

## Analysis of The Influence of Motivation on Community Behavior of Natural Rock Mining in Barru District, South Sulawesi

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**Abstract.** This study aims to determine the effect of motivation on the environmental behavior of natural rock mining communities. This research was carried out in Barru Regency by taking 200 rock miners as samples. Data analysis using simple regression analysis techniques. The results showed that motivation in caring for the environment had a positive, although not significant, effect on the environmental behavior of the natural rock mining community in Barru Regency, which indicated that any increase in motivation would directly increase the behavior of the community in maintaining a sustainable environment at natural rock mining sites.

**Keywords:** Motivation, Behavior, Rock miner

### INTRODUCTION

Barru Regency is one of the regencies in South Sulawesi Province which is located in the central part with an area of 1,174.72 km<sup>2</sup> and has a physiographic shape that extends from north to south. The total population in 2018 was 172,767. The main occupation of the population is farming, fishing and a few miners. Its unique geological conditions are characterized by the presence of various rock types. The presence of various types of rock is a source of various kinds of rock mining commodities, such as mountain rock, river rock and heap soil.

During the enactment of Law Number 4 of 2009 concerning Mineral and Coal Mining, the authority to issue rock mining business permits was carried out by the regents/mayors, so that in the period 2009 to 2014 the Mining Business Permit (MBP) for Rock Production Operations was issued by the Regent [1]. Baru district. Based on data from the Barru Regency Mining and Energy Office, 47 IUPs have been issued to business entities with an IUP area of 503 ha, and 18 IPRs for People's Mining Permits (PMP) with an area of 18 ha.

Rock mining in Barru Regency is done conventionally. Conventional mining is mining that is carried out using an open pit mining system, using heavy equipment, only prioritizing economic aspects and paying little attention to environmental aspects and socio-cultural aspects. Conventional mining indicates impacts: permanent topographic changes, environmental degradation, and health problems [2].

During the rock mining activities, problems have been found in the form of community

reports to the Barru Regency Regional Environmental Service and facts in the field in the form of: mining behavior that does not manage the negative impacts of mining, land ownership disputes, topographical changes, increased mining noise and dust due to activity and mobility mining equipment, increased erosion of the soil surface and landslides, miners do not reclamation of former mining. The high demand for building materials from rock has also led to mining without permits.

The main problem in rock mining is the impact of environmental damage [3]. The fact that topographical changes in post-mining landscapes cause open and hollow land. During the dry season the land causes a lot of dust originating from mining activities. Another impact is that local people's livestock can get trapped in ex-mining pits and cause socio-economic conflicts due to land use. In addition, the former mining land damages the aesthetics of the landscape and environmental management is difficult to do. During the rainy season the ex-mining land will be filled with water and can cause stagnant water which can damage the environment. At this mining location there is a high potential for erosion and landslides [4] [5].

The behavior of rock miners is influenced by individual intentions, and these individual intentions are formed from subjective attitudes and norms. One of the influencing variables, namely attitude, is influenced by the results of actions that have been carried out in the past. Meanwhile, subjective norms will be influenced by beliefs in other people's opinions and motivation to obey the beliefs or opinions of other people. Simply put, people will take action if they have a positive value from existing experience and the action is supported by the individual's environment [6].

The following is the formulation of the problem in the research conducted: 1) What is the motivation of the rock mining community in protecting the environment?; 2) How is the behavior of the mining community in maintaining a sustainable environment?; 3) What is the influence of motivation on the behavior of people mining natural rock in Barru Regency.

## RESEARCH METHOD

This research was conducted in Barru District, South Sulawesi Province. The research sample used was 200 respondents. The research was conducted from January to June 2022. This type of research is quantitative research using explanatory research methods, namely explaining the causality of a relationship between variables through hypothesis testing [7]. Data collection was carried out through interviews and documentation methods. Interviews were used to obtain data related to the level of motivation and behavior of miners, especially rock miners, in maintaining a sustainable environment. While the documentation is used to complement the data that has been collected, such as laws and regional regulations related to environmental and mining management, regional regulations and articles related to the research carried out.

The data analysis technique used in this research is descriptive analysis and simple regression. Regression analysis aims to determine the effect of one variable on other variables. Simple regression analysis is used to determine the relationship between the independent variable and the dependent variable, whether it has a positive or negative relationship [8].

## RESULT AND DISCUSSION

### Result

#### 1. Respondent Characteristics

Table 1. Characteristics of Respondents

Category	Frequency	Percentage (%)
1. Respondent's Gender		
Man	200	100
Woman	0	0
2. Respondent's Age		
< 20 Years	0	0
20 – 30 Years	7	3,5
30 – 40 Years	42	21
40 – 50 Years	72	36
> 50 Years	79	39,5
3. Long Time Working Miner		
< 50 Years	3	1,5
5 – 10 Years	21	10,5
10 – 15 Years	64	32
15 – 20 Years	89	44,5
> 20 Years	23	11,5
4. The Number of Dependents		
2 Person	21	10,5

3 Person	69	34,5
4 Person	40	20
5 Person	61	30,5
6 Person	9	4,5
5. Respondent's Domicile		
In the Barru District	185	92,5
Outside the Barru District	15	7,5
6. Respondent's education		
Elementary School	12	6
Junior High School	63	31,5
Senior High School	101	50,5
Diploma Three	14	7
Undergraduate	10	5
7. Income		
< Rp. 1 Million	7	3,5
Rp. 1 Million – Rp. 2 Million	101	50,5
Rp. 2 Million – Rp. 3 Million	78	39
Rp. 3 Million – Rp. 4 Million	8	4
> Rp. 4 Million	6	3

## 2. Descriptive Analysis of Research Variables.

### a. Motivation to Protect the Environment

From the results of the analysis that has been carried out, the mean value is 39.2850, the median is 38.6250, std. deviation is 13.67512, skewness is 0.405, kurtosis is -0.956, the minimum value is 18.00, and the maximum is 70.00. Normal skewness and kurtosis values range between +2 and -2 [9]. From these results it can be concluded that normally distributed.

Table 2. Descriptive Environmental Motivation

Intervals	Category	Frequency	Percentage (%)
14,00 – 25,00	Very Low	37	18,50
26,00 – 36,00	Low	57	28,50
37,00 – 48,00	Medium	53	26,50
49,00 – 59,00	High	29	14,50
60,00 – 70,00	Very High	24	12,00
	Total	200	100,00

Table 2 above shows the descriptive motivation which consists of 5 levels of categories namely very low, low, medium, high and very high. From these results it can be concluded that the majority of respondents in the motivation category in this study

were at a low level with a percentage of 28.5%.

#### b. Behavior of Miners in Protecting the Environment

From the results of the analysis that has been carried out, the mean value is 42.9850, the median is 42.5000, std. deviation is 12.17811, skewness is 0.475, kurtosis is -0.540, minimum value is 23.00, and maximum is 74.00.

Table 3. Descriptive Amount of Environmental Behavior

Intervals	Category	Frequency	Percentage (%)
16,00 – 29,00	Very Low	29	14,50
30,00 – 42,00	Low	70	35,00
43,00 – 54,00	Medium	67	33,50
55,00 – 67,00	High	23	11,50
68,00 – 80,00	Very High	11	5,50
	Total	200	100,00

Table 3 above shows the descriptive behavior which consists of 5 level categories, namely very low, low, medium, high and very high. From these results it can be concluded that the majority of respondents in the environmental behavior category in this study were at a moderate level with a percentage of 33.5%.

#### 3. Simple Regression Analysis

Based on the research results, it is known that the magnitude of the influence of rock miners' motivation on environmental behavior is 0.278 with a probability value (p) of 0.255. with a probability value (p) > 0.05, so it is stated that there is no significant influence of motivation on the environmental behavior of natural rock mining communities in Barru Regency.

The direct effect of motivation on behavior is 0.278. This means that the percentage of direct influence of motivation on behavior is 27.80% while the remaining 72.20% is influenced by other factors outside the research variables.

### Discussion

#### 1. Miners' motivation in protecting the environment

The majority of respondents in the motivation category in this study were at a low level with a proportion of 28.50% (57 respondents). This means that mining awareness of environmental conditions is still lacking. Therefore support is needed in the form of facilities and infrastructure as well as guidance in environmental management so that mining is more focused on good and correct mining activities.

#### 2. The behavior of miners in protecting the environment

The majority of respondents in the environmental behavior category in this study were at a low level with a percentage of 35% (70 respondents). This means that the mining community still lacks knowledge about environmental preservation, so that local

government efforts are needed for the community through work programs in the context of sustainable environmental management.

### 3. The effect of motivation on environmental behavior

The results of the analysis show that the motivational variable has a positive, although not significant, effect on the environmental behavior of natural rock miners. This means that the higher the community's motivation in maintaining the environment, the higher the behavior of natural rock mining communities in maintaining a sustainable environment.

Behavior is a form of real action of a person as a result of the action response and reaction. Motivation within the individual is the existence of a strong desire to want and be able to be involved in preserving the environment. In determining initiative behavior and providing significant changes in the behavior of each individual towards their environment, beliefs, values and motivation must be changed [10] [11].

## CONCLUSION

1. The majority of respondents in the motivation category in this study are at a low level with a percentage of 28.50% (57 respondents).
2. The majority of respondents in the category of environmental behavior in this study are at a low level with a percentage of 35% (70 respondents).
3. There is no significant influence of motivation variables on environmental behavior. Individual behavior, attitudes and individual habits that are closely related to the environment, within the family environment (customs of each family member), limited environment (traditions, customs and beliefs of society), and then the general environment (government policies, laws, programs local government and so on).

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