







Mining Management of Nonmetallic Minerals and Rocks Based on Government Policy

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<https://doi.org/10.18280/ije.060402>

ABSTRACT

Received: 20 September 2023

Revised: 24 October 2023

Accepted: 4 November 2023

Available online: 28 December 2023

Keywords:

safety, non-metal rocks and minerals, supervision, stakeholders, environmental

This study discusses government policy, focusing on political-ecological commitment to licensing and tax collection for non-metallic mineral and rock mining, which is spread across almost 30 regional government areas in North Sumatra, Indonesia. Based on existing data, there are 700 mines that are not licensed, operate freely and without supervision by the government, causing serious environmental damage and state financial losses from the mining tax sector. The research method uses qualitative with purposive (exclusive) sampling and field studies. The research results showed that the commitment to managing permits and taxation of non-metal minerals and rocks continues to be problematic, and includes the non-implementation of supervision of mining permits and tax collection and the lack of special policies and handling procedures by regional and central governments. Handling internal mining governance policies and the monitoring process requires assistance from law enforcement officials such as the Regional Police and Corruption Eradication Commission to prevent fraud in granting mining business permits. Through this assistance mechanism, examples of sustainable mining monitoring and supervision will be produced that are useful for the government so that mining business actors can continue to be supervised with official permits.

1. INTRODUCTION

The issue of permits, acceptance, and regulations in the non-metallic and rock minerals sector requires a strong commitment from regional heads, especially the Governor of North Sumatra (Indonesia), to be able to manage his staff in controlling unlicensed mines while remaining free to operate. In 2020, North Sumatra held simultaneous Regional Head Elections (Regional Head Campaign) in 34 regencies and cities. As a result, several new regional heads were elected with their visions, missions, and political promises. During the campaign, it is rare to find political promises or commitments for Regional Head Candidates that focus on environmental improvement. Commitment to environmental monitoring and control of business licenses is also based on the regional head's vision and mission when appointed as Regent or Mayor. Regional empowerment also contains political promises, especially post-decentralization or expansion between parent regions and growth. New areas resulting from the increase have various environmental problems with natural resources. The best way to address the social impacts of conservation and the change and development of natural resources is to work toward a world where conservation is no longer necessary [1].

Indonesia is an illustrative example of how a profound restructuring of a centralized state has produced mixed policy outcomes. After the collapse of the authoritarian regime and the advent of the reform era, it gave substantial autonomy to its regional governments [2]. District-level local government,

in particular, is empowered with important prerogatives in several policy areas and a larger area of jurisdiction. In contrast, the province, a political unit more significant than the district and national, has more limited jurisdiction. The main obstacle to district/municipality territorial authority in exploration is the issue of permit arrangements that need to be complied with by business actors. A series of licensing arrangements aim to reduce barriers to investment, helping to open new frontiers and weaken instruments designed to minimize environmental and social impacts [3].

The government's political commitment to controlling non-metal and rock mineral permits which are problematic and result in environmental damage is an action to address issues related to political ecology [4]. The Central Government and local government must mutually communicate government instructions issued in control [5]. It is stated that sustainable economic development requires the availability of natural resources and supporting infrastructure from the government [6]. The government's attitude toward the commitment and implementation of political ecology has become essential in resolving licensing issues and collecting levies for non-metal and rock minerals. The process of creating an excellent political ecology is the need of the state and the expectations of society [7]. Mining's contribution to regional development still needs to be debated and clarified. The gift fluctuates throughout the mining cycle. During mine construction, there was immense pressure on the labor market and housing [8].

Political ecologists detail about problematic in the ten

studies analyzed that represent different styles of democratic engagement [9]. In particular, the problem representation of the three types of democratic engagement was identified as (1) leader behavior-oriented and leader-centered engagement; (2) practice-centered engagement in the field; and (3) policy-obstacle engagement and practice-centered engagement in the field [10]. This aligns with the problems with structuring permits for non-metal and rock minerals in North Sumatra. Regional leaders must still be fully oriented towards regulatory policies, with many mines growing illegally and without control. Natural resources and network infrastructure benefits are often unequal and shared among citizens of different socioeconomic classes [11]. This has triggered the emergence of community courage, especially in North Sumatra, to form illegal mines and excavations, especially in the hills, rocks, and sand areas near rivers. Therefore, overall effective control is needed, and maximizing the power of village officials as a form of control over mining permit regulations and environmental permits is associated with obtaining an Environmental Impact Analysis [12]. It is hoped that the development of agrotourism can provide an alternative source of income for local communities and reduce land development that is detrimental to the environment [13].

Power elite figures maintain extensive networks with the mafia (thugs) and community groups (community organizations) and use intimidation or violence to protect mining interests (belonging to business people or political elites) in Indonesia [14]. Therefore, in the process of controlling and supervising the non-metal and rock minerals business and operations in the North Sumatra Region, it is necessary to carry out a political approach (political will) from the Regional Government of North Sumatra to non-metal and rock minerals business actors by requiring reclamation guarantees and legal documents legally included in the government's digital portal. Integrated centers (Corruption Eradication Commission, Ministry of Home Affairs, Ministry of Energy and Mineral Resources, and Ministry of Finance) so that if environmental damage is found and arrears in tax levies, they can immediately be subject to criminal sanctions. The weakness in handling non-metal mine management is the supervision sector in the aspect of law enforcement. The regional government, especially North Sumatra, has not yet cooperated optimally with the regional police and prosecutors to deal with illegal excavation by unscrupulous entrepreneurs. In the exploration process with the police, the Governor of North Sumatra has held two large meetings with all members of the police and regional and resort police officials. However, until now the proof of the results of the meeting has not been carried out. The regional government is still monitoring and taking to the field without being accompanied by the police.

Regarding the optimization of non-metal and rock mineral mining tax, which the government must acquire, this is included in the circular economy; mining waste from traditional mining, such as non-metal and rock mineral mining (in a linear economy), can recover materials through technical recycling of industrial waste categories and post-consumers (in a circular economy), this commitment is also part of the government's policy contained in its political commitment [15]. Efforts to improve environmental quality in Indonesia had been planned in the previous policy period. For this reason, the government proposes to restructure circular economy development policies accompanied by investment in human resources in the fields of education, health, and infrastructure [16]. The circular economy related to mining is also analyzed

from a three-dimensional framework consisting of "Policy Objectives", "Policy Instruments", and "Policy Stage", the result is a correlation between policy objectives and policy instruments [17]. Sustainable development aims to contribute to ethical business and ethical economy by mobilizing businesses, public institutions and organizations, and non-governmental organizations, including Nonmetallic and Rock Minerals [18]. In terms of sustainable development, mining includes a transboundary government area that affects all aspects of human activity, including water supply, agriculture, industry, hydropower, water transportation, environment, and human quality of life [19]. Other research states that the supply chain in terms of metals, minerals, and rocks starts from the exploration stage, which includes searching, detailed mapping, trenching, geochemical and geophysical surveys, and initial drilling to identify mineral deposits and determine their economic potential. A mining site can be constructed after the design and planning stages [20].

The dimensions of political ecology in the mining sector business, economically, there are several cycle categories, namely, natural resources to other sectors of the economy, fiscal (revenue from taxation and royalties), consumption (wage earnings and profits that drive domestic demand), and production relations. In this context, the linkages for producing nonmetallic minerals and rocks are broken down into backward links (supplying inputs to the extractive sector); forward linkages (processing output from the extractive industry, for example through added value); and infrastructure linkages. In addition to development economics, several studies state that mining can rapidly change the community's economy but harms the environment, so it must be projected within certain limits [21]. The dimensions of political ecology are also interrelated. Mining and political ecology connect natural, ecological, social, and economic sustainability [22].

Sustainable development is manifested in three dimensions, namely economic, environmental, and social or ecological, economic and equity. A healthy environment is an essential factor in maintaining human health so that people can live optimally [23]. Good interactions will arise if the environmental dimension meets the social size [24]. The mining economy aims to develop people's lives for the better. They can be sovereign and secure in the economy, food security, education, health, environment, and politics [25]. Mining operations cause two types of environmental problems: depletion of non-renewable resources and environmental damage. The latter includes air, land, water and noise pollution, as well as visual impacts on the landscape and impacts on groundwater levels. This environmental impact can affect human health, especially with air and water pollution, which can cause respiratory and other illnesses [26]. Environmental problems are still the center of attention. The environment and humans have an interactive relationship. Pressure on the environment becomes an ecological problem as industry develops. Increased industrial development causes an increase in the amount of pollution [27]. One effort that can be made to preserve the environment is by implementing environmental management strategies in the environment around mining. The economic dimension is related to the environment and refers to the regulations in Law No. 28 of 2009; nonmetallic and rock mineral businesses, which are an active combination of the economy and the environment, must be taxed for sustainable economic growth.

The Governor of North Sumatra was the only regional leader who was committed to improving and regulating the

mining of non-metallic minerals and rocks with the issuance of regulation No. 900.1.13.1/7845/2023 dated 4 July 2023 concerning the Use of Materials for construction work from companies that have non-metallic and rock mineral mining permits and pay regional taxes. The implications of this commitment are in the form of integrated and measurable supervision of permits, the use of regional regulatory instruments for the supervision of mining permits, both legal and illegal, and tax collection from the non-metallic mineral and rock sector which is legalized with confirmation from the ministry of finance and the Ministry of Home Affairs. For areas that have not yet made commitments, environmental damage has been found, in the form of floods, landslides and reduced peatland due to illegal mining by entrepreneurs without official permits. Another consequence is state financial losses through regional taxes because the potential of natural resources is not maximized by the imposition of tax levies. Based on information obtained from the Ministry of Public Works and Public Housing of the Republic of Indonesia, the need for housing in Indonesia is estimated to increase by 700-800 units per year. Based on data from the 2020 National Socio-Economic Survey (Susenas), the housing ownership backlog figure reached 12.75 million. For this reason, market demand for rock, sand, landfill and other non-metallic raw materials is increasing every year. Market demand increases so that the labor market is increasingly needed. As a result of increasing demand, many mining mafias are playing around by falsifying permit documents and even carrying out excavations without being based on Environmental Impact Analysis documents. Based on the explanation and description in the introduction, it is necessary to carry out ontological and comprehensive research to understand the government's commitment to handling mining problems. Handling is based on policies that affect economic, legal and environmental control functions. As a form of mitigating damage and natural disasters resulting from mining exploration, careful research is needed with the following research focus. The focus of this research aims to fill the gaps in previous research.

1. Control of the mineral and non-metallic rock sector for environmental sustainability based on the political ecology commitment of the North Sumatra Government;

2. Government control of non-metallic mineral mining in North Sumatra;

3. Audit of business sectors in the field of non-metallic minerals and rocks.

2. METHODOLOGY

The method in this study uses qualitative methods and field study data. Qualitatively, the results of the interview method were used to find out the results of perceptions of environmental politics from the actors involved. In contrast, field studies were used by researchers to obtain facts in the field as well as data to reinforce the substance of environmental politics. The research sample approach is to select a potential sample, namely the Governor of North Sumatra, who will serve until 2024, and 9 other figures who play an essential role in structuring non-metal mineral and rock mines in North Sumatra. The questions given to the research informants were carried out using an in-depth interview format, and the questions were adapted to the political ecology approach to produce public policy.

All sources are exclusive using purposive sampling

technique. Interview results that tend to be subjective and normative will not be authentic data in this research. Therefore, researchers conducted observation studies in the field and reviewed tax data, environmental documents, and studied local wisdom in local mining areas, to address the rise of illegal mining which is destroying the environment. Moreover, additional data as research reinforcement was taken from the North Sumatra Regional Non-Medium Development Plan for 2018-2023. Expressly, the budget and supervision of non-metal and rock mineral mining permit. All researches and data collections were carried out in the North Sumatra Region. The questions submitted to the informant were carried out and carried out at the JW Marriot Hotel, Medan City on August 9 2022, right after he opened the coordination meeting for controlling the non-metal mineral and rock mining sector in North Sumatra. The meeting was initiated by the regional government of North Sumatra Province, in collaboration with Indonesian Central Government Agencies, such as: the Corruption Eradication Commission, the Ministry of Home Affairs, the Capital and Investment Agency, and the Republic of Indonesia Police.

The qualitative method used in this research uses qualitative content analysis. Qualitative content analysis is a text processing evaluation method used in the context of social science research projects to enhance data collection, for example open interviews [22]. The following is an explanation of the profession along with the duties and responsibilities of each research source. Each source is also equipped with a code in the form of an interview ID (or the ID of each source). Regarding the content of the interview, the researcher included and explained in detail in the appendix. The results of the qualitative content analysis and digest were processed using MAXQDA 2022 software, the results are as follows:

1. The Ministry of Home Affairs is responsible for drafting the basic regulations and applicable laws and regulations regarding the management of nonmetallic mineral and rock business permits. The Ministry of Home Affairs is also authorized to grant business licenses and to evaluate and monitor non-metal mineral and rock business licenses (A1);

2. Coordinator of Mineral Business Services, Ministry of Energy and Mineral Resources of Indonesia (A2);

3. Head of the North Sumatra Directorate General of Taxes (DJP), Ministry of Finance (A3);

4. Deputy for Coordination and Supervision for Region I Corruption Eradication Commission of the Republic of Indonesia as the party that monitors and evaluates the prevention of corruption in mining permits (A4);

5. Representative Head of the Financial and Development Supervisory Agency for the North Sumatra Region; and Representative of the Supreme Audit Agency) (A5);

6. Head of Licensing Section, Investment Coordinating Board as the party issuing the Online Single Submission (OSS) (A6);

7. Governor of North Sumatra as Head of Regional Government. As the Regional Head, the governor can order an agency or organization to collect taxes from Non-Metal and Rock Mineral business actors, in this case, the North Sumatra Regional Revenue Agency, instruct the Environment Agency to conduct a series of inspections and control regarding environmental impacts. Licensing Service to supervise Mineral business actors. Non-Metals and Rocks in North Sumatra (B1);

8. Head of the Office of Energy, Mineral Resources and

Coal of North Sumatra Province as the supervisor and center for mapping the mining areas of North Sumatra (B2);

9. Head of One Stop Licensing and Investment Service, North Sumatra Province (B3);

10. Head of the Mining Area Control Section at the North

Sumatra Province Environment and Forestry Service (B4).

The interview lasted 30-40 minutes. Tables for research sources are provided with ID “A” for the Central Government and ID “B” for the Regional Government of North Sumatra. Table 1 describes the research sources.

Table 1. Expert overview

ID	Position	Experience in Policy Making	Project Region	Interview Duration
A1	Director General of Regional Development Ministry of Home Affairs	25 Years	National	30 Minutes
A2	Coordinator of Mineral Business Services	10 Years	National	30 Minutes
A3	Head of the North Sumatra Directorate General of Taxes (DJP)	10 Years	North Sumatera	30 Minutes
A4	Deputy for Coordination and Supervision for Region I Corruption Eradication Commission	15 Years	National	30 Minutes
A5	Representative Head of the Financial and Development Supervisory Agency (BPKP - Indonesia) for the North Sumatra Region	15 Years	National Especially North Sumatra	30 Minutes
A6	Head of Licensing Section, Investment Coordinating Board	10 Years	National	30 Minutes
B1	Governor of North Sumatra	30 Years	National Especially North Sumatra	40 Minutes
B2	Head of the Office of Energy, Mineral Resources and Coal	20 Years	North Sumatera	30 Minutes
B3	Head of One Stop Licensing and Investment Service, North Sumatra Province	10 Years	North Sumatera	30 Minutes
B4	Head of the Mining Area Control Section at the North Sumatra Province Environment and Forestry Service	8 Years	North Sumatera	30 Minutes

The researcher then divided the questions according to the political and ecological dimension so that each resource person was directed to elaborate on their opinion regarding improving the licensing management of Nonmetallic and Rock Minerals in North Sumatra. Analysis of the results of the interviews was carried out using the MAXQDA application, including the transcription of audio results and notes entered into the MAXQDA 2022 application [28]. Each topic (marked in bold) question is implemented into three questions related to Political Ecology so that it can help the resource person in answering the questions; The description of the interview questions is as follows:

Topic 1: Environmental political commitment

1.1 Political Commitment to Environmental Improvement Due to Uncontrolled Exploration of Non-Metal Minerals and Rocks.

Question: *Have the Regional Head’s political commitments and promises supported efforts to control Non-metal and Rock Mineral business licenses?*

1.2 Application of technology in managing nonmetallic minerals and rocks to prove political, ecological commitment.

Question: *One measure of political commitment to the environment is that stakeholders, in this case, the government, must apply advanced technology or management practices in protecting the environment; this has been implemented in the management (supervision and tax collection) of non-metal and rock minerals in North Sumatra, how your opinion?*

1.3 Leadership is the right time to improve non-metal and

rock minerals because, in that period, the public will know about the government’s efforts in making policies for the public.

Question: *Through Central and Regional Leadership, Regional Heads, and Heads of related Agencies, various efforts to control permits can be optimally implemented in North Sumatra; what do you think?*

Topic 2: Political ecology in the management of business permits for nonmetallic minerals and rocks

2.1 Through integration between the central and regional governments, permits for the management and administration of nonmetallic minerals can be carried out.

Question: *The OSS system can facilitate the Nonmetallic Mineral and Rock Mining Sector ‘S business permits so that monitoring can be carried out at the center and integrated into the regions. What is your opinion?*

2.2 Government functions related to the control of environmental permits.

Question: *Have the regulations made by the government regarding the control of environmental permits been fully implemented in the regional government operational arrangements?*

2.3 Efforts to control unlicensed nonmetallic and rock mineral businesses (illegal mining)

Question: *What are the efforts to control nonmetallic mineral and rock businesses that are not licensed (illegal mining)?*

Topic 3: The power of politics in optimizing revenue in the field of natural resources

3.1 Tax enforcement efforts from the sector non-metal mineral and rock business.

Question: *In the process of government bureaucracy, have you made various efforts to control taxes from the non-metal mineral and rock business?*

3.2 Profit sharing from the Non-Metal and Rock Mineral Tax between the Regional and Central Government?

Question: *How to share tax on nonmetallic minerals and rocks in stages of local revenue optimization?*

3.3 Payment of tax levies Nonmetallic minerals and rocks

Question: *Has an online tax payment system been implemented for the non-metal mineral and rock sector that the government manages?*

3. RESULT AND DISCUSSION

The results of interviews with ten informants regarding questions regarding the implementation of non-metallic mineral and rock businesses in North Sumatra are divided into three question topics, the three big topics are: the government’s political ecological commitment in controlling non-metallic mineral and rock mining, political ecology related to the mining licensing system, and Political power in optimizing state revenues in the natural resources sector. The answer given by the resource person was that there was a commitment between the central and regional governments to produce public policies in the form of governance and management of mining, especially non-metals and rocks. The results of these answers were obtained by summarizing all the source answers, then looking for the essence and results of the analysis using MAXQDA 2022 software. To investigate issues

of efficiency and justice, policy analysis refers to normative economics and decision analysis as well as ethics and other branches of social and political philosophy - which everyone discussed what to do. This normative orientation stems from the fact that analyzing policies requires us to choose between desired consequences (goals) and desired actions (means). The processed results of the interview are as follows in Table 2. The complete answers from the interview with the source are also in the appendix.

The various answers given by the informants reflect that North Sumatra is still unprepared to process and issue non-metal and rock mineral business permits. Therefore, the two parties, the local and central governments, must carry out joint actions to arrange mining permits and taxes. Researchers are still carrying out the data processing process by taking a field study approach to the local government of North Sumatra Province to find out what process takes place until a public policy is achieved. The interviewer was factually aware of the actions taken, however, the process of controlling official mining permits in Indonesia is very complicated. After changes to permits occurred in 2020 with the issuance of the Job Creation Law, all permits submitted were regulated by the Central Government, causing regional governments to have no power in regulating mining permits, however this law was conflicted by Presidential Regulation Number 55 of 2022 concerning Delegation Granting Business Permits in the Mineral and Coal Mining Sector, which indicates that the delegation of mining permits is returned to regional governments. So, during the research period, the regional government of North Sumatra only started to move and try to manage non-metallic mineral and rock mining.

The area of North Sumatra reaches 18,298,123 ha (182,981.23 km²), consisting of a land area of 7,298,123 ha and an ocean area of 11,000,000 ha. In this research, the focus of mining areas is in 20 districts and cities that have data on non-metallic and rock mining, based on sources from the North Sumatra Provincial Government in 2022.

The map of the North Sumatra mining area spread across Regency and City Governments is shown in Figure 1.

Table 2. Processed interview data for sources

Question Topic	List of Questions	Conclusion Answers, IDs A and B
Environmental political commitment	1.1	It is recognized that licensing control has not run optimally in North Sumatra; there needs to be supervision from the center regarding the licensing policies that are carried out.
	1.2	The application of technology in structuring nonmetallic minerals has yet to be carried out in the North Sumatra Region; the governor must immediately address this.
	1.3	Appropriate policies can be issued immediately without the intervention of political elites so that, as an executive agency, the Regional Government can immediately hone regulations and be monitored by the Central Government.
Political ecology in the management of business permits for nonmetallic minerals and rocks	2.1	The Ministry of Investment has fully implemented the OSS system so that non-metal mineral and rock business risks are regulated in the licensing system.
	2.2	It is necessary to immediately form an integrated team specifically in licensing control.
	2.3	For control regarding illegal mining, the local government must coordinate with the Regional Police.
The power of politics in optimizing revenue in the field of natural resources	3.1	Taxes taken from the nonmetallic mineral and rock sector must be in line with the control of business permits.
	3.2	The Central Government requires tax withdrawals from the reclamation and post-mining guarantee sector. For Regions, the tax withdrawn is from the unit price of each nonmetallic mineral and rock.
	3.3	There has yet to be an implementation of an online tax system in levying taxes on nonmetallic minerals and rocks.



Figure 1. Map of North Sumatra Mining Area – Indonesia [29]
 Source: North Sumatra Provincial Government

3.1 Government control based

After the interview and meeting between the regional and central government at the JW Marriot Medan on August 9, 2022, the Regional Government of North Sumatra began to improve the licensing process and optimize taxes. The principle of political ecology in optimizing local taxes from the Nonmetallic Minerals and Rocks sector by the Provincial Government of North Sumatra is implemented in the Decree of the Governor of North Sumatra Number 188.44/587/KPTS/2022. The benchmark price decision has been submitted to the Regents/Mayors of North Sumatra Province under the letter of the Regional Secretary of North Sumatra Province Number 540/9680/2022 dated August 22, 2022, Regarding the Submission of the Governor of North Sumatra Decree concerning Stipulation of the Nonmetallic Minerals and Rocks Benchmark Price. The governor's decision was issued due to the declining tax revenue from The Nonmetallic Minerals and Rocks sector based on The North Sumatra Region's Gross Domestic Product. The researchers also looked at the potential for environmental damage caused by land damaged by illegal mining, for example, in the Deli Serdang, Langkat, and North Padang Lawas Regencies. The following are picture of several location points damaged by illegal mining.

Based on current prices, the Gross Regional Domestic Product (GRDP) of the North Sumatra Provincial Government generally increases yearly. In 2019, it was IDR 539.513 trillion

or an increase compared to 2018, which was recorded at IDR 512.762 trillion. In 2020 the North Sumatra Province's GRDP decreased to IDR 533.746 trillion. However, especially for GRDP from the mining and quarrying industry, especially Nonmetallic Minerals and Rocks from 2016-2020, continues to experience a decline in value. This is due to centralized licensing supervisory authority (the Online Single Submission system has not been issued) and the Nonmetallic Minerals and Rocks tax collection in North Sumatra has not been optimal in the last five years. Table 3 shows the GRDP of North Sumatra Province 2016-2020 for the mining and quarrying industry.

Table 3. Gross Regional Domestic Product - mining and quarrying sector - North Sumatra Province

Business Sector	Current Prize (Million USD)				
	2016	2017	2018	2019	2020
Mining and Excavation	545	571	615	650	667
	Constant Prize (Million USD)				
	395	414	437	457	446

Table 3 shows that the mining sector experienced a negative trend of -2.31% in 2020. This could be explained due to the Covid-19 situation and changes in mining licensing authority with the issuance of the Job Creation Law No. 11 of 2020. The following data is regarding indications of priority programs related to funding needs from the Mineral sector, including

non-metals; the realization of this sector still needs to reach the target.

Following the issuance of the Decree of the Governor of North Sumatra Number 188.44/587/KPTS/2022, regarding The Nonmetallic Mineral and Rock Mining Sector Benchmark Price in the mining area of North Sumatra, the Regional Government of North Sumatra Province routinely socializes the benchmark price for Nonmetallic Minerals and Rocks to several Regencies/Cities, including; Deli Serdang Regency, Langkat Regency, Binjai City, and Tebing Tinggi City. The Provincial Government of North Sumatra is coordinating with related agencies, namely the Mining Inspector of the Ministry of Energy and Mineral Resources, jointly carrying out fieldwork to control the unit price of non-metal and rock minerals. The impact of the results of determining the benchmark price is an increase in the percentage (although it does not reach 10%) of the Nonmetallic Minerals and Rocks tax in several regions of the Regency/City Regional Government of North Sumatra until the end of December 2022. Data is collected from Regional Original Income sampling, areas of Langkat, Deli Serdang, Serdang Bedagai, Karo, Dairi, Pakpak Bharat, Humbang Hasundutan, Samosir, Simalungun, Batubara, Toba and North Tapanuli, and others. The following is Regional Original Revenue data specifically for non-metal and rock minerals in several North Sumatra Regions after the

Governor’s Decree issuance in 2022.

The results of tax withdrawals originating from data from each Regional Revenue Agency (Table 4) are a response to the North Sumatra Governor’s Decree issuance. The results show that the non-metal mineral and rock sector’s tax attainment rate has yet to be maximized. However, this data will continue to rise because the governor’s decision regarding the benchmark price for each rock and non-metal has only been effective for three months since August 2022. Another reason for the potential for taxes that have not been significant is the socialization and commitment of local and regional officials to go to the field, and withdrawing unit prices during the 2022 period still needs to be fully implemented. Therefore, the value of the tax increase has remained relatively high.

Based on the work targets of the Mining Inspector of the Ministry of Energy and Natural Resources, the focus of the work of mining inspectors in North Sumatra, consisting of 19 people, will supervise mining activities that are licensed in accordance with Article 141 of Law Number 3 of 2020. For 2021, 25 districts/regencies have been supervised. Cities with the number of valid mining business permits reaching 317 business permits, until 2022 the number of mining business permits, supervision has carried out totaling 232 business permits or 87% of the total valid permits.

Table 4. Regional Original Revenue data specifically for non-metal and rock minerals in several regions of North Sumatra

Regency	Non-Metal and Rock Mineral Sector Revenue		Percent
	*January to December 2021 (USD)	*January to December 2022 (USD)	
Langkat	93.53573	310.97155	3.3%
Deli Serdang	14.11524	67.13142	4.7%
Serdang Bedagai	18.66727	39.54508	2.1%
Karo	160.99067	187.25713	1.1%
Dairi	97.57961	163.47028	1.2%
Pakpak Bharat	32.37770	42.03555	1.2%
Humbang Hasundutan	80.68306	125.80771	1.5%
Samosir	23.84665	28.89161	1.2%
Simalungun	111.44370	97.88796	0.8%
Batubara	37.44530	64.05036	1.7%
Toba	8.00668	11.52837	1.4%
Tapanuli Utara	163.94163	98.56638	0.6%
Asahan	87.72561	197.91574	2.2%
Labuhan Batu Utara	13.01119	3.34828	0.25%

3.2 Political Commitment

The government can fully control the business of the non-metal mineral sector as an executive agency that can play a direct role in making policies. However, the government’s ability to evaluate and monitor the non-metal mineral business has yet to be thoroughly monitored. The large number of non-metal mineral businesses owned by local political actors such as unscrupulous members of the parliament and even security from law enforcement officers is homework that takes work for the government to complete. Therefore, a substantive political map is needed and can be fulfilled with the Regional Head and local council members. The Support of political parties from each faction in the regional people’s representative assembly can also encourage action to control non-metal mineral businesses, which are primarily unlicensed and do not pay taxes.

At a meeting at the JW Marriot Medan on August 9, 2022, the Governor of North Sumatra made a special request to the Head of the North Sumatra Regional Police and the Regional Cities District Heads Forum to jointly report the presence of

illegal mining to the Mineral Resources service and the Corruption Eradication Commission that specializes in supervise and monitor the prevention of corruption in the mining sector. Another factor for the political commitment of regional heads is the mitigation of natural disasters due to rock extraction from hills, road damage, and flooding. From the data supporting the North Sumatra Regional Medium Term Development Plan (2019-2023), the distribution of The Nonmetallic Mineral and Rock Mining Sector mining areas is in disaster-prone areas. This area becomes a burden for the government because exploration for nonmetallic minerals can trigger natural disasters and impact social life. Based on the 2016-2020 North Sumatra Disaster Risk Assessment document published by the National Disaster Management Agency, the disaster with the highest percentage of occurrences was floods at 61.52%. One of the flood factors is the exploration of nonmetallic minerals and rocks outside the mining area (illegal mining). The Indonesian Ministry of Energy and Natural Resources stated that throughout 2022, potential state losses due to unlicensed mining or illegal

mining will reach 3.5 trillion rupiah. Therefore, uncontrolled mining will add to the state's financial burden, in this case, the Regional Government, if natural disasters due to illegal mining occur.

The following control that the government must carry out over the non-mineral business is related to the rate of growth and distribution of the nonmetallic and rock mineral mining business sector. It has fluctuated based on the distribution of the business sector, especially non-metal and rock minerals, for the last five years (2016 – 2020). With the issuance of a governor's decision and the role of parliamentarians in political party fractions in regional people's representative councils, of course, they can monitor each other's distribution rate so that later the distribution figures can be monitored optimally. The following is data compiled from the Central Bureau of Statistics for 2020 contained in the 2019-2023 Regional Medium-Term Development Plan changes.

Table 5. Growth rate and distribution based business field sector of North Sumatra Province

Mining and Quarrying of Non-Metal and Rock Minerals	Growth Rate (%)				
	2016	2017	2018	2019	2020
	5.68	4.81	5.46	4.53	2.31
Mining and Quarrying of Non-Metal and Rock Minerals	Distribution (%)				
	2016	2017	2019	2020	2021
	1.35	1.32	1.32	1.32	1.30

Table 5 shows that the growth rate in percentage terms decreased in 2020 to 2.31%. Apart from the cause of the Covid-19 pandemic, this decline occurred as a result of chaotic arrangements for monitoring and optimizing revenue in the non-metal mineral and rock business sector which is regulated by the Central Government. The distribution rate in 2020 also decreased to 1.30%. Through Presidential Regulation Number 55 of 2022 and Government Regulation Number 15 of 2022, the management of non-metal minerals and rocks can be returned to the regions so that in the period 2023 and beyond, the growth rate and distribution are expected to change.

As a commitment to political ecology, the Governor of North Sumatra has issued North Sumatra Provincial Regulation Number 6 of 2022, concerning the Medium Term Regional Development Plan for North Sumatra Province, until 2023, the contents of which are regarding the environment as a reference for political ecology as well as Strategic Environmental Studies, potential permits, and optimizing revenue from the non-metallic mineral and rock tax sector. The Nonmetallic Mineral and Rock Mining Sector could be ensured by implementing recommendations for improvements in the form of anticipation, mitigation, adaptation and/or compensation for programs and activities in the Regional Government Strategic Plan. As the regional authority, the Governor of North Sumatra has regulated the principles of a sustainable environment in article 2 of Government Regulation Number 46 of 2016 Paragraph (1), namely that the Central Government and Regional Governments are obliged to create Strategic Environmental Studies to ensure that the principles of sustainable development have become the basis and are integrated in the development of a region.

One of the processes of political ecology is approaching the government and listening to what they ask for in protests. Political ecology is also closely related to ethnographic studies of local wisdom (sociology and anthropology). One example and implication of this theory is the impact of mining area

development on environmental damage, which occurred in North Sumatra Regency. The mining drama at Sopokomil - Dairi began in 1998, when the Australian company 'Herald Resources' discovered large lead and zinc reserves at Dairi. In the area around the planned Dairi hills, more than 50 illegal mines were found (according to the records of the Licensing Service - Dairi) which were intended for non-metallic mining. Regarding the Australian company, after receiving a mining permit in 2005, activities in the field stopped following the 2008 economic crisis. As a result, 'Herald Resources' was taken over by the Indonesian tycoon, Mr.XYZ, through Bumi Resources Minerals in 2009. In 2014, Shanghai Metals Market reported that Mr.XYZ contracted Foreign Engineering and Construction Co. to build a mine and tailings dam in Dairi. The contract value at that time was estimated at USD 632 million. However, local residents reject the construction of mines and dams, considering that the contour of the area has the potential for earthquakes. Based on records from the United States Geological Survey, the Sumatra region, especially North Sumatra, was affected by earthquakes of up to 6 on the Richter Scale, throughout 2000-2020. Therefore, through the "Inang" movement or mothers who work at home, they launched a strong protest against the government to immediately stop the mining development project around the Dairi mountain area. Hasil termuan dari peneliti lainnya mengungkapkan bahwa air keran tidak layak untuk dikonsumsi manusia. The Aging and degraded tissue may be responsible for pollution [30] of course due to pollution and mining waste in residential areas. In addition, waste that is not disposed of properly can pollute the air and soil, thus having a negative impact on the ecosystem and the environment as a whole [31].

3.3 Non-metal and rock mineral business sector audit

The auditing process for the non-metal mineral business sector should commence by diligently monitoring the issuance of business licenses, particularly with a strong emphasis on environmental policies. This requires a commitment from the authorities to collaborate with regional leaders across North Sumatra, working in tandem with both central government entities and local law enforcement officials for effective assistance. The audit was carried out by the Central Government through the Ministry of Natural Resources and Minerals, the Ministry of Environment and Forestry, the financial audit agency, and the Corruption Eradication Commission. This was done by conducting a review of the issuance of business location permits that were granted until the implementation of the mine excavation process. For example, guidelines for coordinating and supervising the Corruption Eradication Commission monitor the implementation of business licenses for nonmetallic minerals and rocks. Using Article 8 and Article 9 of Law Number 19 of 2019 related to the authority of the Corruption Eradication Committee, coordinate with authorized government agencies (in this case, the supervisory authority for nonmetallic minerals and rocks) and monitor government administration. This authority is carried out by a task force under the Directorate of Coordination and Supervision for Region I of the North Sumatra Region. Through a series of performances, inspections of the non-metallic mineral and rock sector are carried out using mechanisms in the form of improving licensing management and optimizing taxation, this is in accordance with the contents of Law of the Republic of Indonesia Number 3 of 2020 concerning Coal and Minerals

Mining (including non-metallic and rock). Since the issuance of Presidential Regulation Number. 55 of 2022 and Government Regulation No. 15 of 2022, the Directorate of Coordination and Supervision for Region I oversees the North Sumatra Region together with the Ministry of Energy and Mineral Resources, the Ministry of Home Affairs, the Ministry of Finance, and the Ministry of Environment and Forestry are jointly improving governance mining of non-metallic minerals and rocks, especially in North Sumatra. The work steps of the task force cover the mining area on the Minerba One Map Indonesia website belonging to the Ministry of Energy and natural resources.

The implementation of effective mining governance measures can be monitored via the Minerba One Map Indonesia (MOMI) website in real time. The MOMI website can provide actual information regarding mining permit areas including non-metallic and rock mines. So that the government's work actions in supervising mines can be reported to the MOMI website and the community can ensure that their area has legal mines that are supervised by the government, for illegal ones, the community and other elements can report them to the local government for data and permit tracing. From the MOMI website. The data that can be added is data that has been published online in service format in the form of ArcGIS Server Web Service, WMS OGC Web Service, KML File, GeoRSS File, or CSV File. Users can select the Search menu to search for web service content that has been registered with MOMI, or via the URL to add a map service link that will be overlaid. Data that has been successfully added will automatically be reflected on the mine map on the MOMI website.

There have been several audit results both in terms of licensing policy and the government's oversight mechanism for The Nonmetallic Mineral and Rock Mining Sector after the enactment of Presidential Regulation Number. 55 of 2022 and Government Regulation No. 15 of 2022. the results of the audit are listed in several notes that the researcher wrote while attending the meeting agenda and reading the results of the report on governance oversight by the Corruption Eradication Commission in North Sumatra in 2022. These include the following:

a. Licensing has yet to be managed optimally by the North Sumatra Provincial Plantation and One-Stop Service. The transition period for changing regulations is the main obstacle for DPMPTSP in reforming the management of Nonmetallic Mineral and Rock Mining in North Sumatra;

b. The Provincial Government of North Sumatra has not set a benchmark price for nonmetallic minerals and rocks until early 2022. In addition, the Government of North Sumatra has not yet regulated licensing for nonmetallic minerals and rocks through Online Single Submission (OSS) from the central licensing Ministry of Investment and the Coordinating Board Investment;

c. The Department of Energy, Natural Resources and Minerals of North Sumatra Province does not yet have the latest Mining Business License data and has not yet obtained the results of mapping of nonmetallic and rock mineral businesses in the Regency/City and has not yet formed an integrated team to handle monitoring and auditing of mining mechanisms nonmetallic minerals and rocks;

d. Integrated supervision through mine inspectors has yet to be fully implemented, so mining entrepreneurs still need to hold Mining Business Licenses and can freely operate in

the North Sumatra Region.

The Provincial Government of North Sumatra implemented several recommendations resulting from closed meetings and discussions with the Central Government. The work steps taken as recommendations are as follows:

a. Carry out virtual coordination with several Regency and City Governments throughout North Sumatra, where there are non-metal mineral and rock mineral mines;

b. Carry out coordination meetings with the Governor and the Head of the North Sumatra Regional Police in the process of securing and enforcing the Law for problematic business actors;

c. Conduct technical coordination meetings with leaders (heads of offices) regarding the control of nonmetallic and rock minerals; the Regional Secretary and his staff directly monitor nonmetallic and rock mineral business permits in several regions of North Sumatra;

d. Together with all North Sumatra Police Chiefs, they coordinated directly with the non-metal mineral and rock mining areas.

It is worth mentioning that the regional head's commitment plays a crucial role in ensuring the effective and efficient delegation of granting business licenses based on the audit results. This process strictly adheres to established norms, standards, procedures, and criteria. The Central Government also determined the results of the implementation of the issuance of permits. A series of implementation and supervision of non-metal and rock minerals is also directly monitored by the Mining Inspector of the Ministry of Energy and Mineral Resources in North Sumatra.

The researcher accompanied the North Sumatra Metal and Rock Mineral mining supervisory team to several locations indicated to be wild and damaging to the land, and where no Environmental Impact Analyses was available. Moreover, several community complaints were received from the public and business actors (Table 6), which turned out to be contrary to the government's commitment as derived from the interviews.

During the field visit, some land damage was seen, this damage was caused by miners without official permits. Mining without a permit must immediately undergo integrated supervision and control of documents, this is in accordance with the instructions from the Decree of the Director of Engineering and Environment, Directorate General of Mineral and Coal, Ministry of Energy and Mineral Resources Number T-4698/MB.07/DBT. KM/2021 dated 19 October 2021 concerning Management of Mining Activities Without a Permit. If the contents of these regulations are ignored, then law enforcement will apply to mining entrepreneurs who do not have permits. Under breaking the Law, sanctions are imposed according to Law Number 3 of 2020 concerning Amendments to Law Number 4 of 2009 concerning mineral and coal mining. Article 156 explains that anyone who performs mining without a permit shall be punished with a maximum imprisonment of 5 years and a maximum fine of RP. 100,000,000,000 (One Hundred Billion Rupiah). Article 161 explains that anyone who accommodates and uses processing and refining, developing, and coal that does not come from a mining business permit holder shall be punished with a maximum sentence of 5 years and a maximum fine of Rp. 100,000,000,000 (One Hundred Billion Rupiah).

Table 6. Recapitulation of community complaints regarding non-metal and rock minerals in North Sumatra

Complaint	Content of Complaint	Location	Findings and Follow Up
Commission A of North Sumatra Province	Indication of mining activity without a permit in the area of PTPN II	Batang Kuis - Deli Serdang	Coordination meetings and field visits have been carried out by Commission A of the Regional People's Legislative Assembly, the Energy and Mineral Resources Office of North Sumatra Province, the Mining Inspector, Civil Service Police Unit of North Sumatra Province. Found heavy equipment, but not operating.
The Lumban Toga Community	Indication of mining without a permit by PT. Sumatera Pembangkit Mandiri	Toba Regency	A field visit has been conducted, and a problem-solving facilitation meeting has been conducted by inviting all PT-related offices.
PT. Galatta Iestaringo	Mining Business Permit extension application	Deli Serdang Regency	A field visits have been carried out, and problem-solving facilitation meetings by inviting all related offices of PT.
PT. Pertangga Batu Abadi	Mining business permit extension application	Deli Serdang Regency	A field visits have been carried out, and problem-solving facilitation meetings by inviting all related offices of PT.
CV. Tampilan Nauli Malau	Mining business permit extension application	Simalungun Regency	A field visits have been carried out, and settlement facilitation meetings problem with inviting the whole related agencies CV.
CV. Sipalaki Saroha Raja Pargodung	Mining business permit extension application	Humbang Hasundutan Regency	A field visits have been carried out, and settlement facilitation meetings problem with inviting the whole related agencies CV.
CV. Togu Sejahtera Abadi	Mining business permit extension application	Dairi Regency	A field visits have been carried out, and settlement facilitation meetings problem with inviting the whole related agencies CV.

Table 7. Data on mining document control findings

Location	Company and Document Status	Commodity	Type of Business/Activity
Purba Village, Pakkat District, Humbahas Regency	PT XYZ1 Documents returned (incomplete administration)	Natural Sand Gravel	Rock Mining with a Mining License area of 7.67 Ha, production capacity of 69,360 m ³ /year, amount of cover material moved 350,000 Bank Cubic Meter per year
Sei Bamban Village, Batang Panggang District, Langkat Regency	PT XYZ2 Documents returned (incomplete administration)	Natural Sand Gravel	Rock Mining Mining License area 4.91 Ha, production capacity 254,592 tons/year, cover material moved 500,000 Bank Cubic Meter per year
Sinar Naga Mariah Village, Pematang Silima Hura District, Simalungun Regency	PT XYZ3 Documents returned (incomplete administration)	Big Quarry Mountain Stone	Batuan Mining With A Mining License Area Of 12.5 Ha With A Production Capacity Of 125,690 M3/Year, The Amount Of Cover Material Moved Is 369,000 Bank Cubic Meters per year
Kuta Keper Village, Tigaderke District, Regency Karo	PT XYZ4 Documents returned (incomplete administration)	Dolomite	Batuan Mining with a Mining License area of 18.8 Ha with a production capacity of 149,760 m ³ /year, the amount of cover material moved is 500,000 Bank Cubic Meters per year
Siantar Sigordang Village, Siantar Narumonda District, Tobasa Regency	PT XYZ5 Documents returned (incomplete administration)	Big Quarry Mountain Stone	Rock Mining with a mining license area of 6 Ha with a production capacity of 254,500 m ³ /year, the amount of cover material removed is 396,750 Bank Cubic Meters per year
Sibide Village, Silaen District, Toba Regency	PT XYZ8 Documents returned (incomplete administration)	Big Quarry Mountain Stone	Rock Mining with a mining license area of 6.6 Ha
Pargurutan Jae Village, East Anngkola District, Central Tapanuli Regency	PT XYZ9 Documents returned (incomplete administration)	Dolomite and Limestone	Rock Mining with a mining license area of 30.73 Ha
Dolok Lingkungan Pahlawan, Village	PT XYZ10 Documents returned (incomplete administration)	Natural Sand Gravel	Stone Mining with a mining license area of 18.4 Ha with a production capacity of 149,760 m ³ /year, the amount of cover material moved is 500,000 Bank Cubic Meters per year
Pasir Lancat Lama Village, Huristak District, Padang Lawas Regency	PT XYZ11 Documents returned (incomplete administration)	Natural Sand Gravel	Stone Mining with a MINING LICENSE area of 21.7 Ha with a production capacity of 253,536 m ³ /year, the amount of cover material moved is 500,000 Bank Cubic Meters per year
Tangkahan Durian Village, West Berandan District	PT XYZ11 Documents returned (incomplete administration)	Natural Sand Gravel	Stone Mining with a mining license area of 28 Ha with a production capacity of 254,529 m ³ /year, the amount of cover material moved is 500,000 Bank Cubic Meters per year

Such visits to mining areas are effective in providing a deterrent effect to business actors without permits. With sufficient intensity to be carried out by the supervisory team, the land can be saved, and taxes can continue to be collected with the official mining permit procedure. The next step in this study was to look at several vacant lands for recovery, together with the environmental services of the local and regional government, in this case, the district offices of Deli Serdang, Toba, Humbang Hasundutan, Mandailing Natal, and Dairi. Environmental restoration under the political commitment of regional heads was proposed in the 2023 budget; this budget is taken from regional expenditure costs. Recovery includes, among others, the use of reforestation land and forwarding a business license officially to entrepreneurs to be included in the list of official business licenses subject to costs for reclamation guarantees, post-mining guarantees, Environmental Impact Assessment, and taxation. Implementing recovery requires the involvement of all parties, including the government, the society and the private sector. In addition, the government must develop new mechanisms to manage cities (including districts), increase their resources, and carry out and monitor development work within them. Also encouraging private participation to support economic development to reduce the burden on the state. Develop mechanisms and policies adopted in the city/districts to support the implementation of future plans within a cultural and sustainability framework.

The North Sumatra Province Natural Resources Energy Service is at the forefront of efforts to control and supervise non-metallic minerals and rocks as well as environmental preservation. This must be fulfilled because there are many factors that influence environmental control in North Sumatra, such as monitoring transportation, waste disposal, roads, and efforts to prevent disease epidemics [32]. Therefore, to fulfill the mandate of the Job Creation Law, this coincides with the issuance of Presidential Regulation Number 55 of 2022. In accordance with the contents of this Presidential Decree, the Sumatra Provincial Government has issued several types of The Nonmetallic Mineral and Rock Mining Sector permits, including:

1. Mining Business License;
2. Rock Mining Permit;
3. People's Mining Permit, Decree of the Minister of Energy and Mineral Resources of the Republic of Indonesia Number 106.K/MB.01/MEM.B/2022;
4. Transport and Sales Permit for non-metallic mineral and rock commodities;
5. Transport and Sales Permit for certain types of non-metallic mineral and rock commodities;
6. Transport and Sales Permit for rock commodities;
7. Mining services business permit for one provincial area.

The granting of the above-mentioned business permits is delegated effectively and efficiently in accordance with the norms, standards, procedures and criteria set by the Central Government. A series of implementation and supervision of non-metallic minerals and rocks is also monitored directly by the Mine Inspector of the Ministry of Energy and Mineral Resources in North Sumatra. The readiness of North Sumatra Province to follow Environmental Impact Analysis and licensing procedures in accordance with the Job Creation Law and the Mandate of Presidential Decree 55 of 2022, starting with improving mining business permits and readiness to

release mining activity data for 2022 and 2023.

This data collection was carried out after coordination and supervision by the Corruption Eradication Commission, Ministry of Home Affairs, Ministry of Energy and Mineral Resources and Ministry of Investment. Readiness in granting business permits by the North Sumatra Provincial Government, includes:

- a. The Licensing Service and the Energy and Natural Resources Service of North Sumatra Province can in principle provide business permits;
- b. The North Sumatra Provincial Government has proposed a budget for changes to the 2022 Regional Expenditure Budget to support business Licensing Services;
- c. Handover of licensing documents from the Central Government to the regional government of North Sumatra Province will be carried out on August 8 2022;
- d. The North Sumatra Provincial Government has issued a Governor's Decree regarding the determination of benchmark prices for non-metallic minerals and rocks;
- e. The North Sumatra Provincial Government has issued a Decree on the Integrated Team to control non-metallic minerals and rocks.

Based on the work functions and audits that have been carried out, we have received several documents that have been handed over but have not yet completed the requirements according to the provisions of the Environmental Impact Analysis [33]. Mining activity data after post-handover control of documents on August 8 2022 (Table 7).

4. CONCLUSION

This study's region of investigation is located in the North Sumatra Government's political map as shown by the medium-term development plan (RPJMD). Here, environmental politics focuses on improving the governance of the non-metal mineral and rock business sector. Monitoring results and the concepts described during the performance meeting process have resulted in many findings, including the issuance of a governor's policy regarding the benchmark price of nonmetallic minerals and rocks No. 188.44/587/KPTS/2022. However, even though political policy expenditure has been made in the tax sector, the revenue figures for the nonmetallic mineral sector have yet to show maximum results (below 5%) from some of the district and city governments' own-source revenues.

This study recommends various aspects in support of the adequate implementation of appropriate environmental politics. These include:

1. The strong commitment of regional heads in efforts to improve the environment and mitigate risks such as natural disasters, abuse of authority in licensing, and falsification of tax data.
2. The substance of environmental politics in this research can be implemented after a special meeting between central and regional government officials in equalizing perceptions and monitoring efforts with their respective capacities optimally.
3. Related parties such as legislators, law enforcement officials, and non-governmental organizations must be involved in supervising non-metal mineral mining, especially illegal mining.

4. The North Sumatra Regional expenditure budget in 2023 proposes a budget for the costs of the supervision process and the manufacture of regional tax calculation tools (applications) from the nonmetallic minerals and rock sector. This financing must be communicated to the legislature and contained in the short-term plans of the next government.

5. Environmental Politics as a determining factor for issuing policies (non-metal mineral and rock mining governance policies) must be known and disseminated to all parties involved, especially the community and mining business actors.

6. The findings in the field are in stark contrast to the results of interviews with elite officials. There are still many illegal mining points and damaged land, which results in environmental damage. Therefore, it is necessary to carry out intensive supervision by mining inspectors and supervisory teams from North Sumatra Province in recording mining lands without permits and being subject to sanctions under the contents of law number 4 of 2009 concerning minerals and coal.

7. Efforts to improve the environment are the responsibility of the regional government; in the run-up to the political year in 2024, candidates for regional heads must think about improving the environment with a strong commitment if elected as regional heads.

8. The Central Government cannot fully supervise illegal mining because the main task of a mining inspector is only to supervise legal mines. In contrast, illegal mining is the responsibility of the legal apparatus. However, in the results of coordination between the Corruption Eradication Commission, the Ministry of Home Affairs, the Ministry of Energy and Mineral Resources, as well as the Financial and Regional Development Supervisory Agency agreed that supervision of illegal mining could be delegated to a mining supervisory team in the Government of North Sumatra for guidance. If there is an effort to resist the Law, the perpetrator can forward the report to the local police.

9. Extra monitoring of mining entrepreneurs and the consistency of permits whether they are still active or not need to be reviewed regularly by the mine supervisor team. An appropriate set of monitoring and auditing can serve to address the consistency of scorecards, criteria, and indicators that assess project management of budget expenditures, compliance with strategic goals and requirements, and resource analysis. support and activities, final results (strategic performance) arising from the implementation of national projects. In this regard, to assess the quality of planning and determine needs, a quality matrix is applied based on strategic performance criteria. Strategic performance criteria are the degree of immediate and final achievement [29].

10. The mining supervisory team (government) is required to carry out assistance to the community who can receive complaints, outreach, consultation and technical guidance to non-metal mineral and rock business actors. The point is to encourage non-metallic mineral and rock business actors to manage and issue permits as clearly as possible.

ACKNOWLEDGMENT

This study was funded by the Ministry of Education, Culture, Research, And Technology (KEMDIKBUDRISTEK) grant number [091/E5/PG.02.00.PT/2022 and 172./PKS/WRIII-DRP/UI/2022] and grant number [NKB-

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APPENDIX

A list of interview questions based on subcategories along with answers from each source.

Environmental political commitment subcategory

Question	Answer
Q1: Have the political	A1=Through this forum, we have issued a Circular Letter Number

<p>commitments and promises of the Regional Head supported efforts to control non-metal and rock mineral business licenses?</p> <p>Q2: One measure of political commitment to the environment is that stakeholders, in this case, the government, must apply advanced technology or management practices in</p>	<p>B/6499/KSP.00/70-72/08/2022, the point of which is to encourage control over the taking of The Nonmetallic Mineral and Rock Mining Sector.</p> <p>A2=The Ministry of Energy and Mineral Resources fully supports the attitude of the Governor and other Regional Heads in North Sumatra to control illegal mining.</p> <p>A3=Under Law Number 28 of 2009, regional taxes and fees are an important source of regional income to finance the implementation of regional government.</p> <p>A4=We are trying to assist the Regional Government in controlling illegal mining.</p> <p>A5=We fully support the movement to control mining permits; the governor and regional apparatus can coordinate with us regarding the supervision and strengthening of mine inspectors.</p> <p>A6=The Investment Coordinating Board will be ready to assist regional heads in realizing mining control, but what must be considered by the related agencies under the leadership of the regional head must be addressed first, especially the licensing agency.</p> <p>B1=I, as the Governor of North Sumatra, must control illegal mining, but this needs to be supported by supervision from the Corruption Eradication Commission, the Ministry of Home Affairs, the Police, etc.</p> <p>B2=As the Head of the Department of Energy and Mineral Resources in North Sumatra Province, we support the movement to control non-metal mineral and rock minings.</p> <p>B3=Support for a political commitment from us who work at the North Sumatra Licensing Service, we also need Support from the Central Government in overseeing mining permits.</p> <p>B4=We will fully support the promise and political commitment of the regional head in controlling mining.</p> <p>A1=Actually, the use of this technology has to be carried out by all local governments, including North Sumatra; try asking the relevant agencies. As information material, there is still much.</p> <p>A2=We from the Ministry of Energy and Mineral Resources already have the MODI application to check mineral mine maps, but for non-metal mineral and rock mines, it has not been organized comprehensively.</p> <p>A3=The local government has a large budget; it is appropriate to budget for revenue innovation, in the Non-Metal and Rock Mineral mining sector.</p> <p>A4=The Corruption Eradication Commission oversees the optimization of</p>	<p>protecting the environment; this has been implemented in the management (supervision and tax collection) of Non-Metal and Rock Minerals in North Sumatra, how your opinion?</p> <p>Q3: Through Central and Regional Leadership, Regional Heads, and Heads of related Agencies, various efforts to control permits can be optimally implemented in North Sumatra; what do you think?</p> <p>various tax objects, especially the Non-Metal and Rock Mineral Tax.</p> <p>A5=We have not received reports and data results related to using tax calculation tools or tools such as mapping or spatial related nonmetallic minerals and rocks in North Sumatra.</p> <p>A6=We have provided technology related to licensing in Online Single Submission.</p> <p>B1=I will check again whether the regional revenue service for North Sumatra Province already has the tool if it has not been immediately ordered to make the application in question.</p> <p>B2=We do not have it yet; still registering manually.</p> <p>B3=For licensing technology, you have used OSS from the Ministry of Investment, and we are trying to integrate it with the revenue section later.</p> <p>B4=For this technology, please confirm whether it is already available in other local governments in Indonesia so that it can be replicated.</p> <p>A1=We are sure the local government can solve it. However, many people still play in terms of licensing.</p> <p>A2=We have coordinated licensing issues with the Ministry of Investment and investment coordination.</p> <p>A3=We hope that with the current coordination, local governments can be sure to regulate licensing control.</p> <p>A4=The Corruption Eradication Commission expressly appeals to parties embezzling permits to immediately stop this action.</p> <p>A5=Intervention from certain political elites will complicate the coordination and control of illegal mining. This must stop immediately!</p> <p>A6=As long as interference from parties complicates licensing, some individuals play unfairly in licensing. Strict legal action is needed; there is no compromise on document crime perpetrators!</p> <p>B1=The intervention of persons who try to lie in documents has been arrested by the Attorney General's Office and even by the Corruption Eradication Commission.</p> <p>B2=Effective coordination is needed to report all incidents or deviations from permits In North Sumatra.</p> <p>B3=This is a big homework for the provincial licensing office because we also have difficulty combing mining data in the field due to the absence of routine coordination regarding mining permit data.</p> <p>B4=The impact of this is environmental damage which worsens mine capacity</p>
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and physical conditions in areas near mines.

Political ecology in the management of business permits for nonmetallic minerals and rocks

Question	Answer
<p><i>Q 1: The OSS system can facilitate The Nonmetallic Mineral and Rock Mining Sector 's business permits so that monitoring can be carried out at the center and integrated into the regions. What is your opinion?</i></p>	<p>A1=Online single submission (OSS) is used in obtaining business permits by business actors with the following characteristic.</p> <p>A2=Based on the Circular of the Minister of Investment/Head of BKPM Number 17 of 2021 dated July 27, 2021, concerning the Transition to the Implementation of Risk-Based Business Licensing through the OSS System through https://oss.go.id. Oss is mandatory; the local government must comply.</p> <p>A3=Since 2018, the Ministry of Finance has implemented a link between OSS licensing and income in Government Regulation 24 2018. Specifically for North Sumatra, our approach emphasizes regional heads using OSS that must be implemented with Taxpayer Confirmation.</p> <p>A4=The Corruption Eradication Commission supports using OSS, especially in revamping data on nonmetallic mineral and rock permits.</p> <p>A5=In the framework of supervising the implementation of ease of business licensing at the regional government, the North Sumatra Province financial and development supervisory agency conducts Monitoring and Evaluation of the Implementation of Online Single Submission (OSS).</p> <p>A6=The Ministry of Environment and Forestry is very concerned about oss licensing according to presidential mandate no 27 of 2018.</p> <p>B1=Mining business Licensing Services are still constrained by licensing applications. For this reason, we need the help of the Corruption Eradication Commission, especially the coordination and supervision team for the North Sumatra Region.</p> <p>B2=Regarding this readiness (the use of OSS), the North Sumatra Provincial Government has also participated in socialization on</p>

the issuance of business permits for the mineral and coal mining sector in the single online submission (OSS) system.

B3=The Provincial Government (Pemprov) of North Sumatra (North Sumatra) is ready to accept a delegation from the Central Government.

B4=As with related agencies and agencies, we will immediately prepare data and a team to regulate environmental permits and documents.

A1=Environmental damage is critical in every area with Non-Metal and Rock Mineral land. Deforested land and sandstone were taken without control and left sediment.

A2=We emphasize to the Governor of North Sumatra to immediately form a special team to monitor permits.

A3=Of course, with the formation of an integrated team specifically for licensing, field investigations to collect tax levies will run optimally simultaneously. We support the team being formed soon.

A4=The Corruption Eradication Commission, at a meeting with the Regional Secretariat and Provincial Inspectors as well as the services ranks, requested that an integrated team specifically for licensing be formed immediately”.

A5=We have pushed for the delegation of authority back to the Regional Government, inviting the Regional Government to follow up with the formation of a Decree on the delegation of authority along with an integrated licensing team.

A6=To overcome and prevent massive environmental damage, the integrated permitting team will later function to be integrated with the environmental department to check environmental damage and compensation.

B1=I will guide the Integrated Team and instruct the Regional Secretary of North Sumatra Province to supervise the Implementation of Mining Licensing for Non-Metal and Rock Minerals.

B2=We have coordinated with the Licensing Office and Revenue

Q2: Have the regulations made by the government regarding the control of environmental permits been fully implemented in the regional government operational arrangements?

Service throughout North Sumatra, then we will process data on tax permits.

B3=Referring to the Governor's Decree No.

188.44/725/KP/5/2022, we have been fielding in the last few weeks. And choosing several team members who must work effectively based on the election results.

B4=Our commitment will carry out tasks according to the nomenclature of the contents of the governor's decision.

A1=The Corruption Eradication Commission, and especially with the Regional Police to the Resort Police of each district and city, to assist security in investigations of a nonmetallic mineral and rock mines, especially the closure of illegal mines.

A2=The Ministry of Energy and Mineral Resources hopes that law enforcement officials can directly control and give legal sanctions to illegal miners.

A3=To save taxes, carrying out a tax quotation test is necessary. In this mentoring process, security from the regional police is needed so that no more persons are involved in tax evasion.

A4=The Corruption Eradication Commission (KPK) ensures that following up on the control and improvement of permits for the nonmetallic and rock mineral sector (The Nonmetallic Mineral and Rock Mining Sector) in North Sumatra Province (North Sumatra) are carried out according to recommendations.

A5=We fully support legal protection efforts. Especially in the integration of licensing and supervision of submitting online taxes on nonmetallic minerals and rocks.

A6=We hope that with the meeting forum between the police and the Corruption Eradication Commission, we will fulfill our commitment to environmental rejuvenation. Especially areas with lots of mines”.

B1=At the meeting forum with the Head of the North Sumatra Regional Police, we have conveyed that we can assist North Sumatra in structuring and controlling mining permits,

especially nonmetallic minerals and rocks.

B2=For now, we are still moving without being escorted by the local police; at least with the governor's request, we are sure there will be follow-up permit control.”

B3=We have been to several mining locations while the Civil Service Police Unit is still escorting us. The police have not stepped in yet.

B4=We will fully coordinate with the police in controlling mine control, especially mines that do not use Environmental Impact Analysis.

The power of politics in optimizing revenue in the field of natural resources

Question	Answer
<i>Q1: In the process of government bureaucracy, have you made various efforts to control taxes from non-metal mineral and rock businesses?</i>	<p>A1=The point is constructive in the regional head's emphasis on his staff in tax control. Tax on Non-Metal and Rock Minerals in North Sumatra is still minimal.</p> <p>A2=The taxes we have checked are still minimal, especially from nonmetallic minerals and rocks; this can happen because there is no integration with licensing data.</p> <p>A3=This non-metal mineral tax must be integrated with licensing, especially starting from tax notification data such as tax confirmation and taxpayer identification numbers.</p> <p>A4=Regardless of the system of delegation of authority that has been returned to the Regional Government, according to a Presidential Regulation, the Regional Government of North Sumatra should have prepared infrastructure for mine control by reviewing Mining Business Permits.</p> <p>A5=The ministry of Environment and Forestry will fully provide data support and sustainable cooperation in the future for the benefit of structuring and controlling non-metal mineral and rock businesses.</p> <p>B1=An integrated team has been formed, under the Decree, an Integrated Team for Supervision of Non-Metal and Rock Minerals in North Sumatra Province has been established.</p> <p>B2=The governor has formed and approved an integrated inter-</p>

Q3: What are the efforts to control nonmetallic mineral and rock businesses that are not licensed (illegal mining)?

agency assignment integration team.

B3=We will lead the implementation of the duties of the Integrated Team for Guidance and Supervision of the Implementation of Non-Metal and Rock Mineral Mining Permits.

B4=We will receive reports/complaints from the public regarding mining activities of Non-Metal and Rock Minerals and forward them to the Planning Division and process them based on an analysis of environmental damage and how much potential damage can result from these complaints.

A1=Conditions in the field or the regions, in reality, are relatively different from what is written on paper.

A2=The regions are effective and easy to understand and that there is a problem handling center so that the tax levy will be well managed.

A3=Tax collection can be optimal if the regional government is serious about controlling mining permits.

A4=The Nonmetallic Mineral and Rock Mining Sector tax is not imposed on business licenses but based on the tax objects of each tax.

A5=We will assist regional heads to formulate recommendations tax retribution.

A6=Please withdraw taxes, but keep in mind that entrepreneurs also have to pay for reclamation guarantee permits and environmental improvement efforts.

B1=The North Sumatra Provincial Government requires entrepreneurs to comply with paying taxes, including the Non-Metal and Rock Mineral tax, which is used as a condition for issuing permits.

B2=Our tax identification will be carried out according to the licensing documents.

B3=We ensure transparent licensing implementation.

Q2: How to share tax on nonmetallic minerals and rocks in stages of local revenue optimization?

Q3: Has an online tax payment system been implemented for the non-metal mineral and rock sector that the government manages?

Likewise, for the Inspectorate, we ask for optimal guidance and supervision according to duties and functions.

B4=The agency responsible for collecting taxes to ensure compliance with environmental documents.

A1=We have attended several coordination meetings of nonmetallic minerals and rocks, and so far, there is no online tax calculation.

A2=Online tax innovation must begin with complying with tax laws. Please coordinate with the Regional Head of the Directorate of Tax Balance, and we will fully assist.

A3=For North Sumatra, there is no online tax yet. Innovation must be pursued immediately because technology continues to develop, and the government must adjust it for the welfare of the tax sector.

A4=Non-metal mineral online tax has not been implemented in North Sumatra.

A5=Please make it happen; the government budget can be prepared for building online tax technology for nonmetallic minerals and rocks.

A6=The local government of north Sumatra does not seem to have this technology yet, as well as in many other regions. But try to make sure to the related regional office.

B1=We have not yet set up an online tax system for nonmetallic minerals and rocks.

B2=We do not yet have an online tax system; it has just been realized with licensing integrated with the tax identification number.

B3=As soon as we receive an order from the Governor, we will immediately build an online tax system.

B4=Our authority in environmental improvement for nonmetallic mineral online taxes does not yet exist in North Sumatra.