

Mine Workers' Perceptions Of Environmental Accounting (Study on PT Sentral Labuan Tegar Mandiri)

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Abstract

This study aims to understand the views of mine workers regarding environmental accounting using a phenomenological approach. The research was conducted at PT Sentral Labuan Tegar Mandiri, a C excavation mining company located in Labuan Main Village, Labuan District, Donggala Regency, Central Sulawesi. This study focuses on three main dimensions in the concept of the Triple Bottom Line, namely environmental, economic, and social aspects. Data collection was carried out through in-depth interviews and direct observations in the field. The findings of the study show that although workers' technical knowledge related to environmental accounting is still limited, they show a high level of concern and awareness of the impact of mining activities, both on the environment and society. The workers understand the importance of waste management, environmental preservation through tree planting, and the role of companies in improving the economic and social conditions of local communities. In general, environmental accounting is understood as a form of corporate commitment to environmental sustainability, social welfare, and regional economic development.

1. Introduction

Environmental accounting has been the focus of attention of accountants for many years. This concept actually began to develop in Europe since the 1970s and experienced rapid progress in Indonesia in the 1990s (Wijayanto et al., 2021). In recent years, environmental accounting in Indonesia has grown rapidly. The latest study reveals that the application of environmental accounting has a positive impact on environmental performance, profitability, and company value. Environmental accounting is needed by companies as a means to disclose their performance in environmental conservation efforts, one of which is by recording and allocating ecological costs. These costs serve as proof that the company or organization has carried out its responsibilities towards the environment (Rahim & Mus, 2020).

The role of environmental accounting is very crucial because companies must convey information related to social activities and environmental protection efforts to stakeholders. In addition to reporting financial information to investors, creditors, and potential investors or creditors, companies also

need to consider the social impact of their operations (Aruan, 2021).

Environmental accounting not only serves as a means of regulatory compliance, but also plays an important aspect of a company's strategy to face environmental challenges and realize a sustainable business. By presenting a comprehensive picture of environmental impacts and performance, environmental accounting is the main instrument in supporting the achievement of sustainability and corporate social responsibility (Sahrir et al., 2024). However, its implementation still faces obstacles, such as a lack of understanding at the management level and limited resources (Nuraini & Andrew, 2023). Environmental accounting is an activity that analyzes and prepares reports related to financial environmental data in order to reduce the impact and cost of environmental damage (Rahman et al., 2019).

A company is an organization that carries out activities by using available resources to achieve predetermined goals. Profit-oriented companies will try to use the resources they have as much as possible to obtain profits for

their survival, so that it results in environmental impacts both positively and negatively. In this case, pollution and production waste are one example of the negative impact of company operations that require an environmental accounting system as a control over company responsibility because waste management carried out by the company requires measuring, assessing, disclosing and reporting waste management costs from the results of the company's operational activities. The calculation of costs in handling waste requires proper systematic accounting treatment. The treatment of the problem of handling waste from the company's operations is very important in relation to the company's responsibility control for its environment (Syalwa & Rizki, 2023).

The existence of mining activities brings various impacts on the environment, such as changes in landscapes, decreased soil fertility levels, threats to biodiversity, decreased water and air quality, and overall environmental pollution. In addition, the social impacts caused by mining activities include the emergence of conflicts between the community and companies, a decline in the quality of public health, changes in mindsets, and changes in social structures in the community (Anders, 2005).

PT Sentral Labuan Tegar Mandiri is one of the companies that is active in the mining sector located in Labuan Induk Village, Labuan District, Donggala Regency. This Company's activities are engaged in the field of mining and excavation C. This activity is undeniably going to have a positive or negative impact in terms of economy, social and environment.

Based on the above background, the problem raised from this study is how the perception of mine workers is towards environmental accounting. The purpose of this research is to find out the perception of mine workers towards environmental accounting.

2. Literature Review

A number of studies have revealed that research related to environmental accounting has been carried out a lot, especially focusing on

the technical aspects of implementation, policies, and reporting by the Company. Research (Kusumawati et al., 2023) highlighting the importance of applying the concept of green accounting (*green accounting*) as a form of corporate social and environmental responsibility. This research emphasizes that accounting should not only be technical, but also contain social and spiritual values. Using the phenomenological approach and philosophy of Tri Hita Karana, the concept of green accounting is built on three pillars of balance, namely the harmonious relationship between humans and God (Parahyangan), between fellow humans (Pawongan), and humans and the environment (Palemahan). This approach fills the void in the epistemology of green accounting, which has been too oriented to capitalism and material alone.

Moreover (Sela et al., 2019) shows the importance of the application of environmental accounting in the hospital sector, especially in the management of B3 waste that is harmful to health and the environment. This study confirms that hospitals as healthcare institutions have great potential to produce hazardous waste, so an effective environmental accounting system is needed to identify, measure, record, present, and disclose the costs and environmental impacts incurred. The implementation of environmental accounting is expected to be able to increase cost efficiency and meet legal obligations in environmental management.

Next (Natalia, 2022) revealed that the use of local wisdom values is important to realize social justice, balance, and improving community welfare through sustainable environmental management. Research by Sari et al. (2020) examined the relationship between the implementation of environmental accounting and company performance. The results show that the application of environmental accounting can have a positive or negative impact on company performance. Positive impacts include increased efficiency, pollution control, and increased stakeholder trust. However, on the other hand, environmental costs also have the potential to

increase the company's operational burden. Therefore, the implementation of environmental accounting must be accompanied by the right strategy so that it is not only oriented towards financial profits, but also pays attention to environmental sustainability

However, most of the research focuses more on the level of corporate management, regulation, or conceptual studies, rather than on the perception of field subjects who are directly involved in operational activities, particularly in the mining sector. In fact, mine workers have an important role and direct involvement in activities that impact the environment, but their perception of environmental accounting is still rarely scientifically disclosed.

In addition, research related to environmental accounting in the mining sector generally still focuses on financial aspects, company policies, or external matters such as disclosure of information to the public, but not many have studied in depth the views and experiences of workers who directly feel the environmental impact of mining activities.

This research offers novelty by exploring mine workers' perceptions of environmental accounting through a phenomenological approach. With this approach, this study not only looks at environmental accounting in terms of policy or financial statements, but also seeks to uncover how mine workers understand and interpret the concept of environmental accounting.

3. Research Methods

This study uses a qualitative approach with phenomenological methods to understand in depth the understanding of mine workers towards environmental accounting. According to (Sugiyono, 2015) qualitative research is a method used to research objects naturally, where researchers are the main instrument in collecting and analyzing data. The phenomenological method was chosen because it is able to explore and reveal the meaning of the subjective experience of mine workers in understanding the practice and role of environmental accounting.

This research was carried out at PT Sentral Labuan Tegar Mandiri which is located in Labuan Induk Village, Labuan District, Donggala Regency, Central Sulawesi. This location was chosen because the mining activities carried out have the potential for significant environmental impact, so it is important to know how mine workers understand the concepts and practices of environmental accounting in the Company.

The data source in this study was obtained through in-depth interviews conducted in a semi-structured manner with mine workers. The interview aims to explore mine workers' understanding of environmental accounting. In addition to interviews, the researcher also conducted direct observations in the field to strengthen the data and add context to the findings obtained from the sources.

The data analysis technique carried out in this study is with a qualitative descriptive approach, through three main stages, namely data reduction, data presentation and conclusion drawn. First, data reduction is carried out by filtering, selecting, and grouping data that is relevant to the focus of the research, namely the perception of mining workers towards environmental accounting. Irrelevant data will be eliminated to focus on research that is maintained. Second, the presentation of data, after the data is reduced The next step is to compile data in the form of narrative or descriptive that describes the understanding of mine workers. The data is compiled systematically to facilitate further analysis. Third, the conclusion is that at this stage the data presented is analyzed to gain a comprehensive understanding of mine workers' perceptions of environmental accounting. This step aims to verify the accuracy and consistency of the informants obtained, as well as strengthen the validity of the research results.

This research refers to the concept of Triple Bottom Line (TBL). Triple Bottom Line (TBL) is a development concept that focuses on three main aspects: Profit, People, and Planet. Profit refers to the profits made by the

company, People reflect social responsibility, while Planet is related to concern for the environment. The fulfillment of this social and environmental responsibility can support the achievement of sustainable development. With this sustainable approach, the company is no longer only oriented to the Single Bottom Line (SBL), which emphasizes corporate value from the financial aspect alone, but prioritizes the balance between economic, social, and environmental aspects as reflected in the Triple Bottom Line (TBL) concept (TBL) (Zanny & Kartawijaya, 2016).

So that the research focuses on three main aspects, namely the environmental aspect, examining whether mining workers have awareness and concern for the environmental impact of mining activities and understanding the importance of sustainable environmental management. Second, economics, in this case, will analyze the economic impact of mining activities on the surrounding community, including job opportunities, increased income and the Company's contribution to the development of the local economy. And the third is social, in this case it will evaluate the Company's social contribution to society. Such as the Company's social responsibility program, social assistance, or even other contributions aimed at improving people's welfare. With this approach, the research is expected to provide a comprehensive picture of how mine workers' understanding of environmental accounting is not only in a technical context, but also in relation to environmental, economic, and social sustainability.

4. Results and Discussion

Understanding Environmental Impacts

PT Sentral Labuan Tegar Mandiri is one of the companies engaged in mining, namely in the form of excavation C. This company excavates around the river by following the flow of the river. The location of this excavation is in the village of Labuan Kungguma. The excavation location itself has a considerable distance from community settlements. In this case, the informant understands that environmental accounting is a restriction on the exploitation by

the company by following the rules of mining so that it does not damage nature because the excavation is not carried out carelessly. as expressed by the mining worker with the initials A:

"Because we are here, if the excavation problem is in Batasi, there are drafts, so we do not just do excavation because we have a reference from mining."

From the results of the interview, it can be seen that mine workers believe that environmental accounting is a form of protecting the environment by following the rules of mining so that the company does not excavate carelessly. In this case, the informant understands that by following the rules of mining, this activity will not cause damage to the environment.

In addition to limiting excavation activities through applicable regulations, workers also understand that a form of environmental concern in this company is by greening around the mine. As a form of the company's commitment to preserving the environment. As expressed by the mining worker with the initials U who stated that:

"If so far for the environment the Company has planted trees once a year."

Tree planting is understood by workers as a form of concrete action in preserving the environment carried out by the company. Workers understand that environmental accounting is not only limited to recording and reporting environmental impacts, but is also embodied in concrete actions that provide direct benefits to nature. This is reinforced by the statement of the worker with the initials A which says:

"If it is here because it is managed by the village, the company will distribute funds for tree planting."

Based on the results of the interviews, it can be seen that mine workers have a similar view on the form of concern for the environment, namely by paying greening costs as a step to preserve the environment. This activity is carried out every year as a form of joint commitment between the company and

the community in caring for the sustainability of the environment around the mine. For workers, environmental accounting is not only limited to recording and reporting, but includes direct actions that show the company's commitment to maintaining environmental sustainability.

In addition to greening, workers understand the importance of managing waste generated from mining activities. Waste is the residual result of an activity that if not handled properly will have an impact on the environment. As expressed by the mine worker with the initials S, he revealed that:

"In terms of the environment, if he is in mining now, in terms of the environment, it is quite regular because of how the waste is accommodated in the waste disposal site and then dumped into the river and then into the sea."

This is very related to sustainability not only for the environment but also for the company. From the results of the interview, it can be seen that workers understand that environmental accounting is a form of concern for the environment by providing a special place for waste disposal or WWTP, but on the other hand even though the company has provided a waste management site or WWTP, it can actually damage the condition of the river and sea because the waste will still be dumped into the river and flow to the sea so that the seawater becomes cloudy. To find out whether this waste affects water conditions, the company collaborates with the Environment Agency (DLH) by conducting lab tests on the water, if the water is contaminated from the waste, the company will provide all the needs to overcome the problem in coordination with DLH. This is in line with what was revealed by (Ariani et al., 2022) in their research revealing that waste management is an important part of environmental accounting, as it shows the institution's responsibility for the impact of its operational activities on the environment.

From the results of interviews with the three informants, it can be seen that this company is very concerned about the environment by planting trees and managing waste generated from mining activities. So that

it can minimize the negative impact of mining activities on the environment. In this case, even though workers do not know that waste management and tree planting are a form of environmental accounting in the company environment.



1.1 Mining activity

The management of the mine also still maintains the environmental aspect, this is reflected in figure 1.1 which shows the atmosphere of the mine with the trees that are still there. This shows a sense of concern for the environmental aspect while maintaining the existence of the tree in the mining environment

Understanding the Economic Impact

The presence of the company PT Sentral Labuan Tegar Mandiri has a significant impact in terms of economic improvement which is marked by increasing employment. As expressed by the mining worker with the initials U who stated that:

"What I feel after the existence of this company is, many people are not unemployed after the existence of a company in my area, but there are also disadvantages of the existence of companies such as a lot of dust, rice fields or plantations people buy from the company."

From the results of the interview, it can be seen that the existence of this mining company can reduce the unemployment rate in Labuan village. In this case, workers understand that environmental accounting is to provide economic improvement to an area, so that many people have jobs, on the other hand the presence of mining also has a negative impact on the environment in the form of increasing

dust and land conversion. In addition, the miner with the initials S reinforced the results of the interview above, he revealed that:

"If the impact is positive, many of them are automatically recruited employees who have not worked so they can get jobs, so it helps."

From the above statement, it can be seen that the understanding of mining workers regarding environmental accounting can improve the economy of the community in Labuan village. Because the existence of this company can reduce the unemployment rate. So it will automatically increase the income of the people in Labuan village. This is also a form of positive impact of the existence of this company.

From the results of the two interviews, it can be concluded that they have the same understanding of the impact of the company's presence on the improvement of the community's economy. The presence of the company can reduce the unemployment rate in the village so that it can help the surrounding community. Although there is still a negative impact on the environment that is also felt.

This is in line with the results of research revealed by (Nuraeni, 2018) that mining can provide a positive improvement in terms of social and economic conditions of the community with the existence of the mining industry showing that there is a positive improvement in terms of social and economic conditions of the community. But on the other hand, the development of the mining industry also has a negative impact, namely a culture of consumptive living, lack of motivation in developing a business, and wanting to get everything in an easy and instant way.

In anticipation of the impact of dust due to mining activities so as not to have an impact on the environmental side of the community around the mine, the company carries out road watering starting from the mining site to the community environment. Road watering is carried out by the company and the village, namely before and after mining activities. This watering is carried out using heavy equipment or loder and for solutions in the production section the Company uses production tools to remove dust As expressed by the mine workers,

which are as follows:

"If the solution for the vehicle is to water the road every morning and afternoon with heavy equipment or loder, the solution in the production section uses built-in production tools to remove dust."

From the above statement, it can be seen that mine workers understand that environmental accounting is providing protection for the environment and the community, by watering roads in the mining area to the community environment. Watering in the company environment is carried out by the company, but when watering is done in the community it is done by the community directly because of the watering of the road in the community in the village management. The cost incurred by the company every month for road watering in the community is approximately Rp.1,500,000 in a month. Although mining workers do not know the concept of environmental accounting, on the other hand workers understand that they care about the environment and society. This shows that the company not only wants to make a profit but also has loyalty to the environment and the welfare of its surrounding people.

Environmental accounting is a form of corporate accountability to the environment by incurring costs related to the environment. To protect the environment the company has incurred costs for road watering, tree planting which is part of environmental accounting. With the aim of maintaining and preserving the environment so that it remains sustainable. This is in line with the research revealed by (Tri Herlinda et al., 2023) that environmental-related expenses are recorded as a form of the company's commitment to overcoming the impact caused by its operational activities.

Understanding the Social Impact of the Community

Environmental accounting is a form of responsibility given by companies to the environment as a form of responsibility for the environment. In this case, mine workers understand that it is in terms of protecting the environment. This company has rules from mining so that the Company is not careless in

carrying out excavations. But the presence of this mining still has a negative impact, but on the other hand it can help the community. As expressed by the mine worker with the initials S below:

"Yes, it has a big effect, the more influential is actually if the positive is 11 12 with this the negative is more to negative, actually, if the negative is a lot of dust, the pollution is like that, then the waste continues, then it is the damage to roads like the river, right, if the flood is automatic, the river if it rains heavily it is flat, so it is worried that the community will overflow into the village, while if the positive is almost one or two, the point is that the people here are very helped by the existence of this company."

From the results of the interview above, it can be seen that mine workers understand that environmental accounting has a negative and positive impact on the environment. In this case, the worker assumes that the negative positive impact is eleven and twelve. Where workers consider the existence of the mine to have more negative impacts than positive impacts. The negative impact of the existence of this mine is in the form of dust, increased pollution, and waste, besides that it also damages the road and is worried when floods can overflow into the villages around the mine. Although the mine has a lot of negative impacts, on the other hand, the surrounding community is greatly helped by the existence of the company. Because there are many employee recruits so that it can help the community.

In addition, the company contributes in terms of providing social assistance to the community in the form of health assistance, education, and every six months the company has a CSR program such as the distribution of basic necessities to the community. This is a form of the company's concern for its social environment. So that it can help the community in the village. As expressed by the mine workers:

"Oh, if at the place where raw materials are collected, the CSR program is a kind of health assistance, education with the community, it is once every 6 months he has a CSR program

such as distributing basic necessities to the community to collect raw materials, then ee giving rich health equipment in the form of blood checks, so then CSR for school children also exists."

From the results of the interview, it can be seen that workers understand that environmental accounting is a form of corporate responsibility for the social life of the community, namely by providing various health assistance such as blood checks. In addition, the company also spends money on education and distributes basic necessities every six months in the area where raw materials are collected. This assistance is a form of corporate responsibility to the community so that it can provide real assistance to the community around the mine. This is in line with the research revealed by (Suyudi et al., 2020) that in work, people do not only attach importance to material things for themselves but also think about materiality that is beneficial to the people around them.

In addition to preserving the environment, environmental accounting can contribute to the community or social environment by incurring costs that are intended for the social environment. So that the community is helped by the presence of this company. This environmental accounting is one of the costs incurred by the company voluntarily for what the company earns from the village, this environmental accounting can be said to be a form of corporate responsibility for the environment with what the company earns from the village. The results of this study are in line with the theory according to (Nurhidayat et al., 2020) that companies are required to have concern for people. It relates to business practices that are fair and beneficial to workers and the community and the area in which a company conducts its business.

5. Conclusion

From the results of the study, it can be seen that the mine workers at PT Sentral Labuan Tegar Mandiri have a relatively good understanding of the implementation of environmental accounting. Although not yet in an in-depth technical context. They realize that

mining activities have consequences for the environment, economic conditions, and social life of their communities, as well as the importance of applying sustainable principles. In the environmental aspect, workers understand the importance of controlling excavation activities, waste management, and the implementation of tree planting programs as a form of corporate responsibility. In the economic sector, the existence of companies is considered to be able to open job opportunities and increase the income of local residents. On the social side, companies are considered to play a role through the implementation of corporate social responsibility (CSR) programs, such as providing assistance in the fields of health, education, and basic necessities, these findings show that although the concept of environmental accounting has not been fully formally understood, workers have adopted sustainability values that are in line with the Triple Bottom Line principle. The implications of these findings suggest that sustainability values have been internalized even though they have not yet gone through a formal approach, so companies need to strengthen technical understanding through training or education. The limitations of this study lie in the limited number of informants and the narrow scope of the location, so the results cannot be generalized widely. Therefore, it is recommended that further research expand the number of participants, reach more mining companies, and explore management perceptions to obtain a more comprehensive picture of environmental accounting implementation.

Bibliography

- Anders, G. J. (with Institute of Electrical and Electronics Engineers). (2005). *Rating of electric power cables in unfavorable thermal environment*. Wiley.
- Ariani, M., Zulhawati, Z., & Darmawan, D. (2022). Penerapan Akuntansi Lingkungan Pada Pengelolaan Limbah Rumah Sakit. *Jurnal Ilmu Komunikasi dan Humaniora*, 3(2), 87–98. <https://doi.org/10.32509/petanda.v3i2.1975>
- Aruan, B. J. (2021). Penerapan Akuntansi Lingkungan Terhadap Pengelolaan Limbah Pabrik Pakan Ternak PT Universal Agri Bisnisindo. *Perspektif Akuntansi*, 3(3), 217–252. <https://doi.org/10.24246/persi.v3i3.p217-252>
- Kusumawati, N. P. A., Pramuki, N. M. W. A., & Pratiwi, N. P. T. W. (2023). FILOSOFI TRHITA KARANA DALAM MENGUNGKAP KONSEP AKUNTANSI HIJAU (STUDI FENOMENOLOGI). *KRISNA: Kumpulan Riset Akuntansi*, 15(1), 150–162. <https://doi.org/10.22225/kr.15.1.2023.150-162>
- Natalia, I. (2022). REFLEKSI YUDHISTIRA DALAM TANGGUNG JAWAB SOSIAL DAN AKUNTANSI LINGKUNGAN. *Jurnal Akuntansi Multiparadigma*, 13(1). <https://doi.org/10.21776/ub.jamal.2021.13.1.04>
- Nuraeni, Y. (2018). Dampak Perkembangan Industri Pertambangan Nikel Terhadap Kondisi Sosial, Ekonomi dan Budaya Masyarakat. *Journal Universitas Muhammadiyah Semarang*.
- Nuraini, A., & Andrew, T. (2023). Pengaruh Penerapan Akuntansi Hijau Dan Kinerja Lingkungan Terhadap Profitabilitas Perusahaan Pertambangan. *Jurnal Ilmiah Akuntansi Kesatuan*, 11(2), 353–362. <https://doi.org/10.37641/jiakes.v11i2.1739>
- Nurhidayat, E., Junaid, A., & Kamase, J. (2020). Penerapan akuntansi Lingkungan Berdasarkan Triple Bottom Line Pada RSUD H.M. Djafar Harun Kabupaten Kolaka Utara. *Jurnal Ilmu Akuntansi*, 2(2), 35–78. <https://doi.org/10.26618/inv.v2i2.4111>
- Rahim, S., & Mus, S. F. (2020). Aktualisasi Ajaran Islam dalam Penerapan Akuntansi Lingkungan. *Jurnal Akuntansi Multiparadigma*, 11(3), 683–700.
- Rahman, M. A., Sumarlin, S., & Mus, S. F. (2019). Green Accounting Concept Based on University Social Responsibility as A Form of University Environmental Awareness. *Integrated Journal of Business and Economics*, 3(2), 164. <https://doi.org/10.33019/ijbe.v3i2.156>

- Sahrir, S., Sultan, S., Syamsuddin, S., & Riyanti, R. (2024). Analisis Perspektif Akuntansi Lingkungan PT Sumber Graha Sejahtera Luwu. *Jesya*, 7(1), 692–702. <https://doi.org/10.36778/jesya.v7i1.1417>
- Sela, A. Y., Karamoy, H., & Mawikere, L. M. (2019). Analisis penerapan akuntansi lingkungan pada RSUD DR. Sam Ratulangi Tondano. *Indonesia Accounting Journal*, 1(2), 63. <https://doi.org/10.32400/iaj.26649>
- Sugiyono. (2015). *Memahami Penelitian Kualitatif* (11th ed.). ALFABETA.
- Suyudi, M., Permana, D., & Suganda, D. (2020). Penerapan Akuntansi Lingkungan Sebagai Bentuk Pertanggungjawaban Perusahaan Terhadap Lingkungan. 4(2).
- Syalwa, N. E. P., & Rizki, A. M. (2023). Analisis Penerapan Akuntansi Biaya Lingkungan Pada PT Sinar Sostro. *Jurnal Riset Akuntansi*, 2(1), 65–71. <https://doi.org/10.54066/jura-itb.v2i1.1305>
- Tri Herlinda, Natasya Adelia Putri, & Nasrul Kahfi. (2023). Analisis Penerapan Akuntansi Lingkungan Terhadap Pengelolaan Limbah (Studi Kasus Pada PT Perkebunan Nusantara VII Lampung Tengah). *Jurnal Riset Akuntansi*, 2(1), 17–24. <https://doi.org/10.54066/jura-itb.v2i1.1249>
- Zanny, S. A., & Kartawijaya, I. (2016). Analisis Pengungkapan Triple Bottom Linedan Faktor yang Mempengaruhi; Lintas Negara Indonesia dan Jepang. *Jurnal Vokasi Indonesia*, 1(1). <https://doi.org/10.7454/jvi.v1i1.4>