

Social Impact of Limestone Processing on the Community of Lobong Village, West Passi District, Bolaang Mongondow Regency, North Sulawesi

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Abstract. This study aims to determine how the social impact of limestone processing in the community in Lobong village. In this study, a descriptive qualitative method is used, namely research that aims to describe things that are currently applicable to find facts with the right interpretation. The results show that the social impact felt by the community is from an economic perspective. In terms of income, limestone processing in Lobong village is very profitable not only for limestone entrepreneurs but also for limestone processing requires workers both when preparing the stone in the furnace, burning, watering and curing all of which are paid for by the entrepreneur. Community welfare that is felt by the community is an increase in the economy and great job opportunities. The environmental impacts that occur in Lobong Village include air, soil, and environmental impacts. This is due to the burning process, watering and packaging process. This impact can cause damage to the ecosystem in Lobong village.

Keywords. Social Impact, Community environmental impact, Limestone Processing

1 Introduction

Limestone is one of the industrial minerals that is widely used by the industrial sector or construction and agriculture, among others, for building materials, building stones, the glass industry as an excavated flux, silica brick industry and cement industry raw materials.

The formation process can occur in situ from a solution that undergoes chemical and biochemical processes in which organisms play a role, it can occur from broken grains that undergo mechanical transportation and are deposited elsewhere. The whole process takes place in a marine environment, so it is practically free of detritus from land. The spread of limestone in nature is easily recognized in aerial photographs which show a characteristic light-colored hue. In some cases, the appearance of karst can be recognized in aerial photographs, on topographic maps or in the field, especially in non-clastic limestone (Endarto, 2005).

In Indonesia, the process of increasing the added value of limestone has long been cultivated by people through excavation or mining, followed by breaking up chunks of rock and burning to produce quicklime and quicklime, starting from the use of simple burning stoves (traditional limestone tobongs) in the form of wells known as cubluk furnaces, as well as somewhat

capital-intensively through upright furnaces and milling machines to produce several types of products, such as powdered quicklime, extinguished lime, and powdered limestone (calcium carbonate flour).

Limestone is an abundant mineral resource in Indonesia, the amount is estimated at around 2160 billion tons [Anonymous, 2004]. The deposits are spread over various islands such as Sumatra, Java, Nusa Tenggara, Sulawesi, Irian Jaya, and other islands. For some people, limestone may not be a strange item, and is considered not very valuable because it is easy to obtain and relatively cheap. But for others, limestone remains a very attractive mineral resource.

Limestone is one of the industrial minerals that is widely used as industrial raw material. The potential and reserves of limestone scattered in Indonesia are very large in each province, including the Special Region of Aceh, North Sumatra, West Sumatra, Riau, South Sumatra, Bengkulu, Lampung, West Java, Central Java, Special Region of Yogyakarta, East Java, Kalimantan, South, Central Kalimantan, West Nusa Tenggara, East Nusa Tenggara, South Sulawesi, North Sulawesi, and Irian Jaya.

The potential and reserves of limestone in North Sulawesi Province are quite large. There are several areas such as the area in the village of Basaan Kab. Southeast Minahasa, Blank Village, Kab. South

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Minahasa, Siniung Village, Kec. Dumoga, Lolak Village Kab. Bolaang mongondow and Lobong Village, Kab. Bolaang mongondow.

This hole is a wilderness area which then by the villagers of Wangga, the wilderness is opened to be used as fields so that crops can be planted and also some annual plants. The place they made the garden is a roadside that connects the village of Wangga to the village of Muntoi, which is a road that can be accessed using horses and wheeled vehicles which then connects to the Bolaang area, which is a place to sell forest products and agricultural products. The current state of nature in Lobong Village has a lot of potential natural resources, both biological and non-biological natural resources.

Lobong Village, apart from being known as a superior pineapple-producing village, Lobong village is also known as a producer of abundant lime production. In general, in the West Passi sub-district with a population of 2100 residents in 2020 (Mokoginta F, 2014). There are about 950 hectares of karst or hill areas containing limestone. This area is spread over the villages of Lobong, Poyuyan, Muntoy and Inuai. However, only Lobong village does the limestone processing. And this profession has been in the business since the 1960s with the limestone burning process through the furnace process. And in Lobong village has 30 active stoves with a volume of 1000-1500 limestone sacks per production.

Mineral C in the form of limestone in Lobong Village is quite abundant. When private companies have a party to extract the natural wealth they contain, on the other hand, the surrounding community must bear the consequences of managing the limestone. Considering that limestone processing activities can have social and environmental impacts.

In accordance with the results of observations carried out by researchers in Lobong Village, the process of processing limestone into limestone is in the vicinity of residential residents and from the results of observations made by researchers. lime that has been processed is packaged and sold in front of the house or collected at collectors and then sold in areas that need lime.

2 Research Method

The type of research used is qualitative research. Qualitative is research that is used to describe or state the facts that are happening now or in the past.

Sources of data used in this study are sourced according to the origin of the data as follows:

1. Primary Data is data on social impacts that are exclusively produced according to the source according to the Head of the relevant office, the Head of Lobong Village and together with limestone management workers through interviews and exclusive observations.
2. Secondary data is data obtained by studying documentation in Lobong Village, West Passi District. The technique of determining the sample is carried out by purposively selecting people who are considered to

be the most knowledgeable and can provide information in accordance with the objectives of a study.

To find synchronous data using the things studied, the research uses the following instruments:

1. Observation
2. Interview
3. Documentation

Data analysis is the process of systematically searching and compiling data obtained from initial interviews, field notes, and documentation, in units, synthesizing, compiling into patterns, choosing which ones are important and will be studied, and making conclusions so that they are easily understood by themselves, yourself or others.

Triangulation in credibility testing is defined as checking data from various sources in various ways and at various times. There are source triangulation, data collection triangulation, and time triangulation.

3 Result and Discussion

After conducting research on the place or object under study, the researcher gave several questions to the informants on the impact of limestone processing on the community environment in Lobong village, West Passi District, Bolaang Mongondow Regency, North Sulawesi, to see how the limestone processing process in Lobong village and see the positive impact of limestone processing and the negative impact of limestone processing by using interviews and observation methods.

In the observation carried out during the processing takes place using the observation sheet that has been made previously. This research was observed by researchers in collaboration with the head of Lobong Village. Researchers observed activities during the limestone processing process in Lobong village.

Some of the people of Moronge Village think that the condition of the existing waste is very alarming, because of that the residents support various efforts to prevent the accumulation of waste, so that residents do reduce as an effort to reduce everything that causes waste. Most of the population responds to efforts to reuse waste that can still be used, so they support reuse activities. Most of the population gave a positive response to waste recycling activities, and residents considered it important to utilize waste through the recycling process.

3.1 Social Impact

3.1.1 Income Impact

The impact of income felt by the community is in terms of economic and other social impacts. Where, limestone processing in Lobong village is very profitable not only for limestone entrepreneurs but also for limestone processing requires good workers when preparing the stone in the furnace, burning, watering and curing. And the income of the limestone processing community is around Rp. 14,000-20,000/sack or IDR 2,000,000 - IDR 3,000,000. Previously the price of lime was around Rp.

17,000-25,000. this is due to the entry of cheap lime from Gorontalo.

From the results of interviews with managers that the monthly income ranges from Rp. 2,000,000-Rp. 3,000,000 while the wages given to workers are Rp. 100,000 per day and the tax given to the regions is Rp. 115,000 per year. Data from the taxation of the Bolaang Mongondow Regency of limestone donated 21 billion in 2020 and Lobong Village still dominates and the local government makes limestone processing in Lobong Village as regional income.

According to (Sukirno, 1985), economic development only includes the efforts of a community to develop economic activities and increase the level of income of its people, while the overall development efforts include social, political and cultural development efforts.

3.1.2 Welfare Impact

The impact of community welfare in Lobong village can be seen in terms of the many job opportunities and the surrounding community also has a side income other than farming pineapples.

The impact of community welfare in Lobong Village can be seen in terms of the many job opportunities and the surrounding community also has a side income other than farming pineapples. The existence of limestone processing in Lobong village provides opportunities for the community to work part time and be able to send their children to school.

According to Nur'aini (2019), the welfare impacts provided by limestone management include (a) as efforts to meet family needs, as a source of income, improve the level of the economy; (b) able to create new jobs and absorb human resources, reduce unemployment; (c) increase relations and information, increase intimacy and a sense of kinship between workers, with Limestone Processing owners, and other limestone limestone processing workers, even with communities around the processing area.

3.1.3 Community Environmental Impact

The environmental impact caused by the processing of limestone is air pollution caused by the limestone processing process. Where, a distance of 100 meters from limestone processing is very dusty especially during strong winds.

3.1.4 Government Support for Limestone Processing in Lobong Village

The Lobong village government provides positive support for limestone processing in Lobong village and even the government in this case the Mining Service has also conducted a survey on the environment and income from the community and provided support as long as the manager is able to maintain environmental ecosystems and is able to improve the welfare of the people in Lobong village.

4 Conclusion

The environmental impact caused by the processing of limestone is air pollution caused by the limestone processing process. Where, a distance of 100 meters from limestone processing is very dusty especially during strong winds. The environmental impacts that occur in Lobong Village include air, soil, and environmental impacts. This is due to the burning process, watering and pecking process. This impact can cause damage to the ecosystem in Lobong village.

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