Improving the understanding of mining licensing owners on paying reclamation bond in West Nusa Tenggara Province

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Abstract. Mining activities have a considerable effect on the environment. One of the efforts made by the Government is to require mining companies to provide Reclamation Bonds. This Insurance is a total of funds paid by mining companies to the Regional Government as an Insurance for Mining Licensing Owners to reclaim the ex-mining land produced. Based on Article 95 of Law Number 4 of 2009, one of the obligations of Mining Licensing Owners is to apply the rules of proper mining techniques. This research was conducted in West Nusa Tenggara (NTB) Province using interview and documentation methods from the Energy and Mineral Resources Office of West Nusa Tenggara Province. The data used are data of Mining Licensing Owners and data of owners that submitting reclamation insurance. The results of this study are known to 306 Licensing in NTB Province, 127 of which have made reclamation bond payments, while 179 licensing have not made payment. Therefore, as many as 41.5% of licensing owners have had the awareness to pay reclamation bonds. Increasing supervision and administrative sanctions are two measures that can be applied to increase the awareness of Mining Licensing Owners who have not paid reclamation insurance.

1. Introduction

Mining is part or all of the stages of activities within the framework of research, management, and exploitation of minerals or coal which includes general investigations, exploration, feasibility studies, construction, mining, processing and refining, transportation and sales, as well as post-mining activities. The development of the region is quite rapid with the construction of infrastructure facilities and infrastructure making minerals, especially rocks, become a commodity whose existence is very strategic in supporting the development of an area (regional development) [1]. The existence of a potential mine will have a significant impact on increasing local revenue through tax revenues, user fees, and equity participation through divestment of shares and or regionally-owned enterprises.

West Nusa Tenggara Province (NTB Province) has an area of 20,153.20 km2, consist of 10 Regencies/Cities, namely Mataram City, Bima City, West Lombok Regency, Central Lombok Regency, North Lombok Regency, East Lombok Regency, West Sumbawa Regency, Sumbawa Regency, Dompu Regency, and Bima Regency. The geological conditions of the NTB region with the oldest rocks are tertiary, and the youngest are quaternary, dominated by Volcanic Rock and Alluvium.
Mining business undertaken in NTB Province consists of mining metal and rock minerals. Potential commodities of rock mining consist of andesites, sand, gravel, clay, pumice, limestone, and marble; while metal mining commodities consist of gold, iron sand, copper, manganese, lead, silver. Rock quarrying materials are directly utilized for infrastructure development in the area, while metal mining commodities are brought in the form of concentrates to be processed outside NTB Province. The Government of NTB Province is forcing the metal mining companies to build the smelter in the mine site so it can increase mineral value through refining activities in the country.

The purpose of this study is to determine the level of awareness of those responsible for mining licensing that have had a mining licensing owners to pay for reclamation insurance by the type and amount of business and or activities carried out.

2. Method
This study consisted of primary and secondary data. Primary data obtained through interviewing respondents from the Department of Energy and Mineral Resources of NTB Province as policymakers and implementers of policies related to the reclamation of ex-mining land. Secondary data, namely data obtained through literature, written reports, and documents. Secondary data needed include laws and regulations relating directly and indirectly to reclamation insurances.

The data used include mining licensing owners, data that submit reclamation bond and sanctions imposed if they do not offer reclamation Insurances. The analysis used is a qualitative analysis, where descriptively presented a description of the data is then analyzed to interpret the available information.

3. Result and Discussion
Reclamation is carried out on the disturbed area in mining activities, which regulated in Government Regulation No. 78 of 2010 for both open pit and underground mining [12]. Reclamation activities on the disturbed area include a recovery program for 5 (five) years including the location, techniques, and equipment, source of fill material for backfilling, revegetation, civil works by the designation of ex-mining land, maintenance, monitoring and details of reclamation costs.

Reclamation bond is funds provided by mining companies as collateral for reclamation in the area of the former mine openings. The obligation to pay reclamation Insurances is an effort to encourage the sincerity of mining licensing owners in environmental management both during mining and post-mining activities. Environmental management at the time of mining activities is expected to restore the
condition of ex-mining land and land outside the ex-mining by the designation. Mining licensing owners are required to provide a reclamation bond for the exploration and production operation.

The reclamation bond is calculated based on the reclamation cost plan, which is affected by the calculation of direct and indirect costs, where these funds must place before the company carries out activities. Direct costs include land use management, revegetation, prevention, and control of acid mine drainage and civil works by post-mining land use. Indirect costs consist of the costs of mobilizing and demobilizing equipment, planning, administrative, contractor profits, and supervision.

Financial guarantee, as an economic instrument, must be complemented by permitting, inspection, enforcement, and education process to be effectively implemented [13]. The most commonly used types of financial guarantee can be provided or purchased in several ways listed below [14]:

1. Deposit cash or liquid assets such as certificates of deposit, bank guarantees, first-lien interests in real estate, and other financial holdings. This guarantee deposited an account that is accessible to the regulatory authority.
2. The purchase of an insurance policy by a company through payment of liability premiums to financial guarantee providers. This guarantee can be used as protection if the mining permit is forfeited.
3. A three-party contract with a surety company and a regulatory authority to doing reclamation, wherein the main source of funds is from a mining company with additional funds coming from a surety company.
4. Placement of guarantee in the form of a sum of money agreed by the mining company to be managed by a third party (trustee), where if the company fails to reclaim it will be paid to the regulatory authority.
5. Certain financial tests determined by the regulatory authority without depositing assets or using a separate surety company
6. Payment of membership and resource extraction fees in a bond pool with certain requirements, including risk history and compliance with licensing obligations.

The form of reclamation bonds can be distinguished based on the stages of mining activities, namely the exploration phase and the stage of production operations referring to Government Regulation No. 78 of 2010 concerning Reclamation and Postmining [12]. Furthermore, the implementation details explained in the Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia Number 07 of 2014 concerning the Implementation of Reclamation and Post-Mining in Mineral and Coal Mining Business Activities [15]. Exploration stages are prepared based on environmental documents contained in the work plan and exploration budget. Reclamation bond at the exploration stage place with state banks in the form of time deposits. Placement of the reclamation bond in the exploration stage does not eliminate the obligation of mining licensing owners to carry out reclamation. Whereas for the production operation stage, the reclamation bond determined by the work plan, exploration budget, and life. If the mining period is more than five years, then all reclamation bonds must be placed for the first five years. Whereas if the mining period is less than five years, the reclamation bond place according to the period of the mine. Reclamation bond can be in the form of joint accounts and time deposits at state banks and bank Insurances at state banks or national private banks and accounting reserves. Placement of the reclamation bond does not eliminate the obligation of mining licensing owners to carry out reclamation.

Mining business licenses spread across nine regencies and cities in NTB Province, where only Mataram City has recorded that there are no mining licensing owners. Mining business licenses consist of metal mineral commodities, non-metallic minerals, and rocks. The highest number of mining licensing owners is in East Lombok Regency with 111 permissions. Metal mineral permits distributed in the districts of West Lombok, East Lombok, West Sumbawa, Sumbawa, Dompu and Bima with a total of 21 licenses. Metal mineral permits are only found in Central Lombok Regency,
While for rock commodities are distributed in 9 Regencies / Cities as many as 284 pieces. Mining licensing data in NTB shown in Table 1.

| Regency         | Mining licencing | Reclamation bond |
|-----------------|------------------|------------------|
|                 | Metal | Nonmetallic mineral | Rock | Total | Metal | Nonmetallic mineral | Rock | Total |
| Mataram City    | 0     | 0                  | 0    | 0     | 0     | 0                  | 0    | 0     |
| West Lombok     | 3     | 0                  | 37   | 40    | 1     | 0                  | 13   | 14    |
| Central Lombok  | 0     | 1                  | 22   | 23    | 0     | 0                  | 11   | 11    |
| North Lombok    | 0     | 0                  | 12   | 12    | 0     | 0                  | 5    | 5     |
| East Lombok     | 1     | 0                  | 110  | 111   | 2     | 0                  | 46   | 48    |
| West Sumbawa    | 2     | 0                  | 20   | 22    | 5     | 0                  | 10   | 15    |
| Sumbawa         | 6     | 0                  | 35   | 41    | 7     | 0                  | 15   | 22    |
| Dompu           | 3     | 0                  | 32   | 35    | 2     | 0                  | 6    | 8     |
| Bima            | 6     | 0                  | 10   | 16    | 1     | 0                  | 3    | 4     |
| Bima City       | 0     | 0                  | 6    | 6     | 0     | 0                  | 0    | 0     |
| **Total**       | 21    | 1                  | 284  | 306   | 18    | 0                  | 109  | 127   |

Source: Department of Energy and Mineral Resources (ESDM), 2019 [15]

From Table 1 it is known that the payment of reclamation bonds based on data from the Department of Energy and Mineral Resources (ESDM) of West Nusa Tenggara Province which has done only for metal and rock mineral commodities. As for non-metallic mineral commodities, no one has made reclamation bond payments. Existing data shows 18 metal mineral mining licensing owners who have paid reclamation bonds and 109 owners of rock commodity, whose locations spread across all regencies except Mataram City and Bima City. The placement of reclamation bonds by mining business mining licensing owners is carried out in several banks, namely NTB Bank (Bank NTB), Bank Negara Indonesia (BNI), Bank Rakyat Indonesia (BRI), Bank Mandiri and the Bali Regional Development Bank (BPD Bali).

The total number of mining licensing owners that pay reclamation bond is 127. The total Reclamation bond placement has only reached 127 owners out of 306 mining licensing owners in NTB Province. As a percentage, the amount has only reached 41.5% of the total mining licensing issued by the NTB Provincial ESDM Office. From these figures, it knows that the awareness of owners to pay reclamation bonds is still lacking. There are still 179 mining licensing owners who have not yet paid for reclamation insurance or around 58.5% of the total mining licensing owners in NTB Province. Placement of reclamation bonds in West Nusa Tenggara Province began in 2018, about nine years after the legalization of the policy on mineral and rock mining regulated in Law 4 of 2009. This condition makes not all mining licensing owners' place reclamation bonds as collateral in the implementation of reclamation activities which are an inseparable part of mining activities. The NTB Province's Office of Energy and Mineral Resources seeks to place reclamation insurance through letters so that Mining licensing owners can immediately complete their obligations.

Reclamation is an essential part of environmental management efforts both during the mining process and post-mining. Reclamation insurance placement is one thing that can encourage the implementation of reclamation by mining licensing owners as a consequence and efforts to minimize the effect caused by mining activities. The awareness of mining licensing owners to pay reclamation bonds to the Regional Government is still low, so it is necessary to make efforts to increase the awareness of the Mining licensing owners. Periodic monitoring and administration sanctions must be carried out to increase this awareness. That very important to be done to prevent damage and or environmental pollution due to mining activities carried out, bearing in mind the impact of this mining
activity is quite large. For this reason, the Government's decisiveness has a vital role in keeping mining activities running but does not cause significant environmental effects.

4. Conclusion

West Nusa Tenggara Province has 306 Mining Licensing, but only 127 Mining Licensing has made reclamation bond payments. While 179 Mining Licensing has not yet paid for reclamation bonds. So it is known that only 41.5% of mining licensing owners have the awareness to pay for reclamation bonds. To increase the awareness of mining licensing owners to pay for reclamation insurance, supervision of mining licensing owners must increase, and administrative sanctions for mining Licensing owners who do not pay reclamation bonds.

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