



CRIMINAL LIABILITY OF PERPETRATORS OF ENVIRONMENTAL POLLUTION OFFENCES THROUGH ARTISANAL AND SMALL-SCALE MINING ACTIVITIES IN RURAL AREAS

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Abstract:

Artisanal and small-scale mining (ASM) activities in rural areas contribute to the local economy, yet they are frequently conducted with rudimentary technology and inadequate supervision, thereby triggering environmental pollution, particularly affecting soil and river bodies that serve as community water sources. This study aims to analyse the forms of criminal liability borne by perpetrators of environmental pollution arising from people's mining activities in rural areas, the legal bases applied, and the obstacles encountered in their enforcement. The primary normative framework refers to Law Number 32 of 2009 on Environmental Protection and Management (UU PPLH) and Law Number 3 of 2020 on the Amendment to Law Number 4 of 2009 on Mineral and Coal Mining (UU Minerba), both of which impose obligations on mining business actors to prevent pollution and environmental damage and threaten criminal sanctions for unlicensed mining activities and violations of environmental standards. The method employed is normative-empirical legal research, examining statutory provisions and relevant court decisions, supplemented by field data drawn from cases of people's mining that have caused river pollution in several rural regions. The findings indicate that perpetrators of environmental pollution resulting from people's mining can be held criminally liable either as individual offenders or as business operators; however, implementation in the field remains weak owing to the socio-economic circumstances of the miners, limited supervisory capacity, and overlapping authority among institutions. This study recommends the strengthening of environmental criminal law enforcement, balanced with the structuring of people's mining areas, enhanced supervisory capacity, and a restorative justice approach that continues to place the "polluter pays" principle as its foremost guiding tenet.

Key words: *criminal liability; environmental pollution; people's mining; environmental criminal law; rural village.*

Abstrak:

Aktivitas pertambangan rakyat di wilayah pedesaan memberikan kontribusi ekonomi bagi masyarakat, namun sering dilakukan dengan teknologi sederhana dan tanpa pengawasan memadai sehingga memicu pencemaran lingkungan hidup, khususnya pada tanah dan badan sungai yang menjadi sumber air warga. Penelitian ini bertujuan menganalisis bentuk pertanggungjawaban pidana pelaku pencemaran lingkungan melalui aktivitas pertambangan rakyat di pedesaan, dasar hukum yang digunakan, serta hambatan penegakannya. Kerangka normatif utama mengacu pada Undang-Undang Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup (UU PPLH) dan Undang-Undang Nomor 3 Tahun 2020 tentang Perubahan atas Undang-Undang Nomor 4 Tahun 2009 tentang Pertambangan Mineral dan Batubara (UU Minerba), yang sama-sama mengatur kewajiban pelaku usaha pertambangan untuk mencegah pencemaran dan kerusakan lingkungan serta mengancam sanksi pidana bagi kegiatan pertambangan tanpa izin maupun pelanggaran standar lingkungan. Metode yang digunakan adalah penelitian hukum normatif-empiris dengan menelaah ketentuan peraturan perundang-undangan dan putusan

pengadilan terkait, serta dilengkapi data lapangan dari kasus-kasus pertambangan rakyat yang menimbulkan pencemaran sungai di beberapa daerah pedesaan. Hasil penelitian menunjukkan bahwa pelaku pencemaran lingkungan akibat pertambangan rakyat dapat dimintai pertanggungjawaban pidana baik sebagai pelaku perorangan maupun sebagai pelaku usaha, namun implementasi di lapangan masih lemah karena pertimbangan faktor sosial-ekonomi penambang, keterbatasan pengawasan, dan tumpang tindih kewenangan antarinstitusi. Penelitian ini merekomendasikan penguatan penegakan hukum pidana lingkungan yang diimbangi dengan penataan wilayah pertambangan rakyat, peningkatan kapasitas pengawasan, serta pendekatan keadilan restoratif yang tetap menempatkan asas “polluter pays” sebagai prinsip utama

Kata kunci: *pertanggungjawaban pidana; pencemaran lingkungan; pertambangan rakyat; hukum pidana lingkungan; desa.*

A. Introduction

People’s mining (pertambangan rakyat), often referred to in comparative literature as artisanal and small-scale mining, constitutes one of the most important sources of livelihood for communities across numerous rural regions of Indonesia, particularly in areas endowed with valuable mineral and metal deposits such as gold. This activity is generally carried out by local residents using rudimentary equipment, limited capital, and a low level of technical knowledge, so that occupational safety and environmental protection are frequently neglected in practice. On one hand, people’s mining contributes to increased household income, reduces unemployment, and functions as a buffer for the local economy; on the other hand, uncontrolled mining practices give rise to serious environmental pollution and degradation, particularly affecting the quality of river water and agricultural land upon which rural communities depend for their survival, a pattern consistent with findings on nickel-mining-related environmental damage in Kolaka Regency.¹

Numerous studies have recorded that people’s mining activities, whether conducted under licence or illegally, have the potential to cause environmental pollution through the use of hazardous and toxic substances, such as mercury and cyanide, without meeting technical standards or complying with statutory provisions. This pollution not only results in the deterioration of water quality and soil fertility, but also poses health risks to surrounding communities, including disorders of the nervous system, organ damage, and long-term threats to future generations. This condition reveals a persistent tension between the short-term economic interests of miners and the obligation of the state to guarantee the community’s right to a good and healthy environment, as affirmed in the UU PPLH, and is closely linked to the broader correlation between environmental degradation and rural poverty.²

Normatively, the regulatory framework governing people’s mining and environmental protection in Indonesia is set out, among other instruments, in the UU PPLH and the UU Minerba together with their implementing regulations. The UU PPLH establishes the obligation of every person to preserve the sustainability of environmental functions and

¹ Muhammad Sibgatullah Agussalim, “Kerusakan Lingkungan Akibat Pertambangan Nikel Di Kabupaten Kolaka Melalui Pendekatan Politik Lingkungan,” *Palita: Journal of Social Religion Research* 8, no. 1 (2023).

² Reswita, “Hubungan Degradasi Lingkungan Dengan Kemiskinan,” *Jurnal Inovasi Penelitian* 2, no. 5 (2021).

prohibits acts that cause pollution or damage exceeding environmental quality standards, with the threat of criminal sanctions for violators. Meanwhile, the UU Minerba provides that minerals and coal constitute natural resources controlled by the state, the utilisation of which must be authorised through a licence, including the People's Mining Licence (Izin Pertambangan Rakyat, IPR) granted to local communities conducting mining business within a designated People's Mining Area (Wilayah Pertambangan Rakyat, WPR). This law also threatens criminal sanctions for mining activities conducted without a licence as well as for violations by licence holders of their environmental management obligations.

Although the legal framework is already in place, the enforcement of environmental pollution offences arising from people's mining in rural areas frequently encounters substantial obstacles. Research on the enforcement of law against illegal mining indicates that, although numerous mining activities have been proven to damage the environment and endanger communities, only a small fraction culminate in effective criminal proceedings capable of producing a deterrent effect, a tendency also documented in studies on unlicensed sand mining enforcement in Pangkep Regency.³ These obstacles relate, among other things, to the limited resources of law enforcement officers, the difficulty of proving the causal relationship between people's mining activities and pollution impacts, and socio-economic factors that make the government hesitant to take firm action against miners who depend on mining as their principal source of livelihood.

At the regional level, district and municipal governments bear the obligation to regulate and supervise people's mining activities, including through the designation of People's Mining Areas, the issuance of licences, the provision of guidance, and the control of unlicensed activities. In practice, however, many regions have yet to establish comprehensive regulatory arrangements, so that people's mining activities proceed without legal certainty and without adequate environmental standards. As a consequence, river pollution and the degradation of agricultural land occur repeatedly, while perpetrators of pollution are not always held criminally liable in a manner proportionate to the environmental harm caused.

From the perspective of environmental criminal law, the principle most frequently invoked as a point of reference is the "polluter pays" principle, namely that any party causing pollution or environmental damage must bear the legal consequences and the costs of environmental restoration. The application of this principle in the context of rural people's mining is problematic, given that perpetrators of pollution are often low-income individuals or community groups, such that severe criminal sanctions and large fines are feared to generate new social problems. On the other hand, tolerating pollution on economic grounds would sacrifice the broader community's right to a healthy environment and would undermine the fundamental purpose of environmental law, a tension also highlighted in discussions of the *primum remedium* principle in environmental criminal law.⁴ A more in-depth analysis is therefore required of how the concept of criminal liability ought to be

³ Baharuddin Badaru, "Efektivitas Penegakan Hukum Terhadap Pelaku Penambangan Pasir Tanpa Izin (Studi Pada Kepolisian Resor Pangkep)," *AL-MANHAJ: Jurnal Hukum dan Pranata Sosial Islam* 5, no. 2 (2023): V, 1427–48.

⁴ Kania Tamara Pratiwi, "Penerapan Asas *Primum Remedium* Tindak Pidana Lingkungan Hidup," *SASI* 27, no. 3 (2021).

applied to perpetrators of environmental pollution through people's mining activities, while continuing to give due regard to justice for both victims and offenders.

Based on the foregoing background, this study focuses on three principal research questions. First, how is criminal liability for perpetrators of environmental pollution arising from people's mining activities in rural areas regulated under Indonesian positive law. Second, how is criminal liability applied in practice in cases of environmental pollution caused by people's mining in several rural regions. Third, what factors impede the enforcement of criminal law against perpetrators of environmental pollution in the context of people's mining, and what strategies might strengthen such enforcement. This study is expected to make a theoretical contribution to the development of environmental criminal law, as well as to offer practical recommendations for policymakers and law enforcement officers in designing a more effective and equitable model of law enforcement in rural areas.

B. Research Methods

This study employs a normative-empirical (sociolegal research) approach to analyse criminal liability for perpetrators of environmental pollution through people's mining activities in rural areas.⁵ The normative approach is used to examine relevant statutory provisions, such as the UU PPLH and the UU Minerba, together with their implementing regulations at the central and regional government levels, including regional regulations concerning people's mining and environmental protection. The empirical approach, meanwhile, is used to describe and analyse law enforcement practice in the field through case studies of several regions that have experienced environmental pollution caused by people's mining, drawing on research reports, court decisions, and other secondary data.

The type of research adopted is descriptive-analytical, systematically describing the existing legal arrangements and enforcement practices before analysing them in order to identify the gap between *das sollen* (the law as it ought to be) and *das sein* (the law as it is in reality).⁶ The legal materials used consist of primary, secondary, and tertiary sources. Primary legal materials comprise statutory regulations in the fields of environmental protection and mining, court decisions concerning environmental pollution offences and people's mining, and relevant international instruments embodying principles of environmental protection. Secondary legal materials consist of books, journal articles, research findings, and expert opinions discussing environmental criminal law, people's mining, and the "polluter pays" principle. Tertiary legal materials comprise legal dictionaries, encyclopaedias, and other supporting sources that assist in the interpretation of relevant terminology.

Legal materials were collected through library research on statutory regulations and literature, together with a search of journal databases and university repositories containing research relevant to law enforcement against people's mining and environmental pollution. To support the empirical dimension, this study draws on secondary data in the form of reports from environmental non-governmental organisations, official news sources, and

⁵ Nanda Dwi Rizkia and Hardi Fardiansyah, *Metode Penelitian Hukum (Normatif Dan Empiris)*, ed. Elan Jaclani (Bandung: Widina Media Utama, 2023).

⁶ Soerjono Soekanto and Sri Mamudji, *Penelitian Hukum Normatif: Suatu Tinjauan Singkat* (Jakarta: Raja Grafindo Persada, 2021).

documentation of cases of river and agricultural land pollution caused by people's mining in several regions. In further development, the research could be complemented with in-depth interviews with law enforcement officers, regional government officials, and representatives of affected communities; within the scope of this article, however, such data are summarised from existing research reports.

The analysis of legal materials was conducted qualitatively using the theoretical framework of environmental criminal law and the theory of criminal liability. The analytical steps comprise the following: first, inventorying and categorising the legal provisions governing people's mining, environmental pollution, and the criminal sanctions that may be imposed on offenders. Second, comparing these norms with empirical facts concerning documented cases of environmental pollution caused by people's mining, including the forms of sanctions imposed and the considerations applied by judges in their decisions. Third, identifying the factors that impede the enforcement of criminal law and assessing the extent to which such obstacles relate to regulatory, institutional, or socio-economic conditions affecting mining communities. Fourth, formulating alternative models of environmental criminal law enforcement that are more effective and equitable, with due regard to the principles of environmental sustainability and the protection of rural communities.

C. Result and Discussion

1. The Regulation of Criminal Liability for Environmental Pollution Caused by People's Mining

The regulation of criminal liability for environmental pollution caused by people's mining rests upon two principal legal regimes, namely environmental law and mining law. From the environmental perspective, the basic framework is provided by Law Number 32 of 2009 on Environmental Protection and Management (UU PPLH), which affirms the prohibition against any person engaging in conduct that results in environmental pollution and/or damage, and which imposes the threat of criminal sanctions on violators. From the mining perspective, Law Number 4 of 2009 in conjunction with Law Number 3 of 2020 on Mineral and Coal Mining (UU Minerba) governs the licensing mechanism, the obligations of licence holders, and the criminal sanctions applicable to unlicensed mining activities as well as to violations of environmental obligations by mining business actors.

The definition of mining under the UU Minerba encompasses the entirety of its activity stages, from general investigation through to post-mining closure, so that every stage with the potential to cause pollution falls within the scope of legal regulation. Within this framework, the People's Mining Licence (IPR) and the People's Mining Area (WPR) are recognised as specific instruments designed to accommodate small-scale mining activities conducted by communities. Regents and mayors hold the authority to designate a WPR and to grant an IPR, subject to particular area limits and technical criteria, while simultaneously establishing the obligation of IPR holders to manage the environment, to comply with occupational health and safety standards, and to pay fixed and production fees. Compliance with these obligations serves as one of the benchmarks for assessing whether negligence resulting in pollution has occurred.

The obligation of IPR holders to manage the environment together with regional government and to comply with environmental management regulations essentially

represents a concrete translation of the principle of “sustainable and environmentally sound” mining management. The UU Minerba positions the structuring of WPR and the licensing mechanism as preventive instruments intended to forestall the emergence of unlicensed people’s mining (commonly referred to as PETI), which is highly prone to causing pollution. In practice, however, many people’s mining activities continue to operate outside the licensing scheme, thereby falling, in juridical terms, into the category of unlicensed mining and rendering their operators liable to criminal sanction under the relevant penal provisions of the UU Minerba, irrespective of the economic motives underlying their conduct.

From the perspective of environmental law, criminal liability does not rest solely upon proof of fault (fault-based liability) as recognised in classical criminal law, but also encompasses the concept of strict liability in certain categories of cases. This concept is reflected in the strict liability provisions of the UU PPLH, which place business actors under an obligation to bear responsibility for environmental harm arising from their activities without the need to prove an element of fault, although the regulation of this concept has subsequently become the subject of debate following its amendment through the Omnibus Law on Job Creation.⁷ The application of strict liability in the context of people’s mining becomes problematic where the perpetrators are individuals or small community groups, yet it continues, in principle, to affirm that the burden of environmental restoration must be borne by the party that has caused the pollution, in accordance with the “polluter pays” principle.

The regulation of criminal liability is also linked to the standing of legal subjects, which may take the form of individuals, groups, cooperatives, or business entities. In people’s mining, perpetrators are typically individuals or community groups who either hold an IPR or operate entirely without a licence. The UU Minerba nonetheless leaves open the possibility of imposing criminal sanctions on individuals who conduct mining activities without a licence or who violate their environmental management obligations, such that the status of being “people’s mining” does not eliminate the potential for criminal liability, a finding consistent with judicial reasoning in cases involving illegal mineral processing and refining.⁸ In addition, the central and regional governments bear a legal obligation to conduct supervision, such that serious negligence in supervision may itself give rise to legal liability, particularly within the civil law domain on the basis of unlawful acts (*perbuatan melawan hukum*).

The provisions concerning the principles and objectives of mining management under the UU Minerba affirm that mining activities must be founded upon the principles of benefit, justice, sustainability, and environmental responsibility, and must be directed towards ensuring that the benefits of mining are sustainable and environmentally sound. These guiding principles serve as an interpretive foundation for law enforcement officers when construing the relevant penal provisions, for example in assessing the degree of fault, selecting the appropriate type of sanction, and determining the need for environmental

⁷ Andri Gunawan Wibisana, “Undang-Undang Cipta Kerja Dan Strict Liability (Omnibus Law on Job Creation and Strict Liability),” *Jurnal Bina Hukum Lingkungan* 5, no. 2 (2021).

⁸ Muhammad Rafi Pangestu and Rachma Dewi Ramasari, “Analisis Pertimbangan Hukum Hakim Terhadap Pelaku Tindak Pidana Pengolahan Dan Pemurnian Mineral Ilegal (Studi Putusan Nomor 90/Pid.Sus/2021/PN Gdt),” *Jurnal Rectum* 5, no. 1 (2023): V, 1269–78.

restoration within a given decision. Accordingly, the regulation of criminal liability for environmental pollution caused by people's mining essentially establishes a system that positions business actors including people's miners as subjects obliged to comply with environmental obligations and prepared to bear the criminal consequences should those obligations be violated.

2. Practice of Criminal Law Enforcement in Cases of Pollution Caused by People's Mining in Rural Areas

The practice of criminal law enforcement against environmental pollution caused by people's mining in rural areas reveals a notable gap between normative regulation and field implementation. Empirical studies on the enforcement of environmental pollution law against people's mining find that mining activities, whether legal or illegal, frequently employ hazardous and toxic substances without complying with statutory requirements, yet only a small proportion of cases culminate in criminal proceedings. Many cases are halted at the stage of administrative guidance or non-litigation settlement, on grounds of consideration for the economic circumstances of miners and the potential for social unrest, a pattern that mirrors the broader policy dilemma identified in studies of corporate criminal liability for environmental crime within Indonesia's mining industry.⁹

Research on law enforcement against environmental pollution caused by people's mining affirms that perpetrator liability encompasses three avenues: criminal, civil, and administrative. Nonetheless, the criminal avenue is often not utilised to its fullest extent, while civil claims and administrative sanctions are likewise relatively rarely employed by affected rural communities. In several regions, law enforcement officers tend to apply the criminal provisions of the UU Minerba concerning unlicensed mining without connecting them to the criminal provisions of the UU PPLH concerning environmental pollution, such that the aspects of environmental restoration and compensation receive inadequate attention, a gap also noted in recent analyses of corporate environmental-pollution enforcement practice in Indonesia.¹⁰

A concrete illustration may be found in cases of people's gold mining that have caused river pollution and land degradation in various regions, in which law enforcement has tended to emphasise action against unlicensed miners (PETI) rather than environmental restoration and the protection of community rights to clean water. In several court decisions, offenders were convicted under provisions concerning unlicensed mining for instance, where prosecutors relied on theft-related rather than environmental provisions in unlicensed-mining cases.¹¹ While the application of environmental criminal provisions remained very limited. This pattern creates the impression that law enforcement is directed

⁹ Firsyahrina Maharani Rahim, "Dilema Pertanggungjawaban Pidana Korporasi: Anatomi Kejahatan Lingkungan Dalam Industri Pertambangan Indonesia," *Jurnal Multidisiplin Ilmu Akademik* 4, no. 1 (2025): IV, 4619–33, doi:10.61104/alz.v4i1.3894.

¹⁰ Revima Nelyna Muntaha, "Tanggung Jawab Korporasi Dalam Kasus Pencemaran Lingkungan: Analisis Penegakan Hukum Berdasarkan Perkembangan Kasus Lingkungan Terkini Di Indonesia," *CAUSA* 16, no. 2 (2025): XVI, 6, doi:10.3783/causa.v2i9.2461.

¹¹ Citra Anggraini Achmadi, "Tidak Diterapkannya Pasal 362 KUHP Dalam Perkara Penambangan Tanpa Izin (Studi Putusan Nomor 124/PID.SUS/2021/PN.TDN)," *Legal Standing: Jurnal Ilmu Hukum* 7, no. 2 (2023): VII, 283–96.

more towards the control of mining licensing than towards addressing the impact of pollution itself.

On the other hand, there are also examples of cases in which communities and environmental organisations have employed civil claims grounded in unlawful acts to demand accountability from the state and regional governments, particularly where they are considered to have failed in their supervisory and enforcement duties. Claims of this kind have previously been brought through representative group-claim (class action) mechanisms in major environmental cases outside the specific context of people's mining and have become important jurisprudence for expanding the standing of citizen lawsuits as well as the legal standing of environmental organisations.¹² Although not specifically directed at rural people's mining, such patterns may serve as a reference for affected communities seeking to hold regional governments accountable for negligent supervision of people's mining.

Other research indicates that the limited technical capacity and resources of law enforcement officers in uncovering evidence of pollution constitute a significant impeding factor. Proving the causal relationship between people's mining activities and extensive environmental damage requires the support of scientific data, such as laboratory test results on water and soil quality, which are frequently unavailable or poorly managed, a constraint similarly observed in river-pollution litigation along the Citarum watershed.¹³ As a result, even where communities lodge complaints concerning declining water quality and agricultural yields, such cases are difficult to elevate to the stage of criminal prosecution on the basis of environmental pollution.

Socio-economic factors also exert a considerable influence on the practice of law enforcement. People's miners generally come from low-income groups for whom mining constitutes their principal source of livelihood, such that harsh criminal action is feared to generate resistance and social conflict, a tension that parallels the documented relationship between environmental degradation and rural poverty.¹⁴ Under these conditions, officers frequently opt for a compromise-oriented approach, such as providing guidance, conducting temporary controls, or encouraging miners to obtain licences, without imposing criminal sanctions even where pollution has occurred. Such an approach may be understood from the perspective of social stability, yet it has the potential to weaken the deterrent effect and to normalise polluting practices.

Overall, the practice of criminal law enforcement against environmental pollution caused by people's mining in rural areas continues to face three principal tendencies: the predominant use of unlicensed-mining provisions, the minimal application of environmental criminal provisions, and the low utilisation of civil claims and community

¹² Nazvia Alyssa Dwi Utami, Amanda Amanda, and Moulyta Elgi Trinanda, "Pertanggungjawaban Hukum Atas Pencemaran Lingkungan Hidup Akibat Aktivitas Limbah Perusahaan Melalui Mekanisme Gugatan Perwakilan Kelompok: Studi Kasus Putusan Nomor 29/Pdt.G/2023/PN.Skh," *Jurnal Riset Rumpun Ilmu Sosial, Politik dan Humaniora* 5, no. 3 (2026): V, 740–51, doi:10.55606/jurriish.v5i3.8595.

¹³ Azzahra Healtiane Nuryanta, Benedikta Irene Ciptaning Putri, and Anita Zulfiani, "Penegakan Hukum Pidana Lingkungan Atas Pencemaran Sungai Citarum (Studi Putusan 700/Pid.B/LH/2020/PN Bdg)," *Madani: Jurnal Ilmiah Multidisiplin* 1, no. 8 (2023): I, 38–46.

¹⁴ Reswita, "Hubungan Degradasi Lingkungan Dengan Kemiskinan."

standing to sue. This condition demonstrates the need for a reorientation of law enforcement that achieves a better balance among licensing control, environmental restoration, and the protection of the rights of rural communities as victims of pollution.

3. Obstacles and Models for Strengthening Environmental Criminal Law Enforcement in People's Mining Areas

Obstacles to the enforcement of environmental criminal law in people's mining areas may broadly be divided into structural, substantive, and cultural obstacles. Structural obstacles relate to institutional weaknesses and inter-agency coordination, including the limited number and capacity of environmental and mining supervisory officers at the regional level, as well as the inadequate budget allocated for field supervision and environmental quality testing. Substantive obstacles arise from the overlap and ambiguity of norms among the UU PPLH, the UU Minerba, and regional regulations, particularly with respect to the choice of provisions applied in prosecution, a problem also reflected in unlicensed-mining enforcement within forest areas,¹⁵ while cultural obstacles relate to the attitude of communities and officers who regard people's mining as an "object of sympathy," resulting in reluctance to apply criminal sanctions firmly.

One substantive issue frequently highlighted is the tendency of law enforcement officers to apply the criminal provisions of the UU Minerba (for instance, provisions concerning unlicensed mining) without connecting them to the criminal provisions of the UU PPLH concerning environmental pollution. This causes the focus of law enforcement to shift towards the legality of licensing rather than towards the impact of environmental damage and the community's right to a good and healthy environment, an emphasis also evident in cases concerning land and forest fire-related pollution in Riau Province.¹⁶ On the other hand, developments in the regulation of strict liability under the UU PPLH following its amendment by the Omnibus Law on Job Creation have generated renewed debate over the extent to which the element of fault must still be proven, which in turn may affect officers' willingness to apply environmental provisions.¹⁷

Structural obstacles are evident in the weak implementation of government and regional government obligations to designate WPR, grant IPR, and conduct supervision as required under the UU Minerba. Many regions have yet to structure their WPR clearly, so that people's mining activities proceed outside the formal legal framework, thereby rendering supervision and enforcement more difficult. In addition, coordination among environmental agencies, mining agencies, the police, the prosecution service, and the courts is frequently suboptimal, for example in the sharing of data, the formulation of integrated enforcement strategies, and ensuring that environmental restoration forms part of criminal decisions.

¹⁵ Okta Anuari Johar, Muhammad Yusuf Daeng, and Theo Negoro Manihuruk, "Pertanggungjawaban Pidana Pencemaran Dan Perusakan Lingkungan Hidup Akibat Pembakaran Hutan Dan Lahan Di Provinsi Riau," *Jurnal Riset Ilmu Hukum*, 2023.

¹⁶ Johar, Daeng, and Manihuruk, "Pertanggungjawaban Pidana Pencemaran Dan Perusakan Lingkungan Hidup Akibat Pembakaran Hutan Dan Lahan Di Provinsi Riau."

¹⁷ Anggraini Jiwanti, "Kebijakan Hukum Pidana Dalam Upaya Penanggulangan Tindak Pidana Lingkungan Hidup Dalam Undang-Undang Cipta Kerja," *JUSTISI*, 2023.

From a cultural perspective, law enforcement is frequently impeded by the view that people's miners are victims of structural poverty who exploit the natural resources around them in order to survive. This view encourages an approach of excessive guidance and tolerance, such that repeated violations are not promptly addressed with firm action despite causing serious pollution. On the other hand, a portion of the community is also directly involved in the economic chain of people's mining, such that support for stringent law enforcement tends to be weak and may even provoke conflict between officers and residents.

In confronting these various obstacles, the strengthening of environmental criminal law enforcement in people's mining areas requires a model that integrates criminal, administrative, and civil instruments in a more balanced manner, consistent with comparative arguments for balancing compliance-oriented and deterrence-oriented approaches in environmental law enforcement.¹⁸ At the initial stage, regional governments need to structure WPR and licensing arrangements in earnest, ensuring that people's mining activities operate within a clear and supervisable legal framework. Technical and administrative violations may be subject to progressive administrative sanctions, such as temporary cessation, revocation of licence, and a reclamation obligation, whereas violations resulting in serious pollution must be processed through the criminal avenue by combining the relevant provisions of the UU Minerba and the UU PPLH.

A model for strengthening law enforcement also needs to incorporate a restorative environmental justice approach, particularly in the context of people's miners with limited economic capacity, in line with the *primum remedium* orientation advocated for environmental criminal law.¹⁹ This approach does not eliminate criminal sanctions, but rather combines them with concrete obligations to restore the environment, to provide compensation to affected communities, and to transform mining practices into more environmentally friendly ones. Within the framework of the "polluter pays" principle, restorative justice may serve as a means of ensuring that the burden of damage is not borne entirely by the victims, while continuing to take into account the socio-economic realities of the perpetrators.

In addition, strengthening the technical capacity of law enforcement officers and environmental supervisory institutions constitutes an important prerequisite, particularly given evidence that weak technical and evidentiary capacity has historically constrained marine-pollution prosecutions arising from coal-related incidents (Hastri, Rachman, & Putri, 2023). Officers need to be equipped with the capability to conduct scientific investigations into pollution, including the collection of samples, the interpretation of laboratory test results, and the preparation of case files that are robust in terms of proving causality. Collaboration with universities and research institutions may serve as an effective strategy for closing this expertise gap, while simultaneously establishing scientific data as a solid foundation for every law enforcement process.

¹⁸ Hilda Swandani Prastiti, "Menakar Efektivitas Pendekatan Penataan (Compliance Approach) Dan Pendekatan Penjeraan (Deterrence Approach) Dalam Penegakan Hukum Lingkungan" 6, no. 1 (2021): VI, 1–13.

¹⁹ Pratiwi, "Penerapan Asas *Primum Remedium* Tindak Pidana Lingkungan Hidup."

Finally, community and environmental organisation participation needs to be strengthened through the utilisation of community standing to sue and environmental organisation standing to sue as provided under the UU PPLH and clarified in Supreme Court regulations concerning representative group claims, building on the expanding jurisprudential basis for citizen lawsuit and class action mechanisms in Indonesian environmental litigation.²⁰ Such mechanisms may serve as social and legal pressure upon regional governments and business actors to take more serious measures in preventing and addressing pollution. Accordingly, the enforcement of environmental criminal law in people's mining areas may shift from a pattern that is merely repressive towards miners to a more comprehensive model, combining institutional structuring, victim protection, environmental restoration, and the empowerment of rural communities.

D. Conclusion

First, in normative terms, Indonesia's legal framework is, in fact, already reasonably adequate to hold accountable perpetrators of environmental pollution arising from people's mining activities through the combination of the UU PPLH and the UU Minerba, both of which affirm the obligation to prevent pollution and impose the threat of criminal sanctions on violators. The provisions concerning licensing (IPR and WPR), the obligation of environmental management, and the "polluter pays" principle demonstrate that people's miners remain liable to criminal sanction where their activities cause environmental damage in rural areas.

Second, practice in the field reveals that the enforcement of criminal law against pollution caused by people's mining remains weak, marked by the predominant use of unlicensed-mining provisions, the minimal utilisation of environmental criminal provisions, and the infrequent use of civil claims and community standing to sue in pursuit of damage restoration. This condition means that the protection of rural communities' right to a good and healthy environment has not yet been optimised, and the deterrent effect upon perpetrators of pollution remains relatively low. Strengthening the integration of criminal, administrative, and civil instruments, supported by clearer regional structuring of people's mining areas and a restorative justice approach, is therefore necessary to close the gap between normative regulation and field implementation.

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