

Responsible Mining Governance: Minimizing Environmental Impact for a Better Future

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Abstract: Mining management regulations aim to create new buildings that meet the needs of the community. Good mining management can transform Indonesia into the country with the strongest economy in the world through the implementation of the concept of Indonesia. The proposal aims to strengthen the character of the NKRI as a legitimate state and prosper its people through the exploitation of mineral resources. This research method uses qualitative research by showing Indonesia's responsibility in developing communities in mining areas based on Article 33 of the 1945 Constitution. The Mining Management System in the national legal system is intended to organize mining with the vision of a welfare state. This encourages him to strengthen laws and regulations as the legal basis for national mining policy. Mining governance is framed within a legal framework of social justice as a form of a welfare state. Mining activities that do not improve the welfare of the people will lose their legitimacy (Pancasila), constitutionality (UUD 1945), and social. Overall mining governance is based on the principles of sustainable development for the welfare of the people.

Keywords: the welfare state; the rule of law; Mining governance

1. Introduction

Various jurisdictions and environmental observers have provided a practical explanation of why regional mineral resources do not improve the quality of life of people in mining areas. With the entry into force of the Transitional Period of the Regional Government Act No. 23 (Laws of Regional Government) passed in 2014. Administrative conflicts and economic trends surrounding the management of mining are unfavourable to citizens sensitive to compliance with the Law (Lingkungan Hidup). Local/city governments also do not facilitate the preparation of wild miners to find legal, economic, and environmental solutions. In line with the principles of sustainable development. The negation of recognition of the rights of local communities, especially the communities of customary law, is still happening. The clash of interests between local residents and mining companies is a daily phenomenon that is often delayed to respond, thus provoking social disharmony. The various realities of mining have disguised the lack of information on the use of administrative means (in the licensing clause) and economic instruments that are environmental services and guarantees of complaints as legal means of environmentally-conscious mining management. In many areas, the district/city government agencies do not internalize environmental costs as part of mining management. This situation is vulnerable to corruption in the mining sector, such as bribery of vehicles and the volume of mining materials. There is also a tendency that the heads of district/city commit compensation for damages to mining areas solely for reasons that have been transferred to the provincial government. However, officials who allow ecosystem damage under Act No. 32 of 2009 on the Protection and Management of the Environment (PPLH Act) can be

reclassified as officials committing criminal acts. Good mining governance must be based on several basic theories and principles that ensure environmental, social and economic sustainability.¹

Such facts further aggravate the portrait of national mining in a very extreme world of development. The current factual conditions of the world indicate the existence of: continuously disputed energy security, threatening security, conflicts and wars that still color the various hemispheres, natural disasters and jihadist wars, population growth and culture of war, food and identity crises, especially poverty that strikes every geographical segment of the globe. Against this there is an old James Goldsmith writing, *The Trap*, presented in front of 2,000 people at the Grand Amphitheatre of the Sorbonne University, Paris that: every society in the modern world is facing complex problems and there is no simple and universal solution. But many of these problems have the same roots. Science, technology and economics have been treated by this modern society as an end in itself, not as an essential means of improving well-being. The rise in unemployment, violence, poverty, environmental degradation and public awareness that fundamental mistakes have been committed in the management of the country's economy, as James Goldsmith described it, have come to the point of reconsidering the existence of the welfare state in Bjorn Hettne's expression: *The State of Welfare In Question*. The role of states and governments in the welfare of peoples must be rearranged by bringing the Paradigm Theory & Policy Making within the scope of Good Corporate Governance. The dynamics of the world are also determining the economic movements of a nation. Mining policy for well-being. People, the problem is: how to minimize responsible mining governance practices to minimise negative environmental impacts and effective strategies in reducing the negative impact of mining activities on the environment.

2. Method

The research uses qualitative methods by using research methodology to condition the data and then describe it. The type of research used in this research is library research or librarian study. Library research is carried out by collecting the necessary data or materials obtained from the library to complete research such as books, journals, dictionaries, encyclopedias, magazines, documents and other sources. As well as a Case Study Approach to explore one or several cases in a real life context by collecting in-depth data from various sources.

3. Results and Discussion

3.1 Minimize Responsible Mining Governance Practices to Minimize Negative Environmental Impact

Good mining management must take into account various environmental aspects to minimize negative impacts on ecosystems and surrounding communities:²

¹ Muhammad Fahrudin, "Penegakan Hukum Lingkungan Di Indonesia Dalam Perspektif Undang-Undang Nomor 32 Tahun 2009 Tentang Perlindungan Dan Pengelolaan Lingkungan Hidup", *Veritas* 5.2 (2019): 81-98.

² Laura Sharendoya Gunawan, "Konflik Pertambangan Di Indonesia: Studi Kasus Tambang Emas Martabe Dan Upaya Meningkatkan Partisipasi Masyarakat Dan Penegakan Hukum Dalam Industri Pertambangan", *Jurnal Pendidikan Tambusai* 7.1 (2023): 2062-2074.

- a. Reclamation and rehabilitation
Mining management must include efforts to reclaim and rehabilitate areas that have been exploited. This includes the restoration of land, plants, and ecosystems that may have been disrupted during mining activities.
- b. Conservation of Natural Resources
It is important to manage natural resources wisely and prevent over-exploitation. It involves careful planning to ensure that the extraction of minerals or other minerals does not exceed the natural capacity to renew itself.
- c. Water and Air Quality Monitoring
Mining can often affect the quality of the water and the air surrounding it. Therefore, continuous monitoring of water and air quality should be carried out to identify and mitigate possible impacts.
- d. Waste Management
Waste management is a crucial aspect of mining. Mining waste, whether solid or liquid, must be managed in a safe and environmentally friendly manner to prevent contamination.
- e. Public participation and stakeholder involvement
Involving local communities and stakeholders in decision-making and implementation of mining projects is key to creating mutual agreement and minimizing conflict.
- f. Biodiversity conservation
Mining areas are often potentially important habitats for various species. Therefore, the protection and conservation of biodiversity should be a priority.
- g. Energy Management and Resource Use
Mining management should also consider energy efficiency and resource use. Efforts can be made to reduce the carbon footprint and minimize energy consumption.
- h. Clean Technology Application
The use of environmentally friendly and innovative technologies can help reduce the environmental impact of mining activities.
- i. Routine Monitoring and Evaluation
Effective mining management requires regular monitoring and evaluation of environmental impacts resulting. This allows for rapid response to changes and improvements needed.³

It is important to pay attention to environmental aspects in mining management not only to comply with applicable regulations and laws, but also to maintain the sustainability of natural resources and support the well-being of the surrounding communities. Mining activity is an important aspect of the global economy, but often has a significant environmental and social impact. Therefore, responsible and sustainable mining practices and strict regulation are essential to finding a balance between resource needs and environmental conservation and the well-being of people. To avoid damage to the environment caused by mining activities, Indonesia remains guided by the principles of good mining practices consisting of five things, namely, environmental protection, minimizing negative environmental impacts including waste management, second, safety and health, three public involvement, four complaints and rehabilitation and five transparency and accountability. The five good mining principles are designed and

³ Yudhistira, Wahyu Krisna Hidayat dan Agus Hadiyanto, "Kajian Dampak Kerusakan Lingkungan Akibat Kegiatan Penambangan Pasir Di Desa Keningar Daerah Kawasan Gunung Merapi", *Jurnal Ilmu Lingkungan Undip* 9.2 (2011): 76-84.

formulated by the Government to ensure that mining activities are carried out responsibly, sustainably, and minimize their negative impact on the environment and society, including complaints aimed at restoring land affected by mining to conditions as similar as possible to their original conditions. Technology plays an important role in minimizing the negative environmental impact of responsible mining governance practices. Through this, companies can higher efficiency in each operation while minimizing the negative impact on the environment.

3.2 Effective strategies in reducing the negative environmental impact of mining activities

Mining reclamation is the process of restoring and rehabilitating mining land so that it can be reused or restored to its natural condition after mining activities are completed or stopped. The primary objective of mining reclamation is to reduce the negative environmental impact of the mining and to restore land so that it can function again for various purposes such as agriculture, forestry, recreation or nature conservation. Mining reclamations are an important part of responsible and sustainable mining practices. It helps reduce the negative impact on the environment and local communities, as well as increase the reuse of land previously used for mining. This can also help restore natural ecosystems affected by mining activities. By adopting the right technologies and integrating them into mining governance practices, companies can significantly reduce their negative impact on the environment and contribute to better environmental sustainability. Mining reclamation has great potential to help preserve and restore the environment in the following ways:⁴

a. Landscape restoration

One of the main benefits of mine reclamation is the restoration of natural landscapes damaged by mining activities to their original or better condition. This involves planting the original vegetation, setting the appropriate land contours, and creating conditions that support the growth of natural ecosystems. In this way, reclamation helps reduce the visual impact of inactive mines and restores the natural aesthetics of the area.

b. Improving Water Quality

Mining complaints often involve the construction and maintenance of sustainable drainage systems. It can help reduce water pollution by controlling surface water flows and reducing soil erosion and sediment flows to rivers and lakes. In addition, the complaint may include improved water quality in mining pools to support aquatic life.

c. Animal Habitat Rehabilitation

Mining often interferes with the natural habitat of various kinds of animals. Through the reclamation, mine land can be transformed into habitat that supports local species. This can include the establishment and maintenance of a protection zone for specific animals, the restoration of natural habitats, and the enhancement of biodiversity.

d. Carbon storage

Plants planted as part of mining reclamation can play a role in storing carbon dioxide (CO₂) from the atmosphere, thereby helping to reduce the impact of climate change. Trees and other plants absorb CO₂ during photosynthesis, thus helping to balance CO₂ emissions from human activity.

⁴ Hengki Simanjuntak, *Paradigma Rehabilitasi Dan Reklamasi Kawasan Hutan* (Yogyakarta: Nas Media Pustaka, 2020): 144.

e. Economic benefits

Mining complaints can also provide economic benefits by creating jobs at the time of the complaint process and subsequently, for example in the maintenance of the declared mining land. In addition, the claimed land can be used for other economic purposes such as agriculture, forestry, or tourism.

f. Water and soil conservation

Mining complaints may include efforts to maintain soil and water quality. This involves monitoring and management of soil pollution as well as measures to prevent further damage to water resources.

g. Control of Dust and Air Pollution

Mines are often a source of air and dust pollution.

In order to maximum environmental benefits from mine reclaiming, careful planning and implementation as well as long-term monitoring are essential. Effective complaints require collaboration between the mining industry, government, and living environmental groups to ensure that best practices are used in the complaint process. Mining companies have a great responsibility in making mine claims to ensure that mine debris is well recovered and contribute to environmental and local community recovery. Here are some steps that a mining company should take in making a complaint about mining:

- a. Planning of complaints: The complaint process should start with mature planning. The mining company must draw up a complaint plan that includes clear objectives, targets, and timetables. This plan should take into account the environmental conditions, the type of mining undertaken, and various other related factors.
- b. Cessation of Mining Activity: Before the claim can begin, the mining activity must be completely stopped in the area to be declared. All mining equipment must be dismantled and the area must be prepared for the complaint process.
- c. Cleaning and dismantling: The company must clean the mine waste area of mining infrastructure and equipment that is no longer needed. This includes the demolition of buildings, pipelines, and other facilities.
- d. Restoration of land contours: Adjustment and restoration of mine contours should be done in accordance with the claim plan. It may involve the removal of soil or stone to restore natural topography.
- e. Planting Vegetation: Planting native vegetation or plants that match local environmental conditions is an important step in the claim. These plants will help restore natural ecosystems and prevent soil erosion.
- f. Erosion control: The implementation of measures to control soil erosion, such as erosion control net, gardening, or making land contours, is essential to maintain the integrity of the claimed land.
- g. Water management: Mining companies must build proper drainage systems to control surface water flow and ensure good water quality in the claimed land. Including the construction of sedimentation pools if necessary.
- h. Long Term Monitoring: Long term monitoring is a key stage in complaints. Companies must monitor and monitor the growth of vegetation, water quality, and ecosystem of claimed land for several years after the completion of the claim to ensure its success.

- i. Residues management: Mining residues such as tailing or mining waste must be properly managed.
- j. Consultation with my stakeholders: Communicating and collaborating with governments, environmental groups, and local communities is vital in the complaint process. The involvement of all parties can help ensure that complaints are carried out correctly and in accordance with local needs and aspirations.
- k. Licensing and Regulations: Ensure that the company complies with all regulations and legal requirements applicable to mine claims. This includes granting the necessary permits and permits.
- l. Transparent communication: Companies should communicate transparently with relevant parties, including the local community, about the plans and progress of complaints.

Mining complaints are an important responsibility for mining companies to support responsible and sustainable mining practices. By doing good complaint, companies can minimize the negative impact of mining on the environment and society and help restore ecosystems disrupted by mining activities.⁵

4. Conclusion

Minimizing the negative environmental impact of mining requires a holistic and integrated approach. By paying attention to environmental aspects in mining management not only to comply with applicable regulations and laws, but also to maintain the sustainability of natural resources and support the well-being of the surrounding communities. Mining activity is an important aspect of the global economy, but often has a significant environmental and social impact.

To reduce the negative environmental impact of mining activities, a comprehensive and focused strategy is needed. Implementing mining claims is an important responsibility for mining companies to support responsible and sustainable mining practices.

⁵ Joseph YA Dara dan Agung Sugiri, "Kajian Penanganan Dampak Penambangan Pasir Besi Terhadap Lingkungan Fisik Pantai Ketawang Kabupaten Purworejo", *Teknik PWK (Perencanaan Wilayah Kota)* 3.1 (2014): 220-229.

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