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The Impact of Artisanal Gold Mining Activities in Ranggo Village, Ladore Sub-District, Pajo District, Dompu Regency, West Nusa Tenggara

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Abstrak. Artisanal gold mining activities in Ranggo Village, Pajo District, Dompu Regency, have been going on since 2014 until today. About 50% of the people who work as gold miners traditionally come from Ranggo Village, with an average of junior to senior high school graduates ranging from 20 to 40 years old and above. This study aims to determine the social, economic and environmental impacts of traditional gold mining activities on the welfare of the community around the mine. The method used for data collection was interviews, observation, and documentation. The research results reveal a decrease in crime by 80 % due to the availability of jobs in gold mines operated by the community. In addition, there is a significant increase in income of IDR 3,000,000 – IDR 5,000,000 every month. However, the presence of artisanal gold mines in Ranggo Village raises environmental problems because the processing activities still use mercury.

Kata Kunci: *Artisanal gold mining, traditional gold mining, Dompu regency.*

1. Introduction

Geologically, Dompu Regency is located in the central part of Sumbawa Island, with the south side directly adjacent to the Indonesian Ocean, while in other parts, it is bounded by Saleh Bay in the Southwest and the Flores Sea in the north. Dompu Regency is one of 10 districts/cities in West Nusa Tenggara Province. The geographical location of Dompu Regency is between 118° 22' 30" - 118° 30' 00" East Longitude and 06° 45' 30" - 08° 53' 30" South Latitude covering an area of 2,324.55 km^2 (Prabowo, et al., 2018). People's gold mining activities in Ranggo Village, Pajo District, Dompu Regency have been going on since 2014 until now. With quite promising results. By doing gold mining can partially improve the family economy, but if we consider not all gold miners are victorious family life (Anjami, 2017). People's gold mining is a gold mining activity carried out by the community, both local and immigrant communities, which is carried out traditionally on a small scale (Idrus, 2021). Considering that people's mining activities do not apply mining principles properly and are almost untouched by the law, while on the other hand minerals are non-renewable and in their exploitation have the potential to damage the environment, what follows are various negative impacts that are not only detrimental to the Government, but also wide community. Environmental damage, wastage of mineral resources, and moral decline are examples of negative impacts that are detrimental to the Government and society (Dondo, et al., 2021). With the movement of the population every day, people see opportunities to help increase their income (Risal , et al., 2013).

In general, community mining activities have had a positive impact on the economy/income of the mining area community. The increase in people's income was both due to income from renting land for mining, as well as the opening of new job opportunities for the community due to community mining activities (Junaidi, 2022). The importance of mining to the regional economy increases with increasing employment and income levels (Petkova-TImmer, et al., 2009). but over time, if this activity is not controlled then in the future it can raise problems as if water, soil and environmental pollution were caused by people's mining activities (Sulistijo, 2019). besides that,

the use of chemicals such as mercury is very widespread in use. Even in very small amounts, mercury is toxic to humans and other animals (Nakazawa, 2021). Cases where mercury use waste is directly disposed of into the environment with the potential to contaminate water and soil which will be very difficult to recover or repair (Esdaile & Chalker , 2018). The role of the Dompu district government to carry out supervision, for the implementation of community mining management does not yet have the right guidelines and policies to make a greater contribution to the state and the people's economy (Rahman & Mulada, 2018).

2. Method

The location of this research is Ranggo Village, Ladore Sub-district, Pajo District, Dompu Regency. The majority of the people work as gold miners, around 50 %.

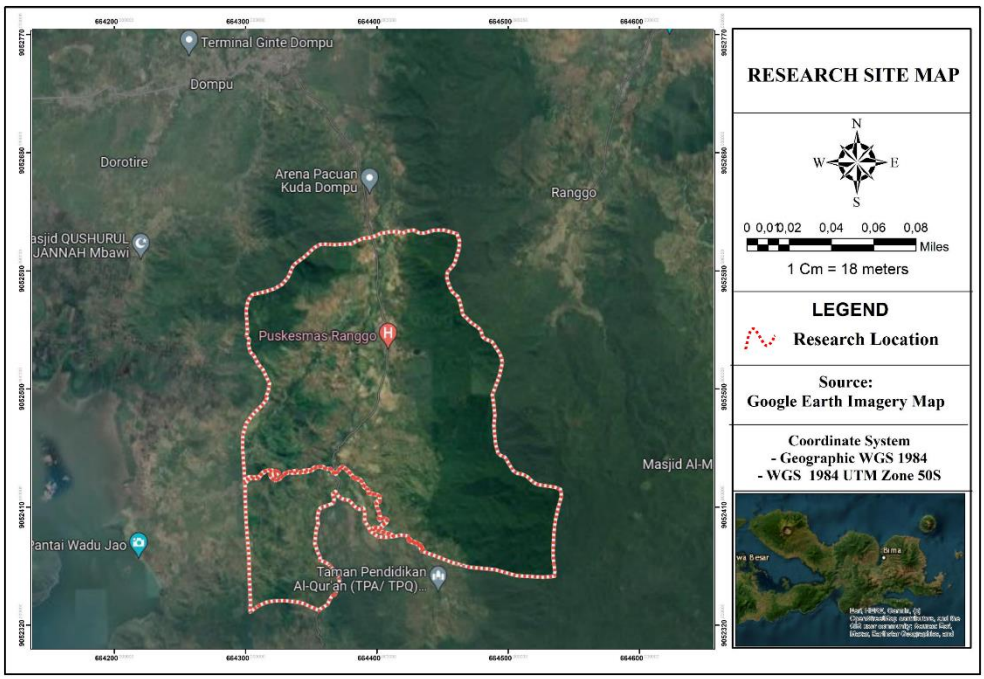

Figure 1. Research location

The location of this study is Ranggo Village, Ladore District, Pajo District, Dompu District. The majority of the population works as gold miners around 50%. The majority of the population work as gold miners around 50%. In conducting this research, there are several methods used, the first is the observation method by making observations. for collecting data to determine the condition of the mining environment, socio-economic conditions, the number of people working as miners, as well as knowing the decrease in the crime rate in Ranggo village. The second method is by conducting the interview method in order to get an in-depth explanation from the informants in thi study**,**social and economic impacts associated with the existence of artisanal mining (Masili, et al., 2022). In addition, we used this method to find out the factors that caused the community to carry out smallholder mining in Ranggo Village, Ladore District, Pajo Regency. This study includes primary and secondary data, primary data is data collected through questionnaires, namely data collected directly from respondents through a list of questions given to each respondent, including who are gold miners without operating permits, what are the social impacts of gold miners operate without a permit, and what are the negative and positive impacts. Then using secondary data, this data was obtained from the office of the head of Ranggo Village and the agencies involved in this study including the area, geographical conditions of the study area, population (Peter, et al., 2022). After all the data has been collected, it is then grouped according to the type and type of data as well as additional supporting information to explain the research results.

3. Result and Discussion

3.1. Factors Causing Artisanal Gold Mining

Thus, permits, recommendations, or any form given to individuals, groups of people, or companies/foundations by government agencies outside the provisions of the applicable laws and regulations, can be categorized as illegal mining practices or, in Indonesia, known as PETI. Nevertheless, artisanal gold mining activities in Ranggo Village, Pajo District, Dompu Regency, have been going on since 2014 until now, especially with quite promising outcomes, so more and more people are becoming mining workers.

3.2. Socio-economic impacts

Every mining activity is almost certain to bring impacts on the economy, social and environment, both positive and negative. The presence of the artisanal gold mines indirectly opens job opportunities for the surrounding community and increases people's incomes through more businesses such as food stalls, household furniture stores, and building materials shops, as well as increasing people's purchasing power.

Table 1. Table of respondents income after becoming miners

No	Income (IDR/month)	Respondents	%
1	1,000,000	30	60
2	1,000,000 – 2,500,000	15	30
3	2,500,000 – 3,500,000	5	10
	Respondents	50	100

Table 2. Table of respondents income before working as people's gold miners

No	**Opinion (IDR/month)**	**Respondents**	**%**
1	Under 500,000	30	60
2	1,000,000	15	30
3	2,000,000	5	10
	Respondents	50	100

From the table of respondents income data above, we can see that the comparison of respondents income before (Table 2) and after working (Table 1) as a miner experienced an increase.

3.3 Positive impact

The mines are able to make some miners live in prosperity, although not all miners directly feel the impact. However, the income from mining activities has fulfilled the economy, especially the daily needs of families.

3.4. Adverse impacts

The artisanal mining activities carried out by the Ranggo village community can cause environmental damage, mainly because the community does not understand the dangers of mining activities to the environment. In addition, the miners only use headlamps and do not use Personal Protective Equipment, which is very risky.

3.5. Impact of Crime

Crime is very troubling for the people of Ranggo Village, Pajo District. The community refers to this deviation as behaviour that violates the law and results in damage to the community's living order because there are parties who are harmed. This is what happened in Ranggo Village, Pajo District, before the artisanal gold mines presence in the area, which was caused by economic difficulties that triggered criminal acts.

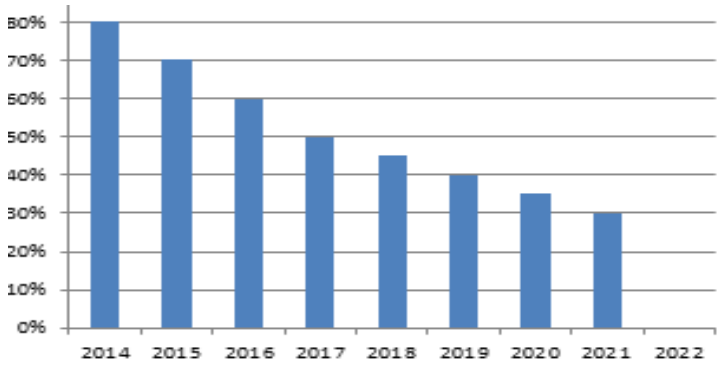

Figure 2. Crime graph in Ranggo village (BPS, 2021).

4. Conclusion

The artisanal gold mining activities has both positive and negative social impacts. The positive impacts are open job opportunities for the community, increase the income for both mining and non-mining communities, reduce the unemployment rate in the village of Ranggo, Ladore Sub-district, and increase the community businesses, such as food stalls and others. Meanwhile, the negative impacts are environmental damage, social vulnerability, and water and soil pollution.

Referensi

Anjami, T., 2017. Dampak SOsial Penambangan Emas Tanpa Izin (Peti) di Desa Sungai Sorik Kecamatan Kuantan Hilir Seberang Kabupaten Kuantan Singingi. *JOM FISIP*, 4(2), pp. 1-13.

BPS, 2021. *Pajo District in Figures*, Dompu: BPS-Statistics of Dompu Regency.

Dondo, S. M., Kiyai, B. & Palar, N., 2021. Dampak Sosial Pengelolaan Tambang Emas di Desa Bakan Kabupaten Bolaang Mongondow. *JAP*, 7(1), pp. 63-72.

Esdaile, L. J. & Chalker , J. M., 2018. The Mercury Problem in Artisanal and Small-Scale Gold Minin. *Chem.-A Euro. J.*, 24(27), pp. 6905-16.

Idrus, A., 2021. Education on ENvironmentally Friendly Gold Mining TEchniques for Small-Scale People's Mines in the Soripesa Area, Wawo District, Bima Regency, West Nusa Tenggara. *Int. j. Community Serv. Learn.*, 5(1), pp. 36-42.

Junaidi, J., 2022. Pertambangan emas tanpa izin (PETI) dan kesejahteraan keluarga di sekitar wilayah pertambangan (Unlicensed gold mining (PETI) and family welfare around mining areas). *Jurnal Ekon. Source D. and ENvironment*, 11(1), pp. 61-74.

Masili, S. P., Waani, F. J. & Mumu, R., 2022. Pola interaksi sosial pekerja tambang emas di Desa Karya Baru Kecamatan Denggilo Kabupaten Pohuwato Provinsi Gorontalo (Pattern of Social Interaction of Gold Mine Workers in Karya Baru Village, Denggilo District, Pohuwato Regency, Gorontalo Province). *J. Ilmiah Society*, 2(3), pp. 1-6.

Nakazawa, K. e. a., 2021. Human health risk assessment of atmospheric mercury inhalation around three artisanal smallscale gold mining areas in Indonesia. *Environ. sci. Atmos.*, 1(6), pp. 423-433.

Peter, B. A., Zakaria, O. M. & Sabiki, S. A., 2022. Environmental and Health Impact of Small-Scale Gold Mining Activities in Ibanda District of Uganda. 26(5), pp. 785-788.

Petkova-TImmer, V., Ivanova, G. & Rolfe, J., 2009. Mining developments and social impacts on communities: Bowen basin case studies. *Rural Soc.*, 19(3), pp. 211-228.

Prabowo, R., Sahara, V. H. & Anggraeni, R. D., 2018. Analisis Geostatistik Data Mercury (Hg) di Prospek Panas Bumi Kabupaten Dompu, Nusa Tenggara Barat. *2nd ISPG Research FOrum COnference*, pp. 1-13.

Rahman , A. & Mulada, D. A., 2018. Kajian Yuridis tentang keberadaan tambang rakyat (Juridical study on community mining). *J. Hukum Jatiswara*, 33(3), pp. 274-290.

Risal , S., Paranoan, D. & Djaja, S., 2013. Analisis Dampak Kebijakan Pertambangan terhadap Kehidupan Sosial Ekonomi Masyarakat di Kelurahan Makroman. *J. Adm. Reform,* 1(3), pp. 516-530.

Sulistijo, B. e. a., 2019. Program kesadaran bahaya merkuri dan sianida di daerah lingkar tambang: studi kasus daerah Kao Teluk , Malifut dan Kao, Halmahera Utara (Mercury and Cyanide Hazard Awareness Program in the Mine Ring Area: A Case Study of the Kao Bay, Malifut and Kao Areas. *Pros. Profession Meeting PERHAPI,* 1(1), pp. 207-216.