

Legal Framework and Law Enforcement of Illegal Mining in Indonesia: A Normative Jurisdictional Analysis of the Implications of Environmental Law and Criminal Law

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ABSTRACT

This paper explores the legal framework and law enforcement mechanisms regarding illegal mining in Indonesia, focusing on the implications for environmental protection and criminal accountability. The study employs a normative juridical analysis to examine the existing laws, including the Mining Law No. 4 of 2009, Environmental Law No. 32 of 2009, and the Indonesian Criminal Code (KUHP). The paper highlights the gaps in the legal system, such as weak enforcement, inadequate penalties, and the challenges posed by corruption within local authorities. It also assesses the social and environmental consequences of illegal mining, including deforestation, pollution, and the exploitation of local communities. The findings suggest that while Indonesia has a comprehensive legal framework, the effectiveness of its enforcement mechanisms remains insufficient. Based on the analysis, the paper proposes recommendations to strengthen law enforcement, improve penalties, combat corruption, and support alternative livelihoods for communities affected by illegal mining.

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1. INTRODUCTION

Illegal mining is a significant issue in Indonesia, impacting both the environment and the economy. Over the years, the practice of mining without proper authorization has proliferated, causing substantial harm to ecosystems, local communities, and national resources. Despite the legal frameworks designed to regulate mining activities, illegal mining continues to thrive, often driven by a

lack of enforcement, loopholes in the legal system, and socio-economic pressures. Illegal mining in Indonesia poses significant challenges to both the environment and the economy, driven by inadequate legislation, enforcement issues, and socio-economic factors. Despite existing legal frameworks, illegal mining activities, particularly in gold mining, continue to thrive due to complex socio-political structures and insufficient law

enforcement. This situation results in environmental degradation, loss of state revenue, and social unrest. To address these issues, a multifaceted approach involving robust legislation, effective enforcement, and community engagement is essential. Current mining legislation in Indonesia is insufficient to prevent illegal mining activities, with enforcement divided among various entities, leading to ineffective control and continued environmental degradation [1]. The complexity of illegal mining structures involves multiple actors, including politicians and law enforcement officials, which complicates enforcement efforts [2]. Illegal mining is driven by financial incentives, low entry barriers, and socio-political factors, including the availability of supporting resources and power dynamics [2]. The lack of mining permits results in significant economic losses for the state, as illegal miners do not contribute taxes or royalties, and their activities often lead to social unrest [3]. Illegal mining activities cause severe environmental damage, including ecosystem degradation, water and soil pollution, and threats to biodiversity [4]. The social impacts include community conflicts and moral degradation, necessitating a comprehensive policy approach to balance development and environmental protection [5]. A responsive law enforcement approach is recommended, emphasizing community involvement, transparency, and collaboration among government, communities, and stakeholders to achieve sustainable development [4]. Establishing an independent supervisory team to oversee regulation implementation and enforcement could help ensure compliance and mitigate illegal mining activities [5].

Mining is a vital sector for Indonesia's economic development, contributing to both local and national income. However, illegal mining undermines government authority and causes significant environmental degradation, including deforestation, soil erosion, and water pollution, leading to long-term consequences such as biodiversity loss and disruption of local economies. Despite the

establishment of legal frameworks like the Environmental Law No. 32 of 2009 and the Mining Law No. 4 of 2009 to regulate resource extraction and protect the environment, illegal mining persists due to weak law enforcement, corruption, and inadequate institutional capacity. This persistence challenges environmental sustainability and governance, necessitating a multifaceted approach for resolution. The current legislation remains insufficient, and fragmented enforcement across various entities hampers effective control [1]. Strengthening regulation through independent supervisory teams is essential to curbing illegal activities and promoting sustainable development [5]. Environmental damages from illegal mining, especially in gold and coal sectors, include severe land degradation and water pollution, notably in West Kalimantan [6], [7]. The state's ineffectiveness in enforcing environmental protections and reclamation exacerbates ecological damage [8], highlighting the urgent need for stronger preventive and repressive legal measures [7].

Illegal mining in Indonesia has become an urgent issue due to its widespread impact on both the environment and society. As the demand for natural resources continues to rise, unauthorized mining activities have intensified, contributing to severe environmental degradation such as deforestation, water contamination, and soil erosion. These effects not only threaten ecological balance but also disrupt the livelihoods of local communities who depend on these resources for their survival. Furthermore, illegal mining undermines the legal economy by evading taxes and royalties, depriving the government of crucial revenue. Despite the existence of legal frameworks, illegal mining continues to thrive, necessitating a comprehensive analysis of the legal structures and enforcement mechanisms in place. Addressing this issue has become critical for ensuring both environmental sustainability and national economic stability. The primary obstacles in tackling illegal mining lie in the weak enforcement of existing

laws, gaps within the regulatory framework, and the lack of coordinated efforts among stakeholders. Although Indonesia possesses robust legal instruments, such as the Environmental Law No. 32 of 2009 and the Mining Law No. 4 of 2009, their implementation remains inconsistent. Factors such as corruption, limited resources, involvement of local communities, insufficient legal penalties, and the inaccessibility of remote mining locations further complicate enforcement efforts, perpetuating a vicious cycle of illegal mining activities.

This paper aims to analyze the legal framework and law enforcement mechanisms surrounding illegal mining in Indonesia, focusing on the implications within environmental and criminal law. Through a normative juridical approach, the study seeks to: (1) examine the existing legal instruments governing mining activities, including the Environmental Law and Mining Law, and evaluate their effectiveness in addressing illegal mining; (2) identify the weaknesses and gaps in the current legal system that allow illegal mining to persist; (3) assess the role of law enforcement agencies, the judiciary, and local governments in combating illegal mining and ensuring compliance with regulations; and (4) provide recommendations to strengthen the legal framework, improve law enforcement, and enhance coordination among stakeholders to more effectively combat illegal mining.

2. LITERATURE REVIEW

2.1 *The Causes of Illegal Mining in Indonesia*

Illegal mining in Indonesia is a multifaceted issue driven by economic, social, and institutional factors. Economic incentives, such as the high demand for minerals and the potential for significant profit, are primary drivers for illegal mining activities [2]. Illegal mining operations are often funded by large business networks, indicating the involvement of significant financial resources [9]. In rural areas, where economic opportunities are scarce, illegal mining

provides a critical source of income for local communities [2], [10]. Social factors, including poverty and unemployment, further exacerbate the situation, as illegal mining is often perceived as a necessary means of economic survival despite its environmental risks and costs [2], [11]. Institutional weaknesses also play a significant role, with ineffective law enforcement and corruption acting as major barriers to controlling illegal mining [2]. The fragmented nature of Indonesia's mining governance system, characterized by overlapping regulations, creates further opportunities for illegal activities to persist [2], and local authorities often have limited capacity to enforce mining regulations or, in some cases, may be directly involved in illegal mining operations [2], [12].

2.2 *The Legal Framework on Mining and Environmental Protection in Indonesia*

Indonesia's legal framework for mining, primarily governed by Mining Law No. 4 of 2009 and Environmental Law No. 32 of 2009, aims to regulate mining activities while ensuring environmental protection. However, the implementation of these laws faces major challenges, particularly in preventing illegal mining and achieving environmental sustainability. The transition from a contract of works to a permit regime under the Mining Law has strengthened government control but created conflicts due to regional autonomy and the complexity of multiple permits [13]. Although the Environmental Law provides comprehensive criminal provisions, enforcement remains weak, especially in remote areas where illegal mining persists without adequate safeguards [14]. A lack of coordination between regulatory bodies like the Ministry of Environment and Forestry and the Ministry of Energy and Mineral Resources further fragments environmental enforcement [15]. Moreover, preferential treatment for coal mining exacerbates legal uncertainties and environmental injustices, demanding a more balanced approach to land use and resource licensing [16]. To address these challenges, integrating economic instruments, cost-benefit analysis, and stakeholder involvement

is recommended to harmonize environmental protection with economic efficiency in mining governance [17].

2.3 Criminal Law and Enforcement Mechanisms

Indonesia's criminal law imposes penalties for illegal mining, yet enforcement remains a significant challenge due to the complexity of the mining sector, corruption, and inadequate resources. Although Act No. 4 of 2009 outlines penalties for illegal mining, enforcement is fragmented among various entities, leading to inefficiencies [1], [18]. The clandestine nature of mining operations, often hidden in remote areas, further hampers monitoring and prosecution efforts [19]. Law enforcement agencies frequently lack the expertise and resources necessary to handle complex mining-related crimes, diminishing the deterrent effect of criminal penalties [20]. Additionally, many officers are not adequately trained to address the technical aspects of mining violations, which weakens enforcement efforts [20]. Corruption and the involvement of local authorities in illegal mining activities further undermine enforcement, exacerbated by a lack of accountability and transparency in local governance (Silaban, 2024). To address these challenges, enhanced coordination and integration between relevant agencies are crucial [18], along with increasing public awareness and community involvement to assist in monitoring and reporting illegal activities (Yunita et al., 2024). Implementing stricter sanctions and improving the technical training of law enforcement officers are also recommended to strengthen the overall deterrent effect [21]

2.4 Environmental and Social Impacts of Illegal Mining

Illegal mining in Indonesia has significant environmental and social consequences, as highlighted by various studies. Environmentally, illegal mining operations often result in deforestation and habitat loss due to large-scale clearing of forests, leading to biodiversity decline [22], [23]. The use of harmful chemicals like mercury and cyanide contaminates water

bodies, affecting aquatic life and human health, as seen in Parigi Moutong where mercury accumulation in the food chain poses severe health risks [24]. Mining activities also disturb soil structures, causing erosion and sedimentation in rivers, which degrade water quality and aquatic ecosystems [9]. Socially, illegal mining exploits local workers, offering poor working conditions and inadequate pay [23], and often leads to community conflicts over resource control [9]. Although illegal mining provides short-term economic benefits, it fosters long-term dependency on unsustainable practices, hindering community development [23]. Health risks arising from exposure to toxic substances like mercury remain high among affected populations [22], while regulatory enforcement continues to struggle despite frameworks like the Minamata Convention, highlighting the need for stronger legal measures and increased community involvement [25].

3. METHODS

This study utilizes a qualitative research design, focusing on the normative analysis of Indonesian mining laws and regulations. The qualitative approach is ideal for exploring the legal framework, interpreting legal texts, and assessing the real-world implementation of laws, allowing for an in-depth understanding of the strengths, weaknesses, and gaps within the current system regarding illegal mining. The study examines both primary and secondary legal sources, including national laws, regulations, policy documents, academic literature, and reports from governmental and non-governmental organizations. Primary data are drawn from key legal documents such as Mining Law No. 4 of 2009, which governs mineral and coal mining activities; Environmental Law No. 32 of 2009, addressing environmental protection and mining impacts; the Criminal Code (KUHP), which includes criminal provisions for environmental offenses; and local regulations influencing mining practices in specific

regions. In addition, case law and judicial rulings related to illegal mining provide insights into how courts interpret and apply these laws. Secondary data sources supplement the primary legal documents and include academic articles, journals, government and NGO reports, media coverage, and case studies, all of which offer empirical data and real-world perspectives on the challenges of regulating illegal mining.

The data analysis follows a two-step process: legal analysis and thematic synthesis. The legal analysis entails a detailed review of mining and environmental laws to evaluate their adequacy and effectiveness in curbing illegal mining activities. It focuses on assessing the clarity of legal definitions, the scope of legal obligations, and the sufficiency of penalties prescribed for illegal activities. The analysis also identifies gaps, inconsistencies, or ambiguities within the legal framework that hinder effective regulation, particularly concerning emerging challenges like technological advancements in illegal mining or community involvement. Furthermore, the study evaluates enforcement mechanisms by examining how law enforcement agencies, including the police, the Ministry of Environment and Forestry, and local authorities, implement mining and environmental laws. Special attention is given to the effectiveness of penalties, inter-agency coordination, and the level of compliance with environmental regulations, aiming to uncover barriers and recommend improvements for more effective governance.

4. RESULTS AND DISCUSSION

4.1 Analysis of Indonesia's Legal Framework on Illegal Mining

The legal framework governing illegal mining in Indonesia is composed of a combination of national and local regulations aimed at regulating mining activities and addressing the environmental damage caused by illegal mining. The primary legal instruments include the Mining Law No. 4 of 2009 (Minerba Law), Environmental Law No.

32 of 2009, and the Criminal Code (KUHP), which collectively provide the foundation for controlling mining operations and ensuring environmental protection. The Minerba Law serves as the cornerstone of Indonesia's mining regulation, outlining the processes for granting mining permits, monitoring activities, and imposing penalties for violations. Although the law emphasizes sustainable mining practices and environmental protection, its implementation has been fraught with challenges. The issuance of mining permits has often been criticized for its lack of clarity and consistency, particularly in remote regions where enforcement is weak, thereby enabling illegal mining practices to flourish. Additionally, the Minerba Law struggles to regulate small-scale and unlicensed mining activities, which are widespread and contribute significantly to environmental degradation.

Environmental Law No. 32 of 2009 complements the Minerba Law by providing a comprehensive framework for environmental protection, including mandatory environmental impact assessments (EIA) prior to the commencement of mining projects. While the law imposes criminal sanctions for violations, its effectiveness in controlling illegal mining remains limited. Many illegal mining operations proceed without proper permits or EIAs, leading to severe ecological consequences such as deforestation, soil erosion, and water pollution. Enforcement of the Environmental Law is hampered by weak monitoring systems and a lack of rigorous prosecution; illegal miners are rarely held accountable unless significant damage occurs. Furthermore, local community involvement in illegal mining activities further complicates enforcement efforts, highlighting the need for stronger oversight and community engagement strategies to protect environmental sustainability.

The Criminal Code (KUHP) provides additional legal provisions by criminalizing activities such as illegal mining, environmental destruction, and corruption

within the mining sector. Despite these provisions, the enforcement of criminal penalties is often inconsistent, and sanctions for illegal mining tend to be lenient. As a result, illegal miners seldom face serious legal consequences unless their actions cause major environmental disasters or provoke conflicts with local authorities. The persistence of illegal mining is largely driven by the low risk of criminal prosecution. Moreover, the lack of coordination among law enforcement agencies—including the police, environmental authorities, and local governments—has significantly hindered the effective prosecution of illegal mining cases. Corruption within local governance structures and enforcement bodies further exacerbates the problem, allowing illegal mining activities to thrive in several regions across Indonesia.

4.2 Law Enforcement and Effectiveness

The effectiveness of law enforcement in addressing illegal mining remains a critical issue in Indonesia. Although a legal framework for regulating mining activities exists, its enforcement is considerably weak. A key finding from the analysis of enforcement mechanisms is the lack of coordination among various government agencies responsible for monitoring and regulating mining, resulting in fragmented authority, delays, and significant gaps in law enforcement. This institutional fragmentation enables illegal mining activities to continue largely unchecked, undermining the intended impact of mining and environmental regulations.

One major challenge lies in the limited resources and institutional capacity within the government agencies tasked with enforcement, such as the Ministry of Environment and Forestry, the Ministry of Energy and Mineral Resources, and local governments. These bodies often lack sufficient personnel, funding, and operational capabilities to monitor remote mining regions effectively, allowing illegal miners to evade detection and prosecution. Additionally, corruption among local authorities and law enforcement officers exacerbates the problem,

with some officials turning a blind eye or even participating in illegal mining activities for personal gain. Furthermore, penalties prescribed under the Minerba Law and Environmental Law are often insufficient to serve as a strong deterrent. The relatively lenient sanctions, coupled with a low probability of successful prosecution, mean that the economic incentives for engaging in illegal mining far outweigh the legal risks, perpetuating widespread non-compliance.

Local communities play a complex role in the dynamics of illegal mining enforcement. In economically disadvantaged regions, local residents often engage in illegal mining as a means of survival due to limited alternative employment opportunities. Conversely, there are instances where communities act as watchdogs by reporting illegal mining activities to authorities. However, without sufficient legal protection, support, and incentives, community efforts to combat illegal mining are frequently ineffective or disregarded by law enforcement agencies. Strengthening community involvement, providing legal safeguards, and fostering greater accountability among government institutions are therefore essential steps toward enhancing the effectiveness of law enforcement in addressing illegal mining in Indonesia.

4.3 Environmental and Social Implications

Illegal mining in Indonesia has significant environmental and social consequences. The unregulated extraction of minerals and natural resources causes widespread environmental damage, including deforestation, soil erosion, biodiversity loss, and contamination of water sources, which not only harm ecosystems but also jeopardize the livelihoods of local communities. Illegal mining contributes heavily to the degradation of Indonesia's forests and rivers, with miners often employing harmful methods such as the use of mercury in gold mining, leading to water pollution and threats to aquatic life. Moreover, many illegal mining activities occur in ecologically sensitive areas like national parks and conservation zones,

further endangering biodiversity and undermining conservation efforts. On the social and economic front, while illegal mining often serves as a vital source of income for rural communities, it simultaneously perpetuates poverty cycles, unsafe working conditions, and worker exploitation. Illegal miners typically operate without adequate protective equipment, resulting in frequent accidents and health issues, while the presence of unregulated mining disrupts local economies by competing unfairly with legal industries, thereby reducing potential revenues from regulated mining operations.

4.4 Recommendations for Reform

Based on the findings, several recommendations can be made to improve the legal framework and law enforcement regarding illegal mining in Indonesia:

- 1) Increased investment in the capacity and resources of law enforcement agencies is necessary to ensure that mining laws are effectively enforced. This includes better training for law enforcement personnel, improved coordination among agencies, and increased surveillance of mining activities in remote areas.
- 2) The penalties for illegal mining should be made more stringent to serve as a stronger deterrent. This could include higher fines, longer prison sentences, and the seizure of equipment used in illegal mining.
- 3) Efforts to combat corruption within local governments and law enforcement agencies should be intensified. This includes greater transparency in the permitting process, the introduction of anti-corruption measures, and the promotion of accountability within mining oversight agencies.

- 4) To reduce the reliance on illegal mining, alternative livelihoods should be developed for communities dependent on mining. This could include providing access to sustainable agricultural practices, vocational training, and microfinance to help people transition to legal and safer forms of employment.

5. CONCLUSION

The issue of illegal mining in Indonesia is deeply embedded in a complex interplay of legal, social, and environmental factors. While Indonesia has established a comprehensive legal framework to regulate mining activities, the enforcement of these laws remains inadequate. The Minerba Law, Environmental Law, and the Criminal Code provide a foundation for regulating the mining sector, but challenges such as weak law enforcement, corruption, and inconsistent penalties continue to undermine their effectiveness. The environmental degradation caused by illegal mining, including deforestation, water pollution, and biodiversity loss, poses significant threats to Indonesia's ecosystems. Furthermore, the socio-economic conditions of local communities reliant on illegal mining activities exacerbate poverty and exploitation. To address these issues, it is essential for Indonesia to strengthen law enforcement mechanisms, implement more stringent penalties for illegal mining, combat corruption, and provide sustainable alternatives for affected communities. By doing so, Indonesia can reduce the prevalence of illegal mining and mitigate its harmful environmental and social impacts.

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