

Analysis of the Externalities of Coal Mining on Labor and Socio-Economics of the Community

Mochammad Fikri Firmansyah^{1*}, Ermatry Hariani²

^{1,2)} Economic Development, Faculty of Economic and Business, Wijaya Kusuma University
Surabaya, Indonesia

*email: mochammadfikrifirmansyah@gmail.com

DOI: <https://doi.org/10.30651/blc.v22i2.25072>



ABSTRACT

Keywords:
*Coal mining;
externalities;
employment;
socio-economic*

Article Info:
Submitted:
26/12/2024
Revised:
17/05/2015
Published:
20/07/2025

Coal mining activities contribute significantly to the national economy, and generate externalities that affect employment and the socio-economic conditions of communities around mining areas. This study aims to analyze the impact of positive and negative externalities from coal mining activities on employment, income, and community welfare. This research approach uses descriptive-qualitative method, with data collection through in-depth interviews, surveys, and documentation studies. The results show that coal mining activities create new employment opportunities and increase the income of local communities. However, negative impacts such as environmental damage, and changes in community social patterns are also significant concern. This study provides recommendations for more sustainable mining management, including diversification of the local economy. community involvement in decision-making, and increased monitoring of social and environmental impacts.

INTRODUCTION

The existence of the industrial sector in an area can have an influence on the development of the region because the industrial sector can improve the welfare of the community evenly in an area. The impact of the existence of industry can be seen from several aspects, from the economic aspect the industrial sector can have an impact on the opportunities and the expansion of employment so as to increase people's income and the economy can also increase. In addition, from the social aspect, the industrial sector will cause changes in people's mindsets and cultural acculturation (Elfaki et al., 2021) The development of industrial estates in Indonesia continues to grow over time, the development of industrial estates aims to accelerate the distribution of industrial development in Indonesia. Indonesia itself already has a variety of industries and one of the industries in Indonesia that has been regulated as an industrial sector with the aim of attracting foreign investment into Indonesia is the mining industry. The mining industry

has an important role in the economic sector, especially in increasing state revenue and absorbing a lot of labor (Kementerian ESDM RI, 2024)

Based on data obtained from the Ministry of Energy and Mineral Resources in December 2023, Indonesia has coal reserves of 31.71 billion tons. The overall coal database in 2023 consists of 1,656 locations spread across 23 provinces in Indonesia (Hermawan et al., 2024). As a country with abundant coal reserves, Indonesia occupies an important position in the global coal trade, where this sector plays an important role in supporting national and international energy sustainability. Therefore, the Indonesian government seeks to optimize coal mining exploration in order to boost the country's economy (Laporan Kinerja Ditjen Minerba Tahun 2023, 2024). The mining industry is one of the economic sectors that focuses on the exploration, extraction, processing, and marketing of natural resources contained in the earth. The scope of the mining industry can include a series of activities ranging from searching for resource reserves, drilling or mining, to processing raw materials into marketable products. Coal mining is one of the strategic sectors in driving the Indonesian economy, the coal mining industry can cause a gradual increase in the economy. The coal mining industry makes a significant contribution to state revenue, economic growth, and the provision of employment in Indonesia.

Coal mining activities generate economic externalities that can directly or indirectly affect the surrounding community. These externalities can be positive and can also be negative. One aspect of economic externalities that is often a concern is the impact of an activity on the amount of labor absorbed by the activity (Safitri et al., 2024). Mining activities, especially in the exploration and operation stages, require a large amount of labor. The high demand for labor leads to the potential for an increase in the level of local labor absorption. This provides an opportunity to increase the income of surrounding communities who work in the formal and informal sectors. Coal mining can also cause negative externalities that cannot be ignored such environmental degradation, pollution, and socio-economic changes in as communities around the mine. The imbalance between the positive and negative impacts of mining operations still often occurs in the existing mining industry. The use of heavy equipment in mining activities can disrupt the activities of the community because it can cause dust and damage to the roads through which the heavy equipment passes.

Although several studies have contributed to understanding the social and economic impacts of coal mining on local communities, such as income increases, job opportunities, and CSR contributions, there is still a lack of understanding regarding the actions taken by companies and the expectations of the local community toward these companies. This study aims to analyze the economic externalities of coal mining regions on employment and community income, as well as to deepen the analysis of public perceptions toward mining companies in their area. This study will also examine how the

mining sector can contribute to improving the welfare of the surrounding community and the challenges faced in the process.

LITERATURE REVIEW

Mining Natural Resources

Natural resources are all the potential of nature that can be utilized to fulfill the human needs. There is two categories of natural resources, namely renewable and non-renewable resources and one type of non-renewable resources is mining natural resources. In Indonesia, mining resources are very abundant and spread throughout the region. These resources are formed through geological processes over millions of years, so their existence is limited and cannot be renewed in a short time. Due to the lengthy formation process, mining resources are finite. This makes it a strategic resource that needs to be managed wisely to maximize its economic benefits without compromising environmental and social sustainability. With the high demand for these resources, many countries rely on the mining sector as one of their mainstays to increase national income and support development.

However, mining resource utilization also presents major challenges, particularly concerning environmental impacts. Mining exploitation activities often cause environmental damage. The environmental impacts resulting from these mining activities often lead to conflicts when aspects of sustainability and environmental preservation are not properly considered. Therefore, it is crucial to apply sustainable resource management principles. Sustainable management aims to maintain a balance between the economic benefits from mining with its impact on the environment and community welfare. One key principle is conservation, which involves using resources wisely to ensure their longevity and reduce wastage.

According to Law No. 4 of 2009 on Mineral and Coal Mining, mining resources can be classified into three main categories:

1. Metallic Minerals, are mining materials that contain metal materials such as gold, silver, nickel, iron and copper. They are generally used as raw materials in the technology, jewelry, and construction industries.
2. Non-metallic minerals, are mining materials that contain materials such as limestone, quartz sand, kaolin and also gypsum. Non-metallic mineral mining resources are usually used as raw materials in the ceramics, glass and cement industries.
3. Fossil fuels are mined materials that include coal, petroleum and natural gas. Fossil fuels are the main source of energy for various industrial and transportation sectors.

To anticipate the sustainability of mining resources, the Indonesian government began to implement sustainable mining resource management in order to ensure that the exploitation of mining resources can meet current needs without compromising the ability

of future generations. Mining companies must provide comprehensive planning to ensure that their activities minimize negative impacts on the surrounding environment. Sustainable mining management must also consider the balance between economic needs, environmental conservation, and the social welfare of the communities. In addition, sustainable management of mining resources must also consider mining activities that are required to avoid areas with high biodiversity populations such as nature reserves or protected forests.

Mining Industry

In general, industry can be defined as all forms of economic activity that aim to manage raw materials or semi-finished goods into higher-value products for broader use by society. In Indonesia, industrial development seeks to maximize resource utilization to meet domestic needs while creating new jobs and expanding employment opportunities. Mining activities involve a series of processes, including exploration, extraction, and processing of mineral, metal, coal, or other resources within the earth for human use.

Based on the Law of the Republic of Indonesia Number 3 of 2020, mining is defined as activities undertaken to manage and utilize minerals or coal, encompassing general surveys, exploration, feasibility studies, construction, mining, processing, refining, development and utilization, transportation and sales, as well as post-mining activities. Industries must secure clear and official permits to ensure legal and well-planned operations. In the mining sector, businesses must obtain a Mining Business License (IUP) before commencing activities.

In 2024, coal mining companies experienced rapid growth. Indonesia is one of the largest coal exporters in the world, with primary markets including China, India, Japan, and South Korea. Indonesia is one of the largest coal producing countries in the world and has abundant coal reserves, especially in the provinces of Kalimantan and Sumatra. Coal production in Indonesia continues to increase annually, driven by rising energy demand. This makes Indonesia's coal mining industry highly attractive to investors.

Besides serving international markets, Indonesia's coal production is also allocated for domestic needs under the Domestic Market Obligation (DMO) policy, which mandates that mining companies allocate 25% of their production to meet national demand. This is because most of the domestic coal is used to support Indonesia's electricity sector or PLTU operations.

Because coal is an energy that has strategic value for domestic interests, coal management must align with state mandates to ensure resources are controlled for public benefit. However, many coal mines operate in violation of regulations, often controlled by foreign or private national companies. Therefore, it is important to affirm the policies that have been regulated by the state so that the exploitation of coal natural resources can be controlled.

Coal Mining Externalities

Externalities are impacts that will arise due to an action from one party to another. Externalities will arise when there is economic activity such as production, consumption or distribution. The externalities can be controlled in intensity if the economic activities can analyze the impact they will have. It is important for all people, especially economic actors, to know the externalities that companies can cause. Externalities can be classified into two types based on their effects on others:

- a. Positive Externalities, is a form of externality that occurs when an economic activity has a good or beneficial impact on other affected parties. A company is considered to provide positive externalities when the company can provide benefits to people in the surrounding environment without any direct compensation provided by the company.
- b. Negative Externalities, is a form of externality that occurs when an economic activity has a bad impact or harms other parties. A company is considered to provide negative externalities when the company has a bad influence or even endangers the community around the company's environment.

Economic activities carried out by a company will certainly have an impact on parties outside the company. Mining activities affect not only have an impact on the company but will affect the environment, economy and also the community in the area around the mine, therefore the community hopes that the existence of coal mining companies in an area can improve their economic conditions. Even so, the existence of coal mining activities also allows the emergence of other problems such as the social transformation of people living in the area around the mine. In addition to economic and social impacts, the existence of coal mining will cause environmental problems. Exploitation of coal resources will cause environmental sustainability to be threatened and the existing ecosystem will be damaged. Mining companies are expected to restore environments affected by their activities.

Employment

Legally regulated under Law Number 13 of 2003, labor can be defined as every person or individual who can do work to produce goods or services so that they can meet their personal or community needs. Meanwhile, everything related to labor both during, before and also after they work is called employment. The amount of labor required by a company or employer in order to achieve its own production goals is called labor demand.

In the human capital theory initiated by economists Gary Becker and Theodore Schultz in the mid-20th century, an economic concept is described that emphasizes that education, skills and training are a form of investment that can increase individual's productivity and income. The main concept of human capital theory is that the education

training, and work experience of an individual is considered as an investment for a company which is the same as the physical capital of a company. Based on this theory, there are several factors that affect the labor demand of a company. According to Sadono Sukirno (2005) in his book entitled *Economic Development: Process, Problems, and Policy Basis*, it is stated that the demand for labor is influenced by the production level of a company. If the higher the market demand for a product, the greater the labor required by the company.

Basically, factors such as wage level, production, technology, industry structure, and labor market conditions can affect the level of labor demand in a region. Understanding these factors is important for companies to design policies and strategies that can support labor and economic growth. the availability of labor in the market also affects demand. If labor is scarce in an area, companies may reduce demand or seek alternatives such as automation in production.

Socio-economic Conditions

Socio-economic problems that exist in the community are very important to note because the problems that exist in the community will have an influence on the socio-economic conditions in an area. Socio-economic conditions are a socially regulated situation in which individuals will be in a certain position in the social structure in society. This position will be accompanied by rights and obligations that must be fulfill by the individual.

In practice, socioeconomic conditions are classified based on certain aspects into various categories. When categorized by the socioeconomic status of individuals, they can be divided as follows:

- a. Low-income socioeconomic status, is a socioeconomic level with the condition of an individual or family who has an income that is lower than the expenses they need.
- b. The middle-income socio-economic status. at this level the socio-economic conditions of an individual or family's income is just sufficient to cover their basic daily needs.
- c. High-income socioeconomic status, is the socioeconomic condition of an individual or family earns enough to meet their daily basic needs and can save or allocate funds for additional purposes.

The basic concepts of socio-economics are important to study because by studying this, the social inequality that occurs in society will be reduced. Reducing social inequality in society can be done by identifying factors that can cause inequality in the distribution of income and wealth obtained by individuals. By doing so, the welfare of society can increase and can support sustainable development by integrating economic growth and social welfare.

Socio-economic aspects are elements that are related to social and economic conditions in society. These aspects help in understanding the influence of social and economic factors on the lives of individuals and society. These aspects include social welfare, economy, education, health, and employment. Socio-economic conditions in society are influenced by several factors including:

- a. Education factors in a region, good education can improve the quality of human resources and the ability of individuals to get higher paying of individuals from an underprivileged background to a higher one.
- b. Employment factors, work is carried out by an individual to meet his daily needs. Socioeconomic status can also be assessed based on the type of work someone does.
- c. Public health factors, the health condition of the community that can determine the level of labor productivity. Where poor health decreases workforce productivity, increases medical expenses, and exacerbates economic challenges.
- d. Environmental, favorable environmental conditions for carrying out economic activities will affect the level of economic productivity in the region. A clean environment also positively impacts community health and quality of life.
- e. Community income, defined as the money individuals earn from their work. Income distribution must be equitable, as income disparities can lead to unstable socioeconomic conditions.
- f. Technological adoption, where advancements in technology present opportunities for socioeconomic improvements. Properly utilized technology can significantly boost productivity within companies.

METHOD

In conducting research analysis, the author uses a qualitative descriptive approach. This approach aims to describe in depth the phenomena that occur in the community due to the externalities of coal mining on employment and also their socio-economic conditions. Qualitative descriptive research is carried out by describing qualitative data obtained in the form of descriptions that can be easily understood. In this study, no data manipulation or alteration of the phenomena being examined is applied. A survey was conducted to reveal the perceptions of the object of research as a source of information, specifically the community living near the mining sites. This study used 100 respondents with a sampling method employing purposive sampling. The respondents in this study represent various aspects of the community, such as village heads, village administrative boards, religious leaders, ordinary community members, traders, village staff, and workers from the company

The research location selected to analyze the impact of coal mining is in Kutai Kartanegara Regency, particularly in Samboja District. This location was chosen because there is an active coal mine operated by PT Lembu Swana Perkasa in the area. The coal

mining activities in Samboja District pose high risks and have diverse impacts on the surrounding communities. The research subjects for this study are the residents of Samboja District, Kutai Kartanegara Regency. Determination of respondents used in this study using purposive sampling technique, where data collection is based on specific considerations related to the phenomenon under study. In addition to examining the economic, social, and cultural impacts, the author also seeks to explain the Corporate Social Responsibility (CSR) initiatives provided by the mining company to the community as a response to the impacts caused by their operations. For the analysis, the author utilizes two types of data:

- a. **Primary Data:** Primary data in this study are obtained directly by the researcher from first-hand sources. These data consist of opinions or perceptions of the research subjects regarding mining activities, which are recorded by the researcher for further analysis. The primary data were collected through interviews with residents living near the coal mining site of PT Lembu Swana Perkasa, who served as the research subjects.
- b. **Secondary Data:** Secondary data in this study are obtained indirectly from first-hand sources. These data are derived from further processing of the primary data. Additionally, secondary data are sourced from official documents or related journals. The secondary data collection is aimed at supporting the primary data obtained from the first-hand sources.

RESULT AND DISCUSSION

Result

Research Overview

Samboja District is one of the administrative areas located on the coast of Kutai Kartanegara Regency, East Kalimantan Province. The district has an area of up to 284.93 km² and geographically located in the equatorial region with a position of 116°50'-117°14' East Longitude (EL) and 0°52' South Latitude (SL). Administratively, the north of the district is bordered by Loa Janan sub-district, the south is bordered by the Makassar Strait, the east is bordered by Muara Jawa district, and the west is bordered by West Samboja district. As of 2024, Samboja District consists of 13 villages/sub-districts, comprising 3 villages and 10 sub-districts such as Karya Jaya, Tanjung Harapan, Wonotirto, Sungai Seluang, Bukit Raya, Beringin Agung, Samboja Kuala, Sanipah, Handil Baru, Muara Sembilang, Teluk Pemedas, Handil Baru Darat, and Kampung Lama. Respondents for this research were selected from the following areas:

Table 1. Respondent Distribution Across Villages/Sub-Districts

Number.	Village / Sub-District	Number of Respondent
1.	Bukit Merdeka Sub-District	59 Respondents
2.	Bukit Raya Village	20 Respondents
3.	Bringin Agung Village	21 Respondents

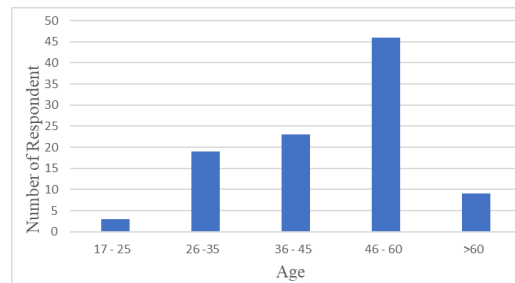
Source: Primary data, Processed

Coal mining companies have a very important role in supporting aspects of life. As one of the primary energy sources, coal contributes substantially to electricity generation, steel production, cement manufacturing, and others. Because coal mining companies can make a significant contribution to the economy, Indonesia requires well-established and responsible mining companies. One of the mining companies in Indonesia is PT Lembu Swana Perkasa which is located in Samboja District. Basically PT Lembu Swana Perkasa has become one of the mining companies that is committed and consistent with the sustainability and social responsibility of the company. PT Lembu Swana Perkasa always applies the principle of sustainability in carrying out all operational aspects of the company and carries out efficient mining processes by utilizing technology in practice.

PT Lembu Swana Perkasa focuses on the extraction and processing of various commodities that have economic value. One of the mining carried out by PT Lembu Swana Perkasa is a coal mine located at Mutiara 52. Jl.Vico, RT.03 Lampe,.Sei Seluang, Samboja, Kutai Kartanegara, East Kalimantan Province, Indonesia. PT Lembuswana Perkasa has been licensed for coal mining since June 2012, and the license is valid until March 2028. As one of the important players in the mining industry sector in the area, PT Lembu Swana Perkasa has a strategic role in driving local economic growth, while presenting challenges that must be managed properly, especially regarding social and environmental impacts.

Respondent Identity

Respondents or informants used in this study to provide information related to the phenomenon being studied. The identity of the respondent is one aspect that determines the suitability of the respondent in providing an overview of this research. Age is a significant factor, reflecting the level of maturity in decision-making. The age distribution of the respondents in this study is presented in the following chart:



Source: Primary Data, Processed

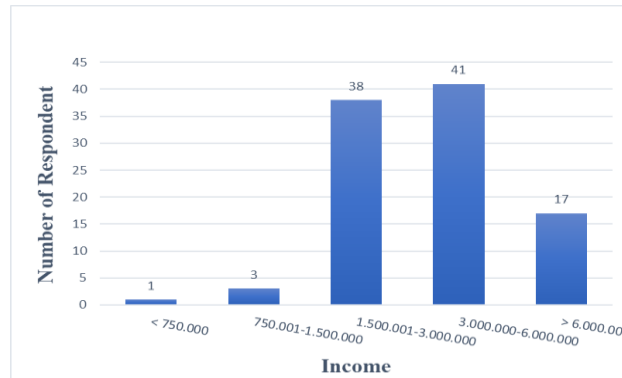
Figure 1. The age distribution of the respondents

Respondents in this study are at least 17 years old, as can be seen in Graph 1 for the age distribution of the respondents. There are 3 respondents aged 17-25 years, followed by 19 respondents aged 26-35 years. The number of respondents aged 36-45 years in this study is 23, and there are 45 respondents in the 46-60 age range. Additionally, this study includes 9 respondents aged over 60 years. According to the law, 17 years of age is a mature age and is considered an adult. For people who are 17 years old they can have an identity in the form of an identity card and are considered responsible for their personal lives. With this demographic distribution, the study aims to provide a clear perspective on coal mining activities in Samboja District.

Gender also plays a role in the decision-making process, especially since there are some differences in ways of thinking and life experiences between men and women. In this study, 83% of the respondents were male, who are generally more analytical and goal-oriented in their approaches. The remaining 17% were female, who tend to rely on empathy and relationship-based approaches. Work is the main source of income for existing respondents. The majority of respondents in Samboja district work as farmers. This was stated by 46% of respondents who gave statements that they worked as farmers. Apart from being a farmer, there are other occupations undertaken by the people of Samboja district such as traders and factory workers, which were conveyed by 1% of respondents. Then 12% of respondents gave a statement they worked as entrepreneurs, 4% of other respondents stated that they worked as private employees and 5% of respondents stated that they worked as TNI, POLRI, civil servants. And the remaining 31% of respondents stated that they worked as employees at PT Lembu Swana Perkasa, Bank Employee, agricultural laborers, freelancers, village heads, construction workers, maritime workers, Pertamina employees, craftsmen, and odd jobs.

Some respondents also have secondary occupations to supplement their income. Approximately 34% of respondents stated they engage in side jobs such as mechanical work, farming, baking/selling snacks, security services, running small shops, or operating food stalls. The remaining 66% of respondents indicated they rely solely on their primary

jobs without additional employment. From the jobs undertaken by the respondents, the income levels of respondents are shown in the following chart:



Source: Primary Data, Processed

Figure 1. The income levels of respondents

From the existing data, it can be concluded that the majority or most income of all respondents is in the range of IDR 3,000,001 - IDR 6,000,000. Based on the income earned by the respondents, 75% of respondents stated that the income earned by the respondents at this time could meet their daily needs. Meanwhile, the remaining 25% of respondents stated that from the income they earned, they felt that it was still not enough to meet their daily needs.

Discussion

The Impact of Coal Mining on the Socio-Economic Conditions of the Samboja district Community

The existence of a coal mining company in an area will certainly have an impact on the lives of people living around the mining area. The impacts that occur can be negative or positive impacts on various aspects of community life. The coal mining activities of PT Lembu Swana Perkasa can provide several potential benefits that include economic and social aspects for the people of Samboja district. As for some of the benefits felt by respondents related to the existence of PT Lembu Swana Perkasa coal mining activities in the research area:

- a. Local Employment Opportunities, respondents noted that PT Lembu Swana Perkasa has prioritized local residents in its recruitment process, focusing on hiring individuals from Samboja District. This approach ensures that the benefits of the mining operations are directly felt by the local community. By absorbing local labor, the company not only reduces unemployment but also strengthens relationships with surrounding communities and reduces unemployment rates. Indirectly, this will reduce the potential for social problems such as poverty and crime. By working at PT Lembu Swana Perkasa, local people can earn consistent income. This income also allows workers to improve their standard of living.

- b. Generating business opportunities for the community, according to respondents, the presence of PT Lembu Swana Perkasa encourages the growth of various business opportunities in the community. The operational activities of coal mining require support services, such as food stalls for employees, grocery shops, transportation services, and equipment rentals. Additionally, local businesses can also become partners of the company in providing goods and services needed to support its operations PT Lembu Swana Perkasa mining activities.
- c. Infrastructure Improvements. Respondents state that PT Lembu Swana Perkasa has significantly contributed to the development and improvement of infrastructure in the Samboja district area. Roads that were previously damaged and also difficult to access have now been repaired to support mining activities and the repair of these roads also facilitates community access to activities. In addition to repairing damaged roads, the company also builds bridges, waterways, and other public facilities such as mosques and posyandu as part of its corporate social responsibility (CSR).
- d. Increasing land prices, according to people living in the area around the mine, the existence of coal mining activities by PT Lembu Swana Perkasa has caused the price of land around the mining area to increase. The price of land in Samboja district can increase up to IDR 350,000,000 - 750,000,000 per 1 ha. This can occur due to the increase in infrastructure built by the company as well as the demand for land for the development of mining operational facilities. In addition, the need for employees is a major factor in the increase in land prices in the region. The increase in land prices that occurs can also create investment opportunities for local communities. Higher land values create investment opportunities for local landowners.
- e. Streamlining the trading business, this is due to infrastructure improvements such as roads that make it easier for local communities to mobilize in the distribution of their product. This expanded the market reach for local goods. Additionally, employees of PT Lembu Swana Perkasa who live near the mining area have become new consumers, increasing demand for daily necessities such as food and clothing.
- f. Increasing economic activity, respondents state that the income obtained from mining-related jobs, such as salaries for local employees and revenue from supporting businesses, has boosted the purchasing power of Samboja residents. This, in turn, stimulates other economic sectors and accelerates the local economic cycle. Furthermore, the mining activities of PT Lembu Swana Perkasa have created a multiplier effect. The applicable multiplier effect can be in the form of company operational expenditures such as the purchase of goods and services made to local suppliers so as to create a sustainable impact on other economic sectors.
- g. The Corporate Social Responsibility (CSR) Program by the company, CSR programs are a tangible demonstration of PT Lembu Swana Perkasa's commitment to corporate social responsibility toward its surrounding environment. These programs

encompass strategic areas such as education, healthcare, infrastructure development, economic empowerment, environmental preservation, and social and cultural strengthening. According to respondents, in the healthcare sector PT Lembu Swana Perkasa provides free health service programs to the community, ranging from mass medication to routine health checks for the community. In community economic empowerment, the company also provides financial assistance such as the Indonesian Independence Day celebrations program in August. Respondents also stated that PT Lembu Swana Perkasa provides assistance in traditional or cultural events such as food packages during religious holidays, donating goats for Eid al-Adha, providing social aid, and renovating places of worship so that they can be more suitable for use.

While PT Lembu Swana Perkasa has brought many benefits to the community, the existence of PT Lembu Swana Perkasa in Samboja District, Kutai Kartanegara Regency also has a negative impact on the community around the mine. Therefore, Collaboration between the company and the community is necessary to minimize these adverse effects. The negative impacts felt by residents due to the presence of coal mining in their area include:

- a. Damaged and dusty roads, PT Lembu Swana Perkasa mining activities that use heavy cavy vehicles transport coal cause public roads around to the mining area to be destroyed and damaged. Dust caused by mining activities and coal transportation vehicles also has a negative impact on air pollution.
- b. Disrupted traffic flow, Coal transportation activities frequently cause traffic congestion in Samboja District, especially during peak hours. Slow-moving, heavy trucks carrying loads often block public roads, leading to delays.
- c. Noise Pollution, the use of heavy equipment in coal mining generates significant noise. Mining activities, including excavation and transport, produce continuous loud sounds that can be heard in residential areas. According to research respondents, the noise will be heard up to community settlements so that people feel disturbed.
- d. Cultural degradation, coal mining activities by PT Lembu Swana Perkasa in Samboja district will have a significant socio-cultural impact due to the presence of workers from outside the region who have different cultural backgrounds entering the area. Changes in the lifestyle of the community, which originally focused more on agriculture, some people chose to work as workers in the mine. Additionally, people will have a more modern and consumptive lifestyle.

Company Efforts in Overcoming the Impact of Mining

Based on the negative impacts caused by the activities of PT Lembu Swana Perkasa, as one of the coal mining companies operating in Samboja District, the company strives to create a harmonious relationship with the community and always ensures the

sustainability of their mining activities. In addition, the company also takes various strategic steps in order to reduce the negative impacts caused. One of the main efforts made by the company is in-depth socialization related to their mining activities. This is proven by the statements of all respondents who stated that they were aware of mining activities by PT Lembu Swana Perkasa. According to respondents' statements, information related to mining activities obtained by respondents came from the company and from their village government officials. PT Lembu Swana Perkasa also routinely holds aspiration forums with communities to absorb community opinions regarding mining activities and resolve potential conflicts amicably.

In addition, to address complaints such as damaged and dusty roads, the company periodically repairs road infrastructure. Coal transportation activities using heavy vehicles sometimes cause damage to public roads which are a means for the community to move. Therefore, PT Lembu Swana Perkasa routinely repairs roads around the mining area, and patches holes in damaged roads. In order to overcome traffic congestion, the company tries to build roads devoted to mining activities to reduce the burden on public roads used by the community.

In managing dust and noise pollution caused by mining activities, the company is committed to maintaining the quality of the environment around the mining area. PT Lembu Swana Perkasa tries to minimize dust generated from transportation activities by routinely watering the road using water, especially during the dry season. PT Lembu Swana Perkasa also strives to use heavy equipment and vehicles that are more environmentally friendly by using technology that can reduce the noise level caused by the equipment. The company also planted trees around the mining site to create a natural barrier against to dust and noise.

To address community concerns, PT Lembu Swana Perkasa will also prioritize post-mining land reclamation. After completing mining activities in an area, the company will conduct reforestation in order to restore the ecological function of the land. To maintain local social and cultural relations, the company actively supports the preservation of local culture through its various programs. The company also funds local cultural events and independenceDay Celebrations to ensure that the traditions of local communities can be preserved amidst the modernization caused by mining activities.

Economic empowerment of the Samboja community is another focus for the company. Through skill development training, community members are encouraged not to rely solely on one type of job. The absorption of local labor by PT Lembu Swana Perkasa is also a mining priority, because by directly opening employment opportunities and providing training to surrounding communities to meet the needs of skilled labor for mining activities. In compliance with government regulations, PT Lembu Swana Perkasa conducts all of its activities in accordance with the Environmental Impact Assessment and reports the results of its mining operations to the government and the community.

Through these efforts, PT Lembu Swana Perkasa seeks to reduce the negative impacts of its mining activities while providing greater benefits to the people of Samboja district. However, these measures require consistent implementation and supervision from all parties, including the government and the community, to be effective. Such collaborative efforts are expected to create a more harmonious relationship between the company, the community and the environment.

Community Expectations of the Company

The people of Samboja district who live around the mining area hold high expectations for PT Lembu Swana Perkasa to significantly contribute positive impacts and reduce the negative impacts they experience. One of the main expectations from the community conveyed by respondents is related to labor recruitment. Respondents hope that they can get additional jobs at the company by prioritizing the company's workforce recruitment in favor of local residents, especially people living in Samboja district.

By providing employment opportunities to local residents would help reduce unemployment and improve the community's economic well-being. This also reflects the company's commitment to empowering local human resources and directly improving community welfare. The community hopes to be employed as mining helper, operator, driver, technician, security, waker, medical personnel, and nonskilled labor. With these jobs, the community hopes that their income can increase up to IDR 1.000.000 thereby improving their economic conditions.

In addition, the community also hopes that the company can contribute infrastructure and facility development in the area. This includes facilities to support the local economy, so that the enabling better access for business development and income improvement. Respondents hope that PT Lembu Swana Perkasa can normalize and improve river flows in the area around the mine. Mining activities often disrupt river ecosystems, community hope that the company can take steps to restore the function of the river as their source of life.

In striving for environmental sustainability, the community expects PT Lembu Swana Perkasa to commit always maintaining environmental quality, so as not to cause disasters such as floods and other ecosystem damage that can harm the community. Measures such as reforestation, waste management and pollution control are the community's expectations so that environmental sustainability for future generations can be maintained. The community hopes that companies can close voids and normalize ex-mining excavations, because if closure is not carried out, it can endanger community safety. By closing and reclaiming former coal mines, companies can reduce the risk of danger and restore land functions for productive activities.

Optimizing the company's Corporate Social Responsibility (CSR) programs is another significant community expectation. They hope CSR assistance will reach the

broader community more equitably. As a form of responsibility from the company, the community also hopes for compensation for the houses of surrounding communities affected by mining activities. Vibrations from heavy machinery or exploration activities have caused harm to local residences, requiring adequate compensation from the company. Noise and dust pollution due to mining activities are also a serious concern for the community. Therefore, the community hopes that the company can minimize these disturbances by watering the hauling road regularly and utilizing environmentally friendly technology.

The expectations conveyed by respondents were not only on the material aspect, but the community hoped that PT Lembu Swana Perkasa would be able to build harmonious social interactions with the community around the company. Active communication and listening to complaints or aspirations of the community so that mining activities do not cause great losses for all parties. Overall, the community's aspirations for PT Lembu Swana Perkasa reflect a desire for coexistence with a responsible coal mining company. PT Lembu Swana Perkasa is expected to prioritize not only its profitability but also the welfare of the community, environmental preservation, and sustainable development, thereby delivering long-term benefits for all stakeholders.

CONCLUSION

Based on research that has been conducted related to coal mining externalities, it can be concluded that the socio-economic impact of mining activities of PT Lembu Swana Perkasa on the community in Kamboja district is an increase in the community's economy. This is evidenced by the opening of jobs opportunities for local people who live around the mining area, either directly as mining workers or indirectly through business opportunities that arise. Business opportunities that arise can include the opening of food stalls, transportation services and heavy equipment rental services that can increase the income of the Samboja District community. There is also an increase in regional infrastructure such as road repairs and construction of public facilities carried out by the company.

However, alongside these benefits, there are negative impacts resulting from these coal mining activities. One of the impacts is road damage and noise due to the operation of heavy mining equipment. These negative effects can disrupt the daily activities and comfort of the community living near the mining area. With the existence of coal mining, the community of Samboja district has a number of expectations of PT Lembu Swana Perkasa to manage the negative impacts effectively and maximize the positive outcomes of its operations. The research conducted focuses more on the direct and short-term impacts, such as the increase in income and the implementation of corporate CSR programs, without delving deeply into the long-term impacts on employment in the

region. Therefore, further research is needed to examine the long-term effects of mining activities on a region.

REFERENCES

- Dilasari, A. P., Ani, H. N., & Rizka, R. J. H. (2023). *Analisis best practice kebijakan carbon tax dalam mengatasi eksternalitas negatif emisi karbon di Indonesia. Owner: Riset dan Jurnal*.
- Direktorat Statistik Industri. (2003). *DIREKTORIPERUSAHAANPERTAMBANGAN BESAR*. 15.
- Direktur Jenderal Mineral dan Batubara. (2023). *Laporan Kinerja Ditjen Minerba Tahun 2023*.
- Eltayeb Elfaki, K., Dwi Handoyono, R., & Hannafi Ibrahim, K. (2021). *Dampak Industrialisasi, Keterbukaan Perdagangan, Perkembangan Keuangan, dan Konsumsi Energi terhadap Pertumbuhan Ekonomi di Indonesia – Unair News*. Newsunair. <https://news.unair.ac.id/id/2021/11/15/dampak-industrialisasi-keterbukaan-perdagangan-perkembangan-keuangan-dan-konsumsi-energi-terhadap-pertumbuhan-ekonomi-di-indonesia/>
- Hasanah Un. (2022). *Analisis Dampak Kegiatan Pertambangan Emas Terhadap Lingkungan Fisik Di Desa Paningkaban Kecamatan Gumelar kabupaten Banyumas Tahun 2021. Indonesian Journal Of Environment And Disaster*
- Hermawan, D., Ardi Mustofa, S., Adhitya Permana, L., Nirmala, W., Selvi Rustian, T., & Dewi, R. (2024). *Neraca Sumber Daya dan Cadangan Batubara, Dan Panas Bumi Indonesia Tahun 2023*.
- Jimmy N, & K. Rapiandi Isak Merang. (2020). *Dampak Pertambangan Batubara dalam Kehidupan Sosial Ekonomi Masyarakat di Desa Apung Kecamatan Tanjung Selor Kabupaten Bulungan*. 8.
- Kementerian Energi dan Sumber Daya Mineral Republik Indonesia. (2014). *Peraturan Menteri Energi dan Sumber Daya Mineral No. 1 Tahun 2014*.
- Kementrian Energi dan Sumber Daya Mineral. (2024, January 15). *DMO Terpenuhi, Produksi Batubara Lampau Target 2023*. Kementrian Energi Dan Sumber Daya Mineral Republik Indonesia.
- Kementerian ESDM RI. (2024). *Sektor Pertambangan Serap 300 Ribu Tenaga Kerja di 2023*. Kementerian ESDM RI . <https://www.esdm.go.id/id/media-center/arsip-berita/sektor-pertambangan-serap-300-ribu-tenaga-kerja-di-2023>
- Kurniawati, S., & Franata, A. (2023). *Eksternalitas perusahaan pengolahan hasil tambang terhadap sosial ekonomi masyarakat di Kabupaten Ketapang*.
- Laporan Kinerja Ditjen Minerba Tahun 2023. (2024).
- Mayasari, S. (2021). *Implementasi Corporate Social Responsibility PT. Bukit Asam (PTBA) dalam Penanganan Pandemi Virus Corona di Indonesia The Implementation of Corporate Social Responsibility of PT Bukit Asam (PTBA) in Handling COVID-19 in Indonesia*.
- Pratiwi, W. (2024). *Analisis dampak eksternalitas aktivitas pertambangan nikel terhadap pendapatan masyarakat di Desa Torobulu Kecamatan Laeya. GABBAH: Jurnal*

Pertanian Dan Perternakan.

- Presiden Republik Indonesia. (n.d.). *UNDANG-UNDANG REPUBLIK INDONESIA NOMOR 13 TAHUN 2003 TENTANG KETENAGAKERJAAN.*
- Razi, M. F., Studi, P., Ilmu, P., & Sosial, P. (2022). *Dampak Aktivitas Pertambangan Batubara Terhadap Lingkungan dan Masyarakat Kalimantan Timur.*
- Rikhza Hasan. (2019). *10 Negara Penghasil Batu Bara Terbesar di Dunia, Ada Indonesia.*
- Safitri, D., Turi, L., & Kartomo. (2024). The Impact of Mining on Labor Absorption and the Economy of Working Families in Lasolo District, North Konawe Regency. *Perkembangan Kajian Sosial*, 1(2), 63–74. <https://doi.org/10.69616/perkasa.v1i2.14>
- Sudaryono. (2019). *Dampak Aktivitas Pertambangan Batubara Terhadap Lingkungan dan Masyarakat Kalimantan Timur.*
- Sukirno, S. (2005). *Ekonomi Pembangunan, Proses, Masalah dan Dasar Kebijakan* (3rd ed.).
- Tekad Triyanto. (2023). *Profil PT Lembuswana Perkasa, perusahaan tambang di Indonesia - Mining Insider.* <https://www.mininginsider.id/education/10278898763/profil-pt-lembuswana-perkasa-perusahaan-tambang-di-indonesia>