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Analysis of Environmental Conditions Around Nickel Mining PT. X in Village X Tinanggea District South Konawe Regency

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ABSTRACT

Introduction: Mining activities carried out by PT. X is very detrimental to the environment of residents in Village X. Due to the activities of the nickel mining company, people's rice fields in several villages in Tinanggea District, especially Village X are polluted with mud so that rice growth is hampered and often fails harvest.

Method: This type of research is descriptive and quantitative. Samples data was 30 people in X Village Tinanggea District. The data that has been collected in the study were analyzed descriptively.

Result: The results of this study are community knowledge that mining activities are a response to community responses, namely (93.3%), community knowledge that activities that arise from these responses are informants (93.3%) and Nickel mining in Village X does not cause health problems with a response in the form of (56.7%).

Conclusion: Nickel mining activities have positive impacts, such as: increasing ROI from the mining sector, creating job opportunities, and opening up areas from isolation. Nickel mining activities have a negative impact. Such as the occurrence of environmental damage, like river water becoming blurry and colored and dirty, air pollution, and changes in community behavior.

Introduction

The industrialization has been the direction of Indonesia's development for the last 20 years. along with the addition of industrial numbers that cause pollution resulting from industrial production processes such as air pollution contamination, air

pollution, and the disposal of hazardous and toxic waste (B3).^[1]

In Indonesia, the management of many natural resources in recent years has been carried out on mineral resources and ores, this is proven by the existence of various mining industries such as nickel, gold, coal, manganese, iron, oil, natural gas

and others.^[2] The management of mineral resources by the mining industry, especially for the regions, is carried out because it is seen as being able to provide higher Regional Original Income (ROI) so that it can improve the economy and the state, as well as create job opportunities for local communities and people outside the mining site.^[3]

Southeast Sulawesi Province is an area that is quite rich in natural resources, the potential for natural resources that are managed on a large scale is the potential for nickel mining.^[4] Southeast Sulawesi has a lot of mining materials from various types of rocks, both igneous rock, sedimentary rock, and metamorphic rock. One type of rock that is used as nickel material is laterite rock. Laterite rock is the result of weathering of ultramafic rocks of the peridotite type in the form of soil containing iron ore or ironnickel (fe-Ni) deposits.

Mining activities carried out by PT. X is very detrimental to the environment of residents in Village X. Quoting the editor of Kolakaposnews that due to the activities of the nickel mining company, residents' rice fields in several villages in Tinanggea District, especially Village X are polluted with mud so that rice growth is hampered and often experiences crop failure. Thewatershed (DAS) that used to flow smoothly is now polluted and filled with silt. The waterways have narrowed due to mud mining activities. The water becomes cloudy and cannot be consumed due to the impact of mining activities.

Seeing this fact encourages researchers to find out how far environmental damage occurs through research with the title: Analysis of Environmental Conditions Around Nickel Mining PT. X In X Village, Tinanggea District, South Konawe Regency.

Rissamasu (2010: 54)suggests that the emergence of some problems that accompany mining business activities in the field include: 1) The victimization of land owners; 2) Environmental damage; 3) Social inequality. On the other hand, mining business activities bring in migrants with adequate levels of education, applying medium to high technology, with cultures

and habits that sometimes contradict the local community.^[5]This condition causes a social gap between the mining environment and the community around the mining business to take place, including in terms of health.

According to Sugiarti et al, the environment is the sum of all living and inanimate objects and all conditions that exist in the environment and the space we occupy.^[6] According to the Government Regulation of the Republic of Indonesia No. 22 of 2021 concerning the Implementation of Environmental Protection and Management, the environment is a unitary space with all objects, forces, conditions, and living things, including humans and their behavior, which affect nature itself, the continuity of life, and the welfare of humans and other living creatures.^[7]

Environmental conservation is a series of efforts to protect the ability of the environment against pressure, change, and negative impacts caused by an activity so that it is still able to support human life and other living things.^[8]

Method

This research was descriptive quantitative. This research was conducted in September 2021 and took place in X Village, Tinanggea District, South Konawe Regency.Samples data was 30 people in X Village Tinanggea District. The data that has been collected in the study were analyzed descriptively. The data analysis technique in this study used the formula:

$$P = \frac{F}{N} \times 100\%$$

Description :

- P = Category (percentage of choices)
- F = Frequency (number of respondents who chose the same alternative)
- N = Total number of respondents
- 100 = Percentage (%)

Result

Table 1 shows how the knowledge of information regarding the community's response to the environmental impact of mining activities is, the question is asked: "Do you know that every mining activity will have an environmental impact?"

Based on the description above, it can be concluded that public knowledge that mining activities have an environmental impact with the number of responses from informants is 28 (93.3%).

Table 2 shows the level of community knowledge about nickel mining in Village X has caused environmental damage, the question is asked: "Do you think that nickel mining activities in this village have caused environmental damage?"

Based on the description above, it can be concluded that public knowledge that mining activities cause environmental damage with a large number of informants' responses is 28 (93.3%).

Table 3 shows the community's response to health problems such as ARI, diarrhea, coughing, itching as a result of the impact of nickel mining in Village X, the question was asked: "Do you feel any respiratory, digestive, joint, skin or other diseases? others after the entry of nickel mining in this village?"

Based on the description above, it can be concluded that nickel mining in Village X does not cause health problems with a large number of informants responding, namely 17 (56.7%).

Table 1
Community Knowledge About Nickel Mining Activities in Village X Can Cause Environmental Impact

No	Knowledge	Frequency	Percentage
1	Know	28	93,3
2	Do not know	2	6,7

Table 2
Community knowledge about nickel mining in Village X has caused environmental damage

No	Knowledge	Frequency	Percentage
1	Know	28	93,3
2	Do not know	2	6,7

Table 3
Public response to health problems

No	Health Problems	Frequency	Percentage
1	Having health problems	13	43,3
2	No health problems	17	56,7

Discussion

This research found 93.3% of informants responded to the emergence of various problems such as damage to agricultural land due to being buried by mud deposits, land in critical condition and damaged due to dredging, air pollution in the form of dust and polluted river/river water which can turn red when it rains and then bring mining dredging activity material into the river due to pollution of mining chemicals.

In general, the impact of mining on the environment is a decrease in land productivity, increased soil density, erosion and sedimentation, soil movement or landslides, disruption of flora and fauna, disruption of public health and the impact on microclimate changes. While the post-mining impacts that occur are changes in the morphology and topography of the land, changes in the landscape (the shape of the landscape on examining land is usually irregular, causing steep holes, mounds of soil former heaps of heavy equipment), the land becomes unproductive and prone to potential landslides.^[9]

The research found about informants responded that the presence of nickel mining had caused changes in the physical environment, both in the natural environment and in the positive social environment. The presence of nickel mining has also made people start opening businesses such as kiosks and food stalls. In addition, there are negative impacts in various aspects such as the biotic environment including damage to plants, health problems, in addition to the impact on the physical environment such as dirty watersheds, disturbed rice fields, disturbed and reduced plantation areas and impacts on the social

environment such as changes in the environment. behavior/norms in Village X and so on.^[10]

In addition to increasing Return on Investment (ROI) and opening up new business opportunities, the community feels that nickel mining is still lacking, especially in recruiting employees, health monitoring, and even frequent conflicts between the community and mining companies in terms of land acquisition, environmental damage and also waste from companies that have an impact on the environment. the environment around the mining site.^[11]

As a company whose activities are very close to the community, it must have a Corporate Social Responsibility (CSR) program.^[12] Corporate Social Responsibility (CSR) is the company's commitment to build a better quality of life together with related parties, especially the surrounding community and the environment in which the company is located, which is carried out in an integrated manner with its business activities in a sustainable manner.^[13]

Conclusion

Based on the discussion of the research results above, it can be concluded that nickel mining activities have positive impacts, such as: increasing ROI from the mining sector, creating job opportunities, and opening up areas from isolation. Nickel mining activities have a negative impact. Such as the occurrence of environmental damage, among others: 1) River and river water becomes blurred and colored and dirty; 2) Air pollution; 3) Changes in people's behavior.

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