



Environmental Impact Analysis and Land Use Disputes By Lhoong Setia Mining (Ltd.) in Lhoong District, Aceh Besar Regency

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Abstract:

The iron ore mining case of PT. Lhoong Setia Mining (LSM Ltd.) has had serious environmental impacts and become a source of land use disputes between the company and local communities. Mining activities, which took place from 2011 to 2013, resulted in pollution of the Krueng Sob River, ecosystem damage, and the loss of livelihoods for the community, particularly fishermen. Furthermore, unreclaimed mine pits have exacerbated environmental degradation. This study used a normative juridical research approach with a statutory approach and a case approach. The types and legal materials used in this study are primary and secondary legal sources. The legal material search technique used literature studies and grammatical and systematic interpretation methods. The results of this study were the forms of pollution that arise, ranging from river sedimentation, loss of biodiversity, to social conflicts with local communities, show that economic activities that ignore the principles of sustainability will harm many parties. LSM's (Ltd.) reclamation responsibility must be legally enforced, and the company is required to carry out post-mining reclamation. Article 99 of Law Number 3 of 2020 concerning Amendments to Law Number 4 of 2009 concerning Mineral and Coal Mining. In addition, conflict resolution can be pursued through non-litigation or litigation channels.

Keywords: Environmental Impact; Responsibility; Land Use

INTRODUCTION

Mining is a strategic sector in national development that significantly contributes to the economy, both in terms of state revenue and increasing employment. However, mining activities, especially those not managed with due regard to the principles of sustainability, often give rise to serious problems from environmental, social, and legal aspects. One concrete example that occurred in Indonesia is the case of iron ore mining by PT. Lhoong Setia Mining (LSM Ltd.) in Lhoong District, Aceh Besar Regency, Aceh Province, Indonesia. The company's activities that began in 2011 have left behind multidimensional problems that remain unresolved, particularly regarding environmental damage and land use disputes with the surrounding community. (LSM Ltd.) obtained a Production Operation Mining Business Permit (IUP-OP) based on Decree Number 540/01/IUP-OP/2010 which is valid from 2010 to 2027. During its operational period, which lasted until 2013, the company exploited an area of approximately 500 hectares, covering seven villages in the Lhoong District.

However, since the cessation of production activities, LSM (Ltd.) has not carried out reclamation obligations as required by law. This has given rise to various negative impacts on the condition of the ecosystem and the socio-economic life of the community, especially for those who depend on their

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livelihoods from the waters, such as fishermen around the Krueng Sob River. The river, which was previously a source of clean water and a place to catch fish, is now polluted by sand and mud suspected to originate from mining waste, causing the loss of aquatic biota and a decline in the quality of water used by residents for daily needs (Puspitaningsih, D. 2023).

The lack of reclamation of former mining pits is also a serious environmental concern. These pits not only damage the landscape and disrupt land use, but also have the potential to cause ecological disasters, such as landslides, toxic water bodies, and soil degradation. Article 39 of Law Number 3 of 2020 concerning Amendments to Law Number 4 of 2009 concerning Mineral and Coal Mining explicitly requires IUP holders to carry out reclamation and post-mining activities to restore environmental functions.

LSM's Ltd. failure to comply with these provisions reflects the weak implementation of corporate environmental responsibility principles and a disregard for the principle of prudence in natural resource management. In addition to ecological aspects, PT LSM mining activities trigger agrarian conflicts with local communities. Large-scale land acquisition by companies often occurs without a participatory mechanism that fully involves Indigenous communities or customary landowners.

The very low land compensation rate, only around IDR 5,000 to IDR 10,000 per meter, creates a sense of injustice and fuels resistance to mining activities. The community believes that the agreement does not reflect the company's good faith in guaranteeing the rights of the affected residents. Furthermore, the fact that the company only made verbal promises regarding environmental protection and never followed up on community requests for a written agreement demonstrates a low commitment to the principles of transparency and accountability (Prasetya, N. H., Zuffran, 2024).

Within the national legal framework, community involvement in every business plan and/or activity that has the potential to cause environmental impacts is guaranteed in Article 28, paragraph (3) of Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management. When this right to participation is ignored, not only does it result in environmental human rights violations and creates an imbalance in power relations between corporations and local communities.

Furthermore, weak oversight from local governments, as acknowledged by the Aceh Environment and Forestry Service (DLHK), which has never conducted direct research at mining sites, exacerbates the existing situation. The lack of coordination between institutions, particularly between DLHK and the Energy and Mineral Resources Service (ESDM), creates loopholes for companies to escape their legal responsibilities. This situation reflects the importance of strengthening oversight and law enforcement mechanisms in the mining sector, particularly those that directly impact the environment and community's rights. Furthermore, a comprehensive dispute resolution approach through both litigation and non-litigation channels is essential for achieving ecological and social justice.

This study aimed to analyze the forms and environmental impacts of LSM's Ltd. activities, as well as examine legal efforts to resolve land disputes between the community and the company. Using a normative and sociological juridical approach, this study identifies the company's legal responsibilities in fulfilling reclamation obligations and evaluates the effectiveness of existing regulations in ensuring environmental protection and community rights (Panjaitan, M. J. 2022). From the background above, the researcher formulated a problem, namely: What are the forms and environmental impacts caused by the iron ore mining activities of LSM's Ltd. on the ecosystem and life of the community in Lhoong District, Aceh Besar and How is the legal resolution of the land-use dispute between the community and PT. Lhoong Setia Mining, and to what extent is the company responsible for fulfilling its reclamation obligations under applicable laws and regulations?

METHODS

The research method used in this study is normative legal research, which is a research method that focuses on the study of legal norms written in laws and regulations, court decisions, and other legal documents. This research was conducted using a statute and case approach to analyze the legal

obligations and responsibilities of mining companies for environmental damage and land use conflicts.

The main data sources were primary legal materials, such as Law Number 3 of 2020 concerning Mineral and Coal Mining, Law Number 32 of 2009 concerning Environmental Protection and Management, and other relevant regulations. Secondary legal materials in the form of literature, legal journals, and scientific articles were also used to strengthen the analysis. This research also uses legal material search techniques, namely legal material searches, both primary and secondary, carried out through literature and documentation studies, and uses legal material analysis techniques with systematic and grammatical interpretation methods.

RESULTS

Iron ore mining activities were carried out by PT. Lhoong Setia Mining (LSM Ltd.) in Lhoong District, Aceh Besar Regency, have had a serious impact on the environment and the lives of the surrounding community. From the beginning of operations in 2011 until production ceased in 2013, this mining activity created a significant ecological imbalance, particularly in areas adjacent to the mine site. One of the most striking impacts is the pollution of the Krueng Sob River in Jantang Village, which is the main source of clean water and fish for the community. The river is now filled with sand and mud, resulting in declining water quality and loss of biodiversity, especially the fish population.

This condition is detrimental to the community, especially the fishermen who depend on the area's aquatic ecosystem for their livelihoods. Basir, a fisherman in Lhoong, said that the small fish commonly found in the river are no longer present. In fact, besides being a source of food, the river is also an integral part of the community's life system, including agriculture and daily household needs. The loss of the river's ecological function shows that poorly managed mining activities can pose a real threat to the survival of local communities (Simbala, Lumintang, 2024).

The ecological impacts of PT. LSM is not limited to river pollution but also includes the formation of large holes left by mining excavations that have been left untreated without reclamation. As of the end of 2017, there was no indication of PT. LSM fulfilled its obligation to reclaim the former mining land. This obligation is stipulated in Article 39 of Law Number 3 of 2020 concerning Amendments to Law Number 4 of 2009 concerning Mineral and Coal Mining. This article states that mining business permit holders are required to carry out reclamation during and after mining activities to restore the proper function of the environment (Arsyiprameswari, N., Utam, 2021). Failure to comply with this obligation is not only a form of administrative negligence but also reflects a disregard for sustainable development principles.

Furthermore, LSM Ltd. mining activities have violated the principles of community participation guaranteed by law. Article 28 Paragraph (3) of Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management clearly grants the right to directly affected communities to submit suggestions, opinions, and responses to planned businesses or activities. However, in reality, even though fishermen and residents have conveyed their aspirations to both the old and new management, the company has only made verbal promises without any written commitment. This reflects the company's weak transparency and accountability in guaranteeing the protection of community rights (Kamil, H., & Rohman, M. F. 2024).

The lack of community involvement in the decision-making process related to mining activities indicates that LSM Ltd. does not properly implement the principles of precautionary and ecological justice. In the context of environmental protection, community participation is crucial for supporting effective monitoring and prevention of potential environmental damage. The absence of a participatory monitoring mechanism exacerbates environmental conditions in the area. Furthermore, the local government has weak oversight over LSM's Ltd. activities is a contributing factor to the worsening situation. The Aceh Environment and Forestry Service (DLHK) admitted that it had never conducted research or direct surveys at the mining site regarding alleged environmental pollution. Responsibility for reclamation was also shifted to the Energy and Mineral Resources Service

(ESDM), indicating a lack of synchronization between agencies that should work together to maintain environmental sustainability. This lack of clarity in authority creates loopholes that companies exploit to avoid their legal and ecological responsibilities (Putri Sari, T., 2024).

LSM Ltd. was granted an iron ore sales quota of up to 450,000 tons in 2013, despite the national policy prohibiting the export of raw materials. Worse still, since the company ceased operations, PT. LSM has not undertaken any reclamation initiatives, indicating that exploitation was carried out without a proper environmental recovery plan. The situation in the Lhoong District reflects a failure to implement the principles of corporate social and environmental responsibility. This principle is part of Indonesia's environmental legal system, which aims to ensure that economic activities do not damage the environment's carrying capacity and carrying capacity. Articles 67 and 68 of Law Number 32 of 2009 concerning Environmental Protection and Management state that every person conducting business is obliged to maintain the sustainability of environmental functions and is responsible for any pollution and/or environmental damage they cause (Kautsar, D., 2024).

Given the various facts and regulations violated by LSM Ltd., it is understandable that civil society organizations such as the Indonesian Forum for the Environment (Walhi) are urging the Aceh Government to halt all mining activities and ensure environmental restoration. Furthermore, this case demonstrates the importance of reforming the mining permit issuance and monitoring systems in Indonesia. Every business permit should be issued with due regard to environmental sustainability, community participation, and a measurable post-mining plan that can be monitored regularly.

The case of LSM's Ltd. in Aceh Besar is a clear example of the negative impacts of irresponsibly managed mining. The resulting pollution, from river sedimentation and loss of biodiversity to social conflict with local communities, demonstrates that economic activities that ignore sustainability principles will harm many parties. Collective efforts are needed between the community, government, and environmental organizations to hold companies accountable, strengthen oversight, and ensure the protection of ecosystems and the rights of directly impacted communities. Only then can ecological and social justice be upheld (Amin, M. E., Tornado, A. S. 2022).

DISCUSSION

The land use dispute between the community and PT. Lhoong Setia Mining (LSM Ltd.) in Lhoong District, Aceh Besar Regency, is a complex issue involving legal, social, and environmental aspects. This dispute arose from the PT. LSM's practice of controlling 500 hectares of land, which covers seven villages, without maximum involvement from the indigenous community as customary land owners or customary land owners who live communally. In addition, the land compensation value is considered very low, ranging from IDR 5,000 to IDR 10,000 per meter, which increases tensions between the company and the community. Community dissatisfaction with this land management is exacerbated by the company's failure to implement post-mining reclamation, even though mining activities have ceased since 2013. Legally, this type of dispute can be categorized as an environmental or agrarian dispute.

According to Article 1 number 25 of Law Number 32 of 2009 concerning Environmental Protection and Management, an environmental dispute is a dispute between two or more parties due to alleged environmental pollution or destruction of the environment. Meanwhile, land ownership that is not based on valid consent from the previous land owner or user can be categorized as an agrarian conflict, the resolution of which can be pursued through non-litigation or litigation channels (Maulana, A., & Hutagalung, H. 2025).

In a non-litigation context, this dispute can be resolved through mediation between the community and the company, facilitated by the local government, the Land Office, and related agencies, such as the National Land Agency (BPN) and the Environmental Agency. The principle of community participation in the planning and implementation of mining activities, including in land management, is expressly guaranteed in Article 28 Paragraph (3) of Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management. Under this regulation,

directly impacted communities have the right to submit suggestions, opinions, and objections to business plans and/or activities.

The fact that the community has only been given verbal communication by the new company indicates that this right has been ignored (Noverizky, A., & Hikmah, F. 2024). If mediation fails to reach an agreement, the community has the right to pursue civil legal action by filing a lawsuit for unlawful acts under Article 1365 of the Civil Code. This lawsuit can be directed at material and immaterial losses resulting from illegal land acquisition and environmental damage that impact the community's livelihoods and quality of life. This lawsuit can be filed with the competent District Court, and if it is related to reclamation obligations, it can also be directed at government agencies that are negligent in carrying out supervision (Listiyani, N., Said, M. Y., & Khalid, A.2023).

Furthermore, PT. LSM's responsibility for reclamation cannot be simply absolved, as the company is legally obligated to undertake post-mining reclamation. Article 99 of Law Number 4 of 2009 concerning Mineral and Coal Mining (before revision), and later strengthened in Article 39 of Law Number 3 of 2020, expressly states that holders of Mining Business Permits (IUP) are required to undertake reclamation and post-mining activities to restore land functions so that they remain sustainable and safe for community use.

This reclamation includes the management of former mining excavations, replanting of vegetation, and restoration of water and soil quality. A company's failure to fulfill this obligation constitutes an administrative violation subject to sanctions. Article 158A of the Mineral and Coal Law (Law No. 3 of 2020) states that mining companies that fail to undertake reclamation may be subject to administrative sanctions, such as written warnings, temporary suspension of activities, or revocation of their business permits. In certain circumstances, criminal sanctions may be imposed if the company causes pollution or environmental damage that is detrimental to the community. However, in the case of PT. NGOs, although the company's permit has been revoked, have not taken any concrete action from the government or the new shareholders to restore the environment or fully resolve the land dispute (Suwandono, E., Tri, L., & Setiyono, D. J. 2022).

Within the environmental legal framework, there is the principle of absolute liability (strict liability) as stipulated in Article 88 of the Environmental Management and Management Law, which states that any party whose business activities cause environmental pollution or damage is absolutely responsible for paying compensation and/or undertaking remedial measures to address the damage. Therefore, even though company ownership has changed, the responsibility for reclamation and resolving land disputes remains with the company's legal entity. It is also important to highlight the weak government oversight in this case study.

Article 71 of the Environmental Management and Management Law states that the government is obliged to supervise the compliance of every party responsible for a business and/or activity with laws and regulations concerning environmental protection and management. The Aceh Environment and Forestry Agency stated that it had never conducted research or monitoring at the mining site, handing over the responsibility to the Energy and Mineral Resources Agency (ESDM). This lack of synchronization between institutions creates a supervisory vacuum that allows companies to escape their responsibility for reclamation and dispute resolution (Firza, F. S. P. 2025).

In the context of the right to a good and healthy environment, as guaranteed in Article 28H Paragraph (1) of the 1945 Constitution of the Republic of Indonesia, the community has the constitutional right to sue the state and/or corporations for damaging the environment. In environmental cases, the Supreme Court has also expanded the legal standing of civil society organizations such as the Indonesian Forum for the Environment (Walhi), to file lawsuits in the interests of environmental preservation and social justice (Rahman, I., Widyawati, 2025).

The resolution of disputes between the community and LSM Ltd. must be carried out comprehensively, not only limited to material compensation for community losses, but also to ecological restoration of the damage that has been caused. The regional and central governments must firmly carry out their functions, including forcing the new shareholders of LSM Ltd. to carry out reclamation obligations and make written agreements that actively involve the community. Without

complete environmental restoration and fair resolution of land disputes, the community in Lhoong District will continue to bear the burden of mining exploitation that should provide development benefits (Wicaksono, M. B. A., & Rahmawati, W. 2024).

A company's responsibility to fulfill its reclamation obligations is not only administrative but also moral and constitutional. This dispute serves as an important lesson that the extractive industry must be strictly and transparently regulated, prioritizing the interests of the communities and the environment. Reclamation is not merely a technical obligation but a step towards ecological and social justice for affected communities. The government, as the regulator and supervisor, must take firm and responsible steps to ensure that every mining company complies with the law and fulfills its reclamation obligations comprehensively and sustainably (Sugiharto, G. M. A., Arifudin, N., & Susanti, E. 2025).

CONCLUSION

Based on the discussion above, it can be concluded that iron ore mining activities by PT. Lhoong Setia Mining (LSM Ltd.) in the Lhoong District, Aceh Besar, has had serious and long-term environmental impacts on the ecosystem and the lives of the surrounding community. Pollution of the Krueng Sob River, the formation of mine pits without reclamation, and the loss of biodiversity are clear manifestations of the company's failure to carry out its environmental responsibilities, as stipulated in Article 39 of Law Number 3 of 2020 concerning Mineral and Coal Mining and Articles 67 and 68 of Law Number 32 of 2009 concerning Environmental Protection and Management.

Furthermore, agrarian conflicts have emerged between the company and the community due to land acquisitions without legal consent and fair compensation. Non-participatory dispute resolution and minimal post-mining accountability demonstrate weak legal compliance and oversight by local governments, particularly the Environment and Forestry Agency and the Energy and Mineral Resources Agency. The lack of synchronization between institutions also opens loopholes for companies to evade their responsibility for reclamation and environmental restoration. The fact that the company stopped operating without carrying out reclamation obligations is a violation of the principles of sustainable development and ecological justice.

Therefore, it is recommended that the Aceh Government, through relevant agencies, immediately take legal action against LSM Ltd. and/or its new shareholders to enforce comprehensive land reclamation. The government also needs to strengthen coordination between supervisory agencies, clarify the boundaries of authority, and establish effective sanction mechanisms for businesses that violate environmental obligations. Furthermore, affected communities must be legally and socially empowered to assert their rights, including through litigation and support from civil society organizations such as Indonesian Forum for the Environment (Walhi).

Community participation in every stage of mining activities must be a fundamental principle to ensure corporate transparency and accountability. Going forward, the issuance of mining business permits must consider social, ecological, and sustainability aspects and require a reclamation plan and environmental guarantee fund from the outset. Thus, mining activities can provide economic benefits without compromising community rights and environmental sustainability.

Conflict of Interest

All the authors declare that there are no conflicts of interest.

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