

Victims of Crime and Environmental Pollution in Indonesia: The Right to Restitution and Legal Inadequacies

Andi Sundari ^{a,*}, Irwansyah ^a, Iin Karita Sakharina ^a, Muhammad Irwan ^a, Rasulov Ilkhom Inamovich ^b

^a Faculty of Law, Universitas Hasanuddin, Makassar, Indonesia

^b Associate Professor, Kokand State Pedagogical Institute, Uzbekistan

* corresponding author: sundariandi994@gmail.com

A B S T R A C T

The implementation of the right to restitution for victims of environmental crimes in Indonesia has shifted toward bureaucratic compensation, which weakens the 'polluter pays' principle related to social accountability for impacts. This research aims to clarify the relationship between regulation and law enforcement, as well as the right of victims of environmental crimes to restitution, utilizing the concept of restorative justice grounded in social ecology. This research is normative, employing a comparative study approach with Germany, Austria, Switzerland, and China to draft ideal recommendations for the implementation of the right to restitution. This research shows, first, that although Law No. 32/2009, Government Regulation No. 22/2021, and Supreme Court Regulation No. 1/2022 affirm the right to a healthy environment and the obligation to provide restitution, the mechanism for victims of environmental crimes is not yet clear, necessitating legal strengthening for adequate restoration. Second, a comparison of Germany, Austria, Switzerland, and China reveals that Indonesia should prioritize restitution mechanisms for environmental crime victims through clear regulations focused on socio-ecological restoration. Third, the right to restitution for victims of environmental crimes in Indonesia, which is guaranteed by the Constitution and the Human Rights Law, is still weak in implementation, so it is necessary to strengthen the polluter pays principle, differentiate between restitution and compensation, and adopt comparative practices from Germany, Austria, Switzerland, and China, so that socio-ecological restoration is more effective.

KEYWORDS: *Crimes; Environmental; Restitution; Right; Victims*

1. INTRODUCTION

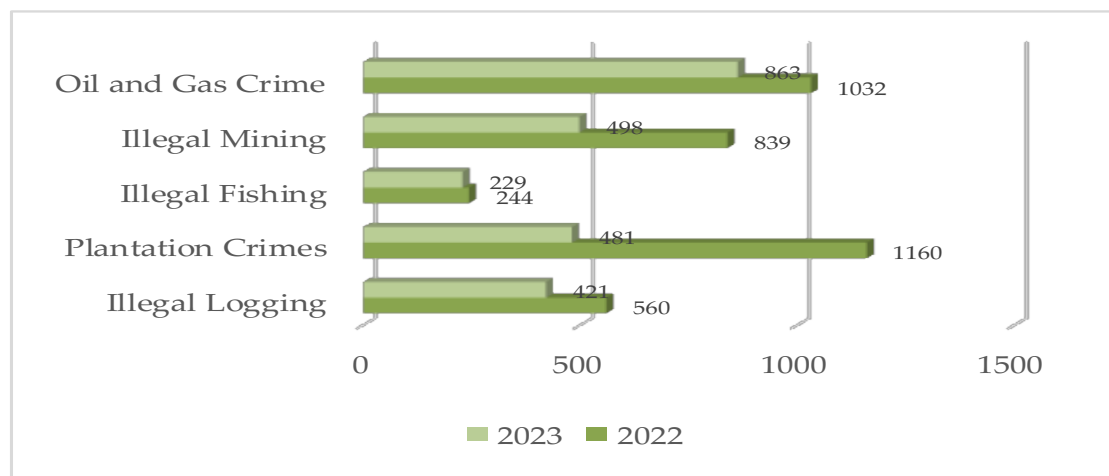
The shift in implementing the right to restitution as compensation for environmental crimes, which polluters must pay to victims, is effective and on target, but government

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bureaucracy incorporates it into the compensation mechanism, thereby blunting the implementation of the ‘polluter pays principle’.¹ This shift has an impact on the multiple interpretations of the types of criminal acts that cause damage and/or pollution to the environment, the mechanisms of which actually need to be reformed.² In addition, it is necessary to criticize the litigation process in deciding the allocation of recovery costs, both those aimed at restoring the social welfare of the community and ecological recovery. The basis for fulfilling the right to restitution is actually a response to the internalization of the right to a good and healthy environment, which then becomes part of absolute human rights as stated in Article 28 H paragraph (1) of the Constitution.³ However, implementing laws and regulations does not explicitly regulate the right to restitution for victims of environmental crimes. The Environmental Law and Supreme Court Regulation Number 1 of 2022 are currently the state's main sources of support. To find out the types of criminal acts against the environment that can cause damage and/or pollution, this can be seen from Chart 1 below:

Chart Number of Environmental Crimes 2022-2023



¹ Deniz Tekayak, 'From "Polluter Pays" to "Polluter Does Not Pollute"', *Geoforum*, 71 (2016), pp. 62–65, doi:<https://doi.org/10.1016/j.geoforum.2016.03.005>.

² Irwansyah, 'Research-Based Environmental Law: The Debate between Ecology versus Development', *Sriwijaya Law Review*, 1.1 (2017), pp. 35 – 52, doi:10.28946/slrev.Vol1.Iss1.8.pp044-066.

³ Prim Haryadi, 'Pengembangan Hukum Lingkungan Hidup Melalui Penegakan Hukum Perdata Di Indonesia', *Jurnal Konstitusi*, 14.1 (2017), pp. 124–49.

Source: Operations Control Bureau, Headquarters of the Republic of Indonesia Police

Chart 1 shows the number of environmental crimes from 2022 to 2023. According to the 2024 Crime Statistics publication, environmental crimes are classified as crimes in the oil and gas sector, illegal mining, illegal fishing, plantation crimes, and illegal logging. Regionally, the North Sumatra Regional Police had the highest number of cases, with 1,094 incidents. Far below them were the East Java Regional Police with 339 cases and the South Sumatra Regional Police with 203 cases. Conversely, the fewest cases were recorded in the Papua Regional Police (15 cases), the West Sulawesi Regional Police (11 cases), and the West Papua Regional Police (8 cases). Overall, there were 3,835 cases of environmental crimes in 2023. Of these, the two most dominant forms of violations were crimes in the plantation sector (1,160 cases, or approximately 30%) and violations related to oil and gas (1,032 cases, or 27%). These two categories combined accounted for approximately 57% of total environmental crimes that year. Based on these data, it is evident that the number of environmental crime cases remains relatively high in Indonesia, necessitating forms of restorative justice, encompassing both ecological and social.

Environmental crimes that cause environmental damage and/or pollution can cause massive negative health impacts; for example, in a study by Nurul Fahimah et al. on 160 groundwater samples in Bandung Regency, it was shown that there was exposure to heavy metals (As, Hg, Pb, Mn, Cd, and Co) that exceeded quality standards, both in drinking water and water used for sanitation.⁴ Approximately 6% of groundwater is unsuitable for hygiene, and 13% of drinking water is unfit for consumption. Of the total sample, 7.8% of groundwater is contaminated with heavy metals, with the highest prevalence in Soreang (3.9%), followed by Pacet, Ciparay, Baleendah, and Rancaekek. The dominant metals originate from natural sources, such as Co, Fe, Mn, As, and Zn, while Pb, Cd, Hg, and Co are thought to originate from anthropogenic activities.⁵

This exposure has the potential to pose non-carcinogenic health risks, especially for

⁴ Diana Rahayuning Wulan and others, 'Novel Insights into the Presence and Risks of Phthalate Esters in the Citarum River, Indonesia: Seasonal Variations', *Environmental Nanotechnology, Monitoring & Management*, 23 (2025), p. 101082, doi:<https://doi.org/10.1016/j.enmm.2025.101082>.

⁵ Nurul Fahimah and others, 'Pyrethroids in Groundwater near the Citarum River: Insights into Ecological and Health Risks', *Groundwater for Sustainable Development*, 29 (2025), p. 101422, doi:<https://doi.org/10.1016/j.gsd.2025.101422>.

children and adolescents who are more vulnerable to heavy metal contamination. The research results confirm that heavy metal pollution not only disrupts water quality but also impacts public health, the environment, and socio-economic aspects, especially for groups that depend on groundwater for their daily needs.⁶ Thus, this condition reflects weak waste management and minimal risk mitigation by business actors and local governments.

Therefore, the urgency of this research is to, first, critique the laws and regulations related to the right to restitution, which are implicitly stated in the Constitution, the Environmental Law, the Job Creation Law, Government Regulation Number 22 of 2021, and Supreme Court Regulation Number 1 of 2022. Second, a comparative study was conducted with Germany, Austria, Switzerland, and China. Germany was chosen due to its high population density and the dominance of large industries that trigger pollution cases, so a civil law-based criminal regime regulates compensation liability.⁷ Austria shares a similar civil law-based criminal approach but is more specific in regulating compensation for physical losses and environmental damage.⁸ Switzerland was considered because of its reputation as an environmentally friendly country with strict criminal laws distinguishing between intentional and negligent liability.⁹ Meanwhile, China was chosen because it is different, namely, placing environmental responsibility in a civil regime with green principles, where polluters are obliged to compensate direct and indirect victims.¹⁰ Third, determine how to regulate and enforce the right to restitution for

⁶ Gede Khrisna Kharismawan and I Made Budi Arsika, 'Collateral Damage: Perlindungan Lingkungan Pada Saat Konflik Bersenjata Dalam Perspektif Deep Ecology', *VeJ*, 8.2 (2022), pp. 362–85, doi:10.25123/vej.v8i2.5171.

⁷ Cosimo Magazzino and others, 'Can Biomass Energy Curtail Environmental Pollution? A Quantum Model Approach to Germany', *Journal of Environmental Management*, 287 (2021), p. 112293, doi:https://doi.org/10.1016/j.jenvman.2021.112293.

⁸ Ingrid Behrsin, 'Controversies of Justice, Scale, and Siting: The Uneven Discourse of Renewability in Austrian Waste-to-Energy Development', *Energy Research & Social Science*, 59 (2020), p. 101252, doi:https://doi.org/10.1016/j.erss.2019.101252.

⁹ Gerhard Schmid, 'Legal and Political Aspects of the Regulation of Chemicals: Swiss Environmental Protection Law', *Regulatory Toxicology and Pharmacology*, 5.2 (1985), pp. 145–51, doi:https://doi.org/10.1016/0273-2300(85)90028-5.

¹⁰ Xiao Zhu and others, 'A New National Environmental Law with Harsh Penalties and Regulated Discretion: Experiences and Lessons from China', *Resources, Conservation and Recycling*, 181 (2022), p. 106245, doi:https://doi.org/10.1016/j.resconrec.2022.106245.

victims of environmental crimes.

Previous research by Pirmana et al. (2021) showed that environmental costs in Indonesia reached 13% of GDP, primarily from resource depletion and pollution. This finding highlights the magnitude of ecological and social losses but does not address the aspect of victims' rights. This aligns with this research, which emphasizes the weakness of restitution mechanisms. Therefore, integration between environmental loss assessment and the criminal restitution regime is needed to make victim compensation more effective and equitable.¹¹ Research by Mega et al. (2022) on plastic pollution in Jakarta shows high levels of plastic waste in rivers, which impacts ecosystems and human health. However, as examined in this research, restitution for victims has not been addressed. Therefore, law enforcement needs to integrate environmental damage assessment with criminal restitution mechanisms to ensure fairer restitution for victims.¹²

Previous research by Alexander et al. (2024) on illegal, unreported, and unregulated fishing practices in the Indonesian tuna fisheries sector showed that environmental crimes not only cause ecological losses in the form of fish stock depletion but also significant economic and social losses, including human rights violations, corruption, and smuggling. This condition parallels the findings of this research, which highlights the weak guarantee of restitution for victims of environmental crimes. Both studies emphasize that losses due to environmental crimes must be viewed not only as a loss of resources but also as victimization that demands compensation.¹³ Therefore, it is important for Indonesia to strengthen the enforcement of restitution laws by integrating policy instruments, such as the Indonesian Ocean Policy, with criminal restitution mechanisms. This will ensure that environmental protection and the restoration of victims' rights can coexist harmoniously.¹⁴

Thus, the shift in implementing the right to restitution in environmental crime cases

¹¹ Viktor Pirmana and others, 'Environmental Costs Assessment for Improved Environmental-Economic Account for Indonesia', *Journal of Cleaner Production*, 280 (2021), p. 124521, doi:<https://doi.org/10.1016/j.jclepro.2020.124521>.

¹² Mega Mutiara Sari and others, 'Plastic Pollution in the Surface Water in Jakarta, Indonesia', *Marine Pollution Bulletin*, 182 (2022), p. 114023, doi:<https://doi.org/10.1016/j.marpolbul.2022.114023>.

¹³ Alexander M A Khan and others, 'Illegal Fishing Threatens the Sustainability of Future Tuna Commodities in Indonesia', *Marine Policy*, 159 (2024), p. 105936, doi:<https://doi.org/10.1016/j.marpol.2023.105936>.

¹⁴ Blaise Kuemlangan and others, 'Enforcement Approaches against Illegal Fishing in National Fisheries Legislation', *Marine Policy*, 149 (2023), p. 105514, doi:<https://doi.org/10.1016/j.marpol.2023.105514>.

weakens the polluter pays principle and gives rise to multiple interpretations of environmental crimes by placing greater emphasis on bureaucratic compensation mechanisms. This situation is exacerbated by the weakness of explicit regulations regarding restitution for victims, even though the right to a healthy environment is guaranteed in the Constitution. In line with previous research, for example, regarding illegal fishing practices, it is clear that ecological losses have a direct impact on the health, economy, and social aspects of the community. However, the aspect of victim protection has not been accommodated. Therefore, the urgency of this research is to encourage the strengthening of the criminal restitution regime by integrating the valuation of environmental losses with the restoration of victims' rights so that restorative justice can balance social and ecological recovery.

2. RESEARCH METHODS

This research is normative legal research based on the analysis of primary and secondary legal materials.¹⁵ It can generate new arguments, theories, or concepts that serve as prescriptions for addressing issues related to the regulation and enforcement of the right to restitution for victims of environmental crimes based on socio-ecological principles.¹⁶ The approach used in this study is the statutory approach, which examines laws and regulations related to distinguishing between the concepts of Law No. 32/2009, Government Regulation No. 22/2021, and Supreme Court Regulation No. 1/2022 affirm the right to a healthy environment and the obligation to provide restitution, the mechanism for victims of environmental crimes is not yet clear, necessitating legal strengthening for adequate restoration and also employing a comparative study approach with Germany, Austria, Switzerland, and China to draft ideal recommendations for the implementation of the right to restitution. This research uses the Restorative Justice Theory by Robert C. Scott and Stephen P. Garvey with claims of victim restoration, perpetrator responsibility, and socio-ecological balance, including environmental restoration in the context of environmental crimes. The data collection technique used in this study is a literature study.

¹⁵ Ian Dobinson and Francis Johns, 'Qualitative Legal Research', 1 in *Research Methods for Law*, ed. by Mike McConville and Wing Hong Chui (Edinburgh University Press Ltd., 2007); Amiruddin & Zainal Asikin, *Pengantar Metode Penelitian Hukum* (Rajawali Press, 2018).

¹⁶ T Panico and others, 'Farming in the Shadow of Violent Organizations: Understanding Farmers' Relational Place-Making in Socio-Ecological Crises', *Sustainability Science*, published online 2024, doi:10.1007/s11625-024-01499-1.

Legal materials are obtained by collecting relevant laws and regulations, books, academic works, and international and national journals.¹⁷ The analysis technique used is deductive logic, a way of thinking that starts with the understanding that something also applies to all events of that type.¹⁸

3. RESULTS AND DISCUSSION

Crime and Environmental Pollution in Indonesia: Implications for Victims

Environmental pollution refers to the introduction of living organisms, substances, energy, or pollutants that are present in a specific resource and considered harmful to the environment.¹⁹ Article 104 of Law Number 32 of 2009 explains that anyone who dumps waste and/or materials into environmental media without a permit can be threatened with a maximum prison sentence of three years and a maximum fine of IDR 3,000,000,000.00. Waste is defined as materials or compounds produced from chemical and/or industrial production processes, such as the use of hazardous and toxic products, which produce hazardous and toxic waste, as well as the results of community activities or industrialization.²⁰ This means that waste must be appropriately managed, even in the planning process, such as AMDAL and UKL-UPL, which must include a study of production waste results and must not exceed environmental quality standards stipulated in Indonesian laws and regulations.²¹ This discussion will show the legal arguments regarding the basis for regulating the rights of retribution for victims of environmental crimes, namely as follows:

First, Law Number 32 of 2009 regulates the rights of victims of environmental crimes.

¹⁷ Theresia Anita Christiani, 'Normative and Empirical Research Methods: Their Usefulness and Relevance in the Study of Law as an Object', *Procedia - Social and Behavioral Sciences*, 219 (2016), pp. 201–07, doi:10.1016/j.sbspro.2016.05.006.

¹⁸ Jonaedi Efendi and Jonhny Ibrahim, *Metode Penelitian Hukum Normatif Dan Empiris*, cetakan ke (Kencana, 2020).

¹⁹ Thomas L Adams, Daniel S Jonas, and Thomas H Lee, 'The Corporate Officer and Environmental Crimes: Criminal or Victim?', *Business Horizons*, 35.2 (1992), pp. 50–53, doi:https://doi.org/10.1016/S0007-6813(05)80196-X.

²⁰ Fitrinela Patonangi and others, 'Government Policies for Food Sovereignty: Disjunction between Ideality and Reality', *Hasanuddin Law Review*, 4.3 (2018), pp. 377 – 382, doi:10.20956/halrev.v4i3.1282.

²¹ Fransisco Tarigan and others, 'The Rights of Victims of Environmental Crimes in Indonesia: Challenges for Legal Reform', *Journal of Law, Environmental and Justice*, 3.2 (2025), doi:10.62264/jlej.v3i1.130.

Article 65, paragraph (1), states that every person has the right to a favorable and healthy environment, which is a fundamental human right. This provision serves as a constitutional basis, reinforced by the 1945 Constitution, which establishes environmental rights as integral to human rights.²² In addition, it also regulates the right of every person to receive environmental education; the right to access information, participation, and access to justice; the right to file objections to business/activity plans; the right to play a role in environmental protection and management; and the right of the community to sue in cases of environmental damage and/or pollution.²³

The context of the right to claim compensation actually provides a legal framework for legal protection efforts for victims of environmental crimes or environmental activists. Article 87 paragraph (1) explains that every person responsible for a business and/or activity that commits an unlawful act in the form of environmental pollution and/or destruction that causes harm to other people or the environment is obliged to pay compensation and/or take specific actions.²⁴ Meanwhile, Article 88 stipulates absolute responsibility (strict liability) for those responsible for a business/activity that causes losses due to environmental pollution/destruction, without the need to prove the element of fault. So, this law does not explicitly regulate the right to restitution and compensation for victims of environmental crimes. However, there is already a legal basis that explains that perpetrators of crimes must pay compensation, both in the context of restoring the social welfare of victims and the environment.²⁵

In fact, the Job Creation Law has sparked controversy by relaxing forest and land

²² Kofi Otumawu-Apreku and others, 'Fishing Activities in Pacific Island Countries: A Human-Rights Perspective', *Marine Policy*, 161 (2024), p. 106008, doi:<https://doi.org/10.1016/j.marpol.2024.106008>.

²³ Elżbieta Zębek and Denis Solodov, 'The EU Environmental Crime Directive 2024/1203: Legal Solutions and Perspectives', *Journal for Nature Conservation*, 2025, p. 127093, doi:<https://doi.org/10.1016/j.jnc.2025.127093>.

²⁴ Yu Tang and Yijie Mao, 'Centralization and Border Water Pollution: Evidence from China's Environmental Enforcement Reform', *Journal of Cleaner Production*, 481 (2024), p. 144136, doi:<https://doi.org/10.1016/j.jclepro.2024.144136>; Merryl Lawry-White, *Victims of Environmental Harm during Conflict: The Potential for 'Justice'*, in *Environmental Protection and Transitions from Conflict to Peace: Clarifying Norms, Principles, and Practices* (2017), doi:10.1093/oso/9780198784630.003.0016.

²⁵ Matthew Hall, *Victims of Environmental Harm: Rights, Recognition and Redress under National and International Law*, in *Victims of Environmental Harm: Rights, Recognition and Redress under National and International Law* (2013), doi:10.4324/9780203083444.

regulations. To attract more foreign investment, it removes the principle of 'strict liability' from Law No. 32 of 2009, complicating corporate accountability mechanisms for large-scale land fires. In this context, the government does not need to prove willful violations to hold companies fully accountable for any damage within their concession areas.²⁶ However, after that principle was removed, the author emphasized the importance of experts and scientific evidence in the trial, as the panel would determine the perpetrator's guilt.²⁷

Second, environmental control regulations in Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management can be classified into four categories, namely control of water, air, sea, and toxic and hazardous material pollution.²⁸ First, the sources of water pollution can come from industry, domestic sources, mining, oil and gas sources, agriculture, plantations, fisheries, and livestock. Water quality must be maintained according to its pollution load capacity, which is the maximum capacity of water to absorb pollutants without becoming contaminated. Second, air pollution is the entry or introduction of substances, energy, and/or other components into the ambient air through human activities, thus exceeding established ambient air quality standards. Air pollution can originate from vehicles, factories, or open burning. Third, marine pollution refers to the introduction of living creatures, substances, energy, and/or other components into the marine environment through human activities, resulting in a decrease in quality to a level that causes the marine environment to fail to meet seawater quality standards. Fourth, hazardous and toxic waste pollution refers to substances, energy, and/or other components that, due to their nature, concentration, and/or quantity, can directly or indirectly pollute and/or damage the environment and/or endanger the health and survival of humans and other

²⁶ Petra Mahy, 'Indonesia's Omnibus Law on Job Creation: Legal Hierarchy and Responses to Judicial Review in the Labour Cluster of Amendments', *Asian Journal of Comparative Law*, 17.1 (2022), pp. 51–75, doi:10.1017/asjcl.2022.7.

²⁷ Sudharto P Hadi, Rizkiana S Hamdani, and Ali Roziqin, 'A Sustainability Review on the Indonesian Job Creation Law', *Heliyon*, 9.2 (2023), p. e13431, doi:https://doi.org/10.1016/j.heliyon.2023.e13431.

²⁸ Marulak Pardede and others, 'Perspectives of Sustainable Development vs. Law Enforcement on Damage, Pollution and Environmental Conservation Management in Indonesia', *Journal of Water and Climate Change*, 14.10 (2023), pp. 3770–90, doi:10.2166/wcc.2023.417.

living creatures.²⁹ However, this government regulation only applies administrative sanctions against business permits or government approvals, including written warnings, government coercion, administrative fines, suspension of business permits, and/or revocation of business permits.³⁰ This means that the concept of retribution or compensation is not regulated for the aforementioned pollution actions.

Third, the regulation of the right to restitution is contained in Supreme Court Regulation Number 1 of 2022 concerning Procedures for Resolving Applications and Granting Restitution and Compensation to Victims of Crimes. In essence, this regulation applies to restitution applications for cases involving serious human rights violations, terrorism, human trafficking, racial and ethnic discrimination, child crimes, and other crimes, as further stipulated. However, it is necessary to question whether this regulation can effectively implement the protection of restitution rights against environmental crimes, and it also lacks explicit regulation on the scope of environmental crimes. Therefore, the author bases his argument on the right of every person to a good and healthy environment. This is reinforced by the reform of agrarian and environmental law in Indonesia, making the right to a good and healthy environment part of the "human rights" that must be guaranteed by the state.³¹ In this way, regulations can bridge the procedures for implementing restitution for victims of environmental crimes.

Restitution is compensation given to the victim or their family by the perpetrator of a crime or a third party. Meanwhile, what is meant by "victim" is a person, including children who are under 18 years old or still in the womb, who experiences physical suffering, mental suffering, and/or economic loss resulting from a criminal act. Specifically, Article 4 regulates the rights of victims and forms of restitution, namely that victims have the right to receive compensation for loss of wealth and/or income; compensation for losses, both material and immaterial, caused by suffering directly related to the crime; reimbursement of medical and/or psychological treatment costs;

²⁹ Matthew Hall, 'Victims of Environmental Harms and Their Role in National and International Justice', *Critical Criminological Perspectives*, 2013, pp. 218 – 241, doi:10.1057/9781137273994_12.

³⁰ Syamsuddin Muchtar and others, 'Juvenile Criminal Responsibility in Justice Systems: A Comparative Study of Judicial Interpretations in Indonesia and Australia', *Jambe Law Journal*, 7.2 (2024), pp. 371 – 394, doi:10.22437/home.v7i2.387.

³¹ Edgar R Aguilera, 'Truth and Victims' Rights: Towards a Legal Epistemology of International Criminal Justice', *Mexican Law Review*, 6.1 (2013), pp. 119–60, doi:https://doi.org/10.1016/S1870-0578(16)30021-X.

and/or other losses suffered by the victim as a result of the crime, including basic transportation costs, attorney fees, or other costs related to the legal process.³² So, in general, restitution can be implemented for environmental crimes, but ideal guarantees and mechanisms are needed so that the victims' rights can be fulfilled.

Restitution Rights for Victims of Crime and Environmental Pollution: Lessons from Several Countries

As a comparative study to determine the ideal mechanism for regulating restitution rights in Indonesia,³³ this study applies comparative law studies to European countries such as Germany, Austria, and Switzerland, and to China. The concept of liability for actions causing damage and/or pollution in Europe is classified as a minimum set of environmental violations, which are subsequently considered criminal offenses under European law. These violations include the discharge of emissions or the introduction of ionizing substances or radiation into the air, soil, or water. For these actions to be considered a crime, they must meet the requirements of being unlawful and committed intentionally or at least with serious negligence.³⁴

The rationality of choosing Germany lies in its large industry sector, which dominates a relatively high population density and drives its economic activities. For example, industry produces quantities of compounds that pollute the soil every day due to waste disposal cases, urban expansion, and the construction of transportation infrastructure, so Germany began to regulate accountability for compensation rights to the community and/or the environment in a criminal regime based on civil law.³⁵ The rationality of

³² Albin Dearing and Holly Huxtable, 'Doing Justice for Victims of Violent Crime in the European Union - Reflections on Findings from a Research Project Conducted by the European Union Agency for Fundamental Rights', *International Journal of Comparative and Applied Criminal Justice*, 45.1 (2021), pp. 39 – 66, doi:10.1080/01924036.2020.1762233.

³³ Januar Rahadian Mahendra, Supanto, and Devi Triasari, 'The Role of Victim Trust Funds in Addressing Unpaid Restitution Human Trafficking: Lessons US and Europe', *Indonesian Journal of Crime and Criminal Justice*, 1 (2025), pp. 89–107, doi:10.62264/ijccj.v1i1.123.

³⁴ J. Hudson, *Restitution in Criminal Justice*, ed. by B. Galaway (Minnesota Department of Corrections, Lexington Books, n.d.).

³⁵ Elżbieta Zębek and Denis Solodov, 'The EU Environmental Crime Directive 2024/1203: Legal Solutions and Perspectives', *Journal for Nature Conservation*, 2025, p. 127093, doi:https://doi.org/10.1016/j.jnc.2025.127093.

choosing Austria lies in its similarities in regulating accountability for victims, specifically its entry into the criminal regime based on civil law. Austria has a specific provision for retribution/compensation for environmental crimes that cause physical harm to human health and environmental damage.³⁶

The rationale for choosing Switzerland lies in its status as one of the most environmentally friendly countries globally,³⁷ as evidenced by its high ranking in the Environmental Performance Index; notably, the Swiss Federal Law on Environmental Protection details the responsibilities of perpetrators for criminal violations against the environment, strictly regulating both intentional and negligent environmental crimes within a specialized civil law framework.³⁸ Meanwhile, the rationality of choosing China is that this country regulates the concept of responsibility for environmental damage and/or pollution in the Environmental Law in a civil regime, not a criminal one.³⁹ China has adopted the green principle in its civil law so that anyone who causes pollution is obliged to compensate public bodies or individual victims who suffer losses directly and/or indirectly.⁴⁰ With that, the table below will explain the comparative regulation of accountability for the rights of victims of environmental crimes, which includes the consequences of violations, gradations of punishment depending on the level of error, aggravating elements, and sanctions, namely as follows:

³⁶ Claudia Ituarte-Lima and Radu Mares, 'Environmental Democracy: Examining the Interplay between Escazu Agreement's Innovations and EU Economic Law', *Earth System Governance*, 21 (2024), p. 100208, doi:<https://doi.org/10.1016/j.esg.2024.100208>.

³⁷ Gerhard Schmid, 'Legal and Political Aspects of the Regulation of Chemicals: Swiss Environmental Protection Law', *Regulatory Toxicology and Pharmacology*, 5.2 (1985), pp. 145–51, doi:[https://doi.org/10.1016/0273-2300\(85\)90028-5](https://doi.org/10.1016/0273-2300(85)90028-5); Haitao Wu and others, 'Does Environmental Pollution Promote China's Crime Rate? A New Perspective through Government Official Corruption', *Structural Change and Economic Dynamics*, 57 (2021), pp. 292–307, doi:<https://doi.org/10.1016/j.strueco.2021.04.006>.

³⁸ Tobias Schulz and others, 'Forest Clearances, Compensatory Afforestation and Biodiversity Offsetting in Forests: Balancing Flexibility and Equivalency in Switzerland', *Forest Policy and Economics*, 163 (2024), p. 103219, doi:<https://doi.org/10.1016/j.forpol.2024.103219>.

³⁹ Lei Zhao and Ruitao Zhao, 'Ecological Rule of Law and Enterprise Green Innovation — Evidence from China's Environmental Courts', *Journal of Environmental Management*, 374 (2025), p. 124081, doi:<https://doi.org/10.1016/j.jenvman.2025.124081>.

⁴⁰ Xiao Zhu and others, 'A New National Environmental Law with Harsh Penalties and Regulated Discretion: Experiences and Lessons from China', *Resources, Conservation and Recycling*, 181 (2022), p. 106245, doi:<https://doi.org/10.1016/j.resconrec.2022.106245>.

**Table Comparison of the Responsibility of the Perpetrators to the Rights of Victims
for Acts of Environmental Crime and/or Pollution**

| Country | Legal Regime | Consequences of Violation | Aggravating Elements | Sanctions | Lesson Learned |
|-------------|-------------------|--|--|---|--|
| German | Criminal Law | 1) Creates a health threat to other people, animals, plants, valuable objects, or bodies of water; and 2) Significant pollution of the environment. | Aggravating elements: 1) Damage to a water body, soil or protected area, which cannot be eliminated at all, or the elimination of which takes a long time or extremely high costs; 2) Creation of a danger for the provision of contaminated water to the population; 3) Long-term damage to animals or plants under special protection; 4) Committing for selfish motives. Especially aggravating elements: 1) Creation of danger of: death of another person; causing serious bodily harm to health; 2) Harming health of a large number of people; 3) Death of another person | Imprisonment for up to 5 years or fine (<i>non-aggravated offense</i>) 1) imprisonment from 6 months to 10 years; 2) imprisonment from 1 year to 10 years; and 3) imprisonment from 3 years to 10 years. (<i>aggravated and especially aggravated offenses</i>) | 1) Rigidly distinguishing between liability for intentional and negligent environmental pollution; and 2) The principle of active repentance. |
| Austria | Criminal Law | 1) Creates a threat to health, death, or serious injury; 2) Has harmful social consequences; 3) Physical damage to the environment; and 4) Property damage. | Not provided | Imprisonment for up to 3 years (<i>non-aggravated acts</i>); Imprisonment for a period of 6 months to 5 years (<i>aggravated acts</i>) | 1) Rigidly regulate the classification of liability for intentional and negligent environmental pollution; and 2) Provision of incentives. |
| Switzerland | Environmental Law | a. Long-term environmental degradation; and b. Impossibility of proper environmental utilization. | Threatens the health and/or survival of humans, animals and plants. | A fine of up to Fr 20,000 (<i>willful offense</i>); A fine or imprisonment for up to 3 years (<i>aggravated offense</i>); A fine of up to 180 daily fine units (negligent misdemeanor) | Classifying responsibility for environmental pollution into Misdemeanors and Violations. |
| China | Civil Law | Administrative, economic, and criminal liability for unlawful acts resulting in injury/death, including in the agriculture, forestry, livestock, by-products, and fisheries sectors. | Threatens the health and/or survival of humans, animals, and plants. | Ecological compensation: costs for pollution removal, emergency disposal, monitoring and testing, loss of service functions during recovery, and evaluation. Civil compensation: public welfare funds | 1) Designing compensation reform policies; 2) Enforcing compensation policies on subjects; 3) The principle of strict liability. |

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| contributed by all parties for environmental protection until the ecological environment is no longer damaged. |
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Source: Compiled by the Author

Table 1 shows that, first, Germany accommodates criminal liability for environmental crimes in the Criminal Code of the Federal Republic, which in Part 1 explains three types of illegal acts that pollute the environment, namely when an offender introduces or allows substances to enter the environment, releases substances into the environment, or in other ways negatively changes the environment.⁴¹ These actions are not cumulative; fulfilling one action is considered to pollute the environment, resulting in a violation that poses a health threat to people, animals, plants, valuable objects, or water bodies and causes significant environmental pollution. The gradation of punishment is regulated depending on the level of error, with a gradual ranking of criminal sanctions based on their nature and consequences.⁴² German law also regulates aggravating elements, as in Table 1, which also distinguishes special elements that aggravate environmental crimes, such as acts that create danger of death of another person; causing serious bodily harm to health; harming the health of a large number of people; and death of another person.

Specifically, in Sections 1 and 2, the legislator provides for similar liability according to the level of social damage. Lessons learned from the German regulation include, first, differentiated liability for intentional and negligent environmental pollution.⁴³ In this context, it is worth mentioning that according to some researchers, the specificity and social impact of environmental violations are such that they require the imposition of criminal liability for all forms, including those committed without fault. Second, the provision on the possibility of the Principle of Active Repentance in German Law, which serves as a basis for mitigating or avoiding a person's liability for an act, is provided that

⁴¹ Michael Bohlander, *Principles of German Criminal Procedure*, in *Principles of German Criminal Procedure* (2021), doi:10.5040/9781509935369.

⁴² Zębek and Solodov, 'The EU Environmental Crime Directive 2024/1203: Legal Solutions and Perspectives'.

⁴³ Cosimo Magazzino and others, 'Can Biomass Energy Curtail Environmental Pollution? A Quantum Model Approach to Germany', *Journal of Environmental Management*, 287 (2021), p. 112293, doi:https://doi.org/10.1016/j.jenvman.2021.112293.

the perpetrator has avoided the harmful elements or consequences of an act.⁴⁴

Second, the Austrian State regulates its approach to the protection of the rights of victims of environmental damage and/or pollution in Sections 1 and 2, Article 180 of the Austrian Criminal Code, namely a clear distinction between responsibility for the creation of danger and the actual occurrence of inevitable harmful social consequences. In addition, the Austrian legislator has stipulated that, for environmental crimes that cause death or serious bodily injury to a person (reference to Section 3, Article 169), the guilty perpetrator must also pay a hefty fine.⁴⁵ For example, pollution of land, as predicted in Article 239, has various consequences whose occurrence or threat is associated with criminal responsibility, namely causing physical harm to human health, damage to the environment and its elements, and property damage.⁴⁶

However, the Austrian legislator does not establish a clearly formalized amount of damage, the occurrence of which is associated with criminal liability, which undoubtedly contributes to the same interpretation of the provisions of the criminal law.⁴⁷ The lesson learned from the Austrian regulation is that the legislator has specified liability for intentional and negligent pollution. Criminal law countermeasures against illegal waste handling are reflected not only in the existence of specific norms addressing this issue but also in the distinction between responsibilities for intentional and negligent handling or disposal of hazardous waste that poses a danger or results in socially harmful consequences.⁴⁸ In addition, the criminal code includes references to general statutory provisions in waste management and violations that may result in criminal liability, as well as incentive provisions similar to those in German law, which stimulate positive post-

⁴⁴ Abdulaziz Mardenli and others, 'The German Act on Corporate Due Diligence Obligations in Supply Chains: An Empirical Assessment of the Agri-Food Supply Chain Based on Experts' Perspectives', *Cleaner Logistics and Supply Chain*, 16 (2025), p. 100239, doi:<https://doi.org/10.1016/j.clscn.2025.100239>.

⁴⁵ Behrsin, 'Controversies of Justice, Scale, and Siting: The Uneven Discourse of Renewability in Austrian Waste-to-Energy Development'.

⁴⁶ Linus Eckert, Sigrid Stagl, and Benjamin Schemel, 'Social Acceptance of Climate Policies: Insights from Austria', *Ecological Economics*, 237 (2025), p. 108708, doi:<https://doi.org/10.1016/j.ecolecon.2025.108708>.

⁴⁷ Uta Schirpke and Erich Tasser, 'Potential Impacts of Climate Change on Ecosystem Services in Austria', *Ecosystem Services*, 68 (2024), p. 101641, doi:<https://doi.org/10.1016/j.ecoser.2024.101641>.

⁴⁸ Dagmar N Henner and Gottfried Kirchengast, 'Forest Fire Risk under Climate Change in Austria and Comparable European Regions', *Trees, Forests and People*, 20 (2025), p. 100889, doi:<https://doi.org/10.1016/j.tfp.2025.100889>.

crime behavior.⁴⁹

Third, the Swiss regulation differs from that of Austria and Germany. In Switzerland and countries under French criminal law, liability for illegal environmental crimes is governed by specific environmental legislation, not criminal law, namely Sections 1, 2, and 3 of the Environmental Protection Act.⁵⁰ These environmental regulations include sui generis norms governing liability for various acts related to the illegal handling of waste and other hazardous substances, as well as specific norms referring to violations of regulations concerning physical environmental pollution and failure to take measures to reduce environmental pollution directly.⁵¹ Thus, these acts are recognized as criminal if they have caused a decrease in previously established environmental quality standards, harmed humans, animals, or plants, or made the land unsafe for use.⁵²

A lesson learned from Swiss law is that it provides for a distinction between liability for intentional and negligent manifestations of the two aforementioned acts. Specifically, Section 1, Article 60, clause 'Minor Offenses,' provides for liability for acts such as violations of procedures for handling hazardous and toxic materials, waste, the construction and operation of unauthorized landfills, and, separately, soil pollution that endangers humans, animals, or plants.⁵³ These actions are punishable by a maximum of three years' imprisonment or a fine. Meanwhile, Article 61, clause 'Violations,' provides sanctions for the consequences, including long-term decline in environmental quality standards; the impossibility of using water, land, or air safely for horticulture, agriculture, or forestry; chemical and biological soil contamination; and violations of the rules on

⁴⁹ Richard F Wetzell, *Penal Reform in Imperial Germany: Conflict and Compromise*, in *The Limits of Criminological Positivism: The Movement for Criminal Law Reform in the West, 1870-1940* (2021), doi:10.4324/9780429323713-3.

⁵⁰ J Reinhard and Rainer Zah, 'Global Environmental Consequences of Increased Biodiesel Consumption in Switzerland: Consequential Life Cycle Assessment', *Journal of Cleaner Production*, 17 (2009), pp. S46–56, doi:https://doi.org/10.1016/j.jclepro.2009.05.003.

⁵¹ Joyeeta Gupta and others, 'Thresholds of Significant Harm at Global Level: The Journey of the Earth Commission', *Earth System Governance*, 25 (2025), p. 100263, doi:https://doi.org/10.1016/j.esg.2025.100263.

⁵² Alexander Widmer, 'Mainstreaming Climate Adaptation in Switzerland: How the National Adaptation Strategy Is Implemented Differently across Sectors', *Environmental Science & Policy*, 82 (2018), pp. 71–78, doi:https://doi.org/10.1016/j.envsci.2018.01.007.

⁵³ Constantina Alina Tudor and others, 'How Successful Is the Resolution of Land-Use Conflicts? A Comparison of Cases from Switzerland and Romania', *Applied Geography*, 47 (2014), pp. 125–36, doi:https://doi.org/10.1016/j.apgeog.2013.12.008.

physical impacts on land and its utilization, environmental degradation, and failure to implement pollution reduction measures.⁵⁴

Fourth, the regulation of compensation rights in China emphasizes the concept of liability for environmental damage and/or pollution, as in the 1979 Environmental Law and the civil law regime.⁵⁵ The fundamental difference with Indonesian law is that China's civil regime adopts green principles that value environmental protection. Article 32, paragraph (2), of the Environmental Law is the basis for administrative, civil, and criminal liability for perpetrators of unlawful acts that cause environmental damage and/or pollution and have caused injury or death, including losses in the agriculture, forestry, livestock, by-product, and fisheries sectors. Article 41 explains that anyone who causes environmental pollution damage is obliged to compensate the public or private body that suffers direct losses.⁵⁶

The lesson learned on the regulation of compensation liability in China is that it involves policy design, specifically China's declared plan to reform the compensation system for environmental damage. This plan combines local characteristics and practical needs based on national policies.⁵⁷ Since January 2021, China has implemented the "Technical Guidelines for the Identification and Assessment of Environmental Damage" and "Administration of Compensation for Ecology and the Environment," meaning that regulations guarantee more systematic and comprehensive compensation and ecological restoration. Second, regarding policy enforcement, litigation processes are classified into two types based on the subject of compensation: civil public interest litigation and administrative public interest litigation. If a citizen is the defendant, they are in the first

⁵⁴ Valeriya Azarova and others, 'Designing Local Renewable Energy Communities to Increase Social Acceptance: Evidence from a Choice Experiment in Austria, Germany, Italy, and Switzerland', *Energy Policy*, 132 (2019), pp. 1176–83, doi:<https://doi.org/10.1016/j.enpol.2019.06.067>.

⁵⁵ Wu and others, 'Does Environmental Pollution Promote China's Crime Rate? A New Perspective through Government Official Corruption'.

⁵⁶ Xinyue Yao, Jia He, and Cunkuan Bao, 'Public Participation Modes in China's Environmental Impact Assessment Process: An Analytical Framework Based on Participation Extent and Conflict Level', *Environmental Impact Assessment Review*, 84 (2020), p. 106400, doi:<https://doi.org/10.1016/j.eiar.2020.106400>.

⁵⁷ Xinxin Wang and Kevin Lo, 'Civil Society, Environmental Litigation, and Confucian Energy Justice: A Case Study of an Environmental NGO in China', *Energy Research & Social Science*, 93 (2022), p. 102831, doi:<https://doi.org/10.1016/j.erss.2022.102831>.

stage; if an administrative subject is the defendant, they are in the second stage.⁵⁸ Suppose the injured party is an administrative subject. In that case, the consultation process often takes the form of a pre-litigation recommendation submitted by the prosecutor's office, followed by the relevant department consulting in the form of a symposium or hearing.⁵⁹

In the context of restitution rights, if the injured party is a civil subject, the consultation process often involves discussions between the recipient of the rights and the grantor of the rights under the supervision of the relevant department. If the consultation is successful, an agreement is signed, and a judicial confirmation link is entered; if the consultation fails, the prosecutor must conduct pre-litigation publicity to initiate the necessary procedure for filing a public interest civil suit. Finally, the application of strict liability for polluting activities adheres to comparative legal practice, consistently adopting liability for non-negligence as liability for environmental torts. This means that whether the perpetrator's actions constitute negligence or not is not taken into account. As long as the loss occurs, the perpetrator of the unlawful act must bear responsibility for compensation. The theoretical basis lies in the following four perspectives

The Right to Restitution for Victims of Environmental Crimes in Indonesia: Legal Inadequacies and Recommendations

In the context of the 'right to the environment,' the state needs to refer to Article 28 H paragraph (1) of the constitution, which states that everyone has the right to a good and healthy environment. The right to the environment as a subjective right began to be regulated after the fourth constitutional amendment and was strengthened by the Human Rights Law, which includes the right to the environment in the legal framework of 'human rights,' so that this right cannot be reduced under any circumstances or by anyone.⁶⁰ This means that in the development of environmental criminal law in Indonesia, victims of environmental crimes must always be guaranteed their rights in the context of restoring social and ecological welfare as an implementation of absolute human rights. Protection of affected victims has begun to be implemented through the right to restitution; that is,

⁵⁸ Zhu and others, 'A New National Environmental Law with Harsh Penalties and Regulated Discretion: Experiences and Lessons from China'.

⁵⁹ Pu Wang and others, 'Air Pollution Governance in China and India: Comparison and Implications', *Environmental Science & Policy*, 142 (2023), pp. 112–20, doi:<https://doi.org/10.1016/j.envsci.2023.02.006>.

⁶⁰ Hudson, *Restitution in Criminal Justice*.

the polluter is obliged to provide recovery costs directly to the affected victims, and the victims have the right to receive a certain amount of these recovery costs to obtain social welfare recovery.⁶¹

To determine how to fulfill the right to restitution, the state bases its implementation on Supreme Court Regulation Number 1 of 2022. However, this regulation does not explicitly regulate the right to restitution for environmental crimes. This research aims to provide legal arguments and recommendations for streamlining the implementation of the right to restitution for victims of environmental crimes, destruction, and/or pollution. It addresses the substantive issues of Indonesian legislation and draws on comparative studies with Germany, Austria, Switzerland, and China.⁶²

This research uses the Green Restorative Justice Theory by Robert C. Scott and Stephen P. Garvey. This theory is a development of the restorative justice concept that not only places humans as victims but also expands the meaning of victims to include the environment and affected ecosystems. This theory provides claims for victim recovery, perpetrator responsibility, and socio-ecological balance. This theory emphasizes the importance of the participation of all parties, including perpetrators, victims, communities, governments, and non-governmental organizations, in the dialogue process to find a just and sustainable form of recovery.⁶³ The perpetrator's accountability is also a key element, where the perpetrator is required to admit their mistake and take full responsibility for the damage caused, in line with the polluter pays principle. The resolution process in this theory is based on dialogue and mutual agreement, resulting in a solution acceptable to all parties. Another element is ecological justice, which emphasizes that justice not only targets humans but also the environment and future generations. Ultimately, the theory emphasizes prevention and sustainability to prevent

⁶¹ Willem H. van Boom, *Compensation for Personal Injury in The Netherlands* (2003), pp. 211–37, doi:10.1007/978-3-7091-0654-9_8.

⁶² Schulz and others, 'Forest Clearances, Compensatory Afforestation and Biodiversity Offsetting in Forests: Balancing Flexibility and Equivalency in Switzerland'; Frauke Stehr and Peter Werner, 'Making up for Harming Others — An Experiment on Voluntary Compensation Behavior', *Journal of Economic Behavior & Organization*, 235 (2025), p. 107037, doi:https://doi.org/10.1016/j.jebo.2025.107037.

⁶³ Chunyun Meng and others, 'Multi-Granular Legal Information Fusion with Adversarial Compensation: A Hierarchical and Logic-Aware Framework for Robust Case Retrieval', *Knowledge-Based Systems*, 325 (2025), p. 113964, doi:https://doi.org/10.1016/j.knosys.2025.113964.

the recurrence of environmental crimes. So, this theory is not only oriented towards the recovery of human victims, but also towards the preservation of ecosystems and the sustainability of life.⁶⁴ Therefore, in this discussion, the author attempts to provide legal arguments and recommendations regarding the implementation of the right to restitution in Indonesia, namely as follows:

First, strengthening the polluter pays principle in implementing guarantees of restitution rights for victims of environmental crimes. Regional governments implement this principle to create economic incentives that cause polluters to bear the costs of environmental damage caused by their activities through regulations that place environmental responsibility directly on polluters.⁶⁵ However, this principle has been degraded, with the motive shifting to a compensation mechanism, where the state is positioned as the primary party regulating the allocation of economic and ecological recovery costs. However, such an arrangement actually blunts the polluter pays principle, which primarily aims to provide social welfare rights quickly, directly, effectively, efficiently, and precisely to victims of environmental crimes, without complicated bureaucracy.⁶⁶ Thus, the author recommends sharpening the implementation of the polluter pays principle by rigidly differentiating the mechanisms of restitution rights and compensation rights, both of which have different definitions as stated in the relevant Supreme Court Regulation.

Second, regarding recommendations for legal substance, it can compare German and Austrian regulations regarding the rigid distinction between liability for intentional and negligent environmental pollution. The legal systems of these two countries differentiate criminal liability for both intentional and negligent environmental pollution. In this regard, several researchers argue that the specific nature and social impacts of environmental violations are so serious that any act, even one that occurs without any

⁶⁴ David Soto-Oñate and Gonzalo Caballero, 'Oil Spills, Governance and Institutional Performance: The 1992 Regime of Liability and Compensation for Oil Pollution Damage', *Journal of Cleaner Production*, 166 (2017), pp. 299–311, doi:<https://doi.org/10.1016/j.jclepro.2017.08.021>.

⁶⁵ Guoxing Zhang, Wei Liu, and Hongbo Duan, 'Environmental Regulation Policies, Local Government Enforcement and Pollution-Intensive Industry Transfer in China', *Computers & Industrial Engineering*, 148 (2020), p. 106748, doi:<https://doi.org/10.1016/j.cie.2020.106748>.

⁶⁶ Tekayak, 'From "Polluter Pays" to "Polluter Does Not Pollute"'.

element of fault, is still worthy of criminal liability.⁶⁷ Germany also differentiates between actions that can provide aggravating elements, which are divided into two categories: aggravating elements and especially aggravating elements. Furthermore, in Austria, lawmakers have detailed criminal liability for environmental pollution, whether intentional or negligent. Thus, criminal law enforcement against illegal waste disposal practices is not only outlined in specific norms governing such actions but also through differentiated sanctions for both intentional and negligent handling of hazardous waste, including if such disposal poses a risk or has harmful social consequences. Furthermore, criminal provisions also refer to general rules in the field of waste management, violations of which can result in criminal liability. In addition, there are also provisions in the form of incentives that encourage positive behavior after a crime has occurred, similar to the provisions in German law.⁶⁸

Third, regarding the classification of liability for environmental pollution into minor and/or (ordinary) violations. Swiss law distinguishes between liability for intentional and negligent environmental violations.⁶⁹ Article 60 regulates minor violations, such as the unauthorized management of waste and hazardous materials or land pollution that endangers living creatures, with penalties of up to three years' imprisonment or a fine. Article 61 deals with serious violations that have major effects, like long-lasting harm to the environment, soil pollution from chemicals or biological agents, and environmental damage caused by failing to prevent pollution. Meanwhile, in China, environmental compensation regulations emphasize system reform that integrates local needs with national policies.⁷⁰ Since 2021, China has implemented technical guidelines for environmental damage assessment and compensation administration rules that ensure a

⁶⁷ Magazzino and others, 'Can Biomass Energy Curtail Environmental Pollution? A Quantum Model Approach to Germany'.

⁶⁸ Yu Tang and Yijie Mao, 'Centralization and Border Water Pollution: Evidence from China's Environmental Enforcement Reform', *Journal of Cleaner Production*, 481 (2024), p. 144136, doi:<https://doi.org/10.1016/j.jclepro.2024.144136>.

⁶⁹ Schmid, 'Legal and Political Aspects of the Regulation of Chemicals: Swiss Environmental Protection Law'; G Brückmann, 'Public Opinion on Climate Policies That Reduce Emissions Abroad to Reach Domestic Targets—A Swiss Case Study', *Current Research in Environmental Sustainability*, 10 (2025), p. 100295, doi:<https://doi.org/10.1016/j.crsust.2025.100295>.

⁷⁰ Laura Gatto and others, 'The Actors of the Swiss Plastic System: An Analysis of Beliefs and Interests', *Journal of Cleaner Production*, 390 (2023), p. 136042, doi:<https://doi.org/10.1016/j.jclepro.2023.136042>; Schmid, 'Legal and Political Aspects of the Regulation of Chemicals: Swiss Environmental Protection Law'.

more systematic and comprehensive ecological restoration.⁷¹ In its enforcement, litigation mechanisms are divided into two: civil public interest for citizens as defendants and administrative public interest for administrative subjects, which often begins with pre-litigation advice from the prosecutor's office, as well as inter-agency consultation.⁷²

Fourth, reforming the litigation process by positioning the right to restitution as part of the polluter's responsibility.⁷³ Lessons learned from China's compensation arrangements encompass several important aspects. First, in terms of policy design, China has formulated a reformed environmental damage compensation system that integrates local needs with national policy.⁷⁴ The Technical Guidelines for the Identification and Assessment of Environmental Damage and the Administrative Regulations for Ecological and Environmental Compensation have been enacted, providing legal certainty in a more systematic, comprehensive, and ecological restoration-oriented manner. Second, in terms of enforcement, the litigation process is classified based on the subject of compensation into two paths: civil public interest litigation if the defendant is a citizen and administrative public interest litigation if the defendant is a government agency.⁷⁵

In the context of the right to restitution, if the injured party is a civil subject, a consultation process is carried out between the recipient of the rights and the grantor of the rights under the supervision of the relevant institutions. If an agreement is reached, it is stipulated in a judicially ratified agreement. While failing to do so, the prosecutor's office can file a public interest civil lawsuit through a pre-litigation publicity procedure. Thus,

⁷¹ Tang and Mao, 'Centralization and Border Water Pollution: Evidence from China's Environmental Enforcement Reform'; Somchith Phetmany, Xuewei Hu, and Bounmy Keohavong, 'Harmonizing Environmental Policy across Borders: A Case Study of China–Laos Regulatory Disparities', *Environmental Challenges*, 20 (2025), p. 101239, doi:<https://doi.org/10.1016/j.envc.2025.101239>.

⁷² Bo Cheng, Zhimeng An, and Wei Li, 'Regulatory Enforcement and Firm Sustainability: Evidence from China's Environmental Public Interest Litigation Reform', *Economic Analysis and Policy*, 85 (2025), pp. 530–45, doi:<https://doi.org/10.1016/j.eap.2024.12.017>; Zhao and Zhao, 'Ecological Rule of Law and Enterprise Green Innovation — Evidence from China's Environmental Courts'.

⁷³ Zhu and others, 'A New National Environmental Law with Harsh Penalties and Regulated Discretion: Experiences and Lessons from China'.

⁷⁴ Xian Liu, Wen Wang, and Shoujun Huang, 'Criminal Enforcement and Environmental Performance: Evidence from China', *Ecological Economics*, 224 (2024), p. 108267, doi:<https://doi.org/10.1016/j.ecolecon.2024.108267>.

⁷⁵ Lisha Wang and others, 'Do Specialized Courts Matter? Environmental Judiciary and Corporate Emissions in China', *Energy Policy*, 199 (2025), p. 114532, doi:<https://doi.org/10.1016/j.enpol.2025.114532>.

the right to a healthy environment has been guaranteed by the constitution and the Human Rights Law, so the state is obliged to ensure restitution for victims of environmental crimes through an effective restitution mechanism. However, implementation in Indonesia still faces weaknesses, both in terms of legal substance and execution mechanisms, so it is necessary to strengthen the polluter pays principle and a clear distinction between restitution and compensation. Comparative studies with Germany, Austria, Switzerland, and China demonstrate the importance of differentiating levels of culpability, classifying violations, and adopting a systematic compensation mechanism oriented towards ecological restoration.

4. CONCLUSION

The implementation of the right to restitution for victims of environmental crimes has shifted to a bureaucratic compensation mechanism, thereby weakening the polluter pays principle and giving rise to multiple interpretations of the category of environmental crimes that should be regulated more strictly. In fact, the right to restitution, which is rooted in Article 28H paragraph (1) of the 1945 Constitution, has not been explicitly regulated in regulations, so it still depends on the Environmental Law and Supreme Court Regulation No. 1 of 2022. This research shows, first, that although Law No. 32 of 2009, Government Regulation No. 22 of 2021, and Supreme Court Regulation No. 1 of 2022 have affirmed the right to a healthy environment and the obligation of perpetrators to pay restitution, the mechanism for victims of environmental crimes has not been explicitly regulated, thus requiring legal strengthening to ensure adequate social, economic, and ecological recovery. Second, comparing the restitution rights regulations in Germany, Austria, and Switzerland, which emphasize criminal liability, with those in China, which incorporate green principles within a civil regime, suggests that Indonesia should strengthen its restitution mechanism for victims of environmental crimes by implementing clear and firm regulations focused on socio-ecological recovery. Third, the right to restitution for victims of environmental crimes in Indonesia, which is guaranteed by the 1945 Constitution and the Human Rights Law, is still weak in implementation, so it is necessary to strengthen the polluter pays principle, differentiate between restitution and compensation, and adopt comparative practices from Germany, Austria, Switzerland, and China so that socio-ecological recovery is more effective.

5. CONFLICTING INTEREST STATEMENT

The authors state that there is no conflict of interest in the publication of this article.

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