



Environmental Resilience Challenges and Mining Policy in East Kutai Regency, Indonesia: A Case Study

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Abstract

This study aims to identify weaknesses in the oversight of excavation C mining activities by the East Kutai Regency Government, which contribute to soil degradation and alterations to natural landscapes. These mining operations result in large, water-filled pits that become breeding grounds for mosquitoes and disease, while also causing air pollution during the dry season. The research employs a qualitative approach, combining a literature review with interviews. The findings reveal that, first, excavation C mining disrupts ecosystem balance through the overexploitation of natural resources and fosters illegal mining activities. Second, challenges in monitoring excavation C mining involve the Satpol PP (Civil Service Police Unit) as the primary enforcement body, along with the enforcement of local regulations designed to minimize environmental damage. However, a lack of coordination between the East Kutai Regency Satpol PP and the East Kalimantan Provincial Police complicates regulatory enforcement and community protection efforts. This study recommends implementing strict sanctions against companies that illegally damage the environment to improve oversight effectiveness and promote environmental sustainability.

Keywords: Sustainable Development, National Mineral Policy, Environmental Resilience, Mining Industry, Mining Policy

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Introduction

The national and regional economies are driven by mining. Mining increases national income, community income, and employment. Mining activities help many things. Mineral mines provide a variety of raw materials for industrial needs, coal, oil, and gas provide energy sources and C excavated materials such as rock, sand, lime, and soil are also very helpful for sustainable development. What has happened in previous studies is a case study in Kerala, India, in the 2000s, (Aulia et al., 2024) increased sand mining in coastal and freshwater zones continues to affect the ecosystem-life system that threatens the provision of living goods and services. This impact is exacerbated by the lack of a comprehensive framework for regulating sand mining and trading; creating a need to develop micro and macro frameworks and guidelines for sustainable sand mining (Matovu et al., 2024).

Environmental resilience challenges and mining policies have identified a range of crucial issues that affect the balance between natural resource exploitation and environmental conservation. (Sun et al., 2024a) Studies show that mining policies often fail to accommodate socio-economic developments to the point of causing long-term impacts on local ecosystems, which include soil degradation, water pollution, and biodiversity loss (Azadi et al., 2019) . Research conducted in various regions, including in Indonesia, underscores the importance of implementing current government policies to influence sustainably and based scientific evidence to mitigate the negative impacts of mining (Sonter et al., 2017). In addition, the involvement of local communities, especially in the mining base, is an important factor in the decision-making process in improving environmental resilience (Bai et al., 2022). The need for ecology-based policy reforms that integrate adaptive and mitigative approaches to address environmental resilience challenges in the context of intensive mining activities (Xu et al., 2024).

There is a need for a policy system that focuses on community welfare with green products and services that are more efficient, environmentally friendly, and have a low risk of environmental impacts. And this is in line with Article 33 paragraph (3) of the 1945 Constitution which states that the Earth and water and the natural resources contained in it are controlled by the state and used for the greatest prosperity of the people. Through the mandate of the 1945 Constitution that including the excavation of the C mine is also a natural asset that is managed for the prosperity of the people. (Sun et al., 2024) In Indonesia, for example, the rapid expansion of coal mining has affected people's health and livelihoods, as well as polluting water and air (Spiegel, 2017) . Natural resources can be in the form of mineral materials found on the earth, such as chemical elements, minerals, or any type of rock, and are obtained by retrieving, excavating, or transporting these materials from the face and bowels of the earth. Rocks, such as limestone, clay, gold, silver, and limestone, can be liquid, such as iodine and petroleum, or gases, such as natural gas (Sukandarrumidi, 2018).

Native minerals that can be mined for human use are known as minerals. Mining sites in several countries were selected and grouped based on hotspot analysis, taking into account the distance and water stress conditions in each region, resulting in a maximum of five mining sites for each country, each representing a specific mining area (Schomberg et al., 2022) . According to Katili, minerals are rock-forming materials that are original organic compounds with a fixed chemical structure and are chemically and physically homogeneous. Minerals can be formed through various processes, such as magma crystallization, gas and vapor precipitation, chemical and organic precipitation from weathering solutions, metamorphism, precipitation and evaporation, and so on (Pertiwi, 2009)

The division of a country's territory into smaller and smaller areas is intended to give rise to vast regional autonomy and allow each region to have autonomous authority in managing its own budget, including the management of its natural resources. East Kalimantan Province is a province

rich in natural resources, including coal mines. East Kalimantan Province also has a strategic location as an area that has enormous natural resource potential and is the center of various natural resource management activities in the region. East Kalimantan Province is a province rich in natural resources, including coal mines as coal (Suhartono, 2013) continues to be a substantial source of energy globally, especially in countries that rely on fossil fuels for power generation (Nurmiyati et al., 2021). Proper identification of coal seams facilitates the effective extraction and use of these energy resources (Ashraf et al., 2024). East Kalimantan Province also has a strategic location as an area that has enormous natural resource potential and is the center of various natural resource management activities in the region. This makes the existence of coal mines in East Kalimantan Province in general have a social responsibility to the community (Idris et al., 2023).

Provincial governments face major obstacles that are likely to trigger environmental problems (Schomberg et al., 2022) in carrying out their control functions over natural resource management at the district and city levels because of their focus on regional autonomy. In accordance with the Local Government Law Number 23 of 2014, local governments have the authority to supervise and manage natural resources. Natural resources, namely sand and rocks from mines, are managed by the Regional Government. According to Government Regulation Number 22 of 2021 concerning Environmental Management and Protection, the Mining Business License (IUP) of the C mining framework is granted exclusively to the Provincial Government. As the owner of the area, the district or city can only provide recommendations at the village, sub-district, and district levels. This recommendation cannot be used as a condition to obtain a mining business license for mining framework C (Setiawan & Hadi, 2007).

On the other hand, the Regency or City as the owner of the area is certainly the most affected by excavation C. Mining excavation C will cause damage to the soil surface and changes in the natural surface. The excavated mark will leave a large hole that is flooded with water, become a mosquito nest, cause disease, and cause air pollution during the dry season (Ngugi, 2023). The most pronounced impact is that trucks loaded with excavation C that pass by damage the road, making the road dusty when hot and muddy when it rains and the road becomes jammed. Excessive loads also make roads damaged or potholed and large vehicles such as trucks that enter using public roads make accidents prone to occur (Rosita et al., 2022).

The reason for choosing this study is because there is an urgent need to overcome the adverse impacts caused by type C coal mining activities in the North Sangatta District, Teluk Lingga Village. This mining activity has caused serious disturbances to the surrounding community, such as damage to the soil surface, natural changes in the environment, the formation of large holes that have the potential to breed disease-causing mosquitoes, and air pollution during the dry season. Driven by weaknesses in the supervision of the East Kutai Regency government in regulating and supervising the mining activities. This condition indicates the need for research to identify the causative factors and find appropriate solutions to reduce their negative impacts on the environment and local communities to explore spatial distribution patterns, optimize national land space, and establish ecological security patterns for sustainable development (Zhu et al., 2023).

Research Methods

The researchers used qualitative research methods and case study approaches (Creswell, 2018). The case study approach aims to deeply understand complex phenomena in a given context. This approach is widely used in the social sciences, such as anthropology, sociology, psychology, and political science. In this approach, researchers collect data from various sources, such as observations, interviews, documents, and archives. Then, the data is analyzed in depth and

interpreted using various analysis techniques, such as narrative, thematic, and descriptive analysis.(Liyandi et al., 2024).

This study uses a descriptive analysis method approach based on literature review as the main method to collect data (Mengist et al., 2020). This approach involves gathering information from a variety of literature sources, including books, scientific journals, newspapers, magazines, and other documents relevant to the research topic (Saleh et al., 2023) . This information is explored and critically studied to understand existing knowledge, develop ideas, and evaluate findings contained in academic literature oriented to the topic being researched. The data collection method also involves direct observation of the research object, where the researcher observes and analyzes in depth various aspects relevant to the research objectives. In addition, interaction with subjects who have relevant expertise is carried out to gain a deeper understanding of the topic being researched (Farisi, 2010) . This research aims to formulate theoretical and methodological contributions that can provide a better understanding of the topics discussed. This approach is expected to generate new insights or deeper understandings, as well as contribute useful information to the development of knowledge and practical applications in related fields (Syaodih, 2009).

The study of environmental resilience challenges and mining policies in East Kutai Regency, Indonesia, especially in terms of this policy includes financial incentives aimed at domestic mining, refining, and processing, to reduce margin costs associated with domestic mineral production. This case study aims to deeply understand how mining policies implemented in the region affect local environmental resilience. By exploring various aspects related to the environmental impact of mining activities as well as policy responses provided by the government and local communities, this research is expected to provide comprehensive insights into the issues faced as well as potential solutions that can be applied to improve environmental resilience in the region (Fikru, 2024).

Results and Discussion

Research on environmental resilience challenges and mining policies in East Kutai Regency adopts four main indicators, namely concern, assumption, regulation, and role of state (Said, 2017). These four indicators are analyzed through three perspectives, namely normative, methodological, and empirical, to reveal real problems in the mining business in the region. From a normative perspective, concern for the environmental impact caused by mining activities is a major issue, and policies must reflect a commitment to protecting the environment. Methodologically, this level of concern is measured through in-depth surveys and interviews with the community and stakeholders. Meanwhile, empirically, real impacts on the environment can be seen through case studies, water and soil quality monitoring, and ecosystem damage analysis. The normative assumptions focus on the basic principle that mining must operate without damaging the environment, which is methodologically evaluated through analysis of policy documents and interviews with policymakers, and empirically tested with field data and environmental impact studies. Regulations must normatively ensure mining operations within the boundaries of ecological sustainability, which are methodologically analyzed through an assessment of the content and implementation of regulations, and empirically tested by looking at the compliance of mining companies with regulations. Finally, the role of the normative state as a supervisor and law enforcer is methodologically analyzed through the study of government policies and institutional capacity and measured empirically through the effectiveness of regulatory enforcement and environmental protection, and community welfare. This comprehensive approach is expected to be able to provide a clear picture of mining problems in East Kutai Regency.

Concern for Environmental Resilience Challenges and Mining Policies in East Kutai Regency

Based on the normative view on the concern indicator, mining materials are considered public goods that must be managed and owned by the state (government) which involves related institutions (Nelson et al., 2007). To achieve this, it is important to establish and spread shared values in society so that everyone understands that mining materials are public property. This is supported by the constitution, laws, government regulations, and ministerial regulations which all affirm that the state (government) is responsible for the management of mines and is considered "social" in mineral development decision-making (Prno & Slocombe, 2014). The goal is the management of natural resources and their influence in building capacity (Brottrager et al., 2023) to meet domestic needs and improve people's welfare. With this strong legal foundation, the government seeks to ensure that well-managed mines implement a sustainable mining system for the benefit of everyone (Dino et al., 2022).

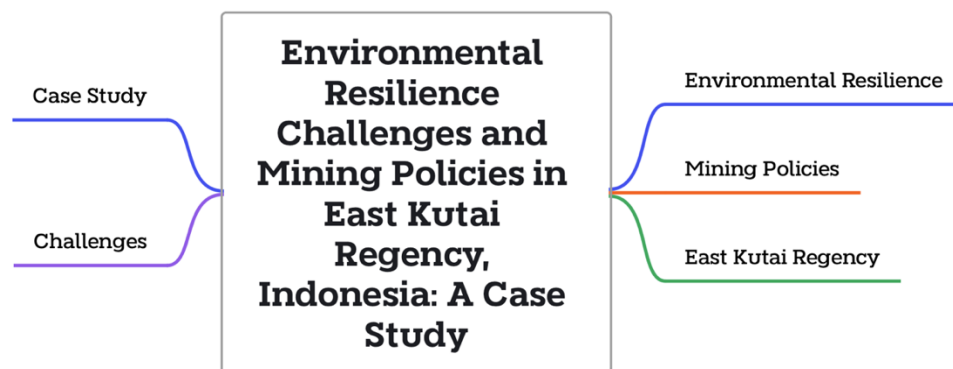


Figure 1. Conceptual Framework of Environmental Resilience Challenges and Mining Policies in East Kutai Regency

In Article 33 paragraph (4); "The national economy is organized based on economic democracy with the principles of togetherness, efficiency, justice, sustainability, environmental insight, independence, and by maintaining a balance of progress and national economic unity". Economic development must be sustainable and environmentally friendly to create an environmentally friendly space, of course, every natural resource management pays attention to the impact that affects the economic and environmental optimization of mining (Jalalian et al., 2023). On the other hand, natural resource management that is carried out properly and correctly, of course, is also expected to have the effect of increasing the economy for residents, not only for the fulfillment of development raw materials so that it triggers many views on good governance, making the explanation of related criteria and indicators more complex (Payeste et al., 2020).

The impact that can be seen is mining that already has a mining business license in North Sangatta District, East Kutai Regency (see Figure 1). Such as the impact on the exploration of the mining results of excavation C carried out has an impact on the environment around North Sangatta District, East Kutai Regency. By Government Regulation Number 22 of 2021 concerning the

Implementation of Environmental Protection and Management, Article 38 letter c reads; "Regents/Mayors through environmental feasibility tests based in districts/cities". Thus, every C mining that already has a Mining Business License is certainly entitled to mine in the area. However, sometimes there is an impact given by mining exploration. Excavation activities not only contribute to PAD (Regional Original Income) but also cause various impacts of environmental damage such as land subsidence, erosion, sedimentation, noise, dust, and groundwater level disturbances. This condition not only has an impact on the decline in environmental quality but also has a serious impact on human health and life (Pratama & Surur, 2021).

Table 1 shows that summarizes the impacts seen from mining in North Sangatta District, East Kutai Regency:

Table. 1 Visible impacts of mining

No.	Impact Aspects	Impact Description
1.	Milieu	Air quality is declining due to dust and emissions from mining activities
2.	Social	Dissatisfaction of the surrounding community with mining activities
3.	Economics	Providing jobs for the local community. Increase in regional revenue from mining taxes and levies
4.	Infrastructure	Road damage due to heavy mining vehicles. Improvement of local infrastructure development such as roads and public facilities (ex-excavated land and dust)
5.	Security	Increased safety activities around the mine area, Risk of work accidents at the mine site

Source: processed by Researcher, 2024

There are many problems with the excavation of the C mine, such as triggering the disruption of nature preservation and can also cause disasters in the area. Not only looking for great benefits in the natural resources we have but paying attention to the impact given by the management of mine C mining. If it is illegal, of course, there is no EIA or environmental impact analysis on the mining carried out so the losses will be greater, in contrast to legal mines which of course have an EIA, the impact can be reduced. It is hoped that it can reduce inequality and realize sustainable development(Sanjaya et al., 2022).

In Teluk Lingga Village, the impact of mine C exploration is very felt related to the damage to Public Facilities. The public facility that is often used by miners of mine C is the highway according to research that the excavation transport line C that crosses the area around the population causes the road to be damaged. The community around Teluk Lingga Village certainly feels the damage to this toll road and also the workers who work around Teluk Lingga Village. Several points of damage are very clearly visible, namely the decline of the road body so that the condition of the asphalt is destroyed. Because of this activity, many roads are damaged, which are often used by the local community. Because the condition of the road that has been damaged increases the possibility of accidents, especially at night, this existence is very unsettling for residents. The results of the research carried out are very corroborating with what happened in Teluk Lingga Village when mining C was carried out.(Hulukati & Isa, 2020)

Bukit Pelangi as the center of the pre-office of the East Kutai Regency government is located in the Teluk Lingga district. From 2022 to 2023, excavation C mining will be carried out in the Bukit Pelangi government office area. Since the exploration of the C mine excavation, there have been complaints from residents around Bukit Pelangi who are residents of Teluk Lingga Village. When loading the mining products of excavation C using trucks that pass through the highway causes air

pollution, high pollution potential due to suspended particles (SPM) and its impact on human health, besides that air pollution also greatly triggers dust (Ghose & Majee, 2001) and disturbs motorists who are passing through the road. When the rain arrives, the road becomes slippery and it is very dangerous for two-wheeled and four-wheeled riders to pass. Similarly, the results of research conducted by the mining process of excavation C caused damage to the highway passed by trucks loaded with mining products to the demolition site (Petrova & Marinova, 2013).

Bukit Pelangi, apart from being a government office area, also has tourist attractions in the form of parks that have been provided by the local government. This park made by the local government is certainly one of the tourist attractions that is very often visited. When the community was in Bukit Pelangi Park, the community became disturbed by the scattered dust because trucks loaded with mining products passed through the road adjacent to Bukit Pelangi Park. But even so, looking at research from the size of the tolerable air pollution limit or level in ambient air is known as air quality standards. Field measurements show that CO, TVOC, and HCHO are still present at 17 meters, 300 meters, and 800 meters in mine C, and the CO₂ shown is 0.993 ppm, 0.563 ppm, and 0.579 ppm. Good category. Thus, the air that becomes dusty certainly does not interfere with the existing CO₂ levels (Rosita et al., 2022).

Another impact given by the C mine excavation is the impact of economic growth on the surrounding community and also the region (Deller & Schreiber, 2012). The excavation of mine C, it opens up jobs for the surrounding community regardless of educational background. The economic level of the community will increase with the mining of excavation C, so the income obtained ranges from Rp. 500,000 – Rp. 5000,000. The average income or monthly income of C mining workers exceeds the UMR of East Kutai Regency, which is Rp 3,515,324. And the average working hours of mine C workers are 6 hours/day. With these wages and working hours, the results of the exploration of the C quarry also contribute to the construction of roads, bridges, and even house buildings. The most important impact of the excavation of the C mine is that the Regional Original Income increases and creates jobs for the surrounding community (Iftitah, 2023).

Assumption on Efforts and Obstacles to Monitoring the Impact of Mine Management C

The indicator assumes that because mining products are considered public goods, the state should normatively control and manage its mining resources. The methodology that can be implemented is to carry out the mobilization of mining materials to meet domestic needs. Although there are objections from related mining entrepreneurs (Zachrisson & Beland Lindahl, 2019). To better understand the additional costs associated with smelter construction, downstream must be carried out, by consistent normative and methodological expectations. However, mining practices in Indonesia are not fully compliant with the provisions of the constitution and the regulations that govern them, so there is a need for other measures to monitor non-compliance (Emetumah et al., 2020). Mining products that are exported without refining and processing domestically not only do not meet domestic needs but also do not have the potential to have a positive impact on the economies of developing countries (Githiria & Onifade, 2020). Challenges experienced by Coal C mining as a result of Mining Reclamation in East Kutai Regency which has not been completed, The results of the interview are as follows Table 2:

Table. 2 Results of Interviews with Civil Servant Investigators (PPNS) Questions Regarding Excavation C in the Bukit Pelangi Office Area in Teluk Lingga Village.

No.	Question	Sources	Interview Results
1.	What do you know about the C Mine in the Bukit Pelangi office area?	Gompar, S.H	The team from the Legislation Enforcement Division conducted an investigation into excavation C activities in the Bukit Pelangi office area in response to complaints from the community and public road users. The results of the investigation found four excavation locations C behind the Great Mosque of Sangatta, consisting of one sand excavation and three excavations of uruk soil. These four excavations are located in close proximity to each other without a valid mining permit. In addition, the Satpol PP (civic corps) team also went directly to the location to provide directions regarding the impact of the transportation of excavation C products across public roads. They advised that if there is road pollution due to the transportation of excavated materials, it must be cleaned immediately so as not to disturb other road users. The problem of excavation C is also a concern of the Transportation Department which held a coordination meeting with various related parties. The Satpol PP (civic corps) team was also invited to the meeting to participate in efforts to handle this problem more broadly. This investigation demonstrates the team's commitment to maintaining safety and order in the surrounding environment and ensuring compliance with applicable mining regulations.
2.	What steps have been taken by the Satpol PP (Civic Corps) in handling Excavation C located in the Bukit Pelangi office area?	Gompar, S.H	After the coordination meeting, it was agreed that excavation C activities in the Bukit Pelangi office area were allowed to continue with several notes. The owner of excavation C agrees to be responsible for the damage caused, including dust and mud on the surrounding roads. However, the Satpol PP did not agree with the decision because all C excavation activities in the area did not have valid permits. They emphasized that excavation C activities must be stopped and can only be resumed after obtaining official permission from the Provincial Government. Satpol PP's efforts are limited to providing advice and counseling to the owner of excavation C regarding the obligation to clean up materials that fall on the road. They cannot take action because the authority is in the hands of the Provincial Satpol PP. The Regency Satpol PP can only coordinate with related parties. Currently, despite the disagreement between the Regency Satpol PP and the owner of excavation C, excavation C activities around the Bukit Pelangi office area are still continuing. This situation reflects the complexity in the enforcement of mining-related regulations at the local and regional levels.

Source: Processed by authors, 2024



Figure 2. Trucks entering and exiting using public roads. Source: processed by authors, 2024

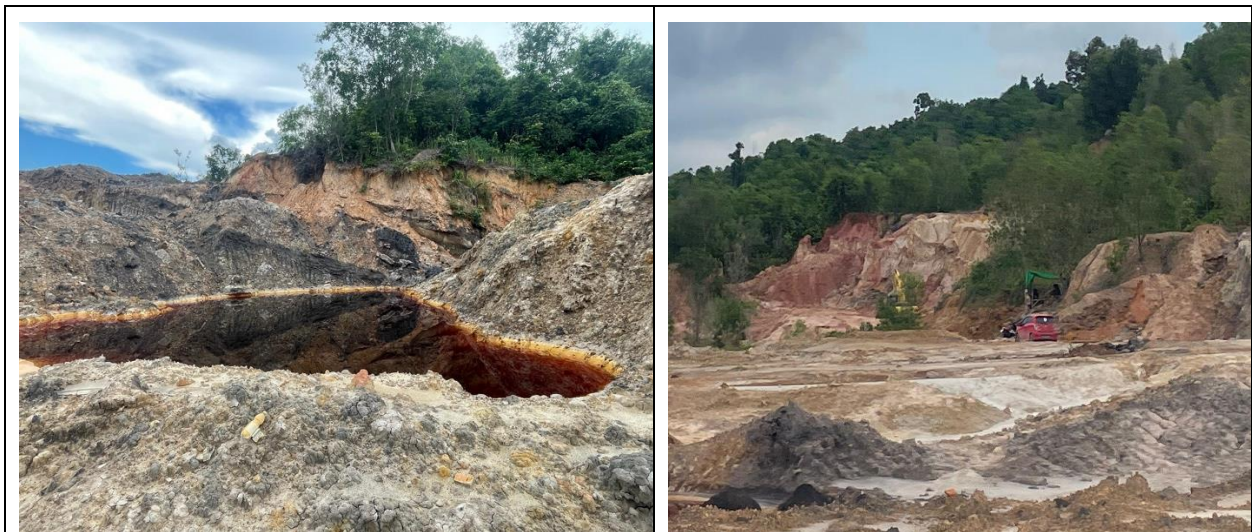


Figure 3. Mining excavation activities C . Source: processed by authors, 2024

Based on Figure 2 and Figure 3 above, depict a phenomenon that shows trucks crossing public roads, which causes serious concern in the community. As a result, the Kodim (*Komando Distrik Militer*) took the decision to close the road, although it was not actually their official duty to carry out sealing measures. The main problem that occurred was severe damage to the road due to heavy truck traffic, which caused potholes in the road. This results in roads becoming dusty when dry and muddy when it rains, becoming a source of concern for the general public and local governments. This is an important consideration in the granting of Mining Business Permits by the Provincial Government. The excavation of type C mines has a significant impact, therefore in-depth evaluation and follow-up from relevant agencies are urgently needed. When considering the use of natural resources, it is necessary to pay attention to exploration. Mining now finds itself at the forefront of a staggered but inevitable move towards increased corporate social responsibility (Yakovleva & Vazquez-Brust, 2012). As the center of attention for the widespread demands for changes in the social contract between corporate and societal activities, the mining sector is at the sharp end of the adaptation process of ecological modernization (Bridge, 2004).

From the impact of mine C, the functions and duties of the Satpol PP (civic corps) are very broad to maintain peace and public order. Therefore, they need readiness in terms of the number of personnel, quality of personnel, and honesty in carrying out their duties. As a civil government organization, the Pamong Praja Police must function as a protector of the population and have the ability to encourage and increase the active participation of the population in creating a more conducive climate in their area. By the Regulation of the Minister of Home Affairs of the Republic of Indonesia Number 26 of 2020 concerning the Implementation of Public Order and Public Peace and Community Protection, the Satpol PP, hereinafter referred to as Satpol PP, is a regional apparatus formed to enforce regional regulations and regional head regulations, maintain public order and tranquility and carry out community protection is the main responsibility of Satpol PP. Therefore, the excavation of mine C in Regency/City is the authority of Satpol PP in carrying out supervision to maintain public order and peace as well as community protection. In addition, Satpol PP is also tasked with enforcing regional regulations and regional head regulations that regulate the course of the C mine exploration process, ensuring that these activities run by applicable regulations (Afrizal et al., 2023).

Article 5 of Government Regulation Number 16 of 2018 concerning Satpol PP explains the duties of Satpol PP including; a) enforce regional regulations and *perkada*, b) maintain public order and order, and c) provide community protection. Article 6 also explains that Satpol PP also functions in:

- a. Preparation of regional and regional regulation enforcement programs, maintenance of public order and tranquility as well as maintenance of community protection;
- b. Implementation of policies to enforce regional regulations and *perkada*, maintenance of public order and public peace as well as maintenance of community protection;
- c. Implementation of coordination of enforcement of local regulations and tranquility as well as the implementation of community protection with related agencies;
- d. Supervision of the community, apparatus, or legal entities on the implementation of Regional Regulations and *Perkada*;
- e. The implementation of other functions is based on the duties given by the regional head by the provisions of laws and regulations.

In article 6 letter d of Government Regulation Number 16 of 2018 concerning Satpol PP, it is very clear that supervision of the community, apparatus, or legal entities over the implementation of Regional Regulations and *Perkada*. At the time of excavation of mine C, which is red soil, in containing the mining results, of course, the results of the implementation of regional regulations and regional regulations.

The proposed mining bill, with the implication that in order to understand this broader process, an analytical framework that pursues interrelationships shapes macro and micro ecological politics requires a proper methodology. In this study, we refer to only one such approach, which is a broad mapping of geographic change and overlap in access and rights to resources (Bebbington et al., 2015) However, the lack of public awareness about the enforcement of local regulations and community violations is a problem that is still faced when carrying out the function of maintaining order and public order (Rahmadanita & Nurrahman, 2022).

In this case, the Pamong Praja Police routinely supervise community activities that have the potential to violate local rules and regulations and disturb public peace and order. Such as excavation area C located in Teluk Lingga Village, especially Bukit Pelangi, where the mining products in the form of red soil that passes through public roads cause the road to be dusty when dry and muddy when it rains. This is certainly a complaint and a troubling problem for the local community. The East Kutai Regency Pamong Praja Police, in carrying out the task of enforcing laws and regulations, carried out early detection of the impact of excavation C. As a result, the East Kutai Regency PP Police gave

an appeal regarding the impact of red soil mining carried out. From this appeal, the excavation miners finally followed up by watering the used soil that polluted public roads, as an effort to reduce the negative impact on the environment and the surrounding community. The form of supervision carried out by the East Kutai Regency Police PP is called pre-emptive action which consists of providing information, appeals, and persuasive approaches. If the appeal is not followed up by the party who commits the violation or the mining process is still often violated, the East Kutai Regency Police will carry out periodic supervision by patrolling mine C using public roads (Fahmi & Suryadi, 2024).

Environmental Resilience Regulations and Mining Policies in East Kutai Regency

Existing regulations should be tightened for those who have permits in the mining business. The government has made firm and clear interventions, starting from the constitutional level to implementing regulations. This means that there is no longer any doubt about the need for rules or regulations that mining operations must be optimized as best as possible for domestic interests and community welfare. Ideally, mining business is carried out by the government that has expertise in the mining sector. However, if cooperation with the private sector is needed, the applicable regulations must be clearly explained so that the private sector complies with them. Unfortunately, government intervention to date tends to be minimal, which leads to low compliance with regulations. As a result, mining products are not encouraged to achieve maximum added value and do not prioritize the welfare of the community. Worse, more and more private parties are involved in mining operations, and the government seems unable to control these private companies effectively.

Furthermore, Article 7 explains the authority of Satpol PP by Government Regulation Number 16 of 2018 concerning Satpol PP, namely;

- a. Carrying out non-judicial control actions against members of the community, apparatus, or legal entities that violate regional regulations and/or regional head regulations (Non-judicial control actions are actions taken by the Civil Police in order to maintain and/or restore public order and peace against violations of regional regulations and/or regional head regulations in a manner that is in accordance with the provisions of laws and regulations and is not in accordance with the provisions of laws and regulations. judicial process).
- b. Taking action against citizens, apparatus, or legal entities that disturb public order and public order (What is meant by "taking action" is taking legal action against violations of local regulations to be processed through the court in accordance with the provisions of laws and regulations).
- c. conducting investigations against members of the community, apparatus, or legal entities suspected of violating regional regulations and/or regional head regulations (What is meant by "investigative action" is the action of the Civil Service Police that does not use coercive efforts in order to seek data and information about alleged violations of regional regulations and/or regional head regulations, including recording, documenting or recording events/circumstances, and ask for information).
- d. Carrying out administrative actions against members of the community, apparatus, or legal entities that violate regional regulations and/or regional head regulations (what is meant by "administrative action" is an action in the form of giving a notification letter, a letter of reprimand/warning for violations of regional regulations and/or regional head regulations).

After the East Kutai Regency PP Police gave an appeal to miners of mine C, according to Article 7 explaining the authority of Satpol PP in accordance with Government Regulation Number 16 of

2018 concerning Satpol PP is the next action that must be taken. In addition, there are also preventive and repressive efforts in the form of prevention so that crime does not occur again.

According to the Main Task of the Police, Law Number 2 of 2002 concerning crime prevention strategies, this prevention effort is a follow-up to pre-emptive efforts that are still at the prevention level before the crime occurs. In prevention efforts, the emphasis is on eliminating the opportunity to do so. While repressive is this effort is carried out when after a criminal act/criminal act in the form of law enforcement with the aim of imposing punishment. Repressive efforts are countermeasures to take action against perpetrators according to violations and improve them again so that they are aware that illegal acts can harm the surrounding community so that they can avoid it and others also do not do it considering that the sanctions they bear are very large developing solutions to the challenges they face (Githiria & Onifade, 2020).

The East Kutai Regency Pamong Praja Police face various obstacles in handling the impact of the excavation of the C mine carried out by the community. One of the main obstacles is the limitation of authority, where the Regency/City Pamong Praja Police cannot carry out direct supervision because this is the authority of the Provincial Police. As a result, supervision of the excavation of mine C at the Regency/City level cannot be carried out optimally. In accordance with Government Regulation of the Republic of Indonesia Number 22 of 2021 concerning the Implementation of Environmental Protection and Management, the granting of Mining Business Permits (IUP) for mine C is the full responsibility of the Provincial Government. The supervision is the right of the East Kalimantan Provincial Police, considering that the IUP is issued by the Province of East Kalimantan. Article 19 in Governor's Regulation Number 35 of 2017 concerning Mining Use Permits states that the Governor through the relevant agencies must provide guidance and supervision over the implementation of non-metallic minerals and rock mining business activities.

Another obstacle is the lack of coordination (Cisneros, 2021) between the East Kutai Regency Pamong Praja Police and the East Kalimantan Provincial PP Police in the enforcement of local regulations and the implementation of community protection. Information from the Enforcement of Laws and Regulations of the East Kutai Regency Satpol shows that coordination with the East Kalimantan Provincial Police has not been achieved, which results in the supervision of mine C (Mulenga, 2022) not running well. In addition, the East Kutai Regency PP Police until now does not have adequate data regarding mining C that has permits and those that do not have permits. These obstacles have resulted in the East Kutai Regency PP Police being less alert in supervising mine C activities, thus requiring increased coordination and the provision of more complete data for the effectiveness of supervision in the future. The phenomenon of mining pit excavation in East Kutai certainly triggers social vulnerability which is covered by the legal framework that regulates human rights. We agree that this is a step forward, as substantial resilience can be built by improving compliance with the law (Weichselgartner & Kelman, 2015).

Role of The State of Environmental Resilience and Mining Policy in East Kutai Regency

The normative expectation of a strong role of the state in mining business has not been empirically proven. The government should be able to enforce the regulations that have been made, but it becomes weak when dealing with capital owners. Empirically, it is clear that mining management in Indonesia tends to benefit large capital holders. Government organizations (Maher et al., 2019) are often used as a tool of legitimacy for the benefit of capital owners, which is an anomaly in a state-centric approach. Normatively, existing regulations aim to maximize benefits for the community through the orientation of meeting domestic needs and improving people's welfare. However, in reality, these clear regulations are often constrained by the dominance of capital power (Smith & Sepasgozar, 2022) , both from the private sector and the market. The strong dominance of

capital owners has resulted in inconsistencies in the implementation of mining regulations in Indonesia (Spiegel, 2012). In addition, the inability to master the advanced technology needed to increase the added value of mining products is a problem that the state has not been able to overcome, while foreign investors have mastered the technology so that the refining and processing of mining products is carried out abroad. In addition, management that has high skills and the problem of capital incentives are also challenges that need to be overcome (Smith & Sepasgozar, 2022; Iftitah, 2023).

Table. 3 Owner of Excavation C in Bukit Pelangi Office Area, Teluk Lingga Village, North Sangatta District, East Kutai Regency

NO	OWNER'S NAME	OWNER ADDRESS	EXCAVATION LOCATION C	Mine Status C
1	Yahya	Anonymous	Bukit Pelangi Office Area	No Permit
2	Ruslan	Anonymous	Bukit Pelangi Office Area	No Permit
3	Shariansyah	Anonymous	Bukit Pelangi Office Area	No Permit
4	H. Ilyas Enrekang	Anonymous	Bukit Pelangi Office Area	No Permit

Source: Processed by authors, 2024

Based on Table 3, data obtained from the Civil Servant Investigator for Law and Regulation Enforcement of the Satpol PP indicate a need for enhanced action by the East Kutai Regency Government. Specifically, this includes reclamation and rehabilitation of open coal mining areas through tree planting, especially with black acacia species (Wilms et al., 2024). This approach aims to mitigate the environmental impact of mining activities, with the expectation that tree planting will help stabilize former mining land and prevent soil erosion, which could otherwise affect rivers and infrastructure, such as cross-axis roads, in East Kutai Regency. These rehabilitation efforts, aligned with global initiatives to restore lands impacted by mining, also offer additional benefits, such as efficient resource use and material conservation, providing a potential methodology for assessing long-term economic viability and sustainability (Pavloudakis et al., 2020). In East Kutai, however, supervision of illegal mining impacts on the local ecosystem is minimal. The environmental practices of mining companies authorized by the district government appear less sustainable than those permitted under previous regulations (Lebel et al., 2006).

Research Implications

Previous research this article reviews the complex relationship between community resilience and policy challenges, particularly related to the concept of state-led policy corridors and responsibilities in the 'global resilience transition'. The influence of state policies on each community in the country can be direct or indirect, with changes directed through special corridors that can have a positive or negative impact on community resilience (Wilson, 2013).

This paper discusses the role of the government in mining policy in Indonesia. The liberalization of the mining sector has led to a decline in efforts to realize the country's goals. Article 33 Paragraph 3 of the 1945 Constitution clearly stipulates that the state has control over the earth, water, and its natural resources to be used as much as possible for the welfare of the people. However, current mining regulations show non-compliance with these constitutional principles. The question is, who is the mining policy made by the government for? This issue needs to be approached with a focus on the role of the government, regulatory compliance, and an appropriate approach to ensure that mining resources are utilized as optimally as possible for the benefit of the people. This analysis also considers the perspective of political economy in its context (Said, 2017).

This study revealed that Regencies or Cities that have excavation C mining areas feel the most impact. This mining activity results in soil surface damage and changes in natural forms. The large holes left by mining tend to be waterlogged, become mosquito nests, cause diseases, and cause air pollution during the dry season. Trucks loaded with excavation C passing by cause road damage, making the road dusty when hot, muddy when it rains, and increasing congestion. The heavy load of these trucks also worsens road conditions by causing damage and potholes, as well as increasing the risk of accidents due to the use of public roads by large vehicles. In addition, the lack of firm policies in East Kutai Regency exacerbates this situation (Nwadior, 2012).

Conclusion

Supervision of the excavation of mine C in East Kutai Regency shows that there are weaknesses in law enforcement by the PP Police who have not been able to impose sanctions on mining activities C. Furthermore, several conclusions can be drawn regarding the role of the Pamong Praja Police and its impact:

The impact of mine C excavation activities is mainly felt on public facilities such as highways that are often passed by mining vehicles. These roads tend to be damaged, become dusty during the dry season, and muddy during the rainy season. This disturbs the people living around the mine and road users who pass through the area.

The efforts made by the East Kutai Regency Police in the form of appeals or appeals are still not optimal and have not reached the expected level of effectiveness. Effective supervision of excavation activities must comply with applicable laws and regulations, especially Government Regulation Number 16 of 2018 concerning Satpol PP as well as local policies set by the East Kutai Regency PP Police, which include preventive and enforcement measures. Increasing the supervision carried out by the East Kutai Regency Police is still inadequate because the full authority over the management of mine C is in the hands of the East Kalimantan Provincial Government. As a result, the East Kutai Regency Police PP does not have full authority to take action against mining activities C.

This study has striking strengths and weaknesses, especially in its focus on the supervision of mine excavation C in East Kutai Regency which is analyzed through environmental resilience challenges and mining policies. The main advantage of this study is the use of valid data from interviews with field actors in addition to literature studies. This allows researchers to gain a more comprehensive and practical understanding of the actual situation. Based on these findings, the researcher identified the potential to follow up on policy issues in East Kutai through more effective policy revision and implementation. This approach provides a strong basis for policy formulation that can address the negative impacts of mining activities in the region more comprehensively and sustainably.

Thus, better coordination and empowerment of local law enforcement agencies are urgently needed to improve supervision and policy enforcement related to C mining activities in East Kutai Regency. Cooperation between the government and companies is needed to reduce the problems arising from mining C. Through firm policies and planned rehabilitation efforts, negative impacts on the environment and infrastructure can be minimized. Clear and firm policies will ensure that mining is carried out with sustainability and safety in mind, while rehabilitation efforts will help restore damaged land and prevent health and safety issues for surrounding communities. This cooperation is very important to create a balance between the exploitation of natural resources and environmental conservation.

Competing Interest Statement

The authors state that they have no competing financial interests or personal relationships that could affect the work reported in this paper.

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