environmental justice and tenurial reinforcement. Kamal, Fidiyani, and Lindgren highlight the inadequate legal protection for indigenous communities amid land dispossession and the expansion of green development projects in Indonesia, largely due to the suboptimal implementation of the environmental justice principle in natural resource policy.[12] Other studies investigating the recognition of carbon rights in forestry in Indonesia assert that the regulation of national carbon has not clarified the nexus between tenurial rights to forest areas and the possession of carbon-related economic benefits, thereby potentially leading to conflicts over rights to carbon resources in customary areas.[13]

Some other research has started to relate carbon trading to the perspective of Islamic law and ecological justice. Herawati, Triana, and Yaqin studied carbon trading from the perspective of the Sharia economy, positioning the carbon mechanism as embodying *ta'wīd* and implementing the Polluter Pays Principle (PPP).[14] Another research conducted by Susana et al. also argues that the *maqāṣid al-syarī'ah* principle is strongly relevant to the reconstruction of sustainability- and ecological justice-based natural

[10] Davilla Prawidya Azaria et al., "Indigenous People Environmental Rights Vulnerability To Carbon Trading Mechanism: A Lesson Learned For Indonesia," *Bengkoelen Justice : Jurnal Ilmu Hukum* 13, no. 2 (2023): 194–208, https://doi.org/10.33369/jbengkoelenjust.v13i2.30953.

[11] Liza Hafidzah Yusuf Rangkuti et al., "Indigenous Forests and Carbon Trading: Assessing The Potential for Human Rights Violations," *Indonesian Law Journal* 17, no. 2 (2024), https://doi.org/10.33331/ilj.v17i2.156.

[12] Ubaidillah Kamal et al., "Legal Pathways for Environmental Justice for Indigenous Communities in Indonesia," *Indonesian Minority Justice Review* 2, no. 1 (2025), https://doi.org/10.65815/99agp482.

[13] Astuti and McGregor, "Indigenous Land Claims or Green Grabs?"

[14] Sesi Putri Herawati et al., "Paradigma Baru Perdagangan Karbon: Mengkaji Peraturan Menteri LHK No. 21/2022 Dari Perspektif Ta'wid Dan Polluter Pays Principle | El-Uqud: Jurnal Kajian Hukum Ekonomi Syariah," *El-Uqud: Jurnal Kajian Hukum Ekonomi Syariah* 3, no. 1 (2025), https://doi.org/10.24090/eluqud.v3i1.14291.

resource management.[15] However, those studies are limited to community participation, protection of the right to customary areas, or the legitimacy of carbon policy from the environmental perspective. There are only a few studies that specifically place the economic rights of customary peoples as the main focus of analysis in the context of carbon trading in the forestry sector, integrating perspectives from green economy law, distributive justice theory, property rights, and justice values within legal philosophy.

Departing from the above situation, this article analyses the construction of the law governing the economic rights of indigenous communities in the context of carbon trading in Indonesia's forestry sector, and how the principle of justice can manifest in the distribution of carbon-derived economic benefits from customary forests. The novelty of this article lies in formulating the concept of justice regarding the economic rights of indigenous communities in carbon trading by integrating perspectives from green economy law, distributive justice theory, property rights theory, and justice values within legal philosophy and Islamic law. With these approaches, indigenous communities are positioned not only as the objects of climate change mitigation policy, but also as legal subjects entitled to just economic benefits for their contribution to maintaining forest sustainability and achieving the national emission reduction to the targeted level.

Research Methods

This is normative legal research[16] focusing on the analysis of legal norms that govern carbon trading in the forestry sector and the standing of the economic rights of indigenous communities within the legal system applicable in Indonesia. Such normative research studies the legal principles, concepts, norms, and doctrines concerning the recognition, protection, and fulfilment of the economic rights of indigenous communities within the carbon trading mechanism in the forestry sector. This study employed several approaches.

First, a statutory approach[17] was used to examine laws and regulations governing indigenous communities, forest management, the

[15] Lina Marlina Susana et al., "Reconstructing Islamic Legal Norms in Environmental Governance: A Maqasid-Based Legal Critique of Indonesia's Resource Policies," *Al-Istinbath: Jurnal Hukum Islam* 10, no. 2 (2025): 650–70, https://doi.org/10.29240/jhi.v10i2.13038.

[16] Peter Mahmud Marzuki, *Penelitian Hukum* (Prenada Media, 2005), 23.

[17] Peter Mahmud Marzuki, *Penelitian Hukum* (Prenada Media, 2005), 93.

economic value of carbon, and carbon trading. These laws include the 1945 Constitution, Law No. 41 of 1999 concerning Forestry, Law No. 16 of 2016 concerning the Ratification of Paris Agreement to the United Nations Framework Convention on Climate Change, Presidential Regulation No. 98 of 2021 concerning Carbon Economic Value Implementation, and the Regulation of the Minister of Forestry (Permenhut) No. 6 of 2026 concerning Procedures for Carbon Trading through Greenhouse Gas Emission Offsetting in the Forestry Sector**.**

Second, the conceptual approach[18] examines several concepts and doctrines that have developed within the scope of legal studies, particularly regarding distributive justice, ecological justice, economic rights, property rights, and green economy law. This approach was employed to build an analytical framework on the economic rights of indigenous communities to carbon-related economic benefits derived from customary forest management.

Third, a philosophical approach[19] was employed to explore justice values as they develop in legal philosophy and Islamic law. This approach analyses the justice for the economic rights of indigenous communities from Aristotle's perspective of distributive justice, Jeremy Bentham's utilitarianism, John Rawls' justice-as-fairness theory, Amartya Sen's capability approach, John Locke's property rights, Thomas Aquinas' natural law, and the principles of justice in Islamic law.

The legal materials used include primary, secondary, and tertiary legal materials. The primary materials include legislation, Constitutional Court decisions, and government policies concerning carbon trading and indigenous communities. The secondary materials include books, scientific journals, research findings, and academic works relevant to carbon trading, the green economy, indigenous communities, and legal philosophy.

The tertiary materials encompass a law dictionary, an encyclopaedia, and other supporting sources that help clarify legal principles. Legal materials were collected from the library research by exploring relevant literature and legal sources.[20] All the legal materials were then analysed qualitatively using analytical-prescriptive methods to assess the relevance of

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[18] Johnny Ibrahim, *Teori & Metodologi Penelitian Hukum Normatif* (Bayumedia Publishing, 2007), 306.

[19] Rusdin Tahir et al., *Metodologi Penelitian Bidang Hukum: Suatu Pendekatan Teori Dan Praktik* (PT. Sonpedia Publishing Indonesia, 2023).

[20] Soerjono Soekanto and Sri Mamudji, *Penelitian Hukum Normatif Suatu Tinjauan Singkat* (Rajawali Press, 2007), 13.

carbon trading regulations in the forestry sector to justice principles in the context of indigenous communities' economic rights. This research also develops a normative framework to ensure the just and sustainable distribution of carbon-related economic benefits.

Discussion

The Legal Basis of Carbon Trading and the Standing of Indigenous Communities in the Carbon Trading System in Indonesia

Carbon trading in Indonesia has gained strong legal legitimacy as an instrument to control climate change through the national regulatory framework developed in stages, ranging from national macro policy and sectoral technical regulations to the operational instrument for implementation. The presence of this legal regime indicates that carbon trading is not merely a market mechanism; it is an integral part of Indonesia's national legal strategy to achieve the greenhouse gas emission reduction target set out in the Paris Agreement.[21]

The main normative foundation for carbon trading in Indonesia was enacted under Presidential Decree No. 98 of 2021 concerning the Implementation of Carbon Economic Value to achieve nationally determined Contribution Standards and to control greenhouse gas emissions in national development. This regulation recognises the economic value of carbon as a policy instrument to achieve the NDC target. Within its provisions, carbon economic value is implemented through several mechanisms, including carbon trading, performance-based payments, carbon levies, and other mechanisms developed in accordance with national and international legal systems. With this approach, carbon trading will gain legitimacy as an instrument of environmental economic law valid within Indonesia's legal system.[22]

This legitimacy is reinforced by Indonesia's Enhanced NDC, targeting a 31.89% reduction in greenhouse gas emissions independently and a 43.20% reduction with international support by 2030, compared with the

[21] Siciliya Mardian Yoel et al., "Legal Reform on Indonesia's Carbon Trading Regulation: Implementation and Harmonization of International Law," *Journal of Law and Legal Reform* 6, no. 4 (2025): 2293–332, https://doi.org/10.15294/jllr.v6i4.20009.

[22] Peraturan Presiden (Perpres) Nomor 98 Tahun 2021 Tentang Penyelenggaraan Nilai Ekonomi Karbon Untuk Pencapaian Target Kontribusi Yang Ditetapkan Secara Nasional Dan Pengendalian Emisi Gas Rumah Kaca Dalam Pembangunan Nasional, 98 Lembaran Negara Republik Indonesia Tahun 2021 Nomor 249 (2021), https://peraturan.bpk.go.id/Details/187122/perpres-no-98-tahun-2021.

business-as-usual scenario. These targeted figures demand an effective climate payment system, one of which is through carbon trading. In other words, carbon trading is a wise choice, as it reflects Indonesia's normative obligation to fulfil international obligations to mitigate climate change.[23]

The technical regulatory framework is clarified under the Regulation of the Minister of Environment and Forestry No. 7 of 2023 concerning Carbon Trading Procedures in the Forestry Sector and the Decree of the Minister of Environment and Forestry No. SK.1027/MENLHK/PHL/KUM.1/9/2023 that regulates the implementation of technical guidelines. These two regulations provide procedural certainty for registration, measurement, reporting, verification, carbon unit validation, and carbon transaction governance in the forestry sector. These technical regulations indicate the consolidation of legal frameworks for carbon trading in Indonesia as part of the national climate change governance.[24]

Through this legal construction, indigenous communities hold a vital position as legal subjects who, within a normative framework, are given room for participation. The recognition of the existence of indigenous communities is confirmed in Article 18B, paragraph (2) of the 1945 Constitution, stating that the state recognises and respects the existence of indigenous communities and their traditional rights as long as they live and in accordance with the principles of the Unitary State of the Republic of Indonesia. This provision is strengthened by Article 28I, paragraph (3) and Article 32, paragraph (1) of the Constitution, which places the cultural identity and the traditional rights of the communities as part of the constitutional rights that the state must respect.[25]

In an administrative scope, this recognition is asserted in the Regulation of Home Affairs Minister No. 52 of 2014 concerning the Guidelines of Recognition and Protection of Indigenous Communities, which defines an indigenous community as a group of Indonesian citizens with their distinct characteristics and genealogical and territorial ties, who are strongly related to their land and environment, as well as their social

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[23] Indonesia, *Enhanced Nationally Determined Contribution*, Nationally Determined Contribution (NDC) (Government of Indonesia, 2022), https://unfccc.int/sites/default/files/NDC/2022-09/23.09.2022_Enhanced%20NDC%20Indonesia.pdf.

[24] Rahmadi Indra Tektona et al., "Legal Certainty in Carbon Trading in Indonesia," *Simbur Cahaya*, January 2, 2025, 208–31, https://doi.org/10.28946/sc.v31i2.3913.

[25] Undang-Undang Dasar Negara Republik Indonesia Tahun 1945 (1945).

structure, living throughout generations. This definition affirms that indigenous communities are a collective subject with their historical and ecological connection to their governance territories.[26]

In the forestry sector, the strengthening of the standing of indigenous communities gained essential momentum following the Constitutional Court Decision No. 35/PUU-X/2012, which affirmed that customary forests are no longer part of the state; rather, they are within the territories of indigenous communities. This decision has changed the paradigm of control over forest resources from a centralised approach to the recognition of the communal rights of indigenous peoples. As a consequence, the ecological benefits arising from customary forest management, including carbon storage and sequestration, are juridically related to indigenous communities as the holders of the rights to the territories.[27]

Furthermore, Article 67 of Law No. 41 of 1999 concerning Forestry, as amended to Law No. 6 of 2023, grants indigenous communities the right to charge levies from forest products, manage forests according to customary laws, and gain access to empowerment for their welfare.[28] The Government Regulation No. 23 of 2021 concerning Forestry Implementation and the Regulation of the Minister of Environment and Forestry[29] No. 9 of 2021 concerning Social Forestry Management position customary forests as part of the legal access scheme for the communities to manage forests sustainably.[30]

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[26] Peraturan Menteri Dalam Negeri Nomor 52 Tahun 2014 Tentang Pedoman Pengakuan Dan Perlindungan Masyarakat Hukum Adat, 52 Berita Negara Republik Indonesia Tahun 2014 Nomor 951 (2014), https://www.peraturan.go.id/id/permendagri-no-52-tahun-2014.

[27] Ida Aju Pradnja Resosudarmo et al., "Indonesia's Land Reform: Implications for Local Livelihoods and Climate Change," *Forest Policy and Economics*, Assessing policies to reduce emissions from land use change in Indonesia, vol. 108 (November 2019): 101903, https://doi.org/10.1016/j.forpol.2019.04.007.

[28] Diya Ul Akmal et al., "Perlindungan Hak Konstitusional Masyarakat Hukum Adat Melalui Pembentukan Hukum: Protecting Indigenous Peoples' Constitutional Rights Through Legal Formation," *Jurnal Konstitusi* 22, no. 1 (2025): 066–087, https://doi.org/10.31078/jk2214.

[29] Peraturan Pemerintah Nomor 23 Tahun 2021 Tentang Penyelenggaraan Kehutanan, 23 (2021), https://peraturan.bpk.go.id/Details/161853.

[30] Peraturan Menteri Lingkungan Hidup Dan Kehutanan Nomor 9 Tahun 2021 Tentang Pengelolaan Perhutanan Sosial, 9 Berita Negara Republik Indonesia Tahun 2021 Nomor 320 (2021), https://peraturan.bpk.go.id/Details/235324/permen-lhk-no-9-tahun-2021.

The nexus between the recognition of customary forests and carbon trading will be more clearly defined when the regime of carbon economic value allows participation by every legal subject with the legal authority to control or manage forest areas. Within this context, indigenous communities, officially entitled to administrative rights over customary forests, have a legal basis to participate as actors in carbon trading in the forestry sector. Customary forests form the basis for the legal participation of indigenous peoples due to their ecological function in absorbing carbon and serving as sources of carbon units with economic value.[31]

Normatively, this construction positions indigenous communities as both the objects of climate change policy and the subjects who could serve as actors in the carbon business. This recognition indicates a transformation of environmental governance in Indonesia to a more participative and inclusive approach. Nevertheless, the efficacy of the participation sphere remains contingent on the administrative certainty of the recognition of customary forests, the capacity of community institutionalisation, and the availability of implementation mechanisms that enable indigenous communities to access the carbon economy substantively and justly.[32]

The Problematic Implementation of Justice of Indigenous Communities' Economic Rights

Although the legal framework of carbon trading in Indonesia has left room for participation by indigenous communities, its implementation remains problematic, with implications for the substantive application of economic rights justice. This issue indicates gaps between the regulation's normative recognition and the obvious capacity of indigenous communities to gain economic benefits from carbon trading in the forestry sector.

In a normative manner, several regulations have designated indigenous communities as subjects who can be involved in forest management and the utilisation of carbon economic value. However, up to early 2025, carbon trading activities in Indonesia remained dominated by large companies in sectors such as energy, forestry, and natural resource management. This condition indicates that access to the carbon market has

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[31] "Issue Information," *Conservation Letters* 10, no. 3 (2017): 273–75, https://doi.org/10.1111/conl.12306.

[32] Kristianto, "Carbon Market within the Framework of Environmental Protection and Management Policies in Indonesia | Jurnal Pembangunan Dan Alam Lestari," *Jurnal Pembangunan Dan Alam Lestari (JPAL)* 15, no. 1 (2024): 31–36, https://doi.org/https://doi.org/10.21776/ub.jpal.2024.015.01.05.

not been fully transparent or equally available to all stakeholders, particularly members of indigenous communities who have helped maintain the sustainability of forest areas.[33]

One of the main issues lies in constrained legal access to customary forests. Although the Constitutional Court Decision No. 35/PUU-X/2012 asserts that customary forests are no longer under the control of the state, the recognition and determination of customary forests require lengthy administrative procedures and depend on local government policies. Consequently, not all members of indigenous communities are entitled to adequate legal standing in their involvement in the carbon trading scheme. In this context, carbon economic rights become more contingent on securing formal recognition of areas that have been managed from generation to generation.[34]

Another problem lies in the technical complexity of implementing carbon trading. The mechanism of carbon trading requires measurement, reporting, and verification (MRV) of emission reductions or increases in carbon sequestration. Therefore, the arrangement of technical documents, project registration, validation given by independent institutions, and registration under the National Climate Change Control Registry System (SRN-PPI) are required. All these requirements necessitate human resources, institutional capacity, and financial support that indigenous communities usually lack.[35] To assess the extent to which Indonesia's current carbon market regulations accommodate Indigenous Carbon Rights, it is necessary to examine the relevant provisions of Minister of Forestry Regulation No. 6 of 2026. Although the regulation introduces several mechanisms concerning indigenous participation, benefit-sharing, safeguards, and community involvement, important questions remain regarding the legal status of carbon ownership within customary forests. The following table summarizes the key regulatory provisions and their implications for Indigenous Carbon Rights:

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[33] Yoel et al., "Legal Reform on Indonesia's Carbon Trading Regulation."

[34] Mutiara I.Kadir and Janwar Hippy, "Hutan Adat Pasca Putusan Mahkamah Konstitusi Nomor 35/PUU-X-2012 : Konsekuensi Hukum dan otoritas Pemanfaatan Oleh Masyarakat," *Arus Jurnal Sosial dan Humaniora* 5, no. 1 (2025): 828–37, https://doi.org/10.57250/ajsh.v5i1.1141.

[35] Peraturan Menteri Lingkungan Hidup Dan Kehutanan Nomor 7 Tahun 2023 Tentang Tata Cara Perdagangan Karbon Sektor Kehutanan, 7 (2023), https://peraturan.bpk.go.id/Details/254282/permen-lhk-no-7-tahun-2023.

Table 1. Assessment of Minister of Forestry Regulation No. 6 of 2026 from the Perspective of Indigenous Carbon Rights

Regulatory Aspect	Legal Basis	Regulatory Provision
Recognition of Indigenous Peoples as Carbon Market Actors	Article 6(1)(c)	Indigenous peoples holding formal recognition of customary forests (hutan adat) may participate as carbon market actors.
Recognition of Customary Forests as Carbon Project Areas	Article 9(1)(c) and Article 30(2)(c)	Carbon trading activities may be conducted within customary forests.
Requirement of Registered Assistance/Partnership	Article 6(2)	Indigenous communities must be accompanied by registered partners or facilitators in carbon market activities.
Community Participation in Project Planning	Article 12(2)(c)	Project proponents must submit plans for community involvement in planning, implementation, monitoring, and evaluation.
Benefit-Sharing Arrangement	Article 12(2)(d)	Project documents must include a carbon benefit-sharing plan agreed upon with local communities.
Padiatapa (Free, Prior, and Informed Consent Principle)	Article 1(26) and Article 12(2)(f)	Carbon projects must include evidence of Padiatapa processes and outcomes.

Source: Compiled and Analyzed by the Author from Minister of Forestry Regulation No. 6 of 2026.

Although the regulation reflects significant progress in recognizing indigenous participation in forest carbon governance, it remains largely procedural rather than proprietary in nature. The absence of explicit recognition of Indigenous Carbon Rights leaves unresolved questions concerning ownership, control, and entitlement to carbon-derived benefits. As a result, indigenous communities may remain structurally dependent on external actors possessing the technical expertise, financial resources, and market access necessary to develop carbon projects. Such dependency risks positioning indigenous peoples as suppliers of ecological services without corresponding authority over carbon assets generated from their customary territories. If left unaddressed, this imbalance may reproduce forms of

environmental inequality and contribute to what scholars have described as carbon colonialism, whereby the economic value of carbon is captured by external actors while indigenous communities bear the social and ecological consequences of conservation obligations.[36]

Another challenge concerns the regulation of benefit-sharing arrangements within forest carbon market transactions. Minister of Forestry Regulation No. 6 of 2026 requires project proponents to prepare benefit-sharing plans agreed upon with affected communities and further mandates reporting and evaluation of such arrangements. Nevertheless, these provisions primarily establish procedural obligations rather than substantive rights. The regulation does not specify minimum standards for benefit allocation, mechanisms for determining equitable shares, or criteria for ensuring that indigenous peoples receive benefits proportional to their contribution to forest conservation and carbon sequestration. As a result, the economic value generated from carbon trading may continue to be disproportionately captured by actors possessing greater access to capital, technology, certification systems, and carbon markets, while indigenous communities remain positioned primarily as beneficiaries rather than rights holders. This situation risks perpetuating distributive inequalities and undermining the objective of achieving equitable and inclusive forest carbon governance.[37]

The above situation prompted a critical stance from several customary organisations, including *Aliansi Masyarakat Adat Nusantara* (AMAN), toward the implementation of carbon trading in Indonesia. This criticism was not particularly directed at the measurement of climate change mitigation, but rather at environmental service commercialisation that is not pro-indigenous community members. This concern may arise because the carbon trading scheme could alter how indigenous community members are related unless tenurial rights and benefit-sharing are strongly and fairly guaranteed. [38]

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[36] Tektona et al., "Legal Certainty in Carbon Trading in Indonesia."

[37] Kristianto, "Carbon Market within the Framework of Environmental Protection and Management Policies in Indonesia | Jurnal Pembangunan Dan Alam Lestari."

[38] Candra Perbawati et al., "Progressive Law and Legal Discourse on the Determination of Customary Forests," *FIAT JUSTISIA:Jurnal Ilmu Hukum* 17, no. 1 (2023): 17–30, https://doi.org/10.25041/fiatjustisia.v17no1.2815.Yance Arizona and Miriam Cohen, "The Recognition of Customary Land Rights at the Constitutional Court of Indonesia : A Critical Assessment of the Jurisprudence," in *Courts and Diversity: Twenty Years of the Constitutional Court of Indonesia*, ed. and Pan Mohamad Faiz Bertus de Villiers, Saldi Isra (Brill's Asian Law Series, 2024).

From the perspective of economic justice, this condition shows that the normative recognition has not automatically guaranteed substantive justice. Justice is determined by both the presence of regulations that guarantee the right to participate and the capacity of members of indigenous communities to access the carbon market, obtain proportional economic sharing, and maintain control over resources as their livelihood. Therefore, the success of carbon trading in the forestry sector cannot be measured solely by the number of transactions or the economic value of carbon traded; it must also take into account the extent to which this mechanism improves the welfare of the community members who serve as the core guardians of forest ecosystems.[39]

Therefore, the problematic implementation of carbon trading in the forestry sector indicates tension, undermining the balance between economic efficiency and the demand for socio-ecological justice. Legal recognition of the participation of indigenous peoples is not impossible. However, without any guarantee for tenurial rights, institutional capacity improvement, simplified access to the market, and regulations regarding fairer benefit-sharing, carbon trading risks creating a new problem that may hamper natural resource management. In this context, economic rights justice for indigenous communities becomes the central issue that must be positioned as an integral part of the national carbon trading governance.

The Analysis of Economic Rights Justice for Indigenous Communities from the Perspective of Green Economy Law

From the perspective of green economy law, carbon trading is a legal and economic instrument designed to integrate the objective of environmental protection through sustainable economic development. Economic development and environmental conservation should not be seen as two contradictory objectives; rather, they should be simultaneously realised through a policy mechanism capable of internalising environmental value into economic activities. In the context of climate change, carbon trading is one instrument used to assign economic value to efforts to reduce greenhouse gas emissions and increase carbon sequestration capacity.[40]

Theoretically, carbon trading represents internalisation of environmental externalities intended to rectify market failure. Several

[39] Kristianto, "Carbon Market within the Framework of Environmental Protection and Management Policies in Indonesia | Jurnal Pembangunan Dan Alam Lestari."

[40] Kristianto, "Carbon Market within the Framework of Environmental Protection and Management Policies in Indonesia | Jurnal Pembangunan Dan Alam Lestari."

economic activities have so far contributed to greenhouse gas emissions, resulting in adverse environmental impacts. However, the cost paid for the damage is not represented in the production cost. Through carbon trading, emissions will gain economic value, thereby internalising environmental externalities into the market mechanism. With this approach, the parties capable of reducing emissions will obtain economic incentives through carbon credits, while those producing large amounts of gas will have to take responsibility for the consequences.[41] From this perspective, carbon trading is considered an instrument capable of fostering economic efficiency while achieving environmental protection objectives more flexibly than mere command-and-control regulations.[42]

This framework is consistent with the Indonesian policy that positions carbon economic value as an instrument to achieve the NDC target, as set out in Presidential Regulation No. 98 of 2021. With this approach, environmental protection is no longer understood as an economic burden but rather as a source of value that can create new economic opportunities. In the forestry sector, forests function as both ecological support and a carbon asset with economic value. Therefore, the indigenous peoples who have contributed to the sustainability of customary forests hold a strategic position in the carbon trading system, given that their contributions are directly associated with ecological sustainability, which is the source of carbon value.[43]

However, the approach of green economy law does not cease at economic efficiency. What has been heavily criticised is the tendency to position carbon as an economic commodity traded through the market mechanism. Under certain conditions, market logic can stimulate the commercialisation of ecological functions without adequate protection for those who have contributed to preserving the natural resource in question. As a consequence, the economic benefits of carbon trading are more likely to be enjoyed by other parties with access to capital, technology, and

[41] Fabrício Eidelwein et al., "Internalization of Environmental Externalities: Development of a Method for Elaborating the Statement of Economic and Environmental Results," *Journal of Cleaner Production* 170 (January 2018): 1316–27, https://doi.org/10.1016/j.jclepro.2017.09.208.

[42] Peraturan Presiden (Perpres) Nomor 98 Tahun 2021 Tentang Penyelenggaraan Nilai Ekonomi Karbon Untuk Pencapaian Target Kontribusi Yang Ditetapkan Secara Nasional Dan Pengendalian Emisi Gas Rumah Kaca Dalam Pembangunan Nasional.

[43] Permen LHK 7/2023, vol. 7.

institutionalisation than by the community members who have directly participated in maintaining ecosystem sustainability.[44]

This criticism is relevant in the context of indigenous communities in Indonesia. Although several regulations have recognised their participation in carbon trading, their actual ability to engage in carbon trading remains heavily affected by legal status, technical capacity, access to information, and financial support. Complex administrative and technical requirements have often positioned indigenous communities as a disadvantaged party compared to corporations or institutions with greater access to natural resources. In this situation, carbon trading is likely to lead to economic inequality when the benefits from environmental services accrue more to those who control the market mechanism than to those who have contributed to ecological sustainability.[45]

From the perspective of environmental justice, success in carbon trading is measured not only by the ability to reduce greenhouse gas emissions but also by the equal distribution of benefits and responsibilities arising from the policy. In other words, market efficiency is not a sole indicator of success in carbon policy. A carbon trading mechanism can be deemed efficient from an economic perspective, yet it can lead to injustice when benefit-sharing remains centred on certain parties, overlooking the contributions of local or indigenous communities.[46]

In this context, the principle of justice in the distribution of benefits and responsibilities guarantees essential elements of the governance of carbon economic value. Such distributive justice demands equal sharing of the benefits resulting from climate change mitigation activities, in line with each party's contribution. For indigenous communities, this contribution not only centres on emission cuts that can be measured quantitatively, but also takes into account their historical role in maintaining forest sustainability, preserving land cover, and preserving the local knowledge system that supports ecosystem balance. Therefore, it is not fair when carbon-related economic benefits are predominantly enjoyed by certain parties with the capacity for market transactions; this should contribute to the recognition of

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[44] Adeniyi P. Asiyanbi, "Financialisation in the Green Economy: Material Connections, Markets-in-the-Making and Foucauldian Organising Actions," *Environment and Planning A: Economy and Space* 50, no. 3 (2018): 531–48, https://doi.org/10.1177/0308518X17708787.

[45] Yoel et al., "Legal Reform on Indonesia's Carbon Trading Regulation."

[46] Raul P. Lejano et al., "The Hidden Disequities of Carbon Trading: Carbon Emissions, Air Toxics, and Environmental Justice," Environmental Economics and Management, *Frontiers in Environmental Science* 8 (November 2020), https://doi.org/10.3389/fenvs.2020.593014.

the ecological contributions made by indigenous communities to maintaining environmental sustainability.[47]

Such a principle calls for an affirmative policy that particularly guarantees protection for vulnerable communities within the mechanism of the carbon market. Within the scope of indigenous communities, affirmative policy can be realised by simplifying the procedures for community-based carbon trading, facilitating the recognition and delineation of customary forests, providing technical support for carbon measurement and verification, and governing a transparent and proportional benefit-sharing mechanism. The presence of affirmative policy is important, as formal equity guaranteed by regulations does not, in practice, always result in substantive equity. Without adequate state intervention, carbon trading may potentially escalate pre-existing inequality.[48]

Therefore, the perspective of green economy law indicates that carbon trading cannot be understood solely as a market instrument that boosts the efficiency of emission reduction. This instrument should also be capable of realising social and ecological justice through proportional benefit-sharing and protection for those who have contributed to environmental sustainability. In the context of indigenous communities, the fruitfulness of carbon trading relies not only on the amount of economic value produced or the amount of emissions that has been reduced, but also on the extent to which this mechanism can recognise, protect, and increase the welfare of the indigenous communities as the core guardians of the sustainability of forest ecosystems.

Philosophical Analysis of Economic Right Justice for Indigenous Communities in Carbon Trading

Debates over the economic rights of indigenous communities in carbon trading primarily centre on formal legality and philosophical issues, including justice, benefits, rights, and welfare distribution. In this context, several justice theories can serve as a reference for assessing the extent to which the carbon trading regime in Indonesia has fulfilled justice principles that fairly favour indigenous peoples who have contributed to forest sustainability.

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[47] Azaria et al., "INDIGENOUS PEOPLE ENVIRONMENTAL RIGHTS VULNERABILITY TO CARBON TRADING MECHANISM."

[48] Nils Ohlendorf et al., "Distributional Impacts of Carbon Pricing: A Meta-Analysis," *Environmental and Resource Economics* 78, no. 1 (2020): 1–42, https://doi.org/10.1007/s10640-020-00521-1.

From a utilitarian perspective developed by Jeremy Bentham, a policy is deemed appropriate when it can provide the greatest benefits for the greatest number of human beings—commonly referred to as *the greatest happiness of the greatest number*.[49] Within this framework, carbon trading can be justified as a policy instrument, given that it is intended to reduce greenhouse gas emissions, stimulate forest conversion, and create a new source of funding for climate change mitigation. However, beyond calling for the attainment of collective benefits at national and global levels, the utilitarian principle demands that those benefits be perceived by those who contributed to their achievement. In other words, when carbon trading benefits only the state, companies, or carbon market players, without any benefit-sharing with indigenous communities as the real forest "rangers," the objective of proportional benefits has not been fully achieved. The utilitarian perspective reinforces the argument that carbon trading must be able to enhance the welfare of indigenous peoples, as the party that has contributed to ecological benefits for citizens as a whole.

Additionally, the legitimacy of the economic rights of indigenous communities can be explained through a property rights theory introduced by John Locke, who defines property rights as natural rights, arising from the relationship between human effort and natural resources. According to the labour theory of property, a person may gain moral legitimacy for a particular natural resource when this person is devoted to managing and maintaining the natural resource. In the scope of indigenous communities, customary forests are viewed as a geographical landscape—a living space that needs to be maintained through legacy, by all generations, and through social, cultural, and ecological practices. Therefore, the forest's capacity to store and sequester carbon is closely associated with the contributions of indigenous communities, who have been directly responsible for maintaining the forest's sustainability.[50]

This argument is further reinforced by John Rawls's theory of justice as fairness. Rawls opposes the idea that justice can only be achieved through

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[49] John Stuart Mill, *Utilitarianism and On Liberty* (Blackwell Publishing Ltd, 2003), 1–17.

[50] Peter C. Myers, "John Locke on the Naturalness of Rights" (Loyola University Chicago, 1992).Steven J. Heyman, "The Light of Nature: John Locke, Natural Rights, and the Origins of American Religious Liberty," *Marquette Law Review* 101, no. 3 (2018).Arundathi. K and Sonali Awasthi, "The Critical Analysis of Natural Rights Theory," *International Journal of Law Management & Humanities* 3, no. 6 (2020): 129–42.David C. Snyder, "Locke on Natural Law and Property Rights," *Canadian Journal of Philosophy* 16, no. 4 (1986): 723–50, https://doi.org/https://doi.org/10.1080/00455091.1986.10717145.

economic efficiency or the accumulation of collective benefits.[51] He argues that a social system can be deemed fair unless it fails to guarantee special protection for the least advantaged groups.[52] In the context of carbon trading, indigenous communities have often faced limited access to administrative capacity, markets, sources of funding, and technical facilities. Meanwhile, corporate players have wider access to those possibilities. Therefore, the implementation of the justice principle as introduced by Rawls demands an affirmative policy that prioritises indigenous peoples by strengthening tenurial rights, facilitating access to the carbon market, providing technical assistance, and establishing a mechanism for benefit sharing that equally favours both parties. This perspective shows that formal equality does not always guarantee substantive justice because the initial conditions of the parties were not equally considered.

Rawls' perspective is closely related to the capability approach developed by Amartya Sen. Sen criticises that the concept of justice is solely oriented toward resource distribution or the recognition of formal rights. He further argues that justice must be measured by a person's real capacity to use his/her rights and resources to live a valuable life.[53] In the context of indigenous peoples, the recognition of participation in carbon trading will not, by itself, create justice unless people have the actual capacity to access the carbon market, understand the trading mechanism, conduct carbon verification, or obtain economic benefits. Therefore, justice is more than normative recognition in legislation; creating justice should take into account institutional capacity, knowledge transfer, funding, and the strengthening of indigenous communities' bargaining power. With this approach, justice is

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[51] John Rawls, *Justice as Fairness A Restatement* (Harvard University Press, 2001).John Rawls, "Justice as Fairness : Political Not Metaphysical," *Philosophy and Public Affairs* 14, no. 3 (1985): 223–51.

[52] R. C. Weatherford, "Discussions Defining the Least Advantaged," in *Equality and Liberty*, ed. J. A. Corlett (Palgrave Macmillan, 1991), https://doi.org/https://doi.org/10.1007/978-1-349-21763-2_4.Jackson MW, "The Least Advantaged Class in Rawls's Theory," *Canadian Journal of Political Science* 4, no. 12 (1979): 727–46, https://doi.org/10.1017/S0008423900053592.

[53] Amartya Sen, *The Idea of Justice* (Harvard University Press, 2009). Amartya Sen, "Merit and Justice," in *Meritocracy and Economic Inequality* (Princeton University Press, 2000).Georgios Kalaitzidis, "Review of Amartya Sen ' s Book 'The Idea of Justice,'" *Open Journal of Philosophy* 14 (2024): 731–35, https://doi.org/10.4236/ojpp.2024.144050. Oscar Garza-vázquez, "Review of Social Economy Why Expanding Capabilities Does Not Necessarily Imply Reducing Injustice : An Assessment of Amartya Sen ' s Idea of Justice in the Context of Mexico ' s Oportunidades / Prospera," *Review of Social Economy ISSN:* 81, no. 3 (2023), https://doi.org/10.1080/00346764.2021.1881150.

measured not only by the existence of rights, but also by their real capacity to utilise those rights.

From the perspective of natural law, Thomas Aquinas argues that a good law must be consistent with moral and justice principles sourced from human nature. From this perspective, the ownership and utilisation of natural resources must not be solely for gaining benefits; they must contribute to realising the common good.[54] This principle entails that the economic benefits from carbon trading must be equitably distributed among those who have contributed to environmental sustainability. The policy which overlooks the economic rights of indigenous peoples contravenes natural justice as the objective of the law per se, given that indigenous communities play a role in maintaining the ecological function.[55]

A similar perspective can also be found in Islamic law, which views humans as the caliphates entitled to the responsibility for maintaining the equilibrium of nature (*ḥifẓ al-bī'ah*). Within the framework of *maqāṣid al-syarī'ah*, environmental protection is closely related to the protection of assets (*ḥifẓ al-māl*), mind (*ḥifẓ al-nafs*), and public interest (*maṣlaḥah*).[56] Some fiqh principles, including الغنم بالغرم(*al-ghunmu bi al-ghurmi*; benefits must be equal to responsibilities and risks),[57] and الخراج بالضمان(*al-kharāj bi al-ḍamān*; the right to obtain benefits is inherent in the party that carries the responsibility for maintenance),[58] set the normative legitimacy that parties who protect and maintain natural resources are entitled to economic benefits produced. Furthermore, Yusuf al-Qaradawi argues that environmental

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[54] Thiago A. De Magalhães, "Natural Law Change by Addition , Original Sin and Ius Gentium : Toward a New Interpretation of Thomas Aquinas ' s Theory of Property (Part I)," *Studies in Christian Ethics* 38, no. 4 (2025): 539–67, https://doi.org/10.1177/09539468251378073. Berghof O. Barney SA, Lewis WJ, Beach JA, ed., *The Etymologies of Isidore of Seville* (Cambridge University Press, 2006).Mariano Asla and María Soledad Paladino, "From Ethical Naturalism to Aquinas ' Notion of Natural Law : A Non-Trivial Convergence?," *Religios* 15, no. 1569 (2024): 1–15.

[55] Aprilia Stefany Leliak, "Strengthening Legal Protection of Indigenous Peoples' Customary Land Rights In Indonesia's Disruption Era," *LITIGASI* 26, no. 2 (2025): 443–72, https://doi.org/10.23969/litigasi.v26i2.20032.

[56] Fakih Abdul Azis, "Konstruksi Eco-Fiqh Indonesia : Analisis Fatwa MUI No. 86 Tahun 2023 Tentang Perubahan Iklim Perspektif Maqāṣid al-Syarī'ah," *Jurnal Pemuliaan Lingkungan Hidup Dan Sumber Daya Alam* 1, no. 1 (2025), https://jurnal.mui.or.id/index.php/lplhsda/article/view/9.

[57] Muhammad Mustafa al-Zuhayli, *Al-Qawaʿid al-Fiqhiyyah Wa Taṭbiqātuhā Fi al-Madhāhib al-Arbaʿah* (Dar al-Fikr, 2006), 1:543.

[58] Abu Bakr Muhammad ibn Ibrahim ibn al-Mundhir al-Naysaburi, *Al-Ishrāf ʿalā Madhāhib al-ʿUlamāʾ*, 1st ed. (Maktabat Makkah al-Thaqafiyyah, 2004), 6:83.

protection is vital in Islamic teaching, and any form of exploitation of nature is destructive to an ecological balance and, therefore, is contrary to God's justice principle.[59] In addition, Seyyed Hossein Nasr[60] affirms that modern environmental crises stem from spiritual crises in human beings, which separate them from their nature. In carbon trading, this principle lays the groundwork for ethics, asserting that indigenous communities should gain economic benefits resulting from carbon values for their contribution to forest preservation. Furthermore, in the context of *the al-'adl* (justice) and *maşlahah* (benefit) principles, carbon trading should not lead to further inequality; rather, it should facilitate improvements in community welfare, particularly for those who have contributed to environmental sustainability.

Based on the above philosophical perspective, it can be understood that the economic rights of indigenous communities in carbon trading not only adhere to a juridical basis, but they should be recognised through robust, moral, ethical, and philosophical legitimacy. In utilitarianism, benefits gained from carbon trading must also be perceived by the members of indigenous communities; Locke's property theory emphasises the legitimacy of economic rights arising from the contribution of protecting forests; the justice theory by Rawls demands protection for less disadvantaged groups; Sen's capability approach emphasises the importance of actual capacity to access benefits, while the law of nature and Islam reinforces moral obligation to distribute benefits justly to those who have been involved in protecting environments. Therefore, a fair carbon trading policy must ensure that indigenous communities are both recognised as participants in the carbon trading system and given economic benefits commensurate with the efforts they have made to achieve ecological sustainability.

The Model to Strengthen the Justice of Economic Rights for Indigenous Communities in Carbon Trading

The analysis of the regulatory framework for carbon trading in Indonesia indicates that indigenous communities have gained normative recognition as subjects of carbon governance in the forestry sector. However, issues hampering the recognition of customary forests, procedural complexity in carbon trading, technical capacity constraints, and suboptimal benefit-sharing mechanisms show that this normative recognition has not fully guaranteed substantive economic justice. As a result, a strengthening

[59] Yusuf Qardawi, *Riayat Al-Biah Fi Syariah al-Islam* (Dar Al-Shuruq, 2001).
[60] Seyyed Hossein Nasr, *Man and Nature: The Spiritual Crisis in Modern Man* (Unwin Hyman Limited, 1968).

model is required; this model should not only be oriented toward improving carbon market efficiency but also guarantee the protection of the economic rights of indigenous communities, given their contributions to ecological sustainability.

The first reinforcement should be carried out within the regulatory scope. Although the Presidential Regulation No. 98 of 2021 and the Regulation of the Minister of Environment and Forestry No. 7 of 2023 have established the legal basis governing carbon trading, there remains a need to further clarify the status of carbon rights in customary areas. To date, existing regulations are more oriented toward governing the mechanism of carbon trading than governing the ownership and distribution of carbon economic rights in areas managed by indigenous communities. This condition may lead to legal uncertainty affecting those with the right to receive economic benefits from carbon produced by customary forests. Therefore, strengthening regulations is necessary to recognise the communal carbon rights as part of the indigenous peoples' rights to manage their customary areas. Moreover, registration, verification, and community-based carbon project certification procedures need to be simplified to ensure that there are no administrative hurdles that may constrain the participation of indigenous peoples in carbon trading.[61]

The experiences of several countries demonstrate that legal clarity regarding carbon rights is a critical factor in ensuring legal certainty and economic access for indigenous peoples. Australia, for example, links carbon rights to land rights through the recognition of native title and the Australian Carbon Credit Units (ACCUs) scheme, enabling Aboriginal and Torres Strait Islander communities to participate directly as carbon project developers.[62] In contrast, although the Philippines provides robust protection for indigenous territories through the Indigenous People's rights Act (IPRA), it continues to face uncertainty regarding the legal status of carbon rights because no regulatory framework explicitly links land rights with

[61] Yoel et al., "Legal Reform on Indonesia's Carbon Trading Regulation"; Peraturan Presiden (Perpres) Nomor 98 Tahun 2021 Tentang Penyelenggaraan Nilai Ekonomi Karbon Untuk Pencapaian Target Kontribusi Yang Ditetapkan Secara Nasional Dan Pengendalian Emisi Gas Rumah Kaca Dalam Pembangunan Nasional.

[62] Catherine J. Robinson et al., "Indigenous Benefits and Carbon Offset Schemes: An Australian Case Study," *Environmental Science & Policy* 56 (February 2016): 129–34, https://doi.org/10.1016/j.envsci.2015.11.007.

carbon ownership.[63] These experiences suggest that recognition of carbon rights, may limit indigenous peoples' ability to access and benefit from economic opportunities generated by carbon trading.

The second reinforcement concerns the role of local governments as the actors closest to indigenous peoples. Within Indonesia's legal system, the recognition of indigenous communities and the determination of customary land are heavily contingent on regional policies. In this context, local governments will need to play a more active role in supporting indigenous communities' participation in carbon trading. This support may involve technical mentoring, facilitating the recognition of customary areas, assistance in drafting carbon documents, carbon measurement and verification coaching, and the strengthening of the institutionalisation of indigenous communities. Local governments can also serve as intermediaries between indigenous communities and the carbon market by providing information, facilitating partnerships, and developing community-based carbon trading schemes.[64]

The importance of local institution is also reflected in international practice. Through its Low carbon Development Strategy (LCDS) 2030, Guyana has promoted indigenous community participation in REDD+ programs through village development mechanisms and community consultation processes. Although concerns remain regarding the adequacy of community representation, Guyana's experience demonstrates that effective indigenous participation largely depends on the presence of intermediary institutions capable of bridging community interests and needs with the national carbon trading system.[65] In the Indonesian context, a similar function can be performed by local governments through the provision of technical assistance, capacity-building initiatives and the strengthening of indigenous people governance institutions.

The third reinforcement involves establishing a just benefit-sharing mechanism. From the perspective of green economy law, success in carbon trading is measured by the achievement of emission-reduction targets and the system's ability to distribute economic benefits proportionally. Therefore,

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[63] Rights and Resources Initiative & McGill University, *Status of Legal Recognition of Indigenous Peoples', Local Communities' and Afro-Descendant Peoples' Rights to Carbon Stored in Tropical Lands and Forests*, June 2, 2021, https://doi.org/10.53892/KMMW8052.

[64] Peraturan Menteri Dalam Negeri Nomor 52 Tahun 2014 Tentang Pedoman Pengakuan Dan Perlindungan Masyarakat Hukum Adat; PP 23/2021, vol. 23.

[65] Rosario Carmona et al., "Indigenous Peoples' Rights in National Climate Governance: An Analysis of Nationally Determined Contributions (NDCs)," *Ambio* 53, no. 1 (2024): 138–55, https://doi.org/10.1007/s13280-023-01922-4.

it necessitates a benefit-sharing mechanism that is more transparent, more accountable, and based on each party's ecological contribution. Indigenous communities that have helped maintain forest cover, preserve ecosystem functions, and improve carbon sequestration capacity should receive benefits commensurate with their contributions. In this context, the benefit-sharing principle needs to be explicitly formulated in regulations to ensure it does not rely on contractual agreements, which often place indigenous peoples in a weaker bargaining position than carbon business players and investors.[66]

Comparative experience demonstrate that the success of carbon trading is determined not only by the existence of carbon market but also by the system's ability to distribute economic benefits equitably. The Philippines and Guyana have developed benefit-sharing mechanisms that specifically allocate a portion of carbon revenues to indigenous communities, while Australia provides indigenous people with more direct access to carbon-related benefits through their involvement as owners and managers of carbon projects.[67] Thus, the distribution scheme of benefits must also guarantee transparency of the management of carbon finance and the involvement of indigenous communities in decision-making. This approach aligns with the principles of distributive and procedural justice, which position citizens not only as beneficiaries but also as actors with the right to determine how these benefits should be managed and utilised in the interests of their communities. In this case, carbon economic benefits will sustainably contribute to the social, economic, and institutional development of indigenous communities.[68]

The fourth reinforcement concerns the integration of the protection of indigenous communities' rights with the national climate change agenda. So far, climate policies have been positioned as a standalone environmental agenda, while the protection of the rights of indigenous communities is placed in another regime of law. On the contrary, the success of achieving NDC targets in Indonesia is heavily contingent on the sustainability of forest areas managed primarily by indigenous and local communities.

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[66] Ohlendorf et al., "Distributional Impacts of Carbon Pricing."

[67] Robinson et al., "Indigenous Benefits and Carbon Offset Schemes"; Carmona et al., "Indigenous Peoples' Rights in National Climate Governance"; Rights and Resources Initiative & McGill University, *Status of Legal Recognition of Indigenous Peoples', Local Communities' and Afro-Descendant Peoples' Rights to Carbon Stored in Tropical Lands and Forests*.

[68] Azaria et al., "INDIGENOUS PEOPLE ENVIRONMENTAL RIGHTS VULNERABILITY TO CARBON TRADING MECHANISM."

Therefore, the protection of indigenous communities should be seen as an integral part of the national climate change mitigation strategy.

This integration can be carried out by synchronising the carbon trading policy, the customary forest recognition policy, and the social forestry policy. Within such a framework, the recognition and protection of the rights of indigenous peoples will serve as an instrument for human rights protection and a strategic means to achieve the national emission reduction target. Stronger recognition of the rights of indigenous communities will certainly lead to wider opportunities for sustainable and just carbon governance.[69]

The experiences of Australia, Brazil, The Philippines, and Guyana demonstrate that the protection of indigenous peoples' rights and climate policy are not treated as separate policy agendas. In Australia and Brazil, the recognition of land rights serves as the foundation for indigenous participation in carbon markets, providing a stringer legal basis for accessing carbon-related economic benefits.[70] Meanwhile, in the Philippines and Guyana, the principle of Free, Prior and Informed Consent (FPIC) function as a key safeguard to ensure that climate change mitigation initiatives do not undermine the rights and interest of indigenous communities.[71] These experiences show that the effectiveness of national carbon policies is significantly influenced by the degree of integration between the protection of indigenous peoples' rights and environmental governance. The stronger this integration, the greater likelihood of achieving carbon governance that is both environmentally sustainable and socially just.

The above discussion helps us understand that the main issue in carbon trading in Indonesia's forestry sector is not the absence of a legal basis for the participation of indigenous communities; the issue lies in a suboptimal mechanism that should be capable of transforming normative recognition into actual access to the economy. The perspective of green economy law holds that the efficiency of the carbon market must be aligned with the protection of social and ecological rights. Meanwhile, utilitarian, property rights, and distributive justice perspectives, the capability approach, and the justice principle according to the law of nature and Islam show that

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[69] Indonesia, *Enhanced Nationally Determined Contribution*.

[70] Carmona et al., "Indigenous Peoples' Rights in National Climate Governance"; Robinson et al., "Indigenous Benefits and Carbon Offset Schemes."

[71] Rights and Resources Initiative & McGill University, *Status of Legal Recognition of Indigenous Peoples', Local Communities' and Afro-Descendant Peoples' Rights to Carbon Stored in Tropical Lands and Forests*; Carmona et al., "Indigenous Peoples' Rights in National Climate Governance."

indigenous communities have moral, philosophical, and juridical legitimacy to obtain economic benefits from the carbon produced by the forests they watch over.

Therefore, economic rights justice for indigenous communities in carbon trading in the forestry sector can only be realised if normative recognition is followed by substantive mechanisms of benefit-sharing, effective legal protection, and affirmative policies that place indigenous communities as the main subjects in national carbon governance.

Conclusion

This research concludes that Indonesia's legal framework for carbon trading has established a normative basis for the participation of indigenous communities in carbon governance in the forestry sector, as reflected in several regulations on carbon economic value, forestry, and social forestry. However, this normative recognition has not fully guaranteed the substantive justice of economic rights. Uncertainty in communal carbon right, procedural complexity in carbon trading, limited institutional capacity, and the suboptimal benefit-sharing mechanism become the main factors hindering indigenous communities from obtaining economic benefits earned from carbon trading. From the perspective of the green economy, carbon trading functions not only as a market instrument to reduce emissions, but also as a guarantee of fair benefit-sharing for the parties contributing to environmental sustainability. The philosophical analysis based on the perspectives of Jeremy Bentham, John Locke, John Rawls, and Amartya Sen, as well as the perspectives of the law of nature and Islam, shows that indigenous peoples hold moral, philosophical, and juridical legitimacy to gain economic benefits from carbon produced by forests that they cultivate and preserve. Therefore, the reinforcement of economic rights and justice for indigenous peoples requires more explicit recognition of communal carbon rights, the reinforcement of local governments' roles, the establishment of a transparent and proportional benefit-sharing mechanism, and the integration of the protection of indigenous peoples' rights into the national climate change agenda. With these approaches, success in carbon trading in Indonesia will be assessed not only on the emission-reduction target but also on the ability to realise economic justice for indigenous communities, the core guardians of forest ecosystems.

While this study establishes a foundational legal-philosophical framework for the recognition of indigenous communities within carbon governance, it also opens several critical avenues for subsequent scholarly

inquiry. Future research should prioritize empirical and socio-legal investigations into the operationalization of communal carbon rights within decentralized regional frameworks, specifically exploring how local governments can mitigate bureaucratic friction while maintaining regulatory compliance. Additionally, there is a pressing need for comparative policy analyses and quantitative modeling to design standardized, transparent benefit-sharing mechanisms that can accommodate the heterogenous structures of customary law (hukum adat) across Indonesia. Finally, future studies should critically examine the institutional capacity limits of indigenous groups faced with complex international carbon accounting standards, thereby bridging the gap between high-level policy formulation and the realization of substantive economic justice on the ground.

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