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CORPORATE CIVIL LIABILITY FOR ENVIRONMENTAL POLLUTION FROM THE PERSPECTIVE OF INDONESIAN CIVIL LAW

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Abstract

Environmental pollution caused by corporations has serious impacts on communities and ecosystems. Civil lawsuits are one of the legal mechanisms used to hold corporations accountable and obtain compensation for the losses caused. This study examines how the mechanisms of evidence and compensation are applied in civil cases against corporations responsible for environmental pollution in Indonesia. Proving environmental cases is not always straightforward, as it requires complex scientific evidence and the involvement of experts. Therefore, the principle of strict liability or absolute liability under Law No. 32 of 2009 on the Protection and Management of the Environment serves as an important legal basis for enforcing environmental justice. Compensation is not only intended to compensate victims for their losses but also as an effort to restore the environment. This study emphasizes the importance of strengthening the capacity of law enforcement officials, enhancing the role of the community, and optimizing environmental courts to ensure that civil litigation mechanisms operate effectively and fairly.

Keywords: Environmental Pollution, Corporations, Civil Law

INTRODUCTION

A good and healthy environment is a gift from God Almighty given to all mankind without exception. Therefore, a good and healthy environment is an absolute right given to mankind to enjoy. Therefore, the right to a good and healthy environment is the same for all humans and even living creatures in the world (Mulyadi, 2022). The 1945 Constitution of the Republic of Indonesia states that a good and healthy environment is a human right and a constitutional right of every Indonesian citizen. Therefore, the state, government, and all stakeholders are obliged to organize environmental management, protection, and management within the framework of implementing sustainable development so that the Indonesian environment can continue to function as a source and support for life for the Indonesian people and other living creatures (Dwiprigitaningtias et al., 2024).

In the mining sector, the main object is land and all kinds of mining resources in the land. The value of land is so high in the 1945 Constitution, one of its articles, namely article 33, has clearly stated that "The land, water and natural resources contained therein are controlled by the state and used as much as possible for the prosperity of the people...". Regulations that specifically regulate the agricultural sector are natural resources that have a very broad function in efforts to meet human needs, especially from an economic perspective (Dwiprigitaningtias et al., 2024).

In relation to the above, environmental protection and management are human efforts in interacting with the environment in order to maintain the continuity of life in order to achieve prosperity and environmental sustainability. Environmental protection and management are systematic and integrated efforts undertaken to preserve environmental functions and prevent environmental pollution and/or damage, which include planning, utilization, control, maintenance, supervision, and law enforcement. Environmental protection and management are carried out in an integrated, unified, and sustainable manner (Dwiprigitaningtias et al., 2024).

In recent decades, industrial activity and the exploitation of natural resources by businesses have increased, negatively impacting environmental quality. Data from the Ministry of Environment and Forestry (KLHK) shows that the number of environmental pollution cases continues to rise, particularly those caused by strategic sectors such as mining. Environmental pollution resulting from corporate activities has a broad impact on ecosystems and public health, as well as disrupting social and economic stability in the affected areas.(Syahni, 2021).

Corporations or business entities hold a strategic position as economic drivers, yet at the same time, they are also key actors with the potential to cause environmental damage. Therefore, corporate responsibility to stakeholders, particularly the community and the environment, must be realized in the form of concrete legal obligations, not limited to social and administrative aspects. Under Indonesian law, civil legal liability is a crucial mechanism for providing access to justice for victims of environmental pollution and ensuring redress for losses incurred.

Indonesia has several regulations that can be used to hold businesses liable for environmental pollution, one of which is Article 1365 of the Civil Code (KUHPerdata) concerning unlawful acts. This article provides a legal basis for injured parties to seek compensation for unlawful actions that harm others. However, in practice, enforcing civil liability still faces various obstacles, such as difficulties in providing evidence, identifying the perpetrator of pollution, and an imbalance in the position between the victim and the corporation (Salvatore, 1997).

According to Article 1 paragraph 3 of the Environmental Management Law, sustainable development is a conscious and planned effort that integrates environmental, social, and economic aspects into a development strategy to ensure environmental integrity

and the safety, capability, welfare, and quality of life of present and future generations. Sustainable development requires equal rights to natural resources and the environment for present and future generations. The concept of sustainable development requires development that integrates economic, social interests, and environmental carrying capacity protection in an integrated, balanced and equitable manner. The sustainable development process is based on factors such as the condition of natural resources, environmental quality, and population. Therefore, environmentally conscious development efforts need to include development efforts that maintain the integrity and function of the environmental order. And in this sustainable development process, it is inseparable from negative impacts on the environment, namely pollution or environmental damage (Salvatore, 1997).

A company's responsibility towards its stakeholders must be balanced, meaning it must not control any particular party. Environmental pollution by companies can occur in air, water, and land, all of which are essential for human survival. Therefore, every development project is directly related to the environment, which serves as a platform for development, and the resulting development process results in environmental pollution. Environmental pollution and environmental destruction are caused by human actions that, intentionally or unintentionally, exceed established environmental quality standards, resulting in a decline in environmental quality. Environmental pollution and destruction often occur during the development or production process of an individual or corporation. Corporations or companies are business entities or legal entities whose production processes are directly related to the environment. Therefore, their production processes are highly likely to result in environmental pollution or destruction. Therefore, environmental pollution and destruction are certainly very detrimental to the communities living in the surrounding areas.

Article 1365 of the Indonesian Civil Code is a crucial foundation in Indonesian civil law that can be used to hold businesses liable for losses arising from environmental pollution. While it presents unique challenges in proving the law, particularly regarding causality and fault, this article provides the injured party with the right to compensation. A thorough understanding of the elements of Article 1365 and how it applies to environmental pollution is crucial for enforcing environmental law in Indonesia.

Environmental pollution caused by mining companies is certainly very detrimental, both materially and immaterially. Environmental pollution or destruction is an unlawful act because it is detrimental, violates the law, and violates the public interest. Of course, any act that harms others must be held accountable by the perpetrator of the pollution or destruction of the environment. This responsibility can be assigned to anyone affected by the pollution committed by the company. The company's responsibility takes the form of civil, criminal, and administrative liability and must comply with applicable laws and regulations.

However, in practice, industrial development and activities often have negative impacts on the environment, especially when they are not accompanied by adherence to environmental protection and management principles. One of the most common forms of environmental damage is pollution caused by corporate activities, particularly in the mining, manufacturing, and energy sectors (Sodikin, 2021). Environmental pollution cases involving corporations often have significant impacts on ecosystems and public health, as well as disrupting social and economic stability in affected areas.

In this regard, Law Number 32 of 2009 concerning Environmental Protection and Management (UU PPLH) is the primary legal instrument for regulating environmental governance in Indonesia. The Law emphasizes that environmental management must be carried out systematically and in an integrated manner, based on the principles of state responsibility, sustainability, participation, and prudence and fairness. This law also explicitly regulates the accountability of polluters, both administratively, criminally, and civilly.

Article 88 of the Environmental Management and Management Law regulates the principle of strict liability, which states that any party responsible for a business and/or activity that causes environmental pollution and/or damage is required to bear the costs of restoration, without the need for proof of fault. This is intended to make it easier for pollution victims to claim compensation and to strengthen the preventive and repressive aspects of environmental law enforcement. Furthermore, Article 1365 of the Civil Code concerning unlawful acts also provides an important legal basis for pollution victims to sue in civil court for the losses incurred.

Despite a fairly comprehensive legal framework, the implementation of civil liability for corporations in environmental pollution cases still faces challenges. These include difficulties in providing evidence, limited public access to legal aid, and the unequal position between victims and business actors. Therefore, an in-depth legal analysis is needed to determine how the Environmental Management Law and civil provisions in the Indonesian Civil Code can be effectively implemented to ensure justice for affected communities and encourage corporate accountability for the environment.Based on the description above, the main problems that can be researched and included in this writing can be formulated as follows: What form of civil liability can be imposed on business entities in cases of environmental pollution in Indonesia? What is the mechanism for proving and awarding compensation in civil lawsuits against business entities that commit environmental pollution?

RESEARCH METHODS

In this legal research, the author uses a normative legal research method, namely research that focuses on the study of legal norms written in laws and regulations as well as relevant legal doctrines. This research examines secondary legal materials, such as laws and regulations, legal literature, expert opinions, and court decisions related to corporate civil liability in environmental pollution cases. The approach used in this research is a statute approach, by examining the provisions of the Civil Code (BW), Law Number 32 of 2009 concerning Environmental Protection and Management, and other regulations governing corporate legal liability. In addition, this research also uses a conceptual approach, to understand the concept of civil liability, including general principles in civil law and the development of the doctrine of corporate liability in the environmental context. Research data was collected through library research, by examining primary legal materials (statutory regulations and court decisions), secondary legal materials (books, journals, scientific articles), and tertiary legal materials (legal dictionaries and legal encyclopedias) that support the analysis of corporate civil liability for environmental pollution from an Indonesian legal perspective (Abdulkadir, 2004).

RESULT AND DISCUSSION

Forms of Civil Liability That Can Be Imposed on Corporations in Cases of Environmental Pollution in Indonesia

Under Indonesian environmental law, civil lawsuits against corporations that pollute the environment aim to demand accountability for the losses caused to the community or the environment. One of the important principles in environmental civil lawsuits is the principle of strict liability, which means that the perpetrator of the pollution can be held accountable without the need to prove any element of fault. This principle is emphasized in Article 88 of Law No. 32 of 2009 concerning Environmental Protection and Management (UUPPLH), which states that every person responsible for a business and/or activity that causes pollution and/or damage to the environment is obliged to bear the costs of environmental restoration without the need to prove any element of fault.

A legal entity is not a living creature like a human being, a legal entity cannot perform

legal acts on its own, it must act through an ordinary person, but the person acting does not act for himself, but for and on the responsibility of the legal entity. This is in accordance with Article 1655 of the Indonesian Civil Code which states "The legal entity can perform other actions through its intermediary, but it also cannot itself close the agreement between the principal and its administrator. The actions and administrators cannot be equated with ordinary representatives or representatives with a power of attorney, as often happens between ordinary people who are represented by other people." A legal entity is a legal subject that has legal rights and obligations in legal relations. Things are in accordance with what Moh. Soleh Djindang said about a corporation, namely a group of people who in legal relations act together as a separate legal subject, a personification. A corporation is a legal entity that has members, but has its own separate rights and obligations and the rights and obligations of each member (Ali, 1987)"

Corporate accountability in environmental crimes is primarily related to legal aspects. Many countries have adopted laws that establish legal sanctions for companies that pollute the environment. This liability includes fines, criminal sanctions against responsible individuals within the company, and legal action requiring the company to repair or compensate for the damage caused by the polluting act.10 For example, the Environmental Protection Act in the United States authorizes the Environmental Protection Agency (EPA) to enforce laws and impose sanctions on companies that violate environmental regulations.

The function of civil liability can be seen from two perspectives: before the loss occurs and after the loss occurs. From the perspective of pre-loss liability, liability serves a preventive function. The possibility that someone will be held responsible, either based on an unlawful act (PMH) or strict liability, will encourage that person to act cautiously. Conversely, if someone will not be responsible for the results of their actions (theoretically called no liability), then they will lose the incentive to act cautiously. In this no liability condition, the victim is the only party who must act cautiously.

If we look at it from the perspective of after the loss has occurred, liability has the function of providing space for victims affected by the loss so that their losses can be compensated and giving orders to those who caused the loss to the victim to compensate for the loss. In short, in the environmental context, civil liability will provide a legal basis that requires polluters, in the sense of those who cause pollution/damage that impacts the environment and people around them to pay for the loss (Ariefianto, 2015).

As stated in Article 22 number (33) of the CIPTAKER Law, an amendment to Article 88 of the UUPPLH. Where Article 22 number (33) of CIPTAKER states that "Any person whose actions, business, and/or activities use B3, produce and/or manage B3 waste, and/or which poses a serious threat to the environment is absolutely responsible for losses arising from their business and/or activities (Hibatullah et al., 2023).

Furthermore, Article 87 (1) of the UUPPLH states that "Every person responsible for a business and/or activity who commits an unlawful act in the form of environmental pollution and/or destruction which causes harm to other people or the environment is obliged to pay compensation and/or take certain actions.

The above article quote is the basis for every business or company that carries out acts of pollution that result in losses to other people or environmental damage to take responsibility for the losses that occur. The above article quote also shows several important elements in the form of Unlawful Acts (PMH), absolute responsibility, the existence of pollution/environmental damage that causes losses, carrying out compensation/certain actions.

In addition to civil liability in terms of compensation, the UUPPLH can require companies proven to have polluted the environment to carry out certain actions as explained in the explanation of Article 87 paragraph (1) of the UUPPLH which states: "In addition to being required to pay compensation, polluters and/or destroyers of the environment can also

be burdened by the judge with carrying out certain legal actions, for example an order to:

1. Install or repair waste management units so that waste complies with specified environmental quality standards.
2. Restoring environmental functions and/or
3. Eliminate or destroy the causes of environmental pollution and/or destruction.

In the context of this order to undertake certain actions, the discussion will touch on the term "restoration." This intersection is meant to mean that a court decision can order a company to restore environmental functions. The Environmental Management Law (UUPPLH) states that environmental restoration, in addition to prevention and mitigation, is part of pollution/damage control. Regarding mitigation efforts, the UUPPLH states that every company that has caused environmental pollution/damage bears the obligation to carry out mitigation as stipulated in Article 53 of the UUPPLH. These mitigation activities include the following:

1. Providing information to the public regarding warnings of pollution/damage
2. Isolation of contamination/damage
3. Stopping the source of pollution/damage
4. Or other ways based on developments in science and technology.

In addition to mitigation, the UUPPLH also requires companies that have caused pollution/damage to carry out recovery as referred to in Article 54 of the UUPPLH, which consists of stages of stopping the source of pollution and cleaning up the polluting elements, remediation, rehabilitation, restoration, and/or other methods based on developments in science and technology. Restoration is translated as an effort to restore the environment, while rehabilitation is an effort to restore the value, function, and benefits of the environment including efforts to prevent land damage, provide protection, and repair the ecosystem. Meanwhile, restoration is interpreted as a recovery effort to make the environment or parts of it function again as before.

Mechanism for Proving and Providing Compensation in Civil Lawsuits against Corporations that Commit Environmental Pollution

The obligation to compensate for an unlawful act that may cause harm to another person is called compensation (Pamuncak, 2016). Direct losses incurred as a result of the defendant's mistake and suffered directly by the plaintiff can be used as a legal basis for claiming compensation. The amount of compensation demanded by the plaintiff will be detailed and the truth of the loss can be proven. Compensation aims to restore the plaintiff's condition to its original condition.

Application for compensation can be based on the basis of Unlawful Acts or Breach of Contract (Slamet, 2013). Ganti rugi dengan dasar wanprestasi terjadi akibat debitur yang cidera janji atas perjanjian yang disepakati. Dasar hukum untuk untuk melakukan ganti rugi, selaian para pihak telah membuat perjanjian serta diatur dalam KUHPerdata mulai dari Pasal 1243 sampai dengan 1252. Ganti rugi akibat perbuatan melawan hukum (PMH) merupaka perbuatan yang dibebankan kepada pihak yang telah melakukan suatu kesalahan dengan melanggar undang-undang yang ada dan menimbulkan kerugian bagi pihak lain.

Dalam Pasal 87 Ayat (1) Undang-Undang Nomor 32 Tahun 2009 mengatur mengenai ganti kerugian dimana berbunyi, “Setiap penanggung jawab usaha dan/atau kegiatan yang melakukan perbuatan melanggar hukum berupa pencemaran dan/atau perusakan lingkungan hidup yang menimbulkan kerugian pada orang lain atau lingkungan hidup wajib membayar ganti rugi dan/atau melakukan tindakan tertentu”. Mengenai perbuatan melawan hukum berdasarkan ketentuan dari Pasal 1365 KUHPerdata, dimana PMH memiliki beberapa unsur, yaitu (Janis, 2016):

1. Adanya perbuatan

2. Perbuatan tersebut bersifat melawan hukum
3. Adanya kesalahan dari pihak yang melakukan
4. Adanya kerugian bagi korban
5. Adanya hubungan kausalitas antara perbuatan dengan kerugian

Dari 5 unsur yang ada dalam PMH berdasarkan dengan Pasal 1365 KUHPerdata, dimana salah satu unsur tersebut yaitu unsur kesalahan memiliki penerapan yang berbeda dalam perkara lingkungan hidup. Perbedaan terletak pada pertanggungjawaban, dalam kerusakan lingkungan hidup dapat dilakukan tanggung jawab mutlak. Pada penerapan asas tanggung gugat mutlak biasanya bersamaan dengan pembuktian terbalik, kewajiban asuransi serta pembuktian plafond yang dapat merupaan batas maksimal untuk melakukan ganti kerugian (Handayani dkk., 2019). Dimana dalam ketentuan Pasal 88 dijelaskan, "Setiap orang yang tindakannya, usahanya, dan/atau kegiatannya menggunakan B3, menghasilkan dan/atau mengelola limbah B3, dan/atau yang menimbulkan ancaman serius terhadap lingkungan hidup bertanggung jawab mutlak atas kerugian yang terjadi tanpa perlu pembuktian unsur kesalahan". Ketentuan yang ada merupakan suatu hukum khusus atau lex specialis dan mengenyampingkan hukum umum atau lex generalis yang berupa adanya kewajiban untuk membuktikan adanya kesalahan dari pihak yang melakukan.

Regarding the amount of compensation, it can be determined to a certain extent. It is important to understand the procedures for calculating losses arising from environmental damage. Regulation of the Minister of Environment of the Republic of Indonesia Number 7 of 2014 concerning Environmental Losses Due to Pollution and/or Environmental Damage, the Ministerial Regulation has regulated the calculation of compensation due to environmental damage. Environmental damage disputes can be resolved through litigation or non-litigation, the process of resolving environmental disputes still requires evidence that environmental damage has occurred. The evidence that can be attached must come from the results of research, observations conducted in the field or in the form of statements from experts whose opinions can be scientifically accounted for.

Law 32 of 2009 stipulates environmental responsibility. Environmental responsibility encompasses compensation to individuals and/or environmental restoration. This demonstrates that environmental liability can be both private and public. (Hartanto & Adiastuti, 2018). There are two obligations that must be fulfilled by perpetrators of pollution and destruction, namely responsibility to individuals and also responsibility related to public affairs. Determining compensation for losses experienced in environmental disputes is a value that must be accounted for by the party causing environmental damage if proven in court to have committed such actions. Compensation resulting from environmental damage is not limited to the party filing a lawsuit for the losses they have experienced, but also includes compensation for environmental restoration costs due to the impact of the damage they have caused (Putra & Sudiarawan, 2020).

The evidentiary mechanism in environmental civil cases differs from that in ordinary civil cases. In environmental lawsuits, particularly those based on strict liability, the plaintiff is not burdened with proving fault or negligence on the part of the perpetrator. Instead, it is sufficient to prove that the activity caused the pollution and the losses suffered by the plaintiff. Thus, the burden of proof in environmental cases tends to be lighter for the plaintiff, although a causal link must still be established between the corporation's activities and the resulting environmental damage. However, in practice, proving this causal link remains challenging, particularly because it involves technical and scientific evidence such as laboratory data, environmental studies, and expert testimony in the field of ecology or environmental engineering.

Furthermore, Indonesian civil procedure law still essentially adheres to a formal evidentiary system, as regulated in the HIR/RBg and the Civil Code (KUHPerdata), so that

plaintiffs must still submit legally valid evidence, such as documentary evidence, witnesses, expert testimony, and on-site inspections. To facilitate proof, plaintiffs often collaborate with environmental observer institutions, use data from the Environmental Agency (now the Environmental Service), or refer to the results of previous environmental audits.

Regarding the provision of compensation, Article 1365 of the Civil Code is the main basis for civil lawsuits, which states that "every unlawful act that causes harm to another person, requires the person whose fault causes the loss to compensate it." In the environmental context, the form of compensation is not only in the form of material compensation to affected individuals or groups, but can also take the form of environmental recovery (restorative justice), including rehabilitation measures, land restoration, and re-providing access to polluted natural resources.

In addition to individual compensation, the Environmental Management Law (UUPPLH) also allows for civil lawsuits by the government or non-governmental organizations for general environmental interests (actio popularis). In this case, compensation is not directed at individual victims, but rather at environmental restoration costs, which are then managed by the state or environmental institutions. This reflects an ecological justice approach, namely justice oriented toward the sustainability of environmental functions, not solely economic compensation.

However, in practice, compensation for polluting corporations is often hampered by weak law enforcement, the unpreparedness of judicial institutions to handle complex environmental cases, and the difficulty of obtaining valid scientific evidence. Therefore, there is a need to strengthen the capacity of judges, prosecutors, and advocates in environmental law, as well as the importance of establishing a specialized, independent environmental court, as previously discussed in various academic and policy forums.

CONCLUSIONS

Civil liability for corporations in environmental pollution cases in Indonesia is a crucial instrument for upholding environmental justice and ensuring the protection of community rights and environmental sustainability. Under Law No. 32 of 2009 concerning Environmental Protection and Management (UUPPLH), corporations can be held strictly liable for environmental damage they cause without requiring proof of fault. This demonstrates legal recognition that businesses that manage hazardous materials, produce waste, or otherwise pose a serious threat to the environment are obligated to bear all losses and proactively undertake environmental restoration.

These forms of liability include material compensation, specific legal actions, and ecological restoration. In addition, the court may order the corporation to undertake specific actions such as improving waste management systems, rehabilitation, and environmental restoration. In terms of proof, the mechanism for environmental civil lawsuits differs from general civil lawsuits, particularly in that the burden of proof is lighter for the plaintiff, as they do not need to prove fault but must still prove a causal relationship between business activities and environmental damage.

Based on the discussion, it is recommended that the government and relevant stakeholders continue to strengthen regulations and the implementation of the principle of strict liability in corporate environmental pollution cases. This strengthening can be achieved by increasing the capacity of judges, prosecutors, and environmental law enforcement officers to understand the complexity of scientific evidence in environmental cases. Furthermore, it is necessary to develop judicial institutions specifically handling environmental cases to ensure a more focused and equitable trial process.

The government also needs to expand access to environmental justice for affected communities, including providing legal aid and facilitating the compilation of scientific

evidence. Furthermore, corporations must be encouraged to be more transparent and accountable in managing their environmental impacts, by implementing the precautionary principle and conducting regular environmental audits. Collaboration between the state, civil society, and the private sector is key to creating fair and effective mechanisms for compensation and environmental restoration.

REFERENCES

Abdulkadir, M. (2004). Law and legal research. PT Citra Aditya Bakti.

Ali, C. (1987). Legal entity. Alumni.

Ariefianto, H. A. (2015). Implementation of administrative sanctions for environmental pollution due to industrial activities. Unnes Law Journal, 4(1).

Azheri. (2011). Corporate social responsibility: From voluntary to mandatory. PT Raja Grafindo Persada.

Budiman Chandra. (2006). Introduction to environmental health. EGC Publisher.

Civil Code (Burgerlijk Wetboek).

Danusaputro, M. (1981). Environmental law, book I: General. Bina Cipta.

Djojodirdjo, M. A. M. (1982). Unlawful acts (2nd ed.). Pradnya Paramita.

Dwiprigitaningtias, I., Iqbal, F. M., Andayani, L., & Arimbi, D. (2024). Legal position of environmental economic instruments (EIELH) in environmental management efforts due to industrial activities. Res Nullius Law Journal, 6(2), 127–143.

Erwin, M. (2008). Environmental law in the environmental protection and management system in indonesia. PT Refika Aditama.

Faudi, M. (2002). Unlawful acts. PT Citra Aditya Bakti.

Handayani, E. P., Arifin, Z., & Virdaus, S. (2019). Liability without fault in environmental dispute resolution in indonesia. ADHAPER: Journal of Civil Procedure Law, 4(2).

Hartanto, H., & Adiastuti, A. (2018). Mechanism for determining compensation for environmental damage. Adhaper: Journal of Civil Procedure, 3(2).

Hibatullah, M. F., Jafar, S., & Basri, H. (2023). Corporate civil liability for environmental pollution (Research study of PT. Ciomas Adisatwa). Student Scientific Journal (JIM FH), 6(1).

Janis, I. K. (2016). Compensation mechanism for environmental pollution according to Law Number 32 of 2009. Lex Crimen, 5(5).

Kelsen, H. (2006). Pure legal theory (R. Mutaqien, Trans.). Nuansa & Nusa Media.

Law Number 32 of 2009 concerning Environmental Protection and Management.

Mulyadi. (2022). Protection of the right to a good and healthy environment as part of human rights [Article]. Djuanda University.

Pamuncak, A. W. (2016). Comparison of compensation and rights transfer mechanisms according to presidential regulation number 65 of 2006 and law number 2 of 2012. Law and Justice, 1(1).

Projodikoro, R. W. (1994). Unlawful acts. Sumur.

Putra, I. K. W., & Sudiarawan, K. A. (2020). Mechanism for determining compensation for environmental damage by companies: A civil dispute resolution approach. Kertha Semaya Journal, 8(10).

Ridwan, H. (2016). State administrative law. Rajawali Press.

Salvatore, D. (1997). International economics (Vol. 2). Erlangga.

Slamet, S. R. (2013). Demands for compensation in unlawful acts: A comparison with breach of contract. Lex Jurnalica, 10(2).

Sodikin. (2021). Formulation of the right to a good and healthy environment in the 1945 constitution of the republic of indonesia and efforts to protect and fulfill it. Supremacy Journal of Law, 3(2), 106–125.

Soemarwoto, O. (2001). Ecology, environment. Djambatan.
Surinda, Y. (2022). The concept of responsibility according to the theory of responsibility in law. LinkedIn. https://www.linkedin.com/
Syahni, D. (2021). Regarding the malinau river pollution case and sanctions for coal companies. Mengobay.co.id. Diakses pada 1 Juni 2025.