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## DESCRIPTIVE OF QUANTITATIVE DATA | SUPPLEMENTARY

## The Impact of Gold Mining on Community Income in Poboya Village, Mantikulore Subdistrict, Palu City

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**Abstract:** The purpose of this study was to determine the impact of gold mining on community income in Poboya Village, Mantikulore sub-district, Palu City. This research was conducted using qualitative and quantitative research methods. The data sources used in this research are primary data and secondary data with data collection techniques, namely observation, interviews and documentation, the data obtained is then analyzed into a conclusion from the research process. The findings of the study found that the Impact of Gold Mining on Community Income in Poboya Village, Mantikulore District, Palu City had a positive impact and a negative impact on mining. The positive impact of gold mining can improve the economy of miners, while the negative impact poses a greater danger, especially the impact on the environment.

**Keywords:** Gold Mining, Income, Poboya Village

### 1. INTRODUCTION

Indonesia is an archipelago that has abundant natural resources, both biological and non-living resources. Mineral resources are included in the non-living resources category. Indonesia has very diverse natural resources, which are characterized by their varying quality and abundance. In terms of material extraction, these natural resources are usually unevenly distributed within the earth's crust. Natural resources included in this list are petroleum, gold, coal, silver, tin, and various other natural resources. These natural resources are obtained and utilized to improve human welfare. Central Sulawesi Province has abundant and diverse natural resources, including agriculture, forestry, marine and fisheries, livestock, plantations, and mining.

Local communities in Poboya Village traditionally used simple methods, such as gold panning, to explore areas with gold deposits. The initial mining activities carried out in Poboya Village served as a means of employment for the local community, thus increasing their income. The commencement of mining offers employment prospects for both the local community, and the wider community in general. In addition, many individuals choose to prioritize mining as their main occupation, including farmers, laborers, and others, as the returns are lucrative. The people of Poboya initially had a mediocre income, which was enough to fulfill their basic daily needs, including food, clothing, and shelter. In its development, the Poboya community has absorbed knowledge from various migrant communities regarding gold management. As a result, gold mining is no longer limited to planning, but also involves underground mining. According to field monitoring, there are thousands of residents who are actively involved in mining every day. Some people are involved in mining operations, which involve activities such as excavating, transporting, breaking or refining gold-bearing rocks. Some people are involved in the daily exchange of essential goods for the miners.

Regarding the controversy surrounding the Poboya mine, the Palu City Government must conduct in-depth and meaningful discussions with the community and other related parties. This should be done despite the existence of laws and regulations on the regulation of Tromol miners. The



aim is to ensure that policies regarding the Poboya mine really pay attention to and include all aspirations and wishes of the community, without any impression of being neglected. Although the activities of the Tromol miners in Poboya are classified as a threat to the environment, the management process must still consider the principle of justice to ensure that the local community can fully benefit from its natural resources. Therefore, it is crucial to find an appropriate solution that can effectively address the problem and fulfill the interests of all parties involved, including the Poboya community, the government, and other stakeholders. To address this issue, the proposed solution must fulfill the longstanding needs and preferences of the local community, while complying with legal and formal requirements, as the Poboya mine site is currently under the concession of PT Citra Palu Minerals.

## 2. RESEARCH DESIGN AND METHOD

This research uses a concurrent triangulation model, specifically a balanced mixed approach, which combines qualitative and quantitative research methods harmoniously and simultaneously, but independently, to address similar problem formulations. The concurrent triangulation research model is used to overcome the limitations of one data collection technique by combining other techniques. This approach aims to obtain more comprehensive, reliable and unbiased data while optimizing time efficiency. The main purpose of integrating qualitative and quantitative methods is to improve data collection and analysis techniques. This allows researchers to compare the findings obtained from both methods and draw conclusive results. Researchers prioritize the use of qualitative data collection methods, specifically by conducting comprehensive interviews with many individuals in Poboya Village. Meanwhile, to answer the income of the people of Poboya Village before and after the existence of gold mining, researchers emphasize the use of quantitative data collection techniques, namely by processing income data that has been obtained during interviews.

### 1. *Determination of Population and Sample*

According to Sugiyono, (2017) population refers to a broad category of objects or subjects that have specific qualities and characteristics, which are selected by researchers for observation and drawing conclusions. The population in this study is the gold mining community in Poboya Village, totaling 30 people. Sugiono (2010) Samples are part of the number and characteristics of the population. The sampling method used in this study was purposive sampling, where the researcher intentionally selected participants based on predetermined criteria. Specifically, researchers targeted individuals living around the gold mining site who were able to provide the information needed and communicate effectively. Based on the description above, the sample in this study is the gold mining community totaling 30 people.

### 2. *Data Collection Technique*

This research involved interviews with gold miners and non-gold miners in Poboya Village who met the specified criteria. These individuals were considered knowledgeable and able to provide information on how gold mining contributes to increasing community income in Poboya Village. Documentation techniques refer to methods of collecting and examining various types of documents, including written texts, images, and electronic files, as a means of data collection. The data collected by researchers will be useless without analysis, because analysis gives purpose and meaning to the data, making it easier to solve research difficulties. The data collected using these techniques will be analyzed qualitatively. Qualitative analysis is the process of examining and interpreting data using descriptive and narrative methods, focusing on the arrangement of words in expanded text (Miles and Huberman, 1992). Analysis of the interview results involved three stages: data reduction, data presentation, and conclusion drawing.

The data reduction stage involves selecting, simplifying and transforming raw data from field notes. This includes classifying, directing, and discarding unnecessary data, as well as organizing the

data based on the research questions. The presentation of the data involved collecting a series of information that allowed drawing conclusions and implementing actions based on the data presented. This stage is the final phase of the analysis process, after the previous two stages. This stage serves as the final step in evaluating the validity and alignment of data with existing facts.

### 3. RESULT AND DISCUSSION

#### 3.1. Result

In 1812, the settlement was originally named Kampung Poboya and was ruled by a village head named Rojunjobo. After receiving the Decree of the Minister of Home Affairs dated January 1, 1981, Kampung Poboya underwent a change in status and became known as Kelurahan Poboya. Since around 1800, the village leadership was held by a village head named Rurunjobu from Ue Sama, who was considered the King at that time. After his tenure, there have been nine changes of village leadership, while the position of Kelurahan Poboya has experienced fourteen changes of leadership since its inception under Halipa Djanggola. The village is currently led by Muhamad Zulfin, who was elected in July 2023. In 2022, the population of Kelurahan Poboya was 4103 people. The population of Kelurahan Poboya in 2022 by age group is as follows:

**Table 1. Total Population of Poboya Village by Age Group in 2022**

Group According to age	Total	%
0 - 19	1451	35,31%
20 - 39	1499	36,48%
40 - 59	935	22,75%
60 - 74	190	4,62%
>74	28	0,68%
Total	4109 People	

The age composition of the population in the table is quite varied, meaning that there are differences in numbers between each age group and other age groups. The table shows that the most numerous age group is between 20 and 39 years old, namely 1499 people (36.48%), followed by the age group 0-19 years old; 1451 people (35.31%), age group 40-59 years 935 people (22.75%), age group 60-60 years; 74 years 190 people (4.62%) then the age group above >74 years 28 people (0.68%). This shows that the number of people who are at productive age is quite large.

#### 3.2. Discussion

Gold mining activities in Poboya Village have been going on for quite a long time, so it can be concluded that this activity is a hereditary activity. Based on the results of the researcher's interview with the Poboya community involved in gold mining activities, it is known that one of the main factors behind the Poboya community's involvement in gold mining activities is economic factors that can help meet economic needs. Before engaging in gold mining activities in Poboya Village, the Poboya community had main jobs as farmers, construction laborers, and rattan harvesters. Some Poboya people have permanent jobs, namely unemployment. This gold mining activity has the potential to create jobs for people who are currently unemployed, as well as for people in Poboya who have jobs but are struggling to meet their daily economic needs. Individuals who have turned to this work recognize that employment prospects have improved as a result of gold mining operations. Similarly, their income has seen a substantial increase compared to their previous employment. Respondents' previous net income ranged between Rp. 500,000 to IDR 1,200,000.

After working in gold mining, informants admitted that their income had increased, some even experienced a very rapid increase. Informants who work as miners can have an income ranging from Rp.5,000,000 - Rp.7,000,000. This income is obtained from the collection of rap rock which is

processed into gold. The income received from the 30 gold miner respondents is obtained from the results of gold pieces obtained by workers by digging / making holes in the ground that contain gold, then the gold stones that have been collected for a month will be broken using a hammer and betel so that they become small fragments, the fragments are ground in a drum machine and burned to become whole gold. After that, the gold is sold (the amount of gold obtained is multiplied by the price of gold) which is collected for a month and has been reduced by costs such as the purchase of oil as fuel for operational costs, the cost of maintaining mining equipment, the cost of sharing results from other mining workers.

**Table 2. Net Income Data of Respondents before and after gold mining in Poboya Village**

No.	Respondent Name	Revenue	
		Before	After
1	Dirham	1,200,000	7,000,000
2	Help	800,000	7,000,000
3	Halim	1,000,000	7,000,000
4	Iyank	500,000	6,000,000
5	Reza	700,000	5,000,000
6	Fadil	1,000,000	6,000,000
7	Fuandi	800,000	7,000,000
8	Oce	800,000	6,000,000
9	Risman	700,000	6,000,000
10	Mato	600,000	6,000,000
11	Isal	600,000	6,000,000
12	Hasarudin	800,000	7,000,000
13	Lutfi	1,000,000	6,000,000
14	Imla	800,000	7,000,000
15	Amir	700,000	5,000,000
16	Bambang	800,000	6,000,000
17	David	700,000	7,000,000
18	Iful	600,000	5,000,000
19	Rosi	800,000	7,000,000
20	Hermawan	1,000,000	7,000,000
21	Hendra	800,000	6,000,000
22	Iwan	1,000,000	7,000,000
23	Muklis	700,000	6,000,000
24	Mifta	800,000	6,000,000
25	Hasimin	1,200,000	7,000,000
26	Aco	800,000	6,000,000
27	Alam	1,000,000	7,000,000
28	Ismail	800,000	6,000,000
29	Rizki	700,000	5,000,000
30	Risman	800,000	6,000,000
	<b>Total</b>	<b>24,500,000</b>	<b>188,000,000</b>

**Table 3. One-Sample Kolmogorov-Smirnov Test**

N		30
Normal Parameters <sup>a,b</sup>	Mean	.00000
	Std. Deviation	.09548736
MostExtreme Differences	Absolute	.148
	Positive	.085
	Negative	-.148
Test Statistic		.148
Asymp. Sig. (2-tailed)		.090 <sup>c</sup>

- a. Test distribution is Normal.
- b. Calculated from data.
- c. Lilliefors Significance Correction.

The results of the normality difference test showed that the one-sample Kolmogorov-Smirnov test reported a significant difference in the Kolmogorov-Smirnov test results before and after mining, with a significance level of 0.09, which is greater than 0.05. The data indicates that the groups follow a normal distribution.

**Table 4. Paired Samples Statistics**

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before	30	168,325.08231	30,731.81486
	After	30	691,491.80728	126,248.55373

From the data, it can be seen that from before the existence of mining has average 816,666.6667, standard deviation 168,325.08231, standard error mean 30,731.81486. Income after mining has an average of 6,266,666.6667, standard deviation 691,491.80728, standard error means 126,248.55373. The population in this study was 30.

#### *Positive Impact of Gold Mining on Community Income*

Gold mining in Poboya has created many jobs for the local population. These jobs are not only limited to direct mining activities, but also involve supporting sectors such as transportation, trade and services. This increase in employment opportunities helps to reduce the unemployment rate in the area. The income of people working in the mining sector is generally higher than in other sectors such as agriculture or informal work. With better income, local communities can improve their quality of life, including in terms of education, health and housing. The existence of gold mining activities has an impact on increasing the income of the surrounding community, thus encouraging transaction activities and community purchasing power. The mining process in Poboya Village provides additional income for the surrounding community, so that they can buy various basic household needs. In addition, mining activities also attract job seekers, both from within and outside the mining area. This increase in income has an impact on the faster turnover of money, thus encouraging economic growth in the village.

#### *Negative Impact of Mining on Community Income*

The negative impacts of gold mining are also substantial. The high dependence on the mining sector makes the local economy vulnerable to changes in global commodity prices. A drop in gold prices can have a significant impact on community and local government incomes, creating economic instability. The distribution of benefits from mining activities is often unequal. Some individuals or groups may benefit greatly, while others, especially indigenous communities, may not benefit as much. This can exacerbate social and economic inequalities in the area. Mining activities have also caused negative impacts on the environment such as soil polluted by mining, the existence of large holes that cannot be closed again creating high levels of acidity, the risk of landslides, the decline in water quality, the loss of some agricultural land, the destruction of forests. Mining activities have the potential to increase the threat of landslides. Judging from mining techniques, where miners dig hills not in stages, but just digging and appear irregular excavation openings and form straight and hanging walls that are very vulnerable to collapse (landslides) and can threaten the life safety of miners as well as soil erosion and loss of soil sedimentation which causes the loss of springs in the mining area.

## 4. CONCLUSIONS

Gold mining in Poboya Village, Mantikulore Sub-district, has a significant impact on community income. Positive impacts include job creation and increased community income. However, negative impacts also need to be considered, such as environmental damage, economic dependency and social inequality. To maximize benefits and reduce negative impacts, a sustainable approach is needed, strict

regulations, good environmental management, and equitable distribution of benefits are key to success in managing mining impacts.

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