

Public Perception of the Socio-Economic and Environmental Impact of Gold Mining in Buru Regency

ABSTRACT

Since its discovery in mid-2012, controversies covering gold mining areas, economic interests, socio-cultural change and environmental damage have been issues surrounding the region. The study of the socio-economic impact of gold mining in Buru Regency has important significance, especially in the area around the mining site. This research aims to analyze the community's perception of the socio-economic and environmental impact of gold mining in Buru Regency. The method used in this study is qualitative descriptive analysis, likert scale. The results showed that the community quite agreed with the existence of gold mining activities. It can be seen from the results of the analysis of the data obtained, where in the category of perception of social impact the total number of scores is 1099. That is, on the overall social impact of society argues in agreement. Furthermore, in the category of economic impact, the number of scores is 1,740. That is, on the overall economic impact of society argues in agreement. In this category of perception of environmental impact, a score of 1,124 was obtained. That is, on the overall environmental impact of society argues disapprovingly. The management of gold mining in Buru Regency should minimize the negative externalities that occur and carry out a program to strengthen the local economy, and in the long term also reclamation of the former mining area.

Keywords: Impact, Perception, Socio-Economy, Gold Mining

1. INTRODUCTION

The potential of natural resources and minerals in Indonesia is very large, this is supported by the form of a country in the form of islands so that natural resources and minerals are diverse. Mineral resources are one of the authorized capital in national development, therefore they must be utilized as much as possible for the welfare of the people. This is in accordance with the 1945 Constitution Article 33 paragraph 3, that the use of mineral resources can provide improved welfare to the people.

The mining sector has an important role in economic development because it increases the absorption of labor [1]. Every year the number of labor forces always increases, this is due to an increase in the number of residents. The development of the mining sector will lead to an increase in labor needs, so that the demand for labor in the mining sector will continue to increase. In addition, the mining sector also increases state revenue through the value of mining production, tax revenues, royalties, revenue from the sale of mining products and fixed contribution income [2]. The magnitude of the development potential of the mining sector encourages the government or private sector to extract mineral resources and also invest in the mining sector.

The contribution of the mining and quarrying sector to GDP has always changed, from 2010 to 2014 the contribution of the mining and quarrying sector to GDP has always increased. In 2014 to 2015 there was a decline, then for 2016 it increased again [3]. Although the contribution of the mining and quarrying sector has decreased, this sector has a considerable contribution to GDP compared to other sectors, which is 10.88%. The mining and quarrying sector ranks 3rd after the processing industry sector and the agricultural sector in contribution to the State GDP. This shows that the mining and quarrying sector plays a role in economic development in Indonesia [4].

The mining sector has the potential to be developed due to the abundance of energy and mineral resources, including gold. The potential of these gold resources is spread in various regions [5]. Data on the worldwide supply of gold from 2010 to 2016 changes every year. This change occurs because the value of net gold production that undergoes extreme changes until it reaches negative values occurred in 2010, 2012 and 2013. The decrease in the amount of gold supply is

also caused by the amount of gold production in mining activities that are increasingly difficult, where miners have to dig deeper to find gold and the amount obtained is not as much as before because of the fewer gold resource reserves [6]. However, the world's gold supply still increased by 5% in 2016 due to an increase in the global economy which encouraged an increase in gold supply [7].

Gold is a mineral mining item of one type of metal that is of high economic value because it has various privileges compared to other metals [8]. Every year the need and demand for gold will continue to increase. This change in demand occurs due to the increasing utilization of gold. Gold mining activities in Buru Regency have been going on since 2012, but mining is still illegal [9]. According to BPS administratively this gold mining is located in Wamsait Village, Waelata District, Buru Regency, Maluku Province. Geographically, the coordinate point of the mining business location is based on the Mining Business Permit (IUP) of the Wamsait Hills Region Production Operation. Mining activities in Wamasait are called the "Bald Mountain Gold Mine" [11]. Gold mining activities carried out before 2012 only carried out mining activities at one mine site. In 2014 until now, mining activities have expanded the mining area to two mining area locations, namely in the village of Gogorea [13].

The communities around the gold mining area in Buru Regency are communities with homogeneous tendencies in livelihoods. The majority of the people around the mining area have livelihoods as fishermen and farmers. In addition, the community works as a beach tourism manager and also a service provider in the tourist area. This gold mining activity is expected to contribute to the development of the regional economy, especially for the communities around the mining area [14].

Investment capital from gold mining activities will contribute directly in contributing to the regional revenue of Buru Regency, in addition to the existence of gold mining companies that have the potential to absorb local labor. Mining has a positive impact economically with increasing economic activity and increasing the amount of money flow in circulation obtained from mining activity expenditures both locally and regionally, causing an increase in consumption from consumer expenditures such as labor and business actors. This situation creates an interrelated relationship between one sector and another sector in the wheels of the economy so that there will be a multiplier effect [15].

Mining activities carried out in addition to providing a positive impact certainly also have a negative impact that will be felt by the community around the mining area. Gold mining activities that use excessive water resources can cause people difficulty in obtaining water for consumption and agricultural activities, the existence of mining activities will also make the water around the mining area polluted and suspected economic losses due to a decrease in fishermen's income around the mining area. The social impact that is likely to occur is the potential conflict between the community and companies related to the availability of employment and changes in environmental conditions [16].

Mining activities that have been running in Buru Regency have resulted in several impacts to several sectors, namely on the agricultural and fisheries sectors. The impact felt by farmers is agricultural land that is always inundated by water coming from rivers that are used as irrigation channels for farmers. This river is also used as a dumping ground for liquid waste by mining activities, inadequate river bodies cause unaccompanied water to overflow into agricultural land, thereby reducing the amount of productivity and also resulting in a decrease in farmers' income. The impact felt by the fisheries sector includes a decrease in the number of fish species by fishermen, this is because the mining area located next to the sea causes the marine ecosystem to change. The flow of rivers that are used as liquid waste disposal empties into the sea causing the entry of chemicals into the sea and resulting in changes in seawater conditions that affect marine life.

2. METHODS

This research was conducted in the area around the gold mining area in Buru Regency, Maluku Province. Site selection is carried out intentionally (purposive) based on the consideration that the area is a mining area with the potential for waste pollution. In addition, the selected villages are villages that feel the economic impact, the impact of the environment, and the social impact. Primary data collection was carried out in March-May 2021, during this period, researchers carried out data collection and observation directly to answer the research objectives.

The types of data used in this study include primary and secondary data. Primary data is obtained by conducting interviews directly with communities around the mining area who feel the impact of mining activities, namely fishermen, farmers, miner labor, business units that provide goods and services for mining activities, and local communities that have carried out illegal mining. Interviews were also conducted with stakeholders including the village government, sub-district government, Buru Regency KPH, KLHK, and gold miners. The primary data needed is an overview of the community, information about the value of economic impacts both positive and negative, social impacts and environmental impacts that occur due to gold mining activities. Interviews with related parties regarding the impact of gold mining activities that affect the lives of the community and the surrounding environment. Secondary data is obtained from literature studies and

other references such as books, scientific journals, activity reports, papers, previous research, information from the internet and data from the Central Statistics Agency (BPS).

The methods carried out to obtain data and information are used, namely by conducting direct observations in the field, conducting interviews with informants and conducting documentation or archive studies. Direct observation in the field is carried out by making direct observations around the mining area. The technique of determining respondents used purposive sampling with the criteria of respondents who felt the impact of gold mining activities. The respondents interviewed were people living around the gold mining area, the number of respondents in this study was 107 respondents with details in Table 1. The determination of the number of respondents for fishermen and company labor is determined by referring to Walpole (2007) which states that the number of 30 respondents can already represent the population because if the size of the example is greater than or equal to 30 respondents, the withdrawal of the example can guarantee a result that can represent the population. Data collection of business units as many as 15 respondents and farmers as many as 16 respondents by conducting a census. Local government data (stakeholders) were taken using snowball sampling techniques represented by 5 selected key persons.

Analysis of perceptions of respondents was carried out using a descriptive analysis with a likert scale. The data was obtained by direct interviews with people living around mining areas and labor. According to Riduwan (2007) the likert scale is used to measure the attitudes, opinions and perceptions of a person or group about social events or symptoms. By using the likert scale, the variables to be measured are described into indicators that can be measured. The analysis used in this study was to identify respondents' perceptions of the economic, social, and environmental impacts on the existence of mining activities.

3. RESULTS AND DISCUSSION

Sugihartono, suggests that perception is the ability of the five senses in translating stimuli or processes to translate stimuli that enter into human sense tools. Human perception there are different points of view in sensing that perceive something either or positive perceptions or negative perceptions that will affect visible or real human actions [18]. Meanwhile, Deddy explained that perception is the core of communication, while interpretation (interpretation) is the core of perception, which is identical to decoding in the communication process [19]. Table 1 shows the entire category of perception. In the first category, the perception of social impact explains how the social impact that occurs in the community with mining activities. Through this perception analysis, it will be known how the relationship between the community and mining companies, whether the existence of mining makes the creation of jobs for the community, and whether there is a change or shift in employment from before.

Table 1 explains in the first indicator that the statement that the community has a good relationship with mining companies, most of the respondents are 57 respondents (48.6%). The majority of people think that the company is considered very less social with the local community. This leads to a gap between the community and the mining company. Furthermore, in the second indicator, namely in the statement of the existence of mining creating jobs for the community, as many as 88 respondents (82.3%) answered in agreement. Most people think positively because mining makes business opportunities for some people, namely by opening a business providing goods and services, food stalls, lodging that provide daily needs both for mining companies or for mining company labor. Moreover, there are workers who greatly benefit from the existence of mining activities.

The third statement is that there is a change or shift in work that occurs in communities around the mining area, as many as 82 respondents (76.6%) answered in agreement. This is because people who originally worked as farmers, fishermen, community building workers switched jobs to mine company workers and opened businesses to provide goods and services for mining activities. Thus, in this category of perception of social impact obtained a total score of 1099. That is, on the overall social impact of society argues in agreement with the statement given.

Table 1. Public perception of the existence of gold mining

No	Indicator	Catalyzing Answers					Score	Information
		SS	S	N	TS	STS		

Social Impact								
1	Good relations between the community and mining companies	1	25	26	52	3	290	Disagree
2	The availability of jobs for local communities	1	88	13	5	0	406	Agree
3	The shift in employment in society	1	82	22	2	0	403	Agree
							Sum	1.099
Economic Impact								
1	The existence of business development by the community due to mining activities	0	95	11	1	0	415	Agree
2	Increase revenue due to mining activities	0	61	3	42	1	338	Agree
3	There is an Increase in Regional Revenue	1	79	25	2	0	344	Agree
4	There is an increase in infrastructure	0	14	12	70	11	234	Disagree
							Sum	1.740
Environmental Impact								
1	Good mining environmental conditions	0	22	9	64	12	225	Disagree
2	The community is not disturbed by mining activities	0	8	35	54	10	255	Agree
3	Environmental and water quality is good	0	8	35	54	10	255	Disagree
4	Good management of waste	0	30	48	29	0	322	Neutral
							Sum	1.057

Source: Primary Data (2021)

In the second category, the perception of economic impact explains how the economic impact occurs in the community with mining activities. Through this perception analysis, it will be known the public's perception of business development by the community, there is an increase in community income due to mining activities, increased regional revenue, changes in community income and also increased infrastructure due to the existence of mining activities.

Table 1 shows that 95 respondents (88.8%) agree with the statement of business development by the community. Business development by the community around the mining area includes food stalls, raw bahan providers such as minun water and gasoline, then there is an lodging business for mining company labor. In addition, the second economic impact statement in the form of increased income from the existence of mining activities as many as 61 respondents (57.1%) answered in agreement. This is because the labor income of mining companies that were previously uncertain per month, after becoming a mining company workforce becomes increased and gets a definite salary per month. In addition, for business actors providing goods and services for mining activities, their income is increasing because the number of mining company workers is increasing so that it has an impact on business unit actors.

For the third economic impact statement is an increase in regional revenue, as many as 79 respondents (73.9%) agreed, where this mining activity pays taxes to the local government. Furthermore, in the fourth economic impact statement was a change in income, as many as 63 respondents (58.9%) said they agreed that there was a change in income due to mining activities. This change in income is felt by the community who becomes the workforce of companies and business actors providing goods and services for mining activities in the form of increased income, while those felt by people who work as fishermen and farmers in the form of a decrease in income. The next statement on infrastructure improvements, as many as 70 respondents (65.4%) said they disagreed about infrastructure improvements. Some people agree because mining activities provide opportunities for people to entrepreneurship but the community still does not feel the development of infrastructure such as roads or public facilities such as schools or places of worship. Thus, in this perception category obtained a score of 1,740. That is, on the overall economic impact of society argues in agreement with the statement given.

In the third category, the perception of environmental impacts explains how environmental conditions are felt around the mining area with mining activities. Through this perception analysis, it can be known how people's perceptions with the

environment around the mining area, whether the community is disturbed by the mining environment, whether there is air pollution and disturbing the community, whether there is water pollution and disturbing the community. It can be seen in Table 1 that as many as 64 respondents (59.8%) said they do not agree with the statement of good mining environmental conditions, this means that the community considers that the condition of the mining environment is still not good and needs efforts to improve the quality of the environment. Furthermore, 54 respondents (50.5%) disagreed with the statement that the community was not disturbed by the existence of mining. The community is disturbed by mining activities, one of which is dust, noise and also damage to the main road.

The third statement related to environmental impacts is environmental quality and good water, as many as 45 respondents (42.1%) disagreed. This is due to the cloudy and muddy beach conditions. The fourth statement on good management of waste, as many respondents (45%) said quite agreed. Thus, in the category of perception of environmental impact, a score of 1,124 was obtained. That is, on the overall environmental impact of the community argues disapproving of the statement given.

Table 1 also shows the final total assessment of the category of each perception, the table shows that the results of the respondents assessment of the perception of society as a whole are quite agreeable with the total weight of 3,963. The assessment includes the importance of mining existence, social impact, economic impact, and environmental impact of mining existence. To get a clearer picture of the overall perception can be seen on the continuum line in Figure 1 below:

Figure 1. The continuum line of public perception of the impact of the existence of gold mining

Description

- STS = Strongly Disagree
- TS = Disagree
- CS = Simply Agree
- S = Agree
- SS = Strongly Agree

The continuum line above shows that the number of scores of 3,963 for the perception of society as a whole score (3,338 - 4,365) falls into the category of quite agreeable. From the social aspect, there is a lack of good relations between mining companies and the community. From the economic aspect, the existence of mining has a great positive impact on the community. From the environmental aspect, the existence of mining is considered to have a bad influence on the environment of the community around the mining area. This happens because the management of waste is not good, so there are negative externalities received by people living around mining areas such as dust, noise and damage to infrastructure such as roads due to large vehicles passed by mining companies.

The conclusions shown on the continuum line are in accordance with the opinions of society in general. In addition to having a bad impact on the environment, the existence of mining has a great positive impact on the economy of the surrounding community. Thus, the community in the future hopes that mining companies can make positive changes both for the social, environmental, and economic communities. Mining companies are expected to make maximum efforts in tackling environmental problems caused by waste from mining activities. In addition, it is hoped that in the future mining companies can cooperate with the surrounding community. Thus, it will have a positive economic impact on the surrounding community. In the social aspect, mining companies are expected to be more social with the community around the mining area, especially the mine location is very close to community settlements.

4. CONCLUSION

The assessment of public perception of the existence of mining shows that the community quite agrees with the existence of gold mines in Buru Regency. The existence of gold mining has an economic impact on the surrounding community. From the environmental aspect, the community argues that the existence of mining has a negative impact on the environment, and from the social aspect of mining's existence absorbs labor from the community around the gold mining area in Buru Regency. Environmentally friendly mining management policy is an important option in deciding to then open or grant permission to reopen gold mining activities in Buru Regency. This policy is taken with the consideration that in addition to improving the economy of the community around the mining area, these efforts can have a positive impact on social aspects, namely the potential for absorption of local labor and improving the welfare of local communities. The management of gold mining in Buru Regency should minimize negative externalities that occur, empower communities around the affected mining areas, and carry out infrastructure development and prioritize local communities as labor in accordance with the expertise of the community. As a matter of consideration, mining mining to carry out a program to strengthen the local economy, and for the long term also carry out reclamation of former mining areas.

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