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Environmental Damage Caused By Mining Activities

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Abstract

This study aims to understand, evaluate and find Mining Dispute Resolution Strategies Against Environmental Damage. to provide legal protection for the community due to environmental damage caused by the mining process. The legal issues put forward as the formulation of the problem are: 1). What is the form of environmental damage due to mining activities?, 2). How to resolve environmental damage due to mining activities? The preliminary results of the research show that natural resource management must be oriented towards natural resource conservation (natural resource oriented). Management of natural resources that pays attention to environmental interests and human interests will have an impact on achieving the mandate stipulated in Article 28 H paragraph (1) of the 1945 Constitution which states "Everyone has the right to live in physical and spiritual prosperity, to have a place to live and

to have a good living environment and healthy and entitled to health services. The importance of balancing the management of natural resources and human interests, the Government of Indonesia issued Law Number. 32 of 2009 concerning Environmental Protection and Management. This law was formed to guarantee legal certainty and provide protection for the right of everyone to get a good and healthy environment as part of protecting the entire ecosystem. The general form of damage from the mining business to the environment is due to excavation into the earth. Changes in the structure of the earth's surface, Environmental pollution occurs, Disappearance of biodiversity, Increased threat of landslides, Forest damage, Decreased air quality, Sedimentation and decreased water quality.

Keywords: Environment, Mining, Damage

1. Introduction

Article 33 paragraph (3) of the 1945 Constitution states that the land, water and natural resources contained therein are controlled by the state, which confirms the welfare of the people as much as possible. Earth's natural resources, such as minerals and coal, are non-renewable natural resources, so they must be managed optimally in order to achieve maximum benefits and prosperity for the people..

Furthermore, mining development must adapt to changes in the strategic environment, both nationally and internationally. The main challenge for the mining and coal industry is the impact of globalization which encourages democratization, regional autonomy, human rights, the environment, developments in technology and information, intellectual property rights and what is known as a stronger role for the private sector and society.¹

Indonesia is a country that has enormous natural wealth potential. The potential for natural wealth is in the form of renewable and non-renewable resources. Non-renewable natural wealth is oil, natural gas, coal, mining goods and other minerals which make a sizeable contribution to the Indonesian economy. Natural resources in Indonesia are quite abundant so that they are exploited on a large scale for development needs. Mining means one of the efforts to utilize natural resources by carrying out an activity starting from search, excavation, processing to marketing of mining products.²

The series of mining activities always intersect with the environment. The environment is a container for the interaction of living things in it to produce living tissue.³ In environmental management, sustainable principles are needed for the sake of

¹ Arief K. Syaifulloh, Dampak Kerusakan Lingkungan Akibat Penambangan Pasir Merapi di Klaten, Jurnal Penegak Hukum Dan Keadilan, Vol. 2 No. 2, September 2021, h. 147-161

² Irawan P. Penelitian Kualitatif & Kuantitatif untuk Ilmu-Ilmu Sosial. DIA Fisip UI, Jakarta. 2006.h. 1

³ Uar, N. D., Murti, dan Hadisusanto, S. Kerusakan Lingkungan Akibat Aktivitas Manusia pada Ekosistem Terumbu Karang. Majalah Geografi Indonesia, 30(1), 2016. H.88-95. <https://doi.org/10.22146/mgi.15626>

environmental sustainability. Good environmental management as a form of long-term development efforts for the welfare of life.⁴

The Law on Mineral and Coal Mining (hereinafter written as the Minerba Law) states that mineral and coal mining business activities are mining business activities other than geothermal, oil and natural gas and groundwater which have a crucial role to provide concrete added value to national economic growth and sustainable regional development.

Furthermore, Article 2 of the Minerba Law states that there are 4 principles for the management of mineral and/or coal mining in Indonesia, namely: "(1) The principles of benefit, fairness and balance; (2) The principle of partiality to the interests of the nation; (3) The principles of participatory, transparency and accountability; and (4) Sustainable and environmentally sound principles.

One source of problems in human survival in an ecosystem is mining disputes which can cause environmental damage by mining companies. Mining activities can cause changes in the environment such as changes in soil structure, changes in landscapes, changes in flora and fauna, changes in water flow systems and so on.⁵ Seeing the negative impact of development in the mining sector, among others:⁶

1. Environmental destruction;
2. The suffering of indigenous peoples;
3. Decline in the quality of life of the local population;
4. Increasing violence against women;
5. The ecological destruction of the islands; And
6. The occurrence of human rights violations in mining concessions

In addition to changes in the physical environment, mining also results in changes in social, cultural and economic life. Based on observations related to the conditions of mining activities, researchers found many conflicting facts about Mining Management.

Mining entrepreneurs and workers often do not pay attention to the impact of mining, moreover often the excavation site is very close to residential areas. Ex-mining land that uses deep digging exploration methods always leaves used land with uneven land surface conditions, and of course it affects the environment. This condition will trigger horizontal conflict.

Starting from the thoughts contained in the background of the problems mentioned above, and in order to facilitate research writing, from this background the writing will specify by identifying problems which will then be used as problems in this research, namely as follows: 1). What forms of environmental damage due to mining activities? And 2). How to resolve environmental damage due to mining activities?

⁴ Riskanita, D., & Widowaty, Y. Upaya Pemerintah Daerah Mengatasi Kerusakan Lingkungan Akibat Alih Fungsi Lahan Berdasarkan Konsep Negara Kesejahteraan. *Supremasi Hukum: Jurnal Penelitian Hukum*, 28(2), 2019.h.123–134. <https://doi.org/10.33369/jsh.28.2.123-135>

⁵ Rachmad Safa'at dan Indah Dwi Qurbani, Alternatif Penyelesaian Sengketa Pertambangan (Studi di Kabupaten Lumajang Provinsi Jawa Timur), *Jurnal Konstitusi*, Volume 14, Nomor 1, Maret 2017, h. 151

⁶ H. Salim HS, *Hukum Pertambangan di Indonesia*, Cetakan ke-7, (Jakarta: PT. Raja Grafindo Persada, 2014), h. 57

2. Methodology

Legal research (legal research) that is carried out is using the type of socio-legal research (Socio-legal research). This is very reasonable because there is a reaction from the community towards mining activities which cause damage to the environment of the living community. Sabian Uthman explained that law can be studied and researched as a study of laws that actually live in society as non-doctrinal and empirical studies.⁷ Sociological approach or socio-legal research method, which is a research approach that examines perceptions and legal behavior of people (humans and legal entities) that occur in the field, and uses a descriptive qualitative approach.⁸

3. Discussion

3.1 Forms of Environmental Damage Due to Mining Activities

Mining is part or all of the stages of activity in the context of research, management and exploitation of minerals or coal which includes general investigation, exploration and feasibility studies, construction, mining, processing and refining, transportation and sales, as well as post-mining activities. The mining sector is a strategic sector, besides that for regions rich in natural resources, mining is the backbone for the regional income.

Then, Abrar Saleng stated that the mining business is essentially an attempt to extract minerals from the earth.⁹

From the definitions of mining above, it can be seen that mining is an attempt to extract and utilize mineral materials.

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In essence, the development of the mining and energy sector seeks a process of developing mineral and energy resources that have the potential to be used sparingly and optimally for the greatest prosperity of the people. Mineral resources are non-renewable resources. Therefore, its application is expected to be able to maintain the balance and safety of performance and the preservation of the environment and the surrounding community.¹⁰

Many environmental experts or experts do not clearly distinguish between the notions of environment and the environment, both in scientific terms and in formal terms. The division of the environment into 3 (three) basic groups is intended to make it easier to explain the environment itself.

1. Physical environment, namely everything around humans in the form of inanimate objects such as houses, vehicles, mountains, air, water, etc.
2. Biological environment, namely everything that is around humans in the form of living organisms apart

⁷ Sabian Utsman, *Dasar-dasar Sosiologi Hukum: Dilengkapi Proposal Penelitian Hukum (Legal Research)*, Cetakan ke- 3, (Yogyakarta: Pustaka Belajar, 2013), h. 310.

⁸ Lexy J. Moleong, *Metodologi Penelitian Kualitatif*, cetakan ke- 13, (Bandung: Remaja Rosdakarya, 2000), h. 2

⁹ Abrar Saleng, *Hukum Pertambangan*, UII Press, Yogyakarta, 2004, h:90

¹⁰ Jacky Miner, *Teori Pertambangan I*, (online) <http://www.http/teori-pertambangan-i.html>, diakses pada tanggal 25 Mei 2023 pukul 10.00 WIB

from the humans themselves, such as: plants from the largest to the smallest.

3. Social environment, namely other human beings around them, such as neighbors, friends, even other people who are not yet known.¹¹

M. Daud Silalahi formulated what is meant by environmental damage is environmental deterioration with the loss of water, air and soil resources. Environmental damage is one of the ten threats officially warned by the UN's High Level Threat Panel (which deals with environmental issues).¹² Whereas in Article 1 number 17 of Law Number 32 of 2009 concerning Environmental Protection and Management. Environmental Damage is a direct and/or indirect change to the physical, chemical and/or biological characteristics of the environment that exceeds the standard criteria for environmental damage.

Natural resource management that pays attention to environmental interests and human interests will have an impact on achieving the mandate stipulated in Article 28 H paragraph (1) of the 1945 Constitution which states:

“Everyone has the right to live in physical and spiritual prosperity, to have a place to live and to have a good and healthy environment and to receive health services”.

The importance of balancing the management of natural resources and human interests, the Government of Indonesia issued Law Number. 32 of 2009 concerning Environmental Protection and Management. This law was formed to guarantee legal certainty and provide protection for the right of everyone to get a good and healthy environment as part of protecting the entire ecosystem.

Based on JATAM data, around 44% of Indonesia's land area has been granted around 8,588 mining business permits. The total area is 93.36 million hectares or about four times the area of East Kalimantan and North Kalimantan Provinces. These permits have had a major impact on human rights and the environment. At the end of 2020, JATAM reported that 45 mining conflicts occurred, and 22 cases were cases of pollution and environmental destruction.

The negative impact of course gives losses to all parties. Several forms of mining business damage to the environment:

1. Mining Activities will Certainly Damage the Environment

To obtain mining products, it is necessary to dig into the earth. No wonder the results of these excavations formed holes, tunnels, to basins that are not small in size. No wonder the environment around the mining area will be damaged.

2. Changes in the Structure of the Earth's Surface

As we already know, mining means digging to find natural resources that are in the earth. And these activities will definitely change the shape of the earth's landscape, especially for mining activities that use open pit or open pit mining techniques.

3. There is Environmental Pollution

There have been countless cases caused by mining activities, one of which is environmental pollution. Call it river pollution as a result of mining waste which is immediately disposed of into the river without any prior processing, the river that carries mining waste will continue to flow into the ocean.

4. Safety becomes Threatened

The negative impacts of mining can also threaten the safety of mining workers and residents who live around the mine. When mining gold, miners will dig the earth to form a long, narrow and winding tunnel, of course, the availability of oxygen in the tunnel is very small.

5. Loss of Biodiversity

Before the discovery of natural resources that were located under the earth, namely mining products, most of these areas were far from residential areas so that the fauna and flora that lived there were not disturbed.

6. Increased Threat of Landslides

Judging from traditional mining techniques, where miners dig hills not in stages (trap-trap) but just dig and irregular excavation openings appear, forming straight and hanging walls, potentially increasing the threat of landslides.

7. Forest Destruction

Mining can destroy people's sources of life because agricultural land, namely forests and lands, have been released by the company.

8. Decreased Air Quality

Such as when burning coal releases toxic compounds including carbon monoxide, carbon dioxide, methane, benzene, toluene, xylene, sulfur, arsenic, mercury and lead.

9. Sedimentation and Decreasing Water Quality

The high content of water pollutant materials is caused by coal mining and processing activities (coal washing process) where pollutant materials are carried by surface run-off water to lower parts and enter water bodies.

10. Environmental Pollution due to Waste

Mining waste is usually polluted with sulfuric acid and iron compounds which can flow out of the mining area. Water containing these two compounds will become acidic.

Not limited to that, socially environmental damage has caused conflict in society. The conflicts range from small to large conflicts. These small conflicts are like complaints from people who live around the mining area because of environmental damage caused by mining waste and big conflicts like clashes between the two parties.¹³

Mining activities that damage the environment a lot, which has a very bad impact on human life. Through this article we can find out the various problems or damage caused by mining activities that are not managed properly and correctly, resulting in various environmental damages such as damage to land, water, air, sea and forests. Therefore, we should be able to manage mining activities properly, so as not to have a bad impact.

As “activities related to landscapes, of course mining activities will be related to the environment. Mining

¹¹ R.M. Gatot P. Soemartono, *Hukum Lingkungan Indonesia*, (Jakarta: Sinar Grafika, 2004), h. 12-13

¹² M. Daud Silalahi, *Hukum Lingkungan Dalam Sistem Penegakan Hukum Lingkungan Indonesia*, cet. Ke-1, (Bandung: Alumni, 2001), h. 21

¹³ Dian Kurnia Anggreta, “Perjuangan Hak Ekologis Komunitas Petani,” *Jurnal Ilmu Sosial Mamangan* 1, no. 1 (2015): h. 23

activities and the environment are two things that cannot be separated, even "there is a saying "There is no mining activity without environmental destruction/pollution".¹⁴ From there, it can be seen that the trigger for many mining conflicts. Structural factors consist of government policies that are liberal and extractivist (interventionist measures). Liberal policies will cause conflict between corporations and society. This is because the mining activities carried out by corporations are too free while the role of the government is absent.

On the other hand, conflicts occur because the government focuses more on financial income so that the interests of the community are neglected. Meanwhile, policies that are extractivist or interventionist measures can cause conflicts between the government and corporations as well as the government and the community. Conflicts can occur because corporations are under pressure from the government, because national interests are prioritized and because community interests are neglected.

3.2 Settlement of Environmental Damage Due to Mining Activities

Based on data from the East Java Provincial Government, there are at least 400 illegal mining sites across its territory. The majority of this unlicensed activity comes from quarrying C (sand, gravel and piled earth) and metals (gold). most of the illegal mining is located in Madura, Pacitan, and the "Horseshoe" area. The horseshoe area includes the eastern part of Pasuruan, Probolinggo, Lumajang, Jember, Situbondo, Bondowoso and Banyuwangi.

The existence of illegal mining is a separate problem. Not only in East Java but also in Indonesia. One of the reasons is that there is an erroneous assumption of seeing the potential of natural resources. People think that wealth belongs to the state and the people so that every citizen can take it freely. Based on the latest data, East Java has many illegal mines, based on the records of the East Java Province Energy and Mineral Resources (ESDM) Office, there are at least 649 illegal mining locations.¹⁵

Tuban Regency is a haven for illegal miners. This title deserves to be pinned because until now, the Regency with an area of 183,994.561 hectares (ha) has become the go-to for business actors who want to open a C quarry without having to worry about licensing matters. Some natural resource materials (SDA) that have the potential to be illegally traded are silica sand, dolomite, sandstone, quartz sand, limestone, and rocks and other mining products.

From data from the Ministry of Energy and Mineral Resources (ESDM), Mining Without Permits (PETI) or commonly called illegal mining is spread over 2,741 location points. The existence of the mining sector should be directly proportional to the welfare of the surrounding community. According to data from the Central Statistics Agency (BPS), the number of poor people in Tuban Regency in March 2022 reached 178.05 thousand people. Meanwhile, the poverty line in Tuban in March 2022 is IDR 421,287.00 per capita per month. This figure increased by IDR 33,111.00 per capita per month or an increase of 8.53

¹⁴ S. H. Ahmad Redi, *Hukum Penyelesaian Sengketa Pertambangan Mineral Dan Batubara* (Sinar Grafika, 2022), h. 37."

¹⁵ <https://harian.disway.id/read/671036/649-titik-tambang-ilegal-di-jatim>, diakses 7 Juli 2023

percent when compared to conditions in March 2021 which was still IDR 388,176.00. However, this is not the case in Tuban Regency, where most of the illegal mining business actors do not pay taxes.¹⁶

Of these, around 2,600 locations are mineral mining and 96 locations are coal mines. in practice Crates can vary. There are perpetrators who use protected forest areas and production forests, there are also those who do it on land that is included in the company's mining business permit area. In fact, there are also Crates carried out in coastal areas and small islands.¹⁷ This condition is detrimental to many parties. In addition to the potential for regional damage due to the practice of not heeding environmental principles and health, security, safety and environmental (HSSE) aspects, the crates are also detrimental to the state because the actors do not pay royalties or taxes.

Cases of environmental damage that occurred in East Java due to mining businesses such as what happened in Bulusari Village, Gempol District, Pasuruan Regency. Environmental damage due to illegal mining in Indonesia is troubling residents. The reason is, since it was abandoned by illegal miners, the geographical conditions of the mining area have not been improved and tend to endanger local residents. The impact of environmental damage caused by illegal mining activities that have stopped operating, one of which is leaving a 100-meter-deep excavation. Unfortunately, there is no security boundary around the illegal mining area.

Handling mining conflicts requires high rationality. Mining conflicts in the world from year to year continue to increase, including in Indonesia. The addition of investment in the growth sector in a country can cause conflict. To understand the causes of mining conflicts, it is necessary to know in advance that in mining activities there is what is called The Principle of Social Justice.¹⁸

This principle in essence requires that all people have the right to equality to access welfare, health, justice, privacy and opportunities, regardless of legal, political, economic status and other conditions. The five principles are Access, Equity, Diversity, Participation, Human Rights. These principles must be fulfilled to achieve social justice. This principle has developed into a philosophy, legal theory, and has even become an instinct.

As for what is meant by the principle of social justice in terms of utilization of natural resources (wealth) can be translated as a principle in terms of utility. In the case of natural wealth owned by an area that is developed at social costs, everyone must benefit. The government is the party that is obliged to provide these benefits to the community. If the government fails to provide benefits, the community will demand those benefits from natural wealth developers.

¹⁶ <https://m.prorakyat.co/baca-2955-kabupaten-tuban-jadi-surga-bagi-penambang-ilegal>

¹⁷ Nurul Listiyani, *Dampak Pertambangan Terhadap Lingkungan Hidup Di Kalimantan Selatan Dan Implikasinya Bagi Hak-Hak Warga Negara*, Jurnal Al Adl, Volume IX Nomor 1, Januari-April 2017, h. 67-85

¹⁸ Dewi Tuti Muryati, B. Rini Heryanti, Dhian Indah Astanti, *Pengaturan Kegiatan Usaha Pertambangan Dalam Kaitannya Dengan Penyelesaian Sengketa Pertambangan*, Jurnal Dinamika Sosial Budaya, Volume 18, Nomor 1, Juni 2016, h.23-38

Mining conflicts are often seen as governance problems in mining areas. The problem is like the absence of government in remote areas. In addition, the ability to deliver services is low so that citizens' trust in the government is also low.¹⁹ Low trust in local government also occurs because people's expectations are unrealistic. So far, the resolution of mining conflicts through legal channels has been frowned upon. That's because the process is "winding", requires costs. According to him the best process is mediation.

This mediation process must be carried out by a neutral party, who controls and understands the problem. Indonesia still has very few human resources with expertise in mining conflict mediation. So the settlement does not have to be done through legal channels. Mining conflicts actually occur because the process was initially problematic, there were obstacles in social communication. For example, communication relations from companies that do not understand the social conditions of the community around the mine can actually lead to conflict.²⁰

Enforcement of "environmental law is an important element in efforts to achieve Indonesia's goals. The goals of the state are stated in the Preamble of the 1945 Constitution of the Republic of Indonesia namely:

"Protecting the entire Indonesian nation and all of Indonesia's bloodshed, promoting public welfare, educating the nation's life, and participating in carrying out world order based on freedom, eternal peace and social justice."

In the body of the 1945 Constitution of the Republic of Indonesia after the amendment, enforcement of environmental law is placed in articles related to human rights, namely Article 28H number 1" that "Every person has the right to live in physical and spiritual prosperity, to have a place to live, and to get a good and healthy environment and has the right to obtain health services". This article forms the basis that the environment must be an important matter in the context of protecting human rights."²¹

It cannot be separated from the above understanding, but criminal sanctions can be given to mining companies that result in environmental damage. In Law no. 32 of 2009 in Chapter 15 regarding criminal provisions in article 98 (1): everyone who intentionally commits an act that results in exceeding the ambient air quality standard, water quality standard, seawater quality standard or environmental damage standard criteria, is punished with a criminal imprisonment for a minimum of 3 (three) years and a

maximum of 10 (ten) years and a fine of a minimum of Rp. 3,000,000,000.00 (three billion rupiah) and a maximum of Rp. 10,000,000,000.00 (ten billion rupiah).

Article 98 (2): If the act as referred to in paragraph (1) causes a person to be injured and/or endangers human health, the criminal shall be punished with imprisonment for a minimum of 4 (four) years and a maximum of 12 (twelve) years and a fine of at least IDR 4,000,000,000.00 (four billion rupiah) and a maximum of Rp. 12,000,000,000.00 (twelve billion rupiah).

In Article 98 (3): If the act referred to in paragraph (1) results in a person being seriously injured or dead, the penalty is imprisonment for a minimum of 5 (five) years and a maximum of 15 (fifteen) years and a fine of at least IDR 5,000,000 000.00 (five billion rupiah) and a maximum of Rp. 15,000,000,000.00 (fifteen billion rupiah).

In Article 99 (1): every person who due to negligence causes the ambient air quality standard, water quality standard, sea water quality standard or environmental damage standard to be exceeded, shall be punished with imprisonment for a minimum of 1 (one) year and a maximum of 3 (three) years and a fine of a minimum of Rp. 1,000,000,000.00 (one billion rupiah) and a maximum of Rp. 3,000,000,000.00 (three billion rupiah).

Article 99 (2): If the act referred to in paragraph (1) results in injury to a person and/or danger to human health, the criminal shall be punished with imprisonment for a minimum of 2 (two) years and a maximum of 6 (six) years and a fine of at least Rp. 2,000,000,000.00 (two billion rupiah) and a maximum of Rp. 6,000,000,000.00 (six billion rupiah)."

"The law's protection of society is a concrete manifestation of the State and Government's recognition of human rights, so that it is hoped that it will provide its own characteristics for each legal product and legislation relating to the protection of society. Mining activities have several characteristics, namely they are non-renewable, have a relatively high risk, and their exploitation has relatively high physical and social environmental impacts. Mining activities have caused a lot of controversy.

The State's obligations to the State's right to control in realizing the people's prosperity" are as follows:

1. All "forms of utilization (earth and water) as well as the results obtained (natural wealth), must significantly increase the prosperity and welfare of the community"
2. Protect "and guarantee all the rights of the people contained in or on the earth, water and certain natural resources that can be produced directly or enjoyed by the people"
3. Prevent all "actions from any party that will cause the people to not have the opportunity or will lose their rights to enjoy natural wealth."

The three obligations above, "as a guarantee for the purpose of the State's control rights over natural resources which at the same time provide an understanding that in the said control rights, the State only performs Management (Bestuursdaad) and Management (Beheersdaad) and does not carry out actions that are ownership (Eigensdaad)."²²

¹⁹ Nandang Sudrajat. Teori dan Praktik Pertambangan Indonesia Menurut Hukum. Yogyakarta: Pustaka Yustisia, 2010, h.54

²⁰ Bagus Dimas1, Adam Idris, Nur Fitriyah, Analisis Konflik Lahan Pertambangan Batubara (Studi Kasus Wilayah Pertambangan Di Kecamatan Marangkayu-Kabupaten Kutai Kartanegara), Jurnal Administrative Reform, Vol.2 No. 2, Tahun 2014, h.227-238

²¹ Wila Eka Maya, Syela Maulika Anwar, Erdi Asri, Pertanggungjawaban Hukum Perusahaan Tambang Batubara Terkait Pencemaran Lingkungan, Jurnal Lex Suprem, Volume 5 Nomor I Maret 2023, h. 166

²² Samuel Risal, Dan Buntu Paranoan, dan Suarta Djaja. "Analisis Dampak Kebijakan Pertambangan terhadap Kehidupan Sosial Ekonomi Masyarakat di Kelurahan Makroman." Jurnal Administrative Reform 1, No. 3 (2013): 516-530.

This means that a contrario, if the State's tenure rights are interpreted as *Eigensdaad* then there is no guarantee for achieving the objectives of the State's tenure rights, namely the greatest prosperity of the people. In terms of administration and management by the State of several types of natural resources such as mineral resources, the Central Government has transferred them to the Regional Governments (Decentralization). This is intended so that the natural resources found in these areas can be used as much as possible for the benefit of the community.

Therefore, sustainable mine management is a major challenge. Continuing management offers a variety of potential benefits as follows:²³

1. Company reputation increases with low risk of loss.
2. Higher operational efficiency with sustainable management of safety and health, use of energy, resources and production processes.
3. The planning and control of the management system implementation (eg, ISO 1400, ISO 9001), and the philosophy of continuous improvement with regard to sustainable management can be improved.
4. Access to mineral resources is easier so the cost to obtain it is lower and the failure rate is reduced.
5. Recruitment and empowerment of human resources are easier so that leadership, motivation, initiatives and policy making are implemented responsibly.
6. Financing projects easier and more economical.
7. Project development costs are lower with assistance from related parties so that the licensing process is faster.

There are two most commonly asked questions regarding the concept of sustainability in the mining sector. It is generally known that reserves, both minerals and coal, no matter how much, will one day be exhausted due to their non-renewable resources.²⁴

For every dispute that occurs, including disputes in mining activities, of course a good pattern of dispute resolution is needed, with the hope that with dispute resolution, potential problems and losses that may arise as a result of these disputes do not disrupt the positive climate of mining business activities in Indonesia. Currently with the opening of mining activities in many areas.²⁵ The development of business forms in Indonesia has consequences for the business itself, namely the hope to be able to resolve any disputes that may arise quickly, cheaply and as well as possible.²⁶

Due to the above violations, it is necessary to settle the dispute. Settlement of environmental disputes can be resolved in several ways, namely through court channels (courts), namely administrative enforcement, enforcement by civil means and also through criminal means and

channels outside the court (non-court) or known as Alternative Dispute Resolution.²⁷

Settlement of disputes in the mining sector is carried out in the context of law enforcement. On the other hand law enforcement has the meaning of how it should not be implemented, so that in law enforcement the elements of legal certainty, expediency and justice must be considered. Handling of these environmental problems, as happened in Indonesia, must be carried out more seriously where greater institutional authority is needed and supported by apparatus who have higher competence.²⁸

The pattern of dispute settlement regulated in section XI.I.2 can be carried out in two stages, namely the peace and arbitration stages. At the peace stage, the parties must explain and discuss disputes that arise between them. They will look at the interpretation of the substance of the contract and the performance of the contract. They are still trying to resolve the issue peacefully. If an amicable way cannot be resolved between them, Pertamina and the contractor can resolve it through arbitration.

In Law Number 22 of 2001, the parties to a production sharing contract, namely business entities and or business entities, remain with the implementing agency. If there is a dispute between the business entity and the implementing agency, the law used is Indonesian law, because both parties are legal entities established under Indonesian law and they are subject to Indonesian law. however, if a dispute occurs between the Permanent Business Entity and the Implementing Body, the parties use the rules in the International Chamber of Commerce (ICC), because this permanent Business Entity is a foreign company operating in Indonesia. in other words, in that the contract contains foreign elements, so the rule of law used is the International Chamber of Commerce (ICC).²⁹

4. Conclusion

1. Management of natural resources that pays attention to environmental interests and human interests will have an impact on achieving the mandate stipulated in Article 28 H paragraph (1) of the 1945 Constitution. In the importance of balancing the management of natural resources and human interests, the Government of Indonesia issued Law Number. 32 of 2009 concerning Environmental Protection and Management. The general form of damage from the mining business to the environment is due to excavation into the earth. Changes in the structure of the earth's surface, Environmental pollution occurs, Environmental pollution occurs, Disappearance of biodiversity, Increased threat of landslides, Forest damage, Decreased air quality, Sedimentation and decreased water quality, Environmental pollution due to waste. Environmental damage due to illegal mining in

²³ Bambang Yunianto, Rochman Saefudin dan Ijang Suherman. 2004. Kebijakan Sektor Energi dan Sumberdaya Mineral dan Implikasinya Terhadap Pertambangan Emas, dalam Penambangan dan Pengolahan Emas di Indonesia. Bandung: Puslitbang Teknologi Mineral dan Batubara.

²⁴ Syarif, Afif. "Pengelolaan Pertambangan Batubara Dalam Penegakan Hukum Lingkungan Pasca Otonomi Daerah di Provinsi Jambi." *Jurnal Arena Hukum* 13, No. 2 (2020): 264

²⁵ Sudikno Merokusumo, *Op Cit*, h. 134-135

²⁶ Komar Kantaatmadja, *Op Cit*, h. 37.

²⁷ Wahyudi Setiyawan, *Penyelesaian Sengketa Lingkungan Izin Pertambangan Galian C Melalui Alternative Dispute Resolution (Adr) Di Desa Cepogo Boyolali*, tesis, Magister Ilmu Hukum Program Pascasarjana Universitas Muhammadiyah Surakarta, 2018, h.7.

²⁸ Muskibah, Lili Naili Hidayah, Evalina Alissa, *Perlindungan Hukum terhadap Masyarakat terkait Kegiatan Pertambangan Batubara di Kabupaten Sarolangun*, *Jurnal Wawasan Yuridika*, Vol. 5 | No. 1 | Maret 2021, h 60-80

²⁹ Salim HS., *Op Cit* h. 49-5

Indonesia is troubling residents. The reason is, since it was abandoned by illegal miners, the geographical conditions of the mining area have not been improved and tend to endanger local residents.

2. Liberal policies will cause conflict between corporations and society. This is because the mining activities carried out by corporations are too free while the role of the government is absent. Handling mining conflicts requires high rationality. Mining conflicts in the world from year to year continue to increase, including in Indonesia. The addition of investment in the growth sector in a country can cause conflict. This mediation process must be carried out by a neutral party, who controls and understands the problem. Indonesia still has very few human resources with expertise in mining conflict mediation. So the settlement does not have to be done through legal channels.

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