

HOW THE PERCEPTION AND LIFE STYLE OF SMALL SCALE MINERS EFFECT THE GREEN BUSINESS SUSTAINABILITY IN TEWANG PAJANGAN VILLAGE OF CENTRAL KALIMANTAN

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Abstract: *The aim of this research is to describe the effect of perception and life style of small scale miners towards their continuity of livelihood in Tewang Pajangan Village of Central Kalimantan. It is a descriptive quantitative. The respondents of the research is the total number of population. The findings of the research are (1). Perception does not have significant effect on green business sustainability with a significance level of $0.223 > 0.05$. (2). Life style has significant effect on green business sustainability with a significance level of $0.027 < 0.05$. The difficulty of officially detecting the names of miners makes it difficult to demand accountability. The report and mutual coordination and socialization among the officers related to green sustainability business are suggested. The culture of shifting cultivation of local people in the past is not accordance with the ongoing green business sustainability*

INTRODUCTION

The mining sector is a sector that utilizes natural resources (minerals and coal) which can increase national and regional economic growth. Ideal mining activities must apply good and correct mining principles (good mining practice) because, there is an environment that must be protected in order to minimize damage caused by mining activities. For this reason, the mining activity must have a permit to run a business and operate in accordance with waste management standards.

Mining sector in Central Kalimantan has potential natural resources such as gold, coal, diamonds, kaolin, quartz sand, iron ore and many others (Universitas Indonesia, 2010). Gold mining activity is the most mining activity carried out by local people in Central Kalimantan to make their living. They are called PESK or Small Scale Miners. PESK is the activity of mining carried out by the people/community in a small scale or per each family or a sole miner, using limited resources, including land, technology, infrastructure, capital and production scale, carried out individually. and/or in groups, which is used as the main livelihood (The Regulation of The Governor of Central Kalimantan, 2022). Gunung Mas Regency and Murung Raya Regency are the two regencies with the most mining activities.

Prior researches mentioned the negative impacts of Illegal mining. First negative impact is water pollution. The use of mercury in the gold production and processing process which is not carried out properly according to the procedures pollute water sources (rivers). If fish in rivers are contaminated with mercury and consumed by humans, it can endanger health and even cause death shown in prior researches (Saptawartono et al., 2023), (Kristinawati et al., 2024). Apart from water pollution, air contaminated with pollutants originating from illegal mining activities and waste is very dangerous for health. These pollutants can cause various respiratory diseases such as influenza, pneumonia, bronchitis, asthma and other chronic diseases discussed in prior researches (Kristinawati et al., 2024; Saptawartono et al., 2023). Moreover, Illegal mining that is not carried out in accordance with environmental protection standards can damage existing soil vegetation and the genetic profile of the soil, so that land that was initially fertile can turn dry and barren. Inappropriate land use can also permanently change the general topography of the mining area which can result in landslides or flooding (Saptawartono et al., 2023), (Kristinawati et al., 2024)

The use of mercury in mining causes some babies to be born with defects, such as being born with intestines outside the stomach, brain outside the cranium, incomplete skull, no ribs and skin covering the stomach shown in prior researches (Saptawartono et al., 2023), (Kristinawati et al., 2024). This threatens human being's lives. These all are called as environmental damages and the threat for human's lives. Prior researches related to illegal mining issues as stated in the year 2015 by Anshariah et al, 2015. In the year 2018 by Annisa, 2018. In the year 2020 by (Puspita et al., 2020), ; Kartono & Sulistyaningsih, 2020; Putrawiyanta et al., 2020) related to water pollution. In the year 2021, researches by (Hasibuan et al., 2021; Roberto Adriano Lombah et al., 2021). In the year 2023, research by (Aldiperdia et al., 2023).

The Limitation of the Research

1. To what extent does the perspective of local people effect the sustainability mining activities in Gunung Mas Regency of Central Kalimantan ?
2. To what extent does life style of the local people effect the sustainability mining activities in Gunung Mas Regency of Central Kalimantan ?
3. To what extent do the perspective and the life style of local people simultaneously effect the sustainability of green economy implementation in mining activity in Gunung Mas Regency of Central Kalimantan ?

The Purposes of the Research

1. To analyze the effect of the perspective of local people towards the sustainability of green economy implementation in mining activity in Gunung Mas Regency of Central Kalimantan.
2. To analyze the effect of life style of local people towards the sustainability of green economy implementation in mining activity in Gunung Mas Regency of Central Kalimantan
3. To analyze the simultaneously effect of perspective and the life style of local people towards the sustainability of green economy implementation in mining activity in Gunung Mas Regency of Central Kalimantan.

LITERATURES REVIEWS

The Green Economy

The green economy for a business perspective as an economy in which economic growth and environmental responsibility work together in a mutually reinforcing fashion while supporting progress on social development ((Newton & Cantarello, 2014). Green economy is development an economy that prioritizes environmental sustainability, providing benefits in the short and long term (sustainable), reducing inequality for current and future generations (Firmansyah, 2022).

The Sustainable Development Concept

The aim of development is to improve the welfare of society so that development must be based on the concept of sustainable development, namely development that is based on the principle of life current needs without sacrificing life needs of future generations (Makmun, 2016).

The Perspective

The perspective is a person's point of view or way of viewing a topic or issue based on their background, experience, knowledge, and personal values. Perspectives can also change over time, especially if a person gains new experiences or knowledge. Perception is defined as: 'the process by which consumers select, organize and interpret stimuli to create a coherent and meaningful picture of the world around them (Noel, 2009:321). Indicators for perspective are income, business cost and miner convenience.

The Life Style

The main source of livelihood for the Dayak people is a subsistence economy in the form of shifting cultivation. Side jobs include tapping rubber, looking for rattan, looking for firewood, hunting, catching fish, and gathering various forest products around them. With such a livelihood system, forests (including land and everything in it) have a very important value for the lives of the Dayak people (Widen, 2023). One of the main source of livelihood is scall mining activity. Indicators for life style are ways of thinking and demography.

RESEARCH METHODS

The method of this research is descriptive quantitative . The research is scientific research systematic of parts and phenomena and the causality of their relationships. Quantitative research is defined as the systematic investigation of phenomena by collecting data that can be measured using statistical, mathematical or computing techniques (Kothari, 2008). Descriptive research includes surveys and fact-finding enquiries of different kinds (Kothari, 2018:19). A descriptive approach means that data is obtained from interviews directly or indirectly, field notes, researcher memos, photographs as well other official documents that support and are not numerical data. Data obtained from informants related to this research, for example from miners, village heads and several indigenous people from Tewang Pajangan Village, Tewang Pajangan Village Health Center, Aspera (miners association), NGO Lentera Kartini, Tambuhak Sinta Foundation (YTS), and from the government side related to the role of government such as the Environmental Service in provincial or district level, Department of Energy and Mineral Resources (ESDM) in Central Kalimantan Province.

The Population and The Sample of the Research

According to data from (Direktorat Jenderal Perhubungan Laut Direktorat Kepelabuhan Kalimantan Tengah, 2024), it was mentioned that there are 81 mining companies in Central-Kalimantan spreading in 14 (fourteen) regencies including Palangka Raya as the capital city of Central Kalimantan. Those fourteen regencies are South Barito Regency, East Barito Regency, North Barito Regency, Gunung Mas Regency, Kapuas Regency, Katingan Regency, West Kotawaringin Regency, East Kotawaringin Regency, Lamandau Regency, Murung Raya Regency, Pulang Pisau Regency, Seruyan Regency and Sukamara Regency (Wikipedia, 2024). Gunung Mas Regency and Murung Raya Regency are the two regencies with the most PESK activities. Therefore, the PESK sample for this research is taken in Gunung Mas Regency (Secretariat of the House of Representatives of Central Kalimantan, 2019). The reason why the sample is not taken in Murung Raya Regency due to the long distance. It takes 411 kilometers from Murung Raya to Palangka Raya. Otherwise, it takes 180 km from Gunung Mas to Palangka Raya. Sampling formula used in this research is purposive sampling. The total respondents of the research are 25 small miners.

Data Collection

Primary data is data obtained directly by organizations, institutions, bodies, institutions or individuals from the data object. Secondary data is data obtained from other sources, including organizations, institutions, bodies and institutions that are available for use according to the needs that require the data (Ph.D. Ummul Aiman et al., 2022). Primary data is collected through questionnaires and analyzed with SPSS Statistics. Secondary data is collected through study of literatures and interviews, to support the result of the research.

The Study Literatures

The inspections finding by North Barito Regency Mining Service officers stated that there is high acid concentrate in water, namely the appearance of yellow particles at the mine site which is the result of the oxidation reaction of the mineral pyrite which is known as a general reaction that produces Acid Mine Water. (Irawan et al., 2016).

The Interviews

- 1.1 The Head of Controlling & Supervising Departments of Energy and Mineral Resources Service Office of Central Kalimantan (purposive sampling)
- 1.2 Head of the Waste and B3 Waste Management Division (Hazardous and Toxic Materials) of Environmental Service. Central Kalimantan Province (purposive sampling).
- 1.3 Head of Pollution and Environmental Damage Control Division of Gunung Mas Regency (purposive sampling).
- 1.4 Kuala Kurun Regional Health Service, Gunung Mas Regency (purposive sampling)
- 1.5 Head of Tewang Pajangan District (purposive sampling)
- 1.6 Health Facilities / Village Health Centers. Tewang Display (purposive sampling)
- 1.7 The head of the Association of Small Scale Miners of Pamuan Jaya of Gunung Mas Regency (purposive sampling).
- 1.8 The representative of small scale miners of Katingan Regency and Gunung Mas Regency (purposive sampling).
- 1.9 The Mining and Energy Department of Central Kalimantan (purposive sampling)

- 1.10 The Mining and Energy Department of East Kotawaringin Regency (purposive sampling)
- 1.11 The Informants from NGO (snowball sampling)
- 1.12 Small miners (snowball sampling)
- 1.13 25 Respondents (purposive sampling)

The Questionnaires

Questionnaires/questionnaires are a method data collection that has been carried out by providing several kinds questions related to the problem study. According to (Anshariah et al., 2015) questionnaire is a collection method data is done by giving a set of questions or statements written.

RESULT AND DISCUSSION

The Description of the Research Region

Gunung Mas Regency is a district located in the province of Central Kalimantan, Indonesia. This district is the result of the expansion of Kapuas Regency, Central Kalimantan province based on Law Number 5 of 2002. The capital city is Kuala Kurun, one of the sub-districts in Kurun sub-district. Based on the results of interviews with miners in the research area, it is known that the beginning before the progress of development in Gunung Mas Regency, in particular development of improved inter-village road infrastructure, mining activities took place on the edge of the causeway between Tanjung Riu Village and surrounding villages such as Desa Tewang Pajangan and Tampang Tumbang Anjir Village. The miners changed their location from being on the side of the road to another location which are close to tributaries but far from main road access and some move on the outskirts Kahayan River. For miners working above ground level, tools are used community in carrying out Small Scale Gold Mining activities using water suction machines, kato and kasbuk which water source is taken from a tributary. Tewang Pajangan Village was founded around 1906 – 1913 (Tambuhak Sinta Foundation, 2018). The area is 3,289.50 hectares with the northern border bordering Tumbang Lampahung, the south bordering Tumbang Miwan, the east bordering Tumbang Tokun, and the west bordering Tumbang Jutuh/Linau (Tewang Pajangan Village, 2021). Land/land ownership status in Tewang Pajangan Village is hereditary, namely inherited land from parents. In the past, local Dayak residents were free to clear the forest and then planted rice, fruit, rubber and so on. According to villagers, the forest land that is cultivated/planted will belong to the person doing the work.

Interview Results

Harmful and illegal gold scale mining are still occurring due to the low and insufficient knowledge of sole gold miners concerning green economy and the implications of a sustainability framework that focuses on the three Ps: people, planet and profit. There are 11.344 small scale miners in Katingan Regency, but they are mostly not detected whether having permit.

Interview results from the below informants stating that the weak control from the respective local government due to insufficient available There is no adequate foundation to monitor and supervise the number of small-scale miners. In addition to this, the small scale miners themselves do not register themselves in foundation in their each region. Research by (Hidayanti, 2019) shown that the existence of Unlicensed Gold Mining (PETI)

in Aspai village which is located at the upstream of the Sekonyer river, Central Kalimantan is now to have an influence on decreasing river water quality. Since 1990, PETI has been operating and using mercury in the amalgamation process.

Prior researches related to illegal mining issues as stated in the year 2015 by Anshariah et al, 2015. In the year 2018 by Annisa, 2018. In the year 2020 by (Puspita et al., 2020), ; Kartono & Sulistyaningsih, 2020; Putrawiyanta et al., 2020) related to water pollution. In the year 2021, researches by (Hasibuan et al., 2021; Roberto Adriano Lombah et al., 2021). In the year 2023, research by (Aldiperdia et al., 2023)

Model Analysis

To answer the research, the variables used in the analysis of independent variables against financial distress. The results can be compared and tested the significance of the effect of direct influence on business sustainability, therefore to test the hypothesis, the regression model used is as follows

$$Y = a + b_1X_1 + b_2X_2 + e$$

Hypothesis 1 : The direct effect of perception (X1) towards business sustainability of small mining activity of local people in Tewang Pajangan Village of Central Kalimantan

Hypothesis 2 : The direct effect of life style (X2) towards business sustainability of small mining activity of local people in Tewang Pajangan Village of Central Kalimantan

Hypothesis 3 : The simultaneous direct effect of perception and life style towards business sustainability of small mining activity of local people in Tewang Pajangan Village of Central Kalimantan.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
1 (Constant)	1.348	.974		1.384	.180		
The Perspective	.238	.190	.235	1.254	.223	.871	1.148
The Life Style	.442	.186	.445	2.374	.027	.871	1.148

a. Dependent Variable: Business Sustainability

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.573 ^a	.328	.267	.434	1.725

a. Predictors: (Constant), The Life Style, The Perspective

b. Dependent Variable: Business Sustainability

ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	2.020	2	1.010	5.368	.013 ^b
Residual	4.140	22	.188		

Total	6.160	24			
a. Dependent Variable: Business Sustainability					
b. Predictors: (Constant), Life Style, The Perspective					

The result of hypothesis 1

The obtained significant is 0.223 meaning that it is above 0.05 and t value $1.254 < t$ table 1.708. It was is concluded that perception of local people does not have significant effect towards business sustainability at mining scale activity in Tewang Pajangan Village of Central Kalimantan. The first hypothesis is rejected.

The result of hypothesis 2

The obtained significant is 0.27 meaning that it is below 0.05 and t value $2.374 > t$ table 1.708. It is concluded that life style of local people has significant effect towards business sustainability at mining small scale activity in Tewang Pajangan Village of Central Kalimantan. The second hypothesis is accepted.

The result of hypothesis 3.

The obtained significant is 0.013 meaning that it is blow 0.05 and F value $5.368 > F$ table 2.99. It is concluded that the perception and life style of the local people simultaneously and significantly effect towards business sustainability at mining small scale activity in Tewang Pajangan Village of Central Kalimantan. The third hypothesis is accepted.

CONCLUSION

The second hypothesis finding above gives important information that life style as part of the local people in Gunung Mas Regency for their livelihood has a significant impact towards the green business sustainability. The different concept arises in this research that as a livelihood for those who move and do not need an office or organizational system to manage their business professionally and be officially registered will cause bad impact to the environment. The concept of business continuity is more likely to be seen as to earn continuous income even if it means moving from one mining location to another mining location.

SUGGESTION

1. Green business sustainability emphasizes that an entity's performance is not only measured by financial indicators or company profit generation but also use Non-financial indicators are thus placed on economic, social and environmental values balanced focus. See the conditions in Tewang Pajangan Village where gold mining activities are mostly carried out by gold miners small scale.
2. The existence of Small Scale Gold Miners is seen from the environmental dimension, namely environmental damage due to activities carried out on land causing large holes from excavations that were left behind and environmental pollution, namely water, air and land due to use Mercury in its amalgamation process. Sustainable mining from the corner

An environmental perspective seeks to restore appropriate soil function designated for forestry and agricultural purposes. Improve fertility land and improving post-mining ecosystems by replanting trees.

3. Understanding of the impact of the former culture, namely shifting cultivation which had a bad impact on livelihood lifestyles namely mining moving from one location to another, which could endanger humans or local residents and the environment.

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