COMMUNITY PERCEPTION IN NUSANTARA CAPITAL'S PARTNER AREA: CULTURAL VILLAGE LUNG ANAI, LOA KULU, KUTAI KARTANEGARA DISTRICT, EAST KALIMANTAN, INDONESIA suggest revise title such as … "community perception on post-coal mining areas in cultural village Lung Anai, EK, Indonesia"

Abstract

KutaiKartanegara Regency holds the largest number and area of coal mining concessions in East Kalimantan, spanning across ten sub-districts, one of which is Loa Kulu. This area includes the operations of PT Multi Harapan Utama (PT MHU), a coal mining company. With East Kalimantan designated as the site for the new capital city (IKN), specifically in Penajam Paser Utara Regency and Samboja District, a programmatic correlation between the use of post-mining lands near the IKN area and the development direction of the IKN itself is necessary. Lung Anai Cultural Village, one of the IKN partner areas, is impacted by PT MHU's coal mining activities. Thus, research is needed to examine the perceptions of Lung Anai Village residents regarding the post-mining land of PT MHU. The research employed a mixed-method approach, combining qualitative and quantitative data collection methods, with questionnaires as the primary data collection tool. Documentation, observation, and interview guides were also used for qualitative data collection. Data analysis was conducted using descriptive statistical tools. This research serves as a basis for local governments in developing environmental conservation and mining policies. It also offers recommendations for mining companies to implement post-mining land utilization programs that align with community needs. Findings indicate that the give a figure percentage of community memebtrs perceiving ..?community perceives the environmental impact of mining activities primarily as environmental pollution and air quality degradation. The socio-cultural impact includes reduced unemployment repirted by xxx respondents, and changes in community mindsets reported by xxx respondents. There is potential and hope for post-mining land to be utilized for agriculture, cocoa plantations, and clean water resources.

Keywords: Community Perception, Lung Anai Cultural Village, IKN Partner Area, Post-Mining Land, PT MHU

I. INTRODUCTION

Enhancing the welfare of its citizens is one of the primary objectives of a nation. This is outlined in the 1945 Constitution of the Republic of Indonesia, which details four fundamental goals of the nation's establishment: to protect the nation's territory and population; to advance the welfare of all citizens; to promote the cultural life of the nation; and to contribute to global peace based on social justice and eternal peace (Utama &Rizana, 2018).

The presence of coal mining activities in a region often acts as a magnet for both local residents and migrants, as the industry is perceived to offer job and income opportunities leading to an improvement in ~~for improving~~ living standards finally leading to better livelihoods and improved ~~and~~ welfare. However, coal mining activities bring both positive and negative impacts in all spheres such as —social, economic, and environmental. Typically, the presence of coal mining industries in a region results in environmental degradation, such as water quality decline, air pollution, flooding, abandoned mining pits (voids), ~~agricultural land destruction,~~ and landslides. Economically, it leads to agricultural land destruction, loss of food and increased hunger.~~however, c~~Aoal mining directly and indirectly benefits communities by increasing income, creating jobs, supporting regional development, opening new business opportunities. The increased income of government by way of tax can fund ~~, and funding~~ community development programs and infrastructure development that stimulate the local economy.

According to data from the East Kalimantan Provincial Energy and Mineral Resources Office (2023), the province has issued 1,404 mining permits (IUPs), distributed as follows: KutaiKartanegara Regency (625 IUPs), West Kutai (244 IUPs), Paser (67 IUPs), Berau (93 IUPs), East Kutai (161 IUPs), Samarinda City (63 IUPs), and North Penajam Paser (151 IUPs).

PT Multi Harapan Utama (PT MHU) is one of the coal mining companies in East Kalimantan. Lung Anai Village, directly impacted by PT MHU's policies and mining activities, faces significant risks of social and environmental conflicts. To balance social, environmental, and production functions, PT MHU is obliged to utilize post-mining land not only to minimize conflicts resulting from land-use changes but also to support regional development. Furthermore, reducing community dependence on external aid requires that post-mining land utilization is planned in such a way to foster community and infrastrucre development~~empowerment~~, preparing such abandoned areas ~~them~~ for better life after mining activities cease.

Lung Anai, located approximately 38 km from Tenggarong District, is one of the IKN partner areas impacted by PT MHU's coal mining activities. Established as a cultural village in 2007 better say how and why? Why this village is called cultural? by the KutaiKartanegara Regency government, it symbolizes cultural heritage. Covering an area of 110 hectares with hilly topography, Lung Anai is situated within Sungai Payang Village, sharing borders with it entirely. The village has the potential to become a community-based cultural tourism destination due to its proximity to the IKN area better explain the reader why the village is better? . In the future, it is expected to be a favored destination for what reasons?. The establishment of IKN and the utilization of post-

mining land are projected to positively impact community development, particularly the Dayak Indigenous People of Lung Anai Cultural Village.

II. RESEARCH METHODS

This study was conducted in Lung Anai Village, Loa Kulu, KutaiKartanegara, East Kalimantan, which is part of the mining ring (ring 1) of PT MHU. It employed a mixed-method approach, collecting both qualitative and quantitative data. Questionnaires were used to gather quantitative data from residents of Lung Anai Village, while observations, interviews, and document reviews provided qualitative data. The study focused on analyzing community perceptions of the impacts of mining activities, as well as the potential and expectations regarding the post-mining land of PT MHU.

The sample size was determined using Slovin's formula (Situmorang, 2008):

$$n = N / (1 + (N \times e^2))$$

where:

n = Sample size

N= Population size (total population)

e = Margin of error (10% = 0.1)

Applying the formula: n = $473/(1+(473(0,1^2)))$ = 82,55 ≈ 83 respondents. The respondents were selected using simple random sampling from the community in Lung Anai Village, KutaiKartanegara. The data sources and categories included: Primary Data: Collected through questionnaires, interviews, observations, and document reviews. Secondary Data: Sourced from books, journals, research reports, news studies, and other periodicals.

III. RESULTS AND DISCUSSION

A. Respondent Identity

Table 1 presents the demographic characteristics of respondents from Lung Anai Village. The data description in this table requires a tranmslation into English. Otherwise, useless?

No	Kriteria	Jumlah Respoden Berdasarkan Kriteria
1	**Usia**	
	20 - 30	9
	31 - 40	9
	41 - 50	13
	>50	14
2	**Jenis Kelamin**	
	L	24
	P	21
3	**Tingkat Pendidikan**	
	Tidak Sekolah	0
	SD Sederajat	16
	SMP Sederajat	6
	SMA Sederajat	18
	Perguruan Tinggi	5
4	**Lama menetap**	
	<5 tahun	0
	5 - 10 tahun	3
	11 - 15 tahun	4
	16 - 20 tahun	3
	> 20 tahun	35

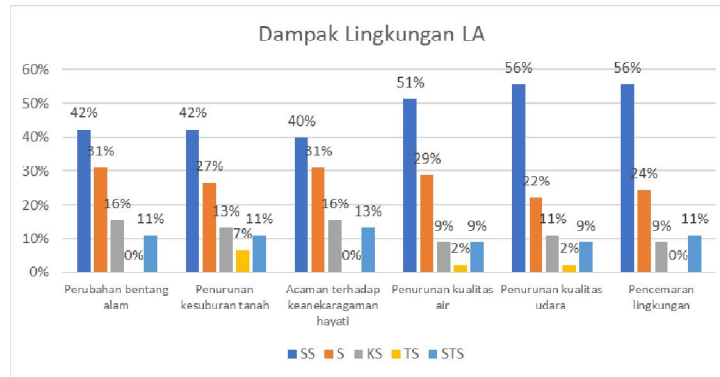B. Community Perception of the Environmental Impacts of Coal Mining

Figure 1. Perception of the Community of Lung Anai Village on the Environmental Impact of Coal Mining Activities

PI translate Indinesian text into English. Explain what the figures are?

The residents how many? of Lung Anai Village perceive several environmental impacts of coal mining, such as: Landscape alteration how many?, Soil fertility degradation how many? , Threats to biodiversity how many? , Decreased water and air quality how many?, General environmental pollution how many?

Author needs to explain whether findings from the research are aligned with the references?This is not ecplained. Partly becreader can't understand data in figures".

According to Werner et al. (2023), coal mining in Indonesia significantly impacts ecosystems, water quality, and human health. In regions like East Kalimantan, it causes deforestation, habitat destruction, and biodiversity loss. Deforestation contributes to greenhouse gas emissions, exacerbating climate change. Additionally, mining activities often contaminate water sources, affecting local communities dependent on these for drinking and farming. Air pollution from mining operations leads to respiratory issues and other health challenges.

To mitigate the environmental impacts caused by coal mining activities, several measures can be implemented, including enforcing stricter environmental regulations, adopting better waste management practices, and rehabilitating mined areas. However, persistent challenges such as corruption, lack of transparency, and weak governance continue to hinder effective environmental management in Indonesia's coal mining sector.Minng is completed in this area. Henmce, how to mitigate environmental impacts now?

C. Community Perception of Socio-Cultural Impacts Coal mining

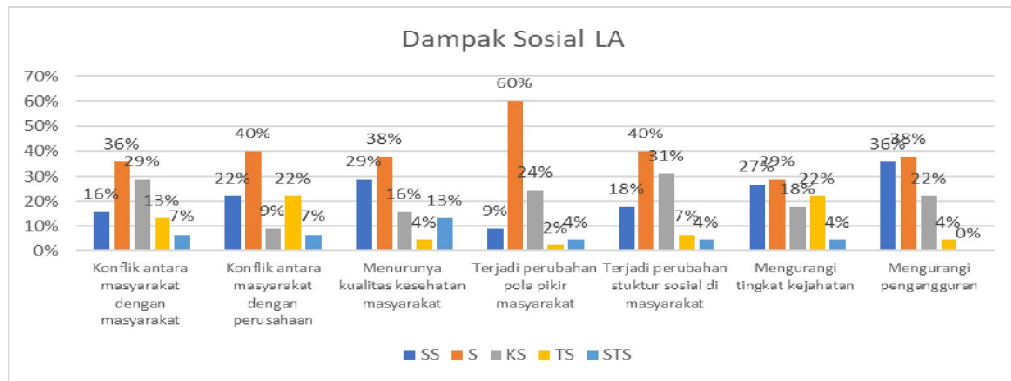*Figure 2. Perception of the Community of Lung Anai Village on the Socio-Cultural Impact of Coal Mining Activities*

<u>Translate into English</u>
<u>You need to explain data gathered from the survey</u>

Coal mining significantly affects socio-cultural aspects, leading to conflicts driven by environmental degradation, displacement, and unequal economic benefits (Anugerah, 2023).

This conflict arises from several factors, including environmental degradation, population displacement, and the unequal distribution of economic benefits: <u>PI align subheadings as paragraphs. Do not mix up within the text.</u> Environmental Degradation: Coal mining leads to deforestation, water pollution, and reduced air quality, directly affecting the health and livelihoods of local communities. These environmental damages disrupt traditional ways of life, especially for indigenous and rural populations dependent on natural resources for survival. Population Displacement and Land Conflicts: Many communities are displaced due to land acquisition for mining operations, often leading to land disputes. Residents lose ancestral lands and frequently receive inadequate compensation. Such conflicts are exacerbated by the collusion of local elites with mining companies, fostering corruption and unfair land deals. Economic Inequality: Despite significant economic gains from coal mining, the benefits are often unevenly distributed. Local communities bearing the environmental and social costs rarely receive adequate economic returns, leading to social tension and conflict between communities and mining companies. Health Impacts: Pollution from coal mining activities causes serious health issues, including respiratory problems and waterborne diseases. These health challenges disproportionately affect those living near mining sites, fueling social discontent and calls for stricter regulation and better healthcare services. Cultural Disruption: The influx of workers from other regions and the establishment of mining towns can disrupt cultural norms. Traditional customs and community structures are often eroded, resulting in the loss of cultural identity and weakening community cohesion. These factors collectively underscore the need for more equitable, sustainable, and community-sensitive approaches in managing coal mining operations.<u>are these study findings or from literature? Where is study fiondings in hard data?</u>

Reducing unemployment is a positive sociocultural impact of coal mining in Indonesia. According to Githiria (2020), coal mining activities in Indonesia significantly influence social and cultural dynamics, including the potential reduction of unemployment in mining areas.can you not quote data from previous research?   Coal mining often serves as a means to lower unemployment rates by creating job opportunities for local communities. These opportunities range from direct employment in mining operations to indirect jobs in supporting sectors such as transportation and logistics. Increased job availability contributes to higher local incomes and stimulates regional economic growth. To address the negative sociocultural impacts of coal mining, several measures are essential, including sustainable and responsible mining practices, strict regulatory enforcement, corporate social responsibility programs, and effective environmental rehabilitation efforts. These approaches aim to maximize the economic benefits of coal mining while minimizing its adverse sociocultural consequences.

According to Setiawan (2020), the emergence of coal mining in previously agriculture- or forestry-dependent areas can lead to complex changes in community mindsets influenced by social, economic, and environmental factors. For example: Shift from Agriculture to Mining: Communities traditionally reliant on farming, plantations, or fisheries may begin to see mining as a more lucrative and stable source of income. Increased Income Expectations: The presence of mining operations often raises community expectations for higher earnings, leading to a preference for mining-related employment over traditional livelihoods. This transformation highlights the economic and social complexities that accompany coal mining activities, requiring careful management to balance benefits and mitigate negative impacts. Are study findings aligned with the previous research? Where is evidence?
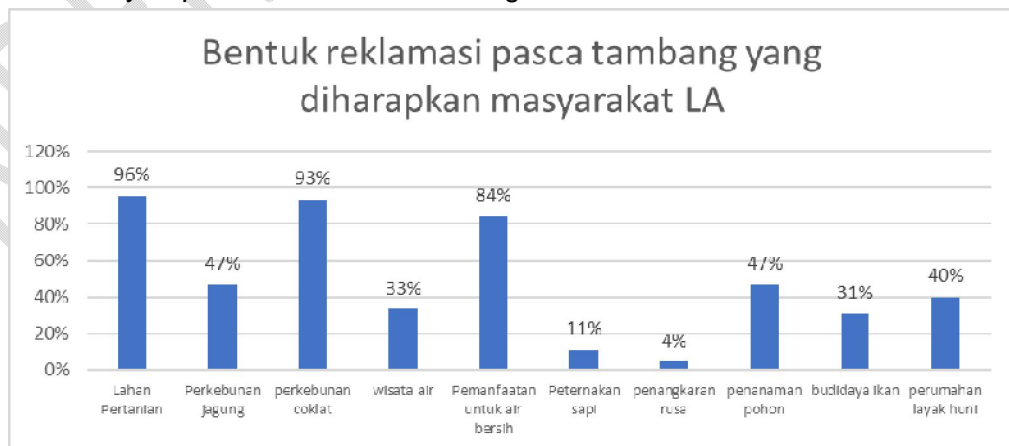
D. Community Expectations for Post-Mining Land

Figure 3. The form of post-mining reclamation expected by the people of Lung Anai

English translation is needed

The type of post-mining land reclamation desired by the community in Lung Anai Village includes agricultural fields, cocoa plantations- how many said this?,and water resource utilization how manhyallued to this?. This aligns with the livelihoods of Lung Anai villagers, most of whom are cocoa farmers. Due to limited plantation land, they hope the reclaimed mining areas can be used for agriculture and cocoa cultivation. According to Ismail Lahang (Amai Petajam), the village's customary leader, Lung Anai residents currently cultivate cocoa plantations at significant distances from their village, highlighting the need for nearby productive land.

Research by Setiawan et al. (2021) outlines critical steps in post-mining land management in Indonesia aimed at restoring or even enhancing the land's productivity: Land Rehabilitation: This involves replanting native vegetation, reshaping the soil to prevent erosion, and enhancing soil fertility. Effective erosion and sedimentation control measures are also implemented. Environmental Monitoring: Comprehensive monitoring systems, such as air quality checks, soil moisture evaluations, and vegetation growth tracking, ensure rehabilitation success. Technologies like geodesy and photogrammetry are vital tools. Water Management: Addressing acid mine drainage and preventing water contamination are key. This includes treating contaminated water and managing hazardous waste from mining operations. Ecosystem Restoration: Rebuilding ecosystems by planting trees and other vegetation helps increase carbon sequestration, combat climate change, and improve ecosystem services. Local Economic Development: Involving local communities in reclamation projects offers economic benefits through new job opportunities and skill development. Infrastructure built during mining operations, such as roads and public facilities, can be repurposed for community use post-mining. These strategies emphasize integrating community needs and ecological considerations for effective and sustainable post-mining land use.

Challenges in the implementation of post-mining management in Indonesia include lack of awarenesson existing low environmentallawsawareness, limited human resource capacity, and improper management problems—not clear??. In addition, there is also a view that rehabilitation is a burden rather than a productive activity that can generate long-term benefits for the environment and the surrounding community.

Based on the review of the PT MHU Community Development and Empowerment Master Plan (RIPPM) for 2023 to 2037, there is a plan for the use of post-mining areas for the community such as as follows: Cage Fisheries culture Cultivation in Ex-Mining Lake, Non-Communal Cattle farming Cultivation in Post-Mining Areas, Fruit Plant Cultivation in Post-Mining Areas, and Forestry Plant Cultivation in Areas in Post-Mining Areas. In this RIPPM PT MHU, it is also stated that water quality monitoring in post-mining ponds is carried out to be the basis for the preparation of post-mining programs so that it can have a positive impact on the socio-economy of the community which is carried out every month with parameters seen are pH, TSS, Fe levels and also Mn. PT

MHU plans to carry out reclamation activities on an area of 1,762.93 ha inside and outside the concession in the post-mining period.

In addition, the use of post-mining areas that can be carried out by the company is the use of land for cattle farming, the use of ex-mining ponds for clean water for the needs of the community around the mining area, fish cages and water sports facilities. At the processing facilities (buildings and former port stockpiles) the Gitan Block and Teluk Dalam Block will be dismantled, which will then be reclaimed. Meanwhile, for former land that was previously used as infrastructure land for supporting mining activities, such as offices, messes, workshops, warehouses, stockpiles, transport roads, settling ponds, ports and others, as an alternative utilization program is planned to be partially dismantled for revegetation, and some that are not dismantled will be handed over for community needs through the East Kalimantan Provincial Government, namely transportation road facilities and other supporting constructions (offices, messes, rest halls and contractor offices) located in the Other Use Area (APL), as well as part of the former processing facilities and former ports in the Teluk Dalam block.

E. Perception of the Community of Lung Anai Village on the Expectations and Benefits of Post-Mining Reclamation
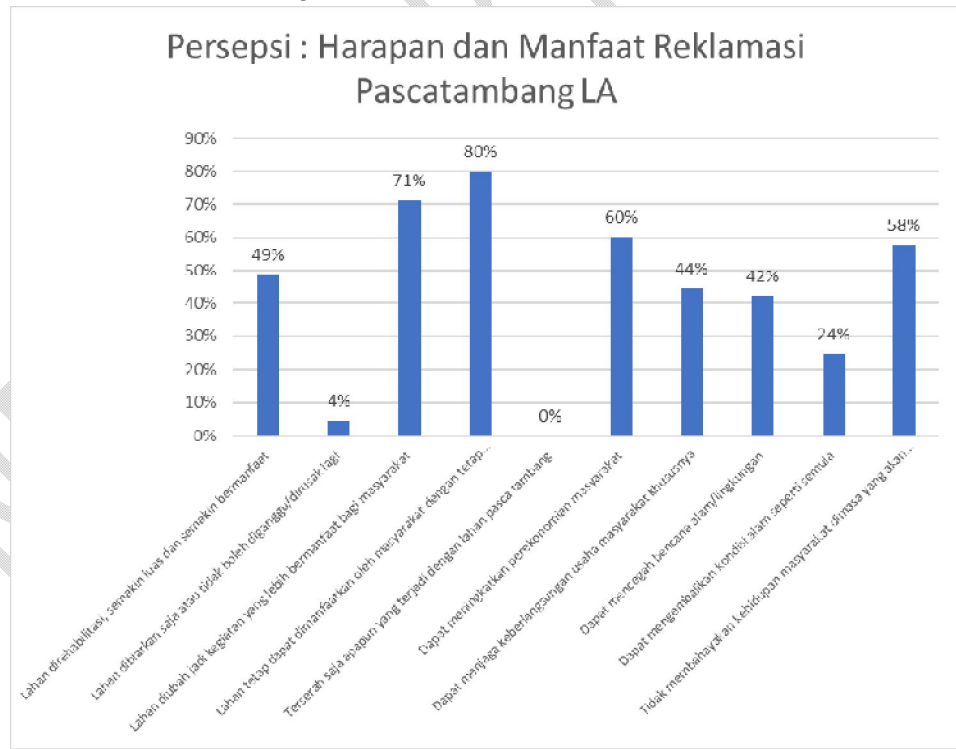

Figure 4. Perception of the Community of Lung Anai Village on the Hopes and Benefits of Post-Mining Reclamation

English translation is missing

The hope of the people of Lung Anai Village for post-mining land can still be used by the community while maintaining its sustainability, the land is converted into activities that are beneficial to the community and can improve the community's economy.

According to Ugo (2021), the ideal use of post-mining areas has great potential to improve the economy of the local community. Some of the main steps and benefits that can be obtained from these uses include: (1) Rehabilitation and Sustainable Land Use, after mining activities are completed, the area can be rehabilitated for various uses such as agriculture, forestry, or conservation areas. This sustainable land use not only helps reduce environmental impact but also provides a new source of livelihood for local communities;(2) Infrastructure Development. Post-mining activities often involve the construction of infrastructure such as roads, bridges, and other public facilities that can continue to be used by the community after mining is completed. This infrastructure can improve accessibility and connectivity, as well as encourage further regional economic development; (3) Ecotourism Development. Post-mining areas that have been rehabilitated can also be developed into ecotourism destinations. This can create jobs in the tourism sector, as well as provide additional income for local communities through tour guide services, accommodation, and trade in local products;(4) Agriculture and Forestry. Rehabilitation of post-mining land into agricultural or forest areas can provide economic benefits through food production or non-timber forest products. Sustainable forest management can also provide valuable resources for local communities, such as timber and other forest products; and (5) Collaboration with the Community. The importance of community involvement in the planning process and implementation of post-mining land use. Active participation from local communities can ensure that their needs and aspirations are met, as well as increase a sense of ownership and responsibility towards the project.

IV. CONCLUSION

The perception of the people of Lung Anai Village regarding the impact of mining activities consists of environmental impacts such as environmental pollution and deterioration of air quality, socio-cultural impacts: reducing unemployment and the occurrence of community mindsets; economic impact: providing job opportunities, providing regional and national economic benefits; The potential and hope for post-mining land ~~so that post-mining land can~~to be used as a source of clean water and agricultural land for the community, the people hjow many according to research? of Lung Anai also really hope that post-mining land for conservation for the purpose of flora and fauna and maintaining water availability, can improve the community's economy, and so that post-mining land can still be used by the community sustainably~~by maintaining its sustainability~~.Through the results of this study—these data were not presented? , it is better to make policy

strategies and priorities in the use of PT MHU's post-mining land that pay more attention to the real needs of the community and the local value of the community, so that the effectiveness and efficiency of utilization can be achieved.

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