

Legal Implications of Changes in the Minimum Area of Forest Area that Must Be Maintained

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Abstract. This research analyzes the removal of the minimum provision of 30% of the forest area that must be maintained in Article 18 of Law Number 41 of 1999 concerning Forestry by the Law on Job Creation making this regulation an incomplete norm, which this situation has the potential to provide leeway for sectors related to the massive use of land and natural resources without regard to environmental sustainability. Therefore, this article discusses the legal implications of changes in the regulation of the minimum area of forest areas that must be maintained using a statutory approach and a conceptual approach. The results obtained in this research are that the absence of a national standard as a definite benchmark in maintaining the size of forest areas causes legal uncertainty and the emergence of legal loopholes that can be abused by certain groups.

Keywords: Legal Implications, Forest Area, Environmental Damage.

1 Introduction

Forests are part of the environment that has a major influence on human survival. Because of the great benefits that forests provide for humans, we are obliged to preserve them not only for the benefit of current generations but also future generations. Indonesia itself has a large tropical forest area, and is the second largest in the world behind Brazil. The Ministry of Environment and Forestry (KLHK) states that Indonesia currently has 125.76 million hectares of forest area or equivalent to 62.97% of Indonesia's land area.[1] However, over the past three decades, Indonesia has continued to experience degradation of forest areas both in quantity and quality. Exploitation of forest resources for economic development is one of the causes. Along with rapid economic development and the need to attract investment, forest management in Indonesia now faces major challenges. [2]

This situation is further solidified by Law Number 6 of 2023 on the Stipulation of Government Regulation in Lieu of Law Number 2 of 2022 on Job Creation. This policy aims to create a more conducive investment climate and accelerate national economic recovery. The Job Creation Law, which has more than a thousand pages, amends 79 laws from various sectors. The environment and natural resources sector also underwent changes.[3] In this sector, significant changes occurred in the forestry sector, where the Job Creation Law amended as many as 19 articles in Law Number 41 of 1999

on Forestry. One of the crucial provisions changed is regarding the minimum limit of forest area that must be maintained.

Previously, the provision of a minimum area of forest area that must be maintained in each watershed area (DAS) or island was 30% in accordance with article 18 of Law Number 41 of 1999 concerning Forestry, this provision aims to maintain the balance of the ecosystem and environmental sustainability. However, the regulation was later removed and changed to :

Table 1. Amendment of Article 18 of Law Number 41 Year 1999 on Forestry by Law Number 6 Year 2023 on Job Creation.

Law Number 41 of 1999 on Forestry	Law Number 6 of 2023 on Job Creation
Article 18	Article 36 clause (2)
(1) The Government determines and maintains the suitability of forest area and forest cover for each river basin, and / or island in order to optimize environmental benefits, social benefits, and economic benefits for the local community.	Article 18 is amended to read as follows:
(2) The forest area that must be maintained as referred to in paragraph (1) is at least 30% (thirty percent) of the area of the watershed and or island with a proportional distribution	(1) The National Government determines and maintains the adequacy of forest area and forest cover in each river basin, and/or island to optimize environmental benefits, social benefits, and economic benefits for the local community.
	(2) The National Government determines the area that must be retained in accordance with the physical and geographical conditions of Das and/or the island.
	(3) For further regulations regarding the area of forest area that must be maintained, including in areas where there are national strategic projects, it is regulated in a Government Regulation.

Source: Primary Legal Materials

Currently, the adequacy of forest area is no longer based on the 30% figure, but the central government will regulate the adequacy of forest area according to the physical and geographical conditions of each watershed and/or island. Adjustments to physical and geographical conditions in determining the minimum area of forest area in a watershed or island are then further regulated in Government Regulation Number 23 of 2021 concerning the Implementation of Forestry. The Government Regulation explains that the Minister is obliged to determine and maintain an adequate and equitable forest area based on physical and geographical conditions at the watershed, island or provincial level. The determination of the forest area that must be maintained is then carried out by considering a. biogeophysical; b. carrying capacity and environmental capacity; c. watershed characteristics; and d. diversity of flora and fauna.[4]

The amendment of Article 18 of the Forestry Law has drawn mixed responses, because although the Job Creation Law has a good goal of accelerating development and

investment, there are concerns about its impact on environmental preservation and ecosystem sustainability. On the one hand, this change shows progress in terms of national policy-making while opening up opportunities to realize ecological balance. However, on the other hand, the absence of a specific limit on the minimum size of the forest area that must be maintained has the potential to cause the phenomenon of deforestation to become more massive and uncontrollable.[5]

The removal of the minimum regulation of 30% forest area that must be maintained makes this regulation an incomplete norm. This incompleteness is caused by the absence of an explicit number for maintaining the size of the forest area. Previously, the 30% number was used as a reference in ensuring sufficient forest area to support ecological balance and environmental sustainability, which has the potential to provide leeway for sectors related to the massive use of land and natural resources without regard to environmental sustainability.

This is then supported by facts in the field released by Wahana Lingkungan Hidup (WALHI), that throughout 2023 deforestation is a serious problem that occurs in the forestry sector. Sumatra Island is one of the highlighted islands because it experienced deforestation of 119,626 hectares.[6] The large number of deforestation occurred due to the expansion of extractive industries such as oil palm plantations, industrial timber plantations, large-scale infrastructure projects and mining. Therefore, the main issue that is important to be researched based on the explanation above is what are the legal implications of changes in the regulation of the minimum area of forest area that must be maintained?

2 Research Method

This research is a normative legal research. Normative legal research is a scientific study conducted on a particular problem using logic and legal knowledge with the aim of finding the truth. In accordance with the type of research, the approach used is the statutory approach this approach is used by analyzing laws and regulations that are in accordance with the legal issues raised.[7] Another approach used is a conceptual approach, a conceptual approach used to analyze the legal implications of changes to the minimum forest area regulation.[8]

This research uses data from primary legal materials and secondary legal materials. Primary legal materials are all laws and regulations related to the legal issues raised. Secondary legal materials come from documents other than laws that can provide additional information on primary legal materials such as books, legal journals, scientific articles and opinions of legal experts related to the regulation of the minimum area of forest areas that must be maintained.[9] Then, analytical descriptive was chosen as the analysis technique in this research, to answer the problem under study.

3 Results and Discussion

The House of Representatives has passed the Job Creation Law to boost the country's economy and create maximum employment opportunities. The presence of the Job Creation Law has a wide and diverse impact on various sectors, including the forestry

sector. A total of 18 articles in the Forestry Law are amended by the Job Creation Law. Then the Job Creation Law is also used to support the interests of extractive industries, by strengthening the power of the Central Government in the environmental approval process, and removing the provision of a minimum area of forest that must be maintained.[3]

Referring to the Academic Paper of the Draft Job Creation Law, the amendment to the provisions regarding the minimum area of forest area that must be maintained in Article 18 Law Number 41 of 1999 concerning Forestry, was made because several reasons, including; 1) The government determines the size of forest areas for each province and regency/city based on biophysical conditions, climate, population, and economic conditions of the local community; 2) The obligation to maintain a minimum forest area of 30% (thirty percent) is no longer relevant to current developments considering that in Java Island itself, the forest area is already less than 30%; 3) The Ministry of Environment and Forestry should determine the size of the forest area for each province so that it is not based on the 30% obligation (the forest area follows the needs of each province). Then, in the general explanation of Government Regulation Number 23 of 2021 concerning the Implementation of Forestry, it is also explained that the minimum limit of 30% of forest area that must be maintained from the area of the watershed or island is also often considered to hinder the acquisition of land for investment.

The amendment in Article 18 of the Forestry Law reflects a shift in the approach to forest management, from a conservative approach that focuses on forest preservation to a more flexible approach that is based on regional conditions such as population, land needs and the local economy. The use of each region's conditions as a benchmark in determining the size of the forest area does show a step forward from the government in designing and determining national policies, but in other circumstances this change has the potential to cause a decrease in Indonesia's forest area.

The removal of the minimum forest area requirement of 30%, caused by this shift in approach, has serious legal implications. Because the scope of the discussion about the implications of changes to the Forestry Law by the Job Creation Law is very broad, this research will only discuss the implications of changes to Article 18 of the Forestry Law which regulates the provisions of the minimum proportion of forest areas that must be maintained.[10]

Based on the Big Indonesian Dictionary (KBBI), implication can be interpreted as the impact or result of an event. In relation to this research, the legal implication in question is the impact arising from changes in regulations regarding the minimum area of forest area that must be maintained, seen from a legal perspective. The legal implications of changes to the minimum forest area regulation that must be maintained based on the results of this research are as follows:

3.1. Legal Uncertainty

Until now, forestry laws starting from Law Number 5 of 1967 on Basic Forestry adopted most of the principles of forest management during the Dutch East Indies. A

forestry expert Professor Dr. Ir. Van Arstson, during the Dutch East Indies administration in the early 20th century, adopted the figure of 30% as the minimum limit of forest area that must be maintained in forest management on the island of Java. According to him, about 30% of the island's land mass should be covered by forests.[11] When Indonesia became independent, the Dutch colonial government's regulations became invalid, but the idea was adopted in Indonesian legislation, namely in Law Number 5 of 1965 concerning Basic Forestry.[12] This provision was actually revised during the reformation era, but then reapplied in Law Number 41 of 1999 on Forestry Article 18 Clause (2) which reads: "The forest area that must be maintained as referred to in paragraph (1) is at least 30% (thirty percent) of the area of the watershed and or island with a proportional distribution"

Based on this article, each province and regency/city must maintain its forest area above 30%. Provinces and regencies/cities with less than 30% forest area are required to increase their forest area. The regulation was made by considering that Indonesia is a tropical country that has high rainfall and intensity in most of its islands. In addition, Indonesia's undulating, hilly and mountainous land configuration makes Indonesia vulnerable to disturbances in water balance such as flooding, erosion, sedimentation, and water shortages.

After years of implementation, Article 18 of the Forestry Law that regulates the minimum area of forest area that must be maintained has now been amended through Law Number 6 of 2023 concerning the Stipulation of Government Regulation in Lieu of Law Number 2 of 2022 concerning Job Creation into Law. However, this rule change is complex due to the loss of the exact figure of how much minimum forest area must be maintained in one watershed and/or island that has been a clear guideline for forest management in Indonesia. The central government itself insists on abolishing this minimum limit on the grounds that the provision is no longer relevant for some densely populated areas such as Java Island which has experienced a significant decline in forest land area.[13] Therefore, the determination of each province's forest area will be determined by the Ministry of Environment and Forestry following the needs of each province and not based on the 30% obligation.

Based on Article 36 of the Job Creation Law, the adequacy of forest area is currently determined by the central government based on the physical and geographical conditions of a watershed and/or island. Adjustments regarding physical and geographical conditions to maintain a minimum area of forest area are then further regulated in Government Regulation Number 23 of 2021 concerning the Implementation of Forestry. Article 41 of the Government Regulation outlines that the Minister in determining and maintaining the adequacy of forest area and forest cover is based on the physical and geographical conditions of a watershed, island and/or province with a proportional distribution, taking into account: a. biogeophysical; b. carrying capacity and environmental capacity; c. watershed characteristics; and d. flora and fauna diversity. Biogeophysical conditions include: (1) Forest cover/vegetation condition; and (2) Flora and fauna diversity. Furthermore, biogeophysical conditions based on geography are represented as geophysical ecoregions including: a. slope; b. rainfall; and c. soil type. Thus, the key factor is how to determine the physical and geographical conditions that are different for each river on each island.[5] This means

that all areas of Indonesia that are divided by watershed area/island/province will be calculated one by one on the adequacy of forest and forest cover by KLHK on a case by case basis and stipulated in a decision letter by the Minister of Environment and Forestry.[14]

Although provisions regarding the minimum area of forest area that must be maintained have been further regulated in this Government Regulation, the current provisions are still incomplete, causing legal uncertainty. The absence of a national standard as a definitive benchmark in maintaining forest area makes it difficult to assess whether a region's forest area has met sustainability requirements.[15] The determination of forest area becomes entirely subjective, depending on the interpretation of the relevant Minister without any objective threshold. In addition, the loss of a clear standard for the minimum area that must be maintained has the potential to lead to different interpretations in the determination of forest areas by the Central Government and Local Governments.

According to Lon Fuller's Legal Certainty Theory, there are eight principles that must be met in order for the law to work properly so that certainty and order in society can be realized. The eight principles are; 1) General; 2) Publicized; 3) Prospective; 4) Clarity; 5) Non-contradictory; 6) Practicable or possible to comply with; 7) Stable or relatively constant through time, and 8) Congruent.[16] If one or more of these eight principles is not fulfilled, then it can have an impact on effectivity in the implementation, and ultimately lead to legal uncertainty.

I would argue that, the current forestry law does not fulfill one of these principles. The principle in question is the Principle of Intelligibility/Clarity. Where laws must be written in clear and easy to be understood. Then, the clarity of language is also important to avoid multiple interpretations that lead to social conflict. However, in addition to language clarity, the firmness is also needed as an aspect of legal certainty owned by a law.[17] In this context, without an explicit number set as a guideline in maintaining a forest area, it will be difficult for us to evaluate whether the law has been implemented properly or otherwise.

3.2. Creating Legal Loopholes

The politics of forestry law in Indonesia has undergone a significant shift between Law Number 41 of 1999 on Forestry and Law Number 6 of 2023 on the Stipulation of Government Regulation in Lieu of Law Number 2 of 2022 on Job Creation. The policy orientation in the previous forestry law was to maintain forest functions for the sustainability of natural resources and the environment, while in the Job Creation Law, forests are seen as assets that can be utilized for development and investment purposes. However, because sectoral laws have not supported the realization of synchronization in ensuring the acceleration of job creation, adjustments have been made in various aspects.[18]

Government Regulation No. 23/2021 on the Implementation of Forestry is the implementing regulation of the Job Creation Law in the forestry sector. Unlike the previous law, this PP regulates that the decision to determine the adequacy of forest areas is now under the authority of the central government, in this case the Minister of

Environment and Forestry. As a practical matter, the forest planning sub-issue is the absolute authority of the central government and is not shared with regional governments. Forest planning authority includes: a) forest inventory; b) forest area confirmation; c) forest area stewardship; d) establishment of forest management areas; and e) national forestry plans. This situation has the potential to create legal loopholes. [19]

The legal loophole itself is a loophole contained in a provision or regulation whose contents are still not fully able to anticipate all possible actions to avoid the intent of the provision without violating the material provisions. Thus, the relation to this research is that with the loss of a definite figure of how much minimum forest area must be maintained and the authority to determine and maintain the adequacy of the forest area in the hands of the Minister, it has the potential to be misused to achieve certain goals. For example, the government or the private sector can find a legal way to exclude an area from forest protection under the pretext that its geographical conditions do not meet the criteria. This situation makes supervisory institutions, and law enforcement officials lose a legal basis to conduct supervision and evaluation because of the absence a definite guideline. If this happens, deforestation and environmental degradation will become more apparent. Norms that are supposed to regulate the balance of ecosystems can actually become instruments that weaken environmental protection.[18].

The elimination of minimum forest area allows the government to use scientific justification as a means of policy legitimization, which may ultimately favor short-term investment interests over long-term conservation. Therefore, the affirmity of the standard forest area that must be maintained is needed as a guideline in realizing legal certainty in a law. This affirmity is also important to prevent misuse of the provisions by certain parties for personal or group interests.[17]

A good law is a complete law, so it does not cause problems in the implementation. A complete law is closely related to how the law can be implemented. In other words, a complete law determines the effectiveness of its enforcement.[20] A complete law also creates a consistent implementation of the law, as it tends to eliminate interpretation by the implementers. A complete law also prevents the arbitrary and excessive use of their discretion by state administrators. In this way, a complete law can create legal certainty and the opposite.[20]

Besides the problem of legal uncertainty, globalization has also brought demands for Indonesia to strengthen the substance of law in the environmental field, considering the urgency of climate change and environmental damage.[21] Ideally, the implementation of forestry must always contain the soul and spirit of citizenship, justice and environmental sustainability.[22] Indonesia is currently facing serious problems in the forestry sector that have caused environmental damage in various parts of the country. One example occurs on the island of Sumatera, Walhi in its official Instagram account released data that throughout 2023 Sumatera experienced massive forest area loss or deforestation reaching 119,626 hectares.[23]

This deforestation is caused by the expansion of extractive industries such as oil palm plantations, industrial forest plantations, large-scale infrastructure projects and mining. Currently Sumatera is also burdened with various licenses by extractive industries

ranging from forestry licenses covering 5,670,700 hectares, Mining Business Licenses covering 2,434,661 hectares to the Cultivation Rights Title of oil palm plantations which are increasingly extensive reaching 2,326,417 hectares. Another source also mentioned that deforestation also occurred in Central Kalimantan province. More than 1,500 hectares of forest, including carbon-rich peatlands, in Tewai Baru Village, Gunung Mas district have been cleared for a food estate project.[24]

Seeing this fact, the government should strengthen ecocracy considering that Indonesia is an agricultural country, a country with small islands and a country with high potential for natural disasters.[25] Ecocracy is a government that bases its governance on the principles of ecologically sustainable development (ESD). ESD is not an environmental bias as feared by narrow-minded business people and government managers, but an orientation of economic growth, social development and protection of the carrying capacity of ecosystems.[26]

Government regulations related to forest adequacy should integrate the concept of ecoregions. Ecoregion means that environmental protection and management must take into account the characteristics of natural resources, ecosystems, geographical conditions, local community culture, and local wisdom so that forest benefits include social, economic and environmental benefits. The government must take an active role in regulating and supervising economic activities related to forest areas, so that land conversion for business purposes does not occur massively. Thus, good law is needed as an instrument to direct and change the nation and society towards a better country.[27]

4 Conclusion

The implication of removing the 30% forest area stipulation that must be maintained causes legal uncertainty, as the determination of forest area is now subjective and depends on the central government's interpretation based on the physical and geographical conditions of a watershed or island. This leads to legal confusion and potentially different interpretations between the central and local governments, especially in determining whether an area still meets the requirements for environmental sustainability. In addition, the lack of clarity in this regulation opens up legal loopholes that can be utilized by certain parties, both government and private, to change the status of forest areas under the pretext of adjusting geographical conditions. Therefore, the government needs to integrate the ecoregion approach so that forestry policies continue to consider ecological, economic and social aspects in a balanced manner. Strict supervision and transparency are also needed in determining the size of forest areas to prevent uncontrolled exploitation. The state must take an active role in controlling investment and land conversion so that forestry policy is not only oriented towards short-term profits, but also preserves the environment for future generations.

References

- [1] S. A. N, "Kementerian Lingkungan Hidup dan Kehutanan Ungkap Rumitnya Masalah Hutan Indonesia," *Universitas Gajah Mada*, 2023. [Online]. Available: <https://ugm.ac.id/id/berita/kementerian-lingkungan-hidup-dan-kehutanan-ungkap-rumitnya-masalah-hutan-indonesia/>
- [2] A. Syapriallah, *Buku Ajar Mata Kuliah Hukum Lingkungan*. Deepublish, 2018.
- [3] T. A. Setia Negara, S. Alkohir Anggoro, and I. Koeswahyono, "Indonesian Job Creation Law: Neoliberal Legality, Authoritarianism and Executive Aggrandizement Under Joko Widodo," *Law Dev. Rev.*, vol. 17, no. 1, pp. 155–197, 2024, doi: 10.1515/ldr-2023-0022.
- [4] I. Dr. Ir. Haryadi Himawan, M.BA, "Memaknasi Kecukupan Tutupan Hutan Per Pulau Dan Per Das Dalam Konteks Penghapusan Batas Minimal 30% [Kasus Hutan Jawa]," *Rimba Indonesia*, 2024. [Online]. Available: <https://rimbaindonesia.id/2024/04/memaknai-kecukupan-tutupan-hutan-per-pulau-dan-per-das-dalam-konteks-penghapusan-batas-minimal-30-kasus-hutan-jawa/>
- [5] Ardiyanto Wahyu Nugroho, "Membaca Arah Perubahan Kehutanan Pasca-terbitnya Undang-Undang Cipta Kerja," *J. Huk. Lingkung. Indones.*, vol. 7, no. 2, pp. 275–296, 2021.
- [6] O. G. M. Agustina, Jimmy Pello, "Implikasi Penerapan Undang-Undang Nomor 6 Tahun 2023 Tentang Cipta Kerja Dalam Pengaturan Kawasan Hutan Untuk Pembangunan Proyek Strategis Nasional (Studi Kasus Bendungan Tefmo-Manikin di Kabupaten Kupang-Provinsi NTT)," vol. 1, no. 1, pp. 400–408, 2023.
- [7] D. R. Djulaeka, *Buku Ajar: Metode Penelitian Hukum*. Scopindo Media Nusa, 2020.
- [8] F. S. Qamar, N., Syarif, M., Busthami, D. S., Hidjaz, M. K., Aswari, A., Djanggih, H., & Rezah, *Metode Penelitian Hukum (Legal Research Methods)*. 2017.
- [9] J. I. Jonaedi Efendi, *Metode Penelitian Hukum : Normatif dan Empiris*. Depok: Prenadamedia Group, 2018.
- [10] Obed Edotalino Sudiro and Slamet Suhartono, "Perlindungan Hukum Kawasan Hutan Adat dan Hak Ulayat," *Polit. Progresif J. Hukum, Polit. dan Hum.*, vol. 1, no. 3, pp. 274–289, 2024.
- [11] Lumaya Santi Marudin, "Sinkronisasi Peraturan Pemerintah Nomor 19 Tahun 2021 Tentang Penyelenggaraan Pengadaan Tanah Bagi Pembangunan Untuk Kepentingan Umum Dengan Peraturan Pemerintah Nomor 23 Tahun 2021 Tentang Penyelenggaraan Kehutanan," *Din. Huk.*, vol. 14, no. 1, pp. 170–191, 2023.
- [12] I. Iskandar, "Fungsi Rencana Tata Ruang Wilayah Provinsi Sebagai Instrumen Hukum Pengendalian Pemanfaatan Ruang Kawasan Hutan," *Bina Huk. Lingkung.*, vol. 5, no. 1, pp. 1–20, 2020, doi: 10.24970/bhl.v5i1.142.
- [13] T. Dwi Rahayu, Y. Pujiwati, and B. Rubiati, "Kepastian Hukum Kepemilikan Hak Atas Tanah Setelah Mengalami Likuifaksi Tanah," *LITRA J. Huk. Lingkungan, Tata Ruang, dan Agrar.*, vol. 2, no. 2, pp. 250–266, 2023, doi: 10.23920/litra.v2i2.1315.

- [14] Pramono Dwi Susetyo, *Membangun Hutan & Menjaga Lingkungan: Masalah dan Solusi*. IPB Press, 2023.
- [15] A. Maulana Anha and H. Djanggih, "Implementasi Perlindungan Hukum Hak Atas Tanah Terhadap Penetapan Kawasan Hutan," *J. Philos.*, vol. 4, no. 2, pp. 221–240, 2023.
- [16] D. E. Igwe and G. U. Udoh, "Law And Society: A Discourse On Lon Fuller's Principles Law," *Nnadiabube J. Philos.*, vol. 7, no. 2, pp. 32–45, 2024.
- [17] A. E. P. M. Verido Dwiki Herdhianto, Sunny Ummul Firdaus, "Omnibus Law Dalam Kerangka Prinsip-Prinsip Legalitas (Omnibus Law In The Principles Of Legality's Framework)," *J. Inov. Penelit.*, vol. 2, no. 10, pp. 3473–3484, 2022.
- [18] S. H. Gusfani, S. Hermawan, A. Nugroho, and I. Artikel, "Analisa Dampak UU Ciptaker (Penghapusan Minimal 30 % Kawasan Hutan) Terhadap Perlindungan Dan Pengelolaan Konservasi Lingkungan Kawasan Hutan Gunung Lawu Kabupaten Karanganyar Dalam Perspektif Hukum Indonesia Jurnal Discretie :," *J. Discret. J. Bagian Huk. Adm. Negara*, vol. 5, no. 2, pp. 429–438, 2024.
- [19] E. Y. Rachmad Safa'at, Erwin Syahrudin, Indah Dwi Qurbani, Siti Habibah, "Legal Implications Regulation of Citizens's Rights and Government Obligations in Managing Natural Resources and the Environment in the 1945 Constitution of the Republic of Indonesia," *Int. J. Multicult. Multireligious Underst.*, vol. 9, no. 3, pp. 611–625, 2022.
- [20] Moh. Fadli and Sofyan Hadi, *Kepastian Hukum, Perspektif Teoretik*. Malang: PT. Nuswantara Media Utama, 2023.
- [21] S. D. Rahardja and Z. A. Hoesein, "Comparison of Legal Systems in the Perspective of Contemporary Issues and Their Application in Indonesia," *Int. J. Soc. Serv. Res.*, vol. 4, no. 12, pp. 1–9, 2024.
- [22] I. N. Nurjaya, *Pengelolaan Sumber Daya Alam dalam Perspektif Antropologi Hukum*. Malang: UM Press.
- [23] Wahana Lingkungan Hidup, "Catatan Akhir Tahun Region Sumatera, Dari Krisis Politik ke Krisis Ekologi," 2024. [Online]. Available: https://www.walhi.or.id/uploads/buku/Revisi_2_CATAHU_WALHI_REGION_SUMATERA_compressed.pdf
- [24] Hans Nicholas Jong, "LSM: Food Estate Penyebab Deforestasi dan Rusaknya Lahan Gambut," *Mongabay*, 2023. Accessed: Jan. 09, 2025. [Online]. Available: <https://www.mongabay.co.id/2023/05/04/lsm-food-estate-penyebab-deforestasi-dan-rusaknya-lahan-gambut/>
- [25] C. J. Simangunsong, "UU Cipta Kerja Dan Implikasinya Kepada Hutan, Lingkungan Hidup, Dan Masyarakat Hukum Adat Di Tanah Papua," *Econusa*, 2020.
- [26] Y. E. Rachmat Safa'at, Indah Dwi Qurbani, Daru Adianto, Yazid Nurhuda, *Karakteristik dan Pertanggung Jawaban Hukum Oligarki dalam Tata Kelola Lingkungan Hidup dan Sumber Daya Alam*. Malang: Inteligensia Media, 2023.
- [27] Herlindah and Y. Darmawan, "Development Legal Theory and Progressive Legal Theory: A Review, In Indonesia's Contemporary Legal Reform," *Perad. J. Law Soc.*, vol. 1, no. 1, 2022, doi: 10.59001/pjls.v1i1.22.