



The decline of legal authority in addressing ecocide: an environmental law analysis

¹Andi Purnawati, ¹Syamsul Haling, ¹Irmawaty, ²Kamal, ³Mukhlis Lubis

¹ Universitas Muhammadiyah Palu, Palu City, Central Sulawesi Province, Indonesia; ² Universitas Tadulako, Palu City, Central Sulawesi Province, Indonesia; ³ Sekolah Tinggi Agama Islam Negeri Mandailing Natal, Indonesia. Corresponding author: A. Purnawati, andipurnawati0967@gmail.com

Abstract. Ecocide on a large scale continues to pose a serious threat to ecosystems and communities in Indonesia. Cases such as illegal logging in Kalimantan and forest fires in Sumatra reveal the weakness of legal authorities in addressing environmental crimes. Although various regulations have been established, law enforcement is often hampered by a lack of coordination among agencies and economic-political pressures from interested parties. This study employs a qualitative approach with a case study method, combining in-depth interviews, observations, and document analysis to identify the root causes of the declining legal authority in handling ecocide. The main findings indicate that weak inter-agency synergy, strong economic-political interventions, and sanctions that do not provide a deterrent effect result in environmental criminals not facing serious consequences. Moreover, the lax oversight of illegal activities such as illegal logging exacerbates the situation, prolonging ongoing environmental damage. These findings underscore the need for fundamental reforms in environmental law enforcement in Indonesia, with an emphasis on strengthening coordination and implementing stricter sanctions to prevent further damage.

Key Words: ecocide, environmental law, illegal logging, law enforcement, political intervention.

Introduction. Ecocide is a form of large-scale environmental destruction that has long-term consequences for ecosystems and communities (Chang & Zao 2024). The term ecocide refers to destructive actions that systematically destroy ecosystems, such as illegal logging, water and soil pollution, and the destruction of natural habitats leading to species extinction (Anisimova et al 2023). The importance of ecocide in the context of environmental law cannot be overlooked, given its impact on environmental sustainability and human life (Rocasolano & Berlanga 2022). The damage caused by ecocide affects not only biodiversity but also the well-being of communities that depend on the environment.

In the context of environmental protection, legal authorities play a crucial role in preventing and addressing acts of ecocide (June et al 2024). Legal authorities are responsible for ensuring that laws protecting the environment are effectively enforced and that perpetrators of ecocide are appropriately punished (Gillett 2023). Governments and related institutions have the responsibility to preserve environmental sustainability through strict and consistent law enforcement (García Ruiz et al 2022). Failure to fulfill this role can lead to a decline in legal authority, which ultimately exacerbates environmental degradation.

Cases of ecocide in Indonesia, such as illegal logging in Kalimantan and forest fires in Sumatra, reflect significant challenges in environmental law enforcement, which often proves inadequate. In Kalimantan, for instance, illegal logging and the conversion of forests into palm oil plantations have resulted in the alarming loss of forests. From 2001 to 2022, more than 800,000 hectares of forest, including carbon-rich peatlands, have been destroyed by the pulp and paper industry, as well as palm oil plantations (Setiyono & Natalis 2021). This destruction not only eliminates habitats for endangered species but also transforms forests into areas prone to fires, which can last for weeks and release large amounts of carbon emissions into the atmosphere.

The forest fires in Sumatra also highlight the severe damage caused by these practices. In 2015, forest fires exacerbated by the El Niño phenomenon scorched approximately 2.6 to 4.5 million hectares of land across Indonesia, generating massive carbon emissions and affecting air quality to levels dangerous to public health. In Central Kalimantan, air particle concentrations (PM10) reached 1000 to 3000 $\mu\text{g m}^{-3}$, among the worst air quality levels ever recorded in the world (Santos & Asnawan 2023).

The social and economic impacts of this ecocide are extensive. In West Kalimantan and Jambi, indigenous communities such as the Dayak Iban and Orang Rimba have lost access to the forests that have long supported their livelihoods (Prihandono & Yuniarti 2022). The expansion of palm oil plantations in these areas is often carried out without adequate consultation with local communities, leading to forced evictions and the loss of their customary land rights. This situation exacerbates poverty and destroys their cultural heritage, which is closely linked to the forests.

Economically, although the expansion of palm oil plantations and the pulp industry provides short-term benefits for a few, the losses borne by communities and the environment are far greater (Zink 2023). Land conflicts arising from plantation expansion have created deep social tensions and exacerbated instability in these regions. More than 650 land conflicts related to palm oil plantations have been recorded, affecting hundreds of thousands of households (Palao 2020).

The damaged ecosystems resulting from ecocide also have significant ecological impacts, such as the loss of biodiversity and an increased risk of natural disasters like floods and landslides (Palarczyk 2023). Drained peatlands for plantations become a major source of carbon emissions and trigger uncontrollable forest fires (Sharpston 2022). This adds to the burden on global efforts to combat climate change, with Indonesia being one of the largest contributors to carbon emissions from the forestry sector.

Without strict legal action and reforms in environmental policies, Indonesia will continue to face worsening ecocide issues (Thiel & Cabanes 2024). The necessary reforms not only involve stricter enforcement of laws against environmental crimes but also stronger protection of indigenous people's rights and the implementation of sustainable forest management practices (Baeza 2023). Without these efforts, the negative impacts of ecocide on the environment and communities will continue to expand, threatening the well-being of future generations.

The weak implementation of environmental laws in Indonesia is one of the main factors contributing to the ongoing occurrence of ecocide. Although environmental regulations are outlined in Law No. 32 of 2009 on Environmental Protection and Management, their implementation on the ground is often ineffective (Setiyono & Natalis 2021). An analysis of the existing regulations reveals that, despite the law containing various provisions to protect the environment, its enforcement faces many challenges. In practice, the main obstacles include a lack of coordination among agencies, insufficient resources for adequate monitoring, and low legal awareness among the public and law enforcement officials (Mulas 2022). As a result, many cases of environmental violations are not seriously addressed, allowing perpetrators of ecocide to continue their destructive activities without facing appropriate punishment.

External factors also significantly influence the enforcement of laws against ecocide (Malysheva & Hurova 2024). Political and economic interventions often hinder the process of fair and decisive law enforcement (Palao 2019). In many cases, stakeholders with economic interests in activities such as illegal logging and the expansion of palm oil plantations have the power to influence legal decisions. Pressure from these stakeholders, whether from within the government or the private sector, often leads to the disregard of environmental violations (Proedrou & Pournara 2024). As a result, the law becomes a weak tool for protecting the environment, as it is more frequently used to safeguard economic interests rather than the sustainability of ecosystems.

The legal sanctions imposed on perpetrators of ecocide often fail to provide a deterrent effect. Many cases demonstrate that the penalties imposed are too lenient and not commensurate with the environmental damage caused. For instance, in several cases of illegal logging in Kalimantan and Sumatra, perpetrators were only subjected to fines or very short prison sentences, despite the significant damage their actions caused to forest

ecosystems. The authorities' lack of firmness in imposing severe penalties on ecocide perpetrators reflects the weakness of law enforcement in Indonesia. This not only undermines efforts to preserve the environment but also sets a negative precedent that allows other perpetrators to continue their destructive activities without fear of serious consequences.

Previous research discussing ecocide in various legal and environmental contexts has provided an essential foundation for understanding the crime of ecocide and the associated international legal frameworks. García Ruiz et al (2022) adopt an interdisciplinary approach to explain the concept of "eco-crime" in aquatic environments, covering the exploitation of marine resources by transnational organized crime, both legally and illegally. They emphasize the importance of adopting environmentally friendly technologies and advocate for the need for internationally accepted ecocide laws to halt destructive actions in marine environments.

Furthermore, a study conducted by Setiyono & Natalis (2021) focuses on ecocide as a severe violation of human rights through a case study of river pollution by the palm oil industry in Indonesia. This study highlights the close relationship between environmental quality and human dignity, as well as the shortcomings of both national and international environmental laws in addressing this crime. The research suggests that ecocide should be regarded as an extraordinary crime, equivalent to severe human rights violations, considering its impact on human life and the environment.

Meanwhile, Palarczyk's article (2023) highlights discussions on efforts to expand the jurisdiction of the International Criminal Court (ICC) to address ecocide. The article explores the proposed definition of ecocide by a panel of experts, aiming to incorporate environmental degradation into the framework of international criminal law. Although there is skepticism about the ICC's effectiveness in handling ecocide cases, the article suggests that efforts should focus on better translating environmental realities into substantive prohibitions within international law.

Another article by Gillett (2023) examines the prohibition of reprisals against the natural environment under international humanitarian law (IHL) and its relevance to war crimes under the Rome Statute. This research offers a new perspective on how the environment can be protected as a civilian object in the context of armed conflict, paving the way for prosecuting retaliatory actions that harm the environment.

Research conducted by Rocasolano & Berlanga (2022) delves into the fundamental right to a healthy environment from a historical and analytical approach. The article emphasizes that ecocide needs to be recognized as a standalone international crime, independent of its anthropocentric connections to human rights or property, to ensure the protection of ecosystems and sustainability.

This research addresses gaps in previous studies, as although the right to a healthy environment has been recognized as a fundamental right, the challenge of establishing ecocide as an international crime still faces many obstacles. This issue reflects the weaknesses of existing legal systems in responding to the escalating environmental destruction. On the other hand, despite efforts to introduce environmentally friendly technologies as solutions, existing laws have not yet fully succeeded in stopping environmental damage caused by such activities. This indicates a significant gap in international law enforcement focused on the environment.

Additionally, the case of river pollution by the palm oil industry in Indonesia illustrates how national law fails to provide adequate restitution for victims and is unable to prevent the recurrence of similar crimes. This underscores the fundamental weaknesses in both national and international legal frameworks in addressing the impacts of environmental crimes.

This research is critical and urgent because the decline in legal authority in handling ecocide has led to extensive environmental damage that has not been adequately addressed. Although various regulations and international initiatives exist to protect the environment, current laws often fail to respond effectively to cross-border environmental crimes. The urgency of this research lies in identifying the root cause of the problem, which is the inability of international and national legal institutions to enforce stringent sanctions against ecocide perpetrators. The findings from this research

are important as they can offer solutions from the root of the issue, by proposing improvements and strengthening legal authority in tackling ecocide. This is expected to reduce the ongoing environmental destruction and provide legal clarity for ecocide actions that are often overlooked.

Therefore, this study aims to explore in greater depth the factors contributing to the weakness of legal authority in addressing ecocide, both at the national and international levels. It also seeks to identify gaps in the existing legal regulations and provide strategic recommendations to strengthen law enforcement against ecocide crimes. Consequently, the results of this research are expected to make a significant contribution to the development of more effective and sustainable environmental policies, as well as to drive tangible changes in the legal framework governing ecocide in the future.

Material and Method. This research employs a qualitative approach with a case study design to analyze the decline in legal authority in handling ecocide cases in Indonesia. The qualitative method was chosen because it allows the researcher to deeply explore the perceptions, experiences, and views of stakeholders involved in environmental law enforcement (Berg 2001). The study was conducted from January 2024 to June 2024.

Research subjects. The research subjects consist of three main groups: (1) heads of environmental agencies from three provinces with high levels of environmental degradation, (2) environmental law experts with over 10 years of experience in handling environmental cases, and (3) environmental activists from NGOs focusing on ecocide issues. The total number of participants in this study was 15, selected using purposive sampling to ensure that the participants have relevance and experience related to the research topic (Iosifides 2011).

Data collection. Data collection was conducted through three main methods: in-depth interviews, direct observation, and document analysis (Johnson & Christensen 2014). The interviews were semi-structured to provide flexibility in exploring the topic more deeply. The interview questions were designed to explore participants' views on the decline of legal authority, factors influencing law enforcement, and the effectiveness of existing regulations. Interviews were conducted both face-to-face and via online platforms, with an average duration of 60-90 minutes per session.

Observations were carried out in locations known to have suffered environmental damage due to ecocide, such as forest areas affected by illegal logging. The purpose of these observations was to directly witness the impact of environmental destruction and to assess how local authorities manage or neglect illegal activities. The data collected included field notes, photographs, and video documentation.

Document analysis. The documents analyzed include laws related to environmental protection, court rulings, and annual reports from relevant agencies. The purpose of document analysis is to understand the existing legal framework and evaluate its implementation in ecocide cases (Leavy 2014). These documents were selected based on their relevance to the observed cases and were analyzed using content analysis techniques.

Data analysis. The data obtained from interviews, observations, and documents were analyzed using a thematic analysis approach. The analysis process was carried out in several stages: (1) transcription of interviews, (2) data coding, (3) identification of key themes, and (4) interpretation of findings. Each piece of data was manually coded to identify recurring patterns and themes. The main themes that emerged were then further analyzed to understand the relationship between the decline in legal authority and the factors influencing it (Finkelstein et al 2021).

Data validity. To ensure data validity, this research employed data triangulation techniques by comparing data from various sources (interviews, observations, and documents) to ensure consistency of findings. Additionally, member checking was

conducted by involving participants in reviewing the interview results to ensure the accuracy of the researcher's interpretations.

Results. The legal authority in handling ecocide has significantly declined. This is influenced by factors such as weak inter-agency coordination, economic-political pressure, lenient legal sanctions, lack of oversight, and numerous unresolved cases. All these findings support the analysis that legal authority no longer holds effective control in addressing ecocide, which poses a major threat to environmental protection efforts.

The data visualization in Figure 1 illustrates how weak coordination among institutions directly impacts the effectiveness of law enforcement against ecocide. The primary issue identified is the lack of synergy among relevant institutions that should be working together to address environmental crimes. This weak coordination leads to poor connectivity between institutions, resulting in uncoordinated and inefficient legal actions.

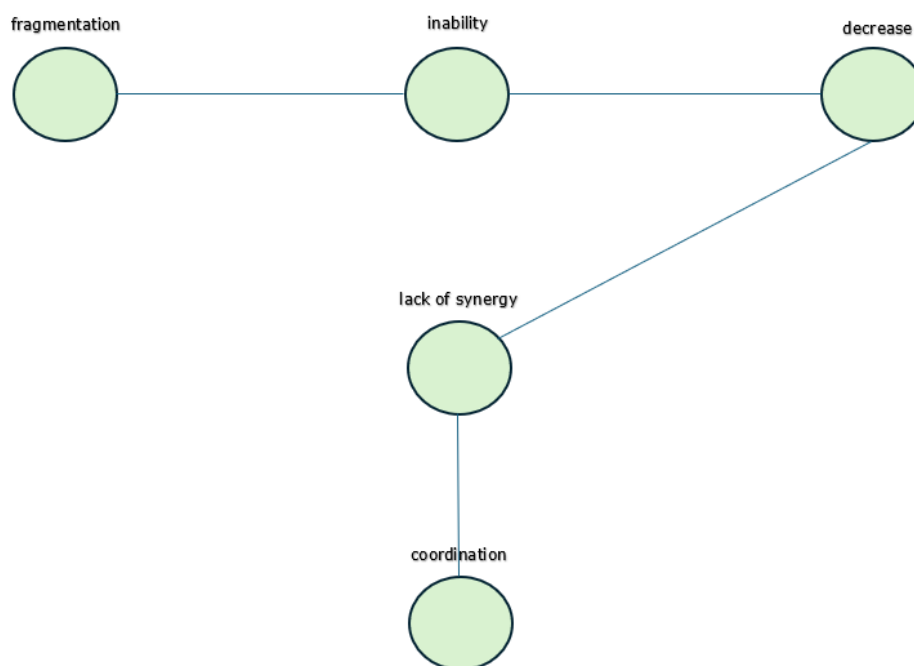


Figure 1. Impact of weak coordination on ecocide law enforcement.

The consequence of this lack of synergy is a decline in the effectiveness of law enforcement in dealing with ecocide. Legal institutions are unable to enforce regulations decisively and swiftly, leading to environmental offenders not receiving appropriate penalties. This decline in effectiveness also reflects fragmentation within the legal structure. Instead of functioning as an integrated unit, these institutions operate separately, exacerbating the situation.

This fragmentation within the legal structure ultimately further impacts the legal authorities' inability to effectively respond to environmental crimes. The legal system, which should function to prevent and address ecocide, becomes incapable of taking firm action. Thus, the chain of problems that begins with weak inter-agency coordination results in a significant decline in the effectiveness of law enforcement and the response to environmental crimes such as ecocide.

Figure 2 illustrates the complex relationship between economic and political interest interventions and the enforcement of laws related to ecocide. At the core of the issue, economic and political interests exert significant pressure on legal authorities, ultimately weakening their ability to effectively enforce environmental laws. These interventions come from actors with substantial stakes in activities that can harm the environment, such as large-scale resource extraction or industrial development.

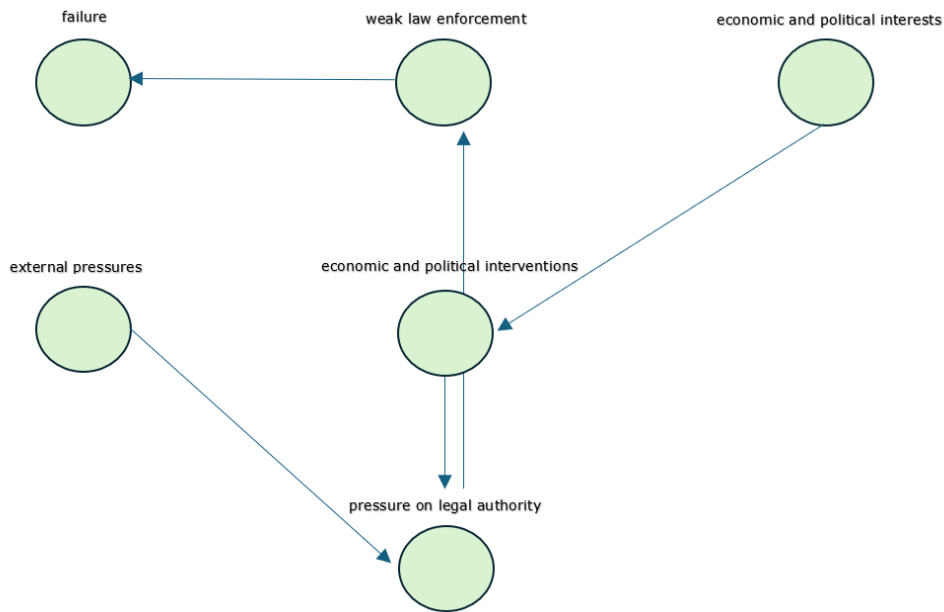


Figure 2. Economic and political intervention in ecocide law enforcement.

As a result of these interventions, legal authorities face direct pressure that diminishes their capacity to apply strict legal measures against ecocide perpetrators. The concept map highlights how this pressure leads to weak law enforcement, where authorities fail to take decisive legal action, allowing illegal activities such as illegal logging and pollution to continue unchecked. A critical mechanism in this process is the existence of legal loopholes and external pressures, which are exploited by these influential actors to avoid accountability.

Consequently, the outcome is a failure to effectively address ecocide, meaning that despite the worsening environmental damage, the legal system remains unable to respond adequately. This situation reflects a broader problem: the vulnerability of the law when confronted with powerful economic and political interests, creating a scenario where environmental protection laws are weakened, and ecocide continues without sufficient legal consequences.

Figure 3 highlights the issue of inadequate oversight of illegal logging and its impacts. At the core of the problem is the lack of oversight of illegal logging, which is the main cause of the continued occurrence of this illegal activity. The lack of oversight allows illegal logging activities to continue without significant intervention, despite the evident and severe environmental damage.

Figure 3 also shows that the situation is exacerbated by ineffective law enforcement, rooted in weak legal authority. Weaknesses in environmental law enforcement prevent authorities from taking meaningful action against illegal logging activities. As a result, the legal system fails to address environmental damage, allowing it to continue unchecked.

The relationships between the elements in Figure 3 illustrate the interconnection of each issue, showing how the cycle of weak oversight, weak legal authority, and environmental damage perpetuates itself. Figure 3 clearly depicts that without strengthening legal authority and improving enforcement, this cycle will continue, and environmental degradation will worsen. This visualization presents a logical flow from the root cause (lack of oversight) to the broader impact (failure to protect the environment), offering a structured representation of data that emphasizes the system's failure in addressing illegal logging.

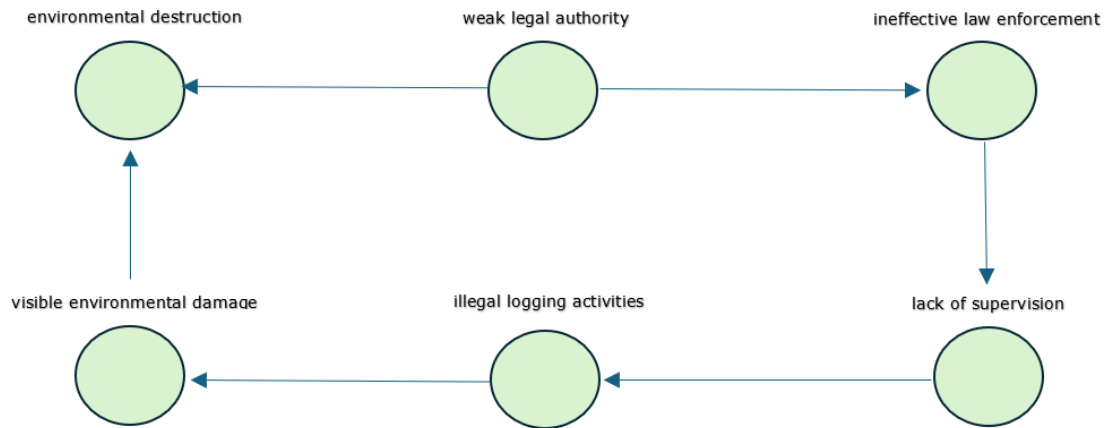


Figure 3. Lack of supervision on illegal logging.

Figure 4 illustrates the issues related to lenient sanctions for environmental offenders. At the core of the problem, offenders are only subjected to mild sanctions, despite causing significant environmental damage. This situation reflects weak law enforcement, which fails to impose strong and firm punishments on environmental criminals. The consequence of this weak law enforcement is the absence of a deterrent effect on offenders. Because the punishments given are not commensurate with the damage they have caused, there is no strong incentive for offenders or potential offenders to stop committing ecocide. Ultimately, the failure to impose firm and deterrent punishments contributes to the legal system's inability to address ecocide effectively.

Figure 4 clearly shows the relationship between weak legal sanctions, the weakness of law enforcement authorities, and the impact on environmental degradation, as well as how the failure to impose severe sanctions leads to the continued occurrence of environmental crimes.

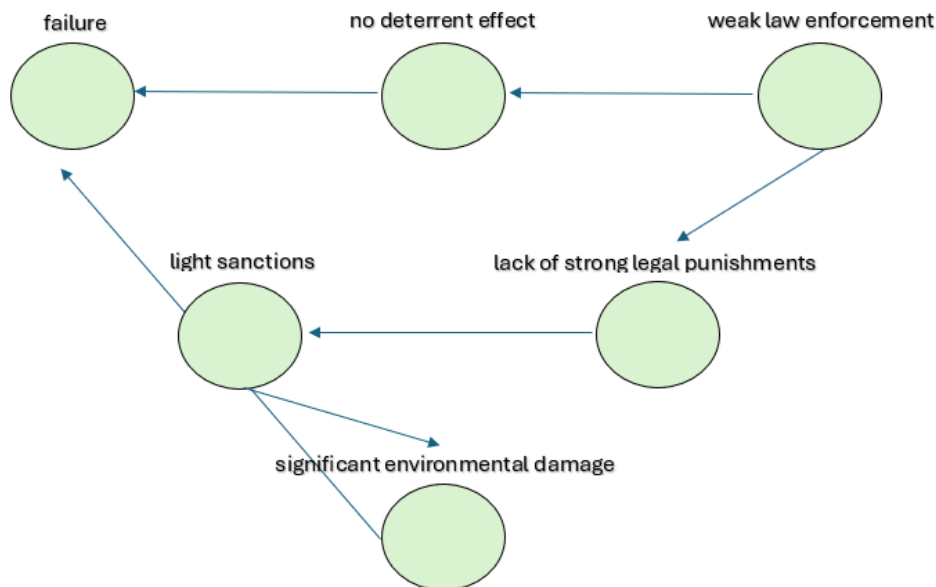


Figure 4. Light sanctions for environmental offenders.

Figure 5 illustrates the issue of the rising number of environmental cases that are not accompanied by adequate resolutions. At its core is the increase in environmental cases, many of which end without proper resolution. This highlights that the legal system is failing to address ecocide, as existing cases are not being adequately resolved. This problem is caused by an ineffective legal system, reflecting a crisis of legal authority. The

legal system, which is supposed to protect the environment, is instead unable to handle existing cases, let alone prevent new ecocides. The failure to address ongoing cases demonstrates that this weakness leads to an inability to resolve environmental cases, allowing ecocide to continue unchecked and without effective punishment. Figure 5 clearly shows the relationship between the rise in cases, the weaknesses of the legal system, and the failure of legal authorities, all of which contribute to the crisis in addressing environmental crimes.

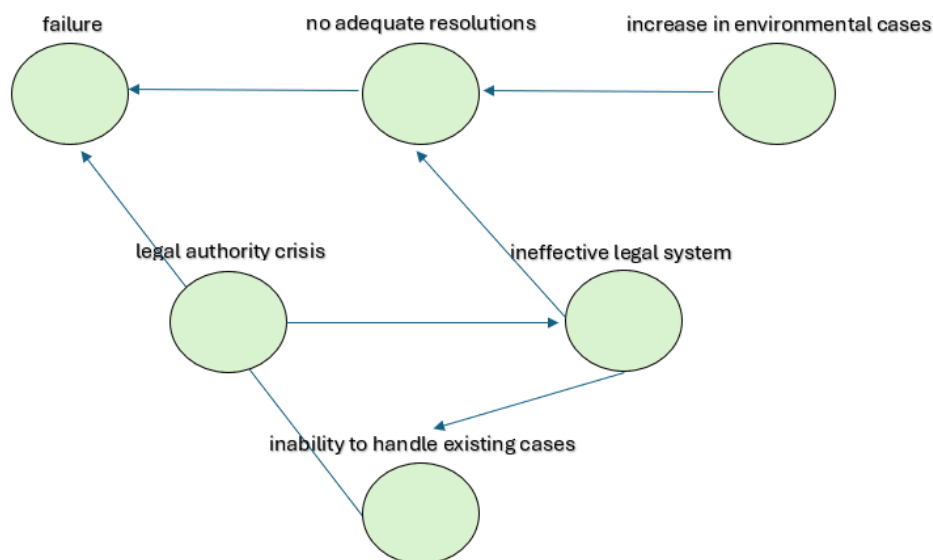


Figure 5. Increase in environmental cases without adequate resolution.

Discussion. The findings above clearly reveal significant gaps in law enforcement that have not been addressed by previous literature. Although earlier studies have emphasized the importance of international jurisdiction in addressing ecocide, this research finds that at the national level, the main obstacle lies in the weakness of internal coordination among legal institutions. The fragmentation among legal institutions in Indonesia not only hampers efforts to enforce the law effectively but also exacerbates ongoing environmental degradation without strict oversight capable of halting such violations.

Economic and political interventions have proven to worsen the situation, particularly in ecocide cases involving large industries such as palm oil plantations and mining. These industries often have strong economic influence, allowing them to sway political decisions that should support environmental law enforcement. The pressure from these major economic sectors places the government and legal institutions in a difficult position, where the interests of economic growth and foreign investment are often prioritized over environmental conservation.

This phenomenon aligns with the views of Rocasolano & Berlanga (2022), who state that in many cases, economic interests dominate environmental policy, thereby weakening legal authorities in enforcing regulations aimed at protecting ecosystems. They assert that in a global context, there is a tendency for governments to compromise on environmental issues in order to maintain economic growth, especially in developing countries that are heavily dependent on large industrial investments.

In the context of Indonesia, this study successfully expands understanding by adding a specific dimension of locality. The research shows that economic-political pressure not only comes from large corporations but also involves local political actors who have particular economic interests. This pressure is systematic and weakens legal authority through various mechanisms, such as political lobbying, lenient permitting, and the disregard of environmental regulations that should be strictly enforced.

Additionally, in Indonesia, local governments are often involved in competition to attract investments, which ultimately places them in a compromising position regarding

environmental policies. This study demonstrates that legal authority in ecocide cases is often overpowered by the influence of economic-political forces, which prioritize short-term financial gains over long-term ecosystem sustainability.

Furthermore, the findings of this research reveal that the sanctions imposed on ecocide perpetrators tend to be very lenient and fail to provide an adequate deterrent effect. Sanctions in the form of relatively small fines or short prison sentences are often not commensurate with the environmental damage caused. This situation raises serious questions about the effectiveness of law enforcement, particularly in delivering sufficiently severe consequences to ecocide offenders to make them think twice before engaging in similar actions in the future.

This challenges the traditional view that emphasizes the importance of international regulations and harsher penalties, as proposed by Gillett (2023), who argues that severe sanctions are the primary solution for addressing environmental crimes, including ecocide, within the framework of international law. However, while the importance of severe sanctions cannot be denied, this study shows that without effective oversight and good inter-agency coordination, even heavy penalties will not have a significant impact. Weak oversight allows environmental offenders to continue operating, even after being punished, due to the lack of strict control over the implementation of sanctions (Outa 2022).

The study also reveals that the existing legal system, both at the national and international levels, has not yet been able to handle the complexity of environmental crimes like ecocide. At the national level, limitations in inter-agency coordination, the influence of political and economic interests, and the lack of infrastructure to monitor the implementation of sanctions are the main obstacles to effective law enforcement. Meanwhile, at the international level, although efforts have been made to establish a global regulatory framework for ecocide, implementation in the field is often hampered by policy differences between countries and jurisdictional challenges (Duiunova et al 2024).

Furthermore, this research reinforces the argument that the lack of oversight of illegal logging is one of the main factors contributing to the continuation of significant environmental degradation. Although regulations prohibiting such activities already exist, weak law enforcement and minimal field supervision allow these illegal practices to continue unabated. This is consistent with field observations showing that lax oversight and a lack of adequate resources on the ground provide space for illegal loggers to continue their activities without fear of legal consequences.

These findings are relevant to the views of Setiyono & Natalis (2021), who stated that the weakness of national laws in handling environmental cases reflects the broader weakness of the legal system. This legal system fails to provide adequate protection, not only for the environment but also for human rights, which are indirectly affected by environmental damage. They argue that environmental crimes like illegal logging not only destroy ecosystems but also threaten the local communities' rights to land, water, and clean air, all of which are fundamental human rights.

This study highlights that the weak oversight of illegal activities results from inefficiencies in coordination among relevant agencies, as well as budget and human resource constraints in monitoring vast forest areas. This condition is further exacerbated by corruption, which allows illegal loggers to operate freely despite the existence of regulations prohibiting such practices.

Furthermore, these findings also underscore that without fundamental reforms in the legal system and improvements in oversight mechanisms, the handling of environmental cases such as illegal logging will continue to face difficulties. Although the government has made efforts to enhance law enforcement, without the support of stricter oversight and transparency in the legal process, these illegal practices are likely to persist.

Overall, the results of this study make a significant contribution to the development of understanding the factors that weaken legal authority in dealing with ecocide. This research not only fills existing gaps in previous studies but also offers potential solutions through recommendations to strengthen law enforcement, improve inter-agency coordination, and reduce detrimental economic and political interventions.

Thus, this research is expected to serve as a foundation for future environmental policy reforms.

Conclusions. The conclusion of this study emphasizes that the legal authority in handling ecocide in Indonesia has significantly declined, primarily due to weak coordination among law enforcement agencies, economic-political interventions, and the ineffectiveness of legal sanctions. Additionally, the lack of oversight of illegal activities, such as illegal logging, exacerbates environmental degradation. This failure of law enforcement indicates that, although regulations exist, their implementation is still far from adequate, allowing ecocide to continue without firm intervention.

The findings of this study provide a theoretical contribution by enhancing understanding of the factors that weaken environmental law enforcement and, practically, can serve as a reference for improving legal policies. In the legal domain, these findings propose the need for strengthened inter-agency coordination and reforms in the enforcement of sanctions to be more effective in providing a deterrent effect for environmental offenders. However, this study also has limitations, particularly in terms of the limited geographical scope of the study and the lack of empirical data on the implementation of environmental policies across various provinces. For future research, it is necessary to conduct more in-depth studies on the role of indigenous communities and the social impacts of ecocide, as well as the development of a more sustainable legal system to address increasingly complex environmental challenges.

Conflict of interest. The authors declare that there is no conflict of interest.

References

- Anisimova H., Haltsova V., Donets O., Samoshchenko I., Shynkarov O., 2023 An environmental and legal component of criminal offenses in conditions of the Russian-Ukrainian international military conflict. *European Energy and Environmental Law Review* 32(1):47-65.
- Baeza J. V., 2023 Ecocide, a new legal figure under construction. In: *Modernising European legal education (MELE)*. Gstrein O. J., Fröhlich M., van den Berg C., Giegerich T. (eds), *European Union and its neighbours in a globalized world*, Vol. 10, Springer, Cham, pp. 195-203.
- Berg B. L., 2001 *Qualitative research methods for the social sciences*. 4th edition. Allyn and Bacon, 304 pp.
- Chang Y. C., Zhao X., 2024 Addressing Japan's disposal of nuclear-contaminated water from the perspective of international human rights law. *Chinese Journal of Population Resources and Environment* 22(1):1-9.
- Duiunova T., Voznyk M., Koretskyi S., Chernetska O., Shylinhov V., 2024 International humanitarian law and ecocide: the war in Ukraine as a case study. *European Journal of Environmental Sciences* 14(1):14-23.
- Finkelstein J. B., Tremblay E. S., van Cain M., Farber-Chen A., Schumann C., Brown C., Shah A. S., Rhodes E. T., 2021 Pediatric clinicians' use of telemedicine: qualitative interview study. *JMIR Human Factors* 8(4):e29941.
- García Ruiz A., South N., Brisman A., 2022 Eco-crimes and ecocide at sea: toward a new blue criminology. *International Journal of Offender Therapy and Comparative Criminology* 66(4):407-429.
- Gillett M., 2023 Criminalizing reprisals against the natural environment. *International Review of the Red Cross* 105(924):1463-1496.
- Iosifides T., 2011 *Qualitative methods in migration studies: a critical realist perspective*. Ashgate Publishing Ltd., 266 pp.
- Johnson R. B., Christensen L., 2014 *Educational research: quantitative, qualitative, and mixed approaches*. 5th edition. Sage Publications Inc., 744 pp.
- June T., Nzitatira H. N., Fox N., 2024 Criminalizing climate change: defining and responding to ecocide. In: *Resolving the climate crisis: US social scientists speak out*. Haltinner K., Sarathchandra D. (eds), Routledge, pp. 143-154.

- Leavy P. (ed), 2014 *The Oxford handbook of qualitative research*. Oxford University Press, 784 pp.
- Malysheva N., Hurova A., 2024 Environmental consequences of the Kakhovka H.P.P. destruction in Ukraine: challenge and opportunity for international justice. *Journal of Environmental Law and Policy* 4(1):84-104.
- Mulas N. S., 2022 [Ecological suicide and impunity. The urgency of effective criminal justice in the face of disaster]. *Revista Electronica de Ciencia Penal y Criminologia* 24:1-43. [in Spanish]
- Outa G. O., 2022 International environment law, the humanities nexus, and some reflections on "Creative Legal Solutions". In: *Environmental humanities of extraction in Africa: poetics and politics of exploitation*. Ogude J., Mushonga T. (eds), Taylor and Francis, pp. 153-169.
- Palao P. S., 2019 [Ecocide: the odyssey of a concept with legal aspirations]. *Revista Catalana de Dret Ambiental* 10(2):203-216. [in Spanish]
- Palao P. S., 2020 [Facing environmental impunity: towards an international convention against ecocide]. *Actualidad Jurídica Ambiental* 100:1-31. [in Spanish]
- Palarczyk D., 2023 Ecocide before the international criminal court: simplicity is better than an elaborate embellishment. *Criminal Law Forum* 34:147-207.
- Prihandono I., Yuniarti D. S., 2022 Expanding the jurisdiction of the International Criminal Court. *Brawijaya Law Journal* 9(2):182-195.
- Proedrou F., Pournara M., 2024 Exploring representations of climate change as ecocide: implications for climate policy. *Climate Policy* <https://doi.org/10.1080/14693062.2024.2368859>.
- Rocasolano M. M., Berlanga M. D. C., 2022 [Cornerstones of environmental law, ecocide and the fundamental right to the environment for the development of the individual]. *Revista Opinião Jurídica* 20(35):83-109. [in Spanish]
- Santos D., Asnawan, 2023 Reviewing the concept of Fiqh Al-Bi'ah in law enforcement against ecocide performers in Indonesia. *Relações Internacionais No Mundo Atual* 4(42):310-327.
- Setiyono J., Natalis A., 2021 Ecocides as a serious human rights violation: a study on the case of river pollution by the palm oil industry in Indonesia. *International Journal of Sustainable Development and Planning* 16(8):1465-1471.
- Sharpston E., 2022 From "Do trees have rights?" to wondering about ecocide: some legal reflections. *Environmental Policy and Law* 52(2):117-131.
- Thiel P., Cabanes V., 2024 Ecocide law as a transformative legal leverage point. In: *Rights of nature in Europe: encounters and visions*. Ruales J. G., Hovden K., Koprina H., Robertson C. D., Schoukens H. (eds), Taylor and Francis, pp. 303-324.
- Zink S., 2023 Ecocide as a new core crime in the Rome statute? An ultima ratio lens on legal policy in international criminal law. *International Criminal Law Review* 24(2): 128-158.

Received: 16 September 2024. Accepted: 07 October 2024. Published online: 20 February 2025.

Authors:

Andi Purnawati, Universitas Muhammadiyah Palu, Rusdi Toana Street No. 1, Talise, Mantikulore Sub-district, Palu City, Central Sulawesi 94118, Indonesia, e-mail: andipurnawati0967@gmail.com

Syamsul Haling, Universitas Muhammadiyah Palu, Rusdi Toana Street No. 1, Talise, Mantikulore Sub-district, Palu City, Central Sulawesi 94118, Indonesia, e-mail: syamsulhaling64@gmail.com

Irmawaty, Universitas Muhammadiyah Palu, Rusdi Toana Street No. 1, Talise, Mantikulore Sub-district, Palu City, Central Sulawesi 94118, Indonesia, e-mail: irmawatiambo70@gmail.com

Kamal, Universitas Tadulako, Soekarno Hatta Street, Km. 9, Tondo, Mantikulore Sub-district, Palu City, Central Sulawesi 94148 Indonesia, e-mail: kamal741968@gmail.com

Mukhlis Lubis, Sekolah Tinggi Agama Islam Negeri Mandailing Natal, Prof. Dr. Andi Hakim Nasution Street, Panyabungan District, Mandailing Natal Regency, North Sumatra Province 22978, Indonesia, e-mail: mukhlizlubiz@gmail.com

This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

How to cite this article:

Purnawati A., Haling S., Irmawaty, Kamal, Lubis M., 2025 The decline of legal authority in addressing ecocide: an environmental law analysis. *AACL Bioflux* 18(1):489-499.