

## **Legal Policy on the Management of River Water Resource Amid Mining Waste Pollution at Central Kalimantan**

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**Abstract:** - Pollution from mining waste poses a threat to environmental preservation, including the clean water provision in Central Kalimantan Province, Indonesia. This paper analyzes the management of river water resources that are polluted by mining waste, as there is a need for constructive handling to resolve this issue. One of the methods is to formulate a legal policy that can integrate the values of social justice for all levels of society. This paper employed the non-doctrinal method with the statute approach, sociological approach, and philosophical approach. It integrated constructive thought in four ideal aspects to formulate a social justice-based legal policy, i.e., the philosophical, sociological, juridical, and cultural aspects of the formulation of policies on water quality management and water pollution control. This solution is ideal as it emphasizes the Indonesian nation's legal principles and ideals amid environmental pollution and degradation due to mining waste that threatens the life and health of society. This paper contributes by proposing a social justice-based legal policy concept to resolve the issue of water pollution due to mining waste.

**Key-Words:** - legal policy, water resource, waste pollution, mining, social justice, Kalimantan, Indonesia.

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## 1 Introduction

In general, the need for clean water increases from year to year, while its provision becomes more limited, [1]. The global issue that became the main theme of discussion at the 10<sup>th</sup> World Water Forum in Indonesia was policies on the global management of water resources, [2]. One of the main themes was the discussion on water management policies for common welfare, [3]. Rivers play a crucial role as a source of freshwater. They also support the lives of the people who live in their surroundings. Apart from that, rivers also maintain the purity of the water ecosystem, [4].

In Indonesia, there are currently many legal and illegal mines that do not pay attention to environmental balance. They exploit raw water resources without consideration for environmental preservation, [5]. To prevent the occurrence of water crises, it is crucial to preserve and protect existing water resources, use water efficiently, and seek new alternative sources, [6]. The lack of water resources does not only lead to the occurrence of health issues but also risks creating issues related to economic and social welfare, [7]. Fortunately, in Indonesia, there are legal bases for the protection and management of water resources in the form of legal regulations, [8].

Central Kalimantan Province is located at the center of Kalimantan Island, Indonesia. This province is prominent in the national mining industry, especially in gold mining. This area is known for its mining activities that involve both large commercial operations and extensive community mining. Even though this area is famous for coal and copper mining, it is also a place where gold mining activities are carried out, which is developed in the form of large-scale operations.

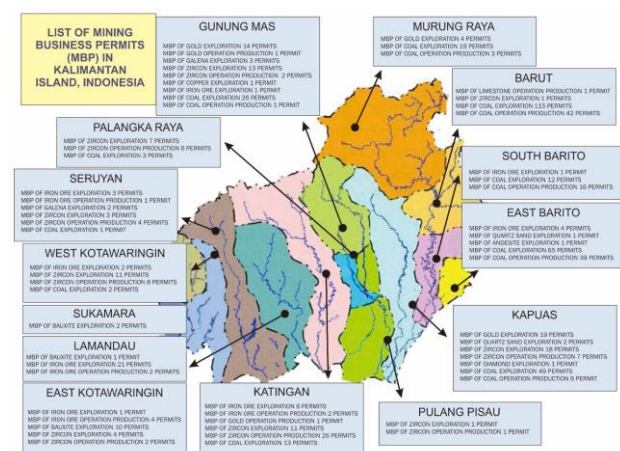


Fig. 1: A Map on the Spread of Mines in Kalimantan Island, Indonesia

Figure 1 is a map of mines in Central Kalimantan Province. A highlight in the development of the gold mining sector in Central Kalimantan Province is that its regional government promised that it would carry out efforts to increase the regulation and formalization of community mining. The regional government has also made efforts to develop the economy through the incubation of businesses in the agricultural and animal husbandry sectors. This is carried out as economic diversification efforts for communities of miners, [9]. By developing its rich natural resource potential, Central Kalimantan progresses to become the center of gold mining which is crucial to the Indonesian economy.

Such efforts must be parallel with environmental management and the responsible usage of natural resources. Natural resource usage refers to the good utilization, management, and preservation of natural resources so that they can be used for the interests of society to fulfill their needs.

Data evaluation results on the monitoring of river water quality in Central Kalimantan in the last two years showed that in 2022, the water quality rate was 56.69%. Meanwhile, in 2023, the rate was 53.90%, [10]. This indicates that in two years, the rate of water pollution has increased. Therefore, there is a need for serious strategies to handle this matter. One of the causes of this condition was the rampant water resource pollution due to mining activities. Such a condition leads to crucial issues as the pollution of water resources may endanger the lives of human beings, animals, and plants in the surrounding area.

The Indonesian government is only busy handling political issues whilst issuing economic policies that damage the environment. As a result, environmental issues such as pollution and environmental destruction are not holistically resolved. These governmental policies that ignore environmental protection have resulted in environmental destruction and various natural disasters that take turns happening in almost all parts of the Indonesian territory, [11].

The copious amount of pollution due to mining waste threatens the provision of clean water in Central Kalimantan Province. The writers observed that there have been various instances of water resource pollution due to waste. Polluted rivers due to mining waste can be seen in the photographs below.

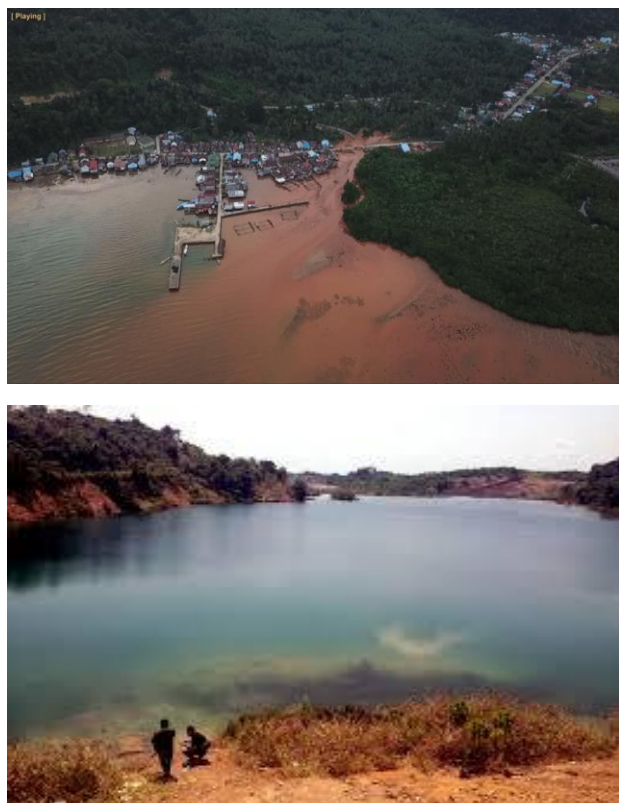


Fig. 2: The Polluted Condition of Rivers in Central Kalimantan Due to Mining Waste

Figure 2 is picture about river pollution at Central Kalimantan. Based on the description above, an interesting issue to discuss in this paper is the link between legal policies and the management of river water resources. In this paper, the authors will profoundly analyze policies on water resource management, [12]. This research is divided into two contexts that contain specific analyses, namely: (1) regulations on the management of river water resources in the Indonesian legal regulations and (2) legal policies on the management of water resources due to pollution from mining waste from the social justice perspective. This paper provides a contribution by proposing a social justice-based legal policy concept to resolve the issue of water pollution due to mining waste.

## 2 Research Method

This research employed the non-doctrinal method, [13]. The non-doctrinal method was chosen because the authors observed that there was a contradiction between legal norms/regulations on water resource management and the *das sein* (legal phenomena or implementation). In this research, the authors used three approaches, namely the statute approach, the sociological approach, [14], and the philosophical approach. Such a method was deemed accurate as

the authors analyzed the object from the perspective of water resource laws; environmental protection and management laws; and related governmental regulations, [15]. Meanwhile, the authors used the legal protection approach because the river water resource protection aims to protect the river water ecosystem. The authors also analyzed the issue of hazardous waste pollution due to mining and its link to environmental management. Next, the authors used the literature approach, [16]. In this study, the authors used complementary data from primary, secondary, and tertiary sources. As for the data analysis technique, the authors used the descriptive qualitative analysis technique, [17].

## 3 Results and Discussion

### 3.1 Regulations on River Water Resource Management in the Indonesian Legal Regulation

Mining waste is one of the most prominent contributing factors to river water pollution, bringing negative effects to the environment. Therefore, legal stipulations are certainly required to regulate mining activities. This is to prevent further environmental destruction and pollution. In Indonesia, some regulations provide stipulations on the protection of river water from pollution. The first law that regulates the protection of rivers is Law No. 17 of 2019 on Water Resources. It stated that every person is prohibited from carrying out activities that result in the disturbance of water conditions in watersheds. It also prohibits activities that damage water sources and/or infrastructure or activities that inhibit the efforts to preserve water, such as water pollution, [18].

Next, the authors took inventory of applicable governmental regulations on water resource pollution. The protection of river water from pollution is also regulated in Governmental Regulation No. 82 of 2001 on the Management of Water Quality and the Protection from Water Pollution. Article 4 clause (1) and clause (2) regulate the management and guarantee of water quality in a natural condition. It also regulates the protection of water from pollution. Such things are carried out as an effort to prevent and handle water pollution as well as improve the water quality, [19].

Then, water protection and pollution are also regulated in the Governmental Regulation No. 22 of 2021 on the Establishment of Environmental Protection and Management. Article 127 clause (2) regulates the control over water pollution which

encompasses: (1) preventing water pollution, (2) handling water pollution, and (3) improving the water quality.

According to the Regulation of the Minister of Environment and Forestry, for mining business owners, water waste cannot be disposed of in drainage channels, irrigation channels, raw drinking water channels, or channels for specific purposes as these channels are not meant to drain wastewater. Regulation of the Minister of Environment and Forestry Article 7 states that the activity of wastewater disposal or usage must consider the fulfillment of technical standards on wastewater standard quality by formulating an environmental management plan, including the wastewater management system and the environmental monitoring plans. In bringing order to the activities of mining businesses, a written letter of mining activity termination may be given to the second party, namely business owners who fail to implement the Ministerial Regulation related to the technical standards of waste management, handling, and prevention. Such regulations are crucial as waste pollution brings highly negative impacts on the health, life, and ecosystem of the environment, [20].

Next, evidence uncovered on the negligence in managing, handling, and preventing mining waste may be subject to sanctions that are regulated in the Ministerial Regulation on water quality management and the handling of water pollution, [21]. First, the sanction that may be imposed is an administrative sanction for the person in charge of the business or activity who violates regulations on water pollution handling. Second, a compensation sanction may be imposed on the person in charge of the business who commits illegal actions in the form of environmental pollution and/or destruction that bring harm to other people or the environment. Third, criminal sanctions may be imposed on the person in charge of the business or activity who is negligent in preserving the water quality and controlling the water pollution in water springs.

### **3.2 The Social Justice-Based Legal Policy on Water Resource Management Due to Mining Waste Pollution**

From the legal policy perspective, the tendency to prioritize the mining sector can be tracked down to the involvement of influential actors in the executive and legislative positions who support the mining business. This, for instance, can be seen in the case of the Job Creation Law which simplifies the procedures of obtaining business permits. The issuing of this law aimed to attract investors, [22].

An accurate formulation of governmental policies is a crucial thing in managing natural resources. Policies are governmental instruments that contain a series of actions with certain goals that must be complied with in resolving an issue, [23]. The policy of natural resource management, especially that of coal mines, is directed to achieve welfare for both the present and future generations. The involved system must fulfill good and correct management principles, including focusing on various environments, such as the physical and chemical environments. It must also consider the social and economic aspects of the surrounding society as well as correctly handle the existing post-mining areas, [24].

In formulating a legal policy, the government must use the principle and goal from Law No. 3 of 2020 on Mineral and Coal Mining Article 2 as a basis. It states that mineral and/or coal mining must be managed based on the principles of a. benefit, justice, and balance; b. partiality to the nation's interests; c. participation, transparency, and accountability; as well as d. sustainability and environmental awareness.

The inventorying of the justice principle, [25], refers to the just and equal division of resources, opportunities, and special rights in society. This was initially a religious concept. But now, it is more loosely conceptualized as a just social institution organization that provides access to environmental benefits. It is integrated into the direction of legal policies in protecting water resources due to mining waste pollution. The formulation of principles on the meaning of justice must be carried out in a constructive manner. Legal principles are not concrete legal regulations. However, they are general basic thoughts that are the background of concrete regulations that exist within and behind every legal system. Legal principles are manifested in legal regulations and judicial decisions that are part of the positive law. They can be found by discovering the general characteristics of that concrete regulation.

Therefore, there needs to be access to environmental justice. Environmental justice in this case is divided into four categories, namely environmental justice as distributive justice, environmental justice as corrective justice, environmental justice as procedural justice, and environmental justice as social justice, [26]. Environmental justice as social justice must be able to contain the philosophical, sociological, and juridical aspects that are procedural. Environmental justice is also related to the opportunity of the public



to participate in the creation of decisions related to legal policies on water resource management.

There is a perspective that extensively views social justice in a wider scope that is not limited to the procedural scope of a legal policy. The authors identified five basic elements of social justice in the legal policies on water resource management, which comprise:

1. Individual rights to be protected from pollution;
2. Preference for the prevention of pollution;
3. The burden of evidence shifts to those who dispose of waste;
4. The existence of pollution that happens due to waste that was not treated in a proper manner. This is shown by the existence of water resource pollution that is felt by society as well as statistical evidence which shows differences before and after the pollution.
5. Differences in risk divisions are handled using actions and targeted water resources.

To make sure that social justice can be felt by various levels of society, the researchers propose a constructive thought in the form of a legal policy on water resource management from mining waste pollution that is illustrated in Figure 3.

Figure 3 explained the research step and describes a constructive thought based on Indonesia's legal ideals and principles. It is crucial in formulating an ideal legal policy on water resource management. The state of Indonesia should always promote environmental protection. Moreover, it must educate its citizens on preventing and controlling environmental destruction. Even though such thoughts are based on Indonesia's state ideal Pancasila (The Five Principles that make Indonesia's state ideals) which is based on the values of divinity, humanity, unity, communality, and justice, the Indonesian state is bound to globalization. Thus, it may perceive water resource management differently. Constructive thought in creating legal policies must be able to interpret and integrate four aspects of fundamental values.

The Indonesian state is different from other countries. It is inseparable from its main sectors, including natural resources and the economy. However, related to society's materialistic ideology, there is a bias in this relationship, [27]. Apart from that, capitalism also influences the issuing of regulations and policies. This nation has a material legal source in the form of moral firmness and cultural values that are deemed crucial for the survival of the nation.



Fig. 3: The Constructive Thought Basis of Legal Policies on Water Resource Management

Figure 3 is a research thought scheme. The state must protect its people's rights. Legal ideals and ideologies were made to achieve welfare. They have the same perspective on natural resources, with an emphasis on economic orientation and welfare. Therefore, the state has the main role in strengthening Indonesia's legal ideals and ideologies. It must formulate regulations and policies with a justice perspective that reflects a holistic responsibility for the people, [28].

The policy on water resource management is usually carried out in a centered, uniform, and top-down manner with consideration for the issue of welfare. There needs to be natural resources with a state ownership that minimizes society's roles so that it does not only result in a small number of elites.

Therefore, the determination of the concept of mining sector management should be based on the principles of justice. It must also consider the maintenance of the water resource ecosystem to achieve environmental and economic balance. An ideal concept in formulating a policy that provides legal certainty is a solution to the issue of water resource management. This solution is not only limited to the sector of community mining. However, it can also be applied to large-scale mines. This is not only caused by issues that occur due to community mining (small-scale mining), but it also originates from the mining issue which may potentially yield massive pollutants. [29], the transition concept is a solution to create a conducive condition as described below:

1. There needs to be policies that order an evaluation of the use of natural resources, especially in the mining sector, that is part of the nation's richness. This evaluation involves policies that have been made and the practices that happen in the field.
2. There needs to be an analysis and solution to mining conflicts that have long existed and are yet to be resolved, especially those that were caused by the impacts of mines.
3. There must be immediate action in imposing sanctions for mines that ignore the technical standards of waste management, prevention, and control. This includes the issue of environmental or water resource control.
4. The issuing of new mining contracts must temporarily be stopped. There must be the streamlining of existing mining contracts by firming and increasing environmental standards.

The government and companies must display all the information that they have on the plans of mining businesses, environmental management, and environmental damage prevention in a non-biased form, [30] This means trusting society to read, study, assess, and discuss sustainable mining business plans. This also means giving mining ecological sustainability, which leads to positive social impacts and contributes to legal certainty. The presence of mining companies that threaten the sustainability of other land-based sectors does not ignore the principles of justice and ethics, [31].

Based on the description above, it can be explained that social justice in this article is directly linked to the formulation of policies on water quality management and control over water pollution. Its application is based on the principle of openness. Openness allows society to participate in thinking about and giving perspectives and

considerations in making decisions in the water quality management and water pollution control sector.

## 4 Conclusion

This research declares that the main factor in the effort to formulate a social justice-based legal policy on pollution due to mining waste must fulfill the criteria of the philosophical, sociological, juridical, and cultural aspects. A constructive thought that brings great changes to the landscape may make the nation's legal ideals and principles function in preserving the environmental ecosystem. These solutions may also inhibit water resource pollution and degradation due to mining activities, as currently, there is weak accountability over pollution due to mining waste. As a consequence, such activities disturb the life of society and even threaten the health of society in general. The future direction of research is research on the effectiveness of legal policies on the management of water resources that were polluted by mines in Central Kalimantan Province.

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- Budiono: Original research idea, Conceived the research and provided materials and data for the research.
- Achmadi: Provided materials and data for the research as well as designed the methods.
- Sanawiah: Selected research data as well as analyzed and interpreted the data.
- Farid: Analyzed the data and provided a description of the results.
- Wula: Wrote the introduction and arranged the script according to the instructions.
- Faisal: Analyzed and interpreted the data and wrote the paper.
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### **Conflict of Interest**

The authors have no conflicts of interest to declare.

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