



# Development Of Mining Surrounding Community Through CSR PT NHM As Implementation Of SDG-12

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## Abstract

Negative impacts on the environment arise when human consumption and production increase. Efforts to achieve sustainable consumption and production patterns must align with the objectives of the Sustainability Development Goals (SDGs), especially point 12 of the 17 SDGs, namely Responsible Consumption and Production. Ensuring sustainable consumption and production patterns. CSR programs can be a source and potential to support achieving these goals. This study will explore, dissect, and provide offers on PT Nusa Halmahera Mineral's CSR program, which is seen from the side of its program, which is already in line with supporting the implementation of the 12th Sustainable Development Goal (SDGs-12). One of the CSR programs that can adopt a community development approach in realizing SDGs-12 is the organic and non-organic waste management program. Effective and efficient waste processing can reduce the amount of waste produced and the negative impact of waste on the environment and human health. This type of research is qualitative research using primary and secondary data. The analysis was conducted by reviewing and comparing previous studies on the relationship between SDGs and community development in CSR, as well as the approaches and methods that corporate CSR can apply for waste management.

## INTRODUCTION

Population growth, energy needs, and industrialization have negatively impacted the environment and society. Therefore, the United Nations has established a universal policy called the Sustainable Development Goals (SDGs) to address social, economic, and environmental issues worldwide.

The sustainable development goals or SDGs are part of an SDGs program agenda, with 17 sustainable development goals, 169 measurable targets, and a predetermined time target of 15 years to 2030. One of the SDGs goals is Goal 12, namely "Responsible Consumption and

Production." BAPPENAS (2012) states that SDGs are crucial to achieving sustainable development, ending extreme poverty, and ensuring human welfare. To achieve the SDGs, transformative changes are needed in all dimensions of sustainable development involving the government, private sector, academics, and civil society.

Community development, an approach that focuses on community participation and empowerment, can be used to implement SDGs-12 through the CSR program. Community development involves a group of people working together in a community setting to make joint decisions and initiate changes to their economic, social, cultural, and environmental conditions.

One of the companies that carries out community development is PT Nusa Halmahera Minerals (NHM). NHM has broad social responsibilities as a mining company operating in areas that have the potential for significant social, economic and environmental impacts. NHM ensures that mining operations are carried out responsibly from a social and environmental perspective and provide fair and sustainable benefits to the community, stakeholders and shareholders.

NHM must also pay attention to the impact of mining operations on the surrounding community, including providing fair and sustainable benefits for them, such as providing employment opportunities, support for community development, and paying attention to their needs. In addition, NHM must ensure that employees working in the mine get safe, healthy and productive working conditions. This study will focus on the Corporate Social Responsibility program, namely PPM (Community Development & Empowerment).

The Community Development and Empowerment Program (PPM) is part of the operational activities of PT Nusa Halmahera Minerals (NHM) in order to contribute to development in the areas around the company's operational activities, especially in 83 villages in five sub-districts around the mine, namely Kao Sub-district, Kao Teluk Sub-district, Kao Barat Sub-district, Kao Utara Sub-district, and Malifut Sub-district. One of the CSR programs that can adopt a community development approach in realizing SDGs-12 is the organic and non-organic waste management program. The waste management program is closely related to the goal of "Responsible Consumption and Production" by SDG-12. The main target of achieving this SDG is to reduce the amount of waste produced by the community and increase the processing of this waste to realize zero or no waste. Effective and efficient waste processing can reduce the amount of waste produced and the negative impacts of waste on the environment and human health. The problem in the mining area, precisely in Kao Sub-district, North Halmahera Regency, related to waste management carried out by the community is still far from what is expected. Garbage almost along the drainage makes the puddles emit an unpleasant odor, because the garbage is mixed with dirty water. If not handled immediately, it can cause disease outbreaks (Berita Harian Halmahera Raya, 2024).

## **LITERATURE REVIEW**

### **Sustainable Development Goals**

The UN General Assembly adopted the Sustainable Development Goals in September 2015 as part of the 2030 Agenda for Sustainable Development. It is characterized as "a new and universal set of goals to develop a global vision for sustainable development through a balance between economic growth, social development and environmental protection. The SDGs cover various aspects of sustainability, from economic and social to environmental. Although the SDGs consist of 17 goals, researchers only focus on the 12th goal, namely responsible consumption and production. To support SDGs-12, companies must create CSR programs that are in line with society's needs.

### **Corporate Social Responsibility (CSR)**

The concept of CSR has been used since the 1970s. It has become increasingly popular, especially after the publication of the book *Cannibals With Forks: The Triple Bottom Line* in 2001.

"Century Business [3]. [3] CSR is divided into three focuses, known as the triple bottom line (profit, planet, and people). In essence, good business does not only seek economic gain (profit) but also cares about environmental sustainability (planet) and seeks ways to improve social welfare (people).

Among the various definitions that have been developed, various parties have widely adopted the definition of CSR from the World Business Council For Sustainable Development. CSR is "the continuing commitment of a business to behave ethically and contribute to economic development, while improving the quality of life of employees and their families, as well as of the local community, locality, and society as a whole." One of the CSR concepts emerged as a way out because there was no consensus on the consistency between the company's social responsibility and the company's responsibility to shareholders, namely "the pyramid of the firm responsibility" according to [4]. [4] explains that the CSR concept includes four points, namely economic responsibility (make profit), legal responsibility (obey the law), ethical responsibility (be ethical) and philanthropic responsibility (be a good global corporate citizen).

These four CSR points must be understood as a whole that can be applied in the company. Although many consider that profit should be prioritized, because profit reflects the company's success in running its business. However, the company's success in generating profit can only be done with the company's concern for the community and compliance with applicable laws. On the contrary, activities to generate profit are associated with the development of the surrounding community and sustainable development, because the community plays an important role in the sustainability of the company's business. CSR is no longer just an activity to empower the community by providing funds. However, it has become an obligation for every company to implement CSR as regulated by law every year.

### **A Brief History of Nusa Halmahera Minerals**

NHM began in 1994 when Australian mining company Newcrest Mining Ltd. and Antam formed a joint venture to search for gold on Halmahera Island. In the same year, the joint venture successfully discovered gold reserves of economic value in the Gosowong area. Newcrest and Antam then jointly formed NHM, followed by signing a joint working agreement by the Indonesian government on April 28, 1997. The first gold product was produced in July 1999 at the Gosowong open pit.

NHM is currently contracted to manage a working area of 29,622 hectares in North Halmahera, North Maluku Province. Open pit mining at the Gosowong Gold Mine has been completed, and the Gosowong Gold Mine is currently mining two underground mining sections, Kencana and Toguraci, using a combination of cut and fill and stopping underground mining methods.

### **Gosowong With Indotan**

In early 2020, PT Indotan Halmahera Bangkit, led by H. Robert Nitiyudo Wachjo, took over the majority of NHM shares from Newcrest. With the new Indotan management, NHM increasingly emphasizes its commitment to occupational health and safety, environmental management, optimal productivity, and actively participating in community empowerment, especially among residents around the company's mining operations.

## **METHODS**

The type of research used in this study is qualitative research. According to [5], the qualitative research method is a research method used to research on natural object conditions, where the researcher is the key instrument, data collection techniques are carried out by triangulation (combination), data analysis is inductive, and qualitative research results

emphasize meaning more than generalization. Qualitative research is not intended to test or formulate a particular hypothesis but only to describe a variable, symptom, or condition.

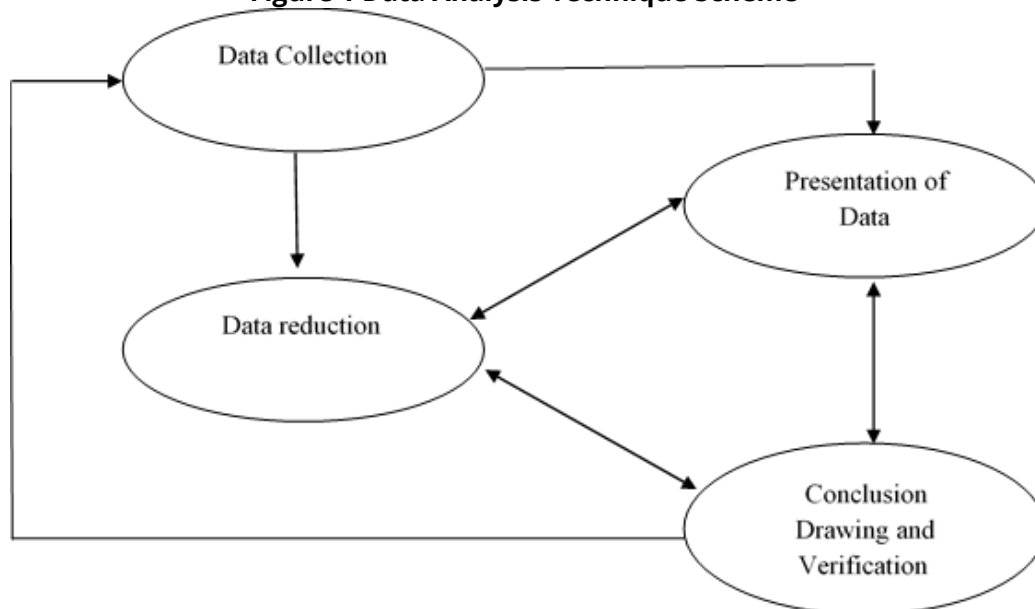
The data collection techniques used in this study are primary and secondary data. Primary data is obtained by conducting interviews using a list of questions compiled based on the research focus, direct observation of conditions in the field, and documentation. Secondary data is obtained by researchers indirectly through intermediary media [5].

Information in this study is a person who can provide data and information that is relevant to the research problem. Informants are sources or sources of primary data that are very much needed in research. The informants in this study are as follows:

1. General Manager of Social Performance PT. Nusa Halmahera Minerals
2. Head of Kao Induk Village, Kao District, North Halmahera
3. Lingkar Tambang Community (3 people)

Secondary data in this study are reports and documents of PPM PT. NHM. The report contains information about the company's social responsibility activities.

**Figure 1 Data Analysis Technique Scheme**



## RESULTS AND DISCUSSION

Based on the results of field research, the author has scientifically analyzed How to Implement SDG 12 in the CSR framework of PT. NHM is a form of empowerment for the Lingkar Tambang community.

### **NHM And Realization Of Corporate Social Responsibility Program (PPM)**

In carrying out the Company's obligations related to the 1% fund, PT Nusa Halmahera Mineral runs a Community Empowerment Program by KEPMEN ESDM NO. 1824 K / 30 MEM / 2018. There are eight programs. In implementing its PPM program, NHM refers to the PPM Blue Print document prepared by the Provincial Government, ratified through the Decree of the Governor of North Maluku, and launched on January 13, 2021, in Tobelo. In addition, the Company also has a PPM Master Plan Document, which received technical approval from the Ministry of Energy and Mineral Resources on December 30, 2020.

The NHM PPM Program carries out its activities by focusing on the following areas: Education, Health, Real Income Level / Employment, economic, Social and cultural independence,

Environment, Community Institutions Supporting Independence, and PPM Supporting Infrastructure.

**Table 1 Data Reduction Results Realization of PT Nusa Halmahera Minerals Community Empowerment Program**

PPM Programs	Realisasi Program
Education	√
Health	√
Real Income/Employment Level	-
Economic Independence	√
Social and Culture	√
Environment	-
Community Institutions in Supporting Independence	-
PPM Supporting Infrastructure	-

Overall, realizing the Community Empowerment program by PT Nusa Halmahera Mineral has significantly benefited the community and environment around the company's operational area. Through ongoing commitments to education, economy, health, and socio-culture, PT NHM has proven its active role in improving local communities' quality of life and welfare. From the realization of the program above, it can be seen that it is still not integrated with the objectives of SDGs-12, which aims to "Ensure Sustainable Consumption and Production Patterns." From the data processing results in the field, the author formulated several programs that could be part of the CSR program. The program could be a breakthrough in maximizing several deficiencies in the Mining Circle environment, such as drainage and waste processing. This is a significant problem that has just been realized.

The following formulation results can be part of the program realization and maximize the objectives of SDGs-12 through local community development.

### Sustainable Development Goals

The UN General Assembly adopted the Sustainable Development Goals in September 2015 as part of the 2030 Agenda for Sustainable Development. They are "a new and universal set of goals to develop a global vision for sustainable development by balancing economic growth, social development, and environmental protection." The SDGs can be seen as a new approach to global governance through tailored environmental goal-setting and feedback processes. The SDGs were developed through intergovernmental collaboration using public engagement processes to actively mobilize and consult with national governments in developing and industrializing countries and various civil society groups .

As the successor to the Millennium Development Goals (MDGs), the SDGs are expected to address sustainability issues better. Moving beyond the scope of the MDGs and the traditional "three pillars" approach to sustainable development, the SDGs framework is intended to be universal, calling for an integrative approach that links human development and environmental sustainability.

As a policy framework that guides societies toward long-term well-being, the SDGs represent the next important step in the evolution of transition policies. While there is growing recognition of the potential of the SDGs to drive global transformation towards a more sustainable future, the role of companies in supporting this process and how the SDGs inform business models needs to be clarified.

In many ways, however, the SDGs are designed for companies seeking to integrate sustainability into their business plans. Global SDG targets can be translated into national contexts and framed to comply with national regulatory requirements while addressing

sustainability specific to space and time. Assert that the private sector has unique strengths that can be leveraged to deliver on the SDGs, including but not limited to innovation capacity, efficiency, responsiveness, and the provision of specific capabilities and resources.

In addition, [8] suggests three ways the SDGs have proven helpful as a framework to guide corporate responsibility. First, the SDGs contain 17 agreed sustainable development priorities broken down into targets, many directly relevant to business. Second, governments, businesses, and civil society support these globally accepted goals, providing a common agenda for all stakeholders to rally around. Third, the SDGs fully recognize sustainable development issues' complexity, trade-offs, and systemic nature. Going forward, the challenge of strategic CSR management is to navigate the dynamic balance, balancing short-term benefits with the long-term vision of sustainable development.

The SDGs are a global initiative that aims to create a better human life in social and economic aspects and can synergize with the environment. In its preparation, it was entirely based on the fact that this global initiative cannot show implementation at the regional and national levels. The SDGs at the regional and national levels also need to reaffirm the spirit and values of the inclusive and participatory SDGs as has been built into the global SDGs. The role of the state is crucial in ensuring that the implementation of the SDGs is based on a holistic approach and strategy between economic development, social inclusiveness and environmental sustainability while still prioritizing the characteristics of each country's priorities. Previously, the MDGs only contained 8 (eight) goals which focused more on the problem of poverty alleviation, now the SDGs have 17 goals (17 Goals), 169 targets and 241 more comprehensive indicators, namely :

1. End Poverty
2. End Hunger
3. Good Health and Well-Being
4. Quality Education
5. Gender Equality
6. Clean Water & Sanitation
7. Affordable & Clean Energy
8. Economic Growth & Decent Work
9. Industry, Innovation & Infrastructure
10. Reducing Inequality
11. Sustainable Cities & Communities
12. Responsible Consumption & Production
13. Addressing Climate Change
14. Sustaining Life Below Water
15. Sustaining Life on Land
16. Peace, Justice & Strong Institutions
17. Partnerships for the Goals

This research focuses on the 12th goal of the Sustainable Development Goals, namely Responsible Consumption and Production. SDG 12 emphasizes the need for sustainable consumption and production patterns to reduce negative environmental impacts and optimize resources and energy. This scientific research aims to find aspects of environmentally friendly production and develop sustainable consumption models. One of the main aspects is the capacity of industry to minimize the use of natural resources and manage waste better. Human production and consumption activities have driven global economic growth and, on the other hand, have also caused unavoidable adverse impacts on the environment and ecosystems.

Failure to realize SDG 12 on sustainable consumption and production can lead to biodiversity loss, climate change, and pollution and threaten human well-being. Another goal is to evaluate the carbon footprint, water use, and waste generated throughout the supply chain.

However, the theme of sustainability focuses more on evaluating the extent to which a product or production process has a good or bad impact on the ecosystem. Another main objective of this research is to identify the types of innovations in product design that, in the future, should be easily recyclable, extend their useful life, use biodegradable materials, and help the environment in the long term. In addition to the technical aspects, this research is also related to assessing public policies that support more responsible consumption and production patterns. The government, private sector, and civil society need to work together to create policies and regulations that can encourage green technology and incentives for industry for environmental sustainability.

The roles of government, the private sector, and society significantly influence and interact with each other to achieve sustainable development goals (SDGs), especially SDG 12, on responsible consumption and production. Each party's response to SDG 12 can vary, both at the national and local levels. The private sector, for example, often responds through Corporate Social Responsibility (CSR) programs, which also vary depending on the capacity and specific problems each company faces .

CSR and sustainable development are closely related. CSR can be considered a business approach focused on sustainability, where companies voluntarily integrate environmental, social, and economic aspects into their business strategies to support sustainable development.

### **SDG-12 & CSR**

In business, a company is an entity that produces goods or services to make a profit. However, companies must consider the impact of their operations on the ecosystem and strive to be sustainable. This includes environmentally friendly practices and social responsibility.

SDG-12 aims to "Ensure Sustainable Consumption and Production Patterns" even with limited resources. Recycling technology reduces the extraction of natural resources but cannot completely replace them. In addition, the energy and facilities used for production, pollution, and hazardous waste control and the cost of the recycling process are very high. Natural resource management, waste control, reuse and recycling technologies (Navalgund, 2020), product life cycle development, and reduction of food loss are examples related to SDG-12 and can help companies reduce environmental and social damage.

CSR is the obligation of companies to consider the social and environmental effects of their business activities. According to, companies must prioritize three main principles in implementing CSR: People, Profit, and the planet. In empowerment, companies that integrate these three principles in implementing CSR will achieve long-term benefits, including building a positive image and public trust, reducing reputational and legal risks, and strengthening relationships with stakeholders. In addition, companies can positively impact society and the environment, supporting the achievement of sustainable development goals.

Community empowerment through CSR programs is one-way companies can positively impact the surrounding community and achieve sustainable development goals. This program includes various activities to strengthen community capacity, increase access and control over resources, and encourage community participation and influence in the decision-making process.

Communities are sensitive to environmental issues, sustainable consumption, and awareness of social responsibility. Food labels, for example, allow consumers to know more about the products they use and regulate their sustainable consumption. Therefore, increasing awareness of sustainable consumption, sustainable production, and green consumerism has a positive impact on society and is recognized as a socially responsible action while at the same time promoting the SDGs.

Community empowerment practices are philosophically based on the need to help communities become "subjects" rather than "objects" so that they can act rather than react to their situations. In implementing SDGs-12, the development and empowerment approach can be

realized through CSR programs emphasizing infrastructure, health, and education development. This program also provides opportunities for communities to develop their internal potential and overcome their problems. Companies can collaborate with local communities to design programs based on the community's needs and characteristics and support them in achieving economic and social independence. Community empowerment through CSR programs is a practical approach to support the implementation of SDG-12. This is in line with the view of the International Association of Community Development (2016), which states that SDG-12 is related to economic development and is in line with the design and initiatives of community empowerment. As previously explained, this study wants to realize SDG-12 through the latest CSR program of PT Nusa Halmahera Minerals by maximizing community empowerment in the field of organic and inorganic waste processing in communities around the mine.

### **SDG-S 12 Renewable Program Within The CSR Framework**

CSR programs focusing on community empowerment have significant potential to drive positive change toward more sustainable consumption and production patterns. The following are community development solutions that PT. Nusa Halmahera Mineral can implement CSR programs:

#### **1. Technical Guidance/Socialization**

The fundamental and valuable thing in community development is the community's understanding of the root of the problem and its solution. The Importance of the Technical Guidance Program in CSR Community Development for Waste Management The Technical Guidance Program (Bimtek) has an important role in community development through CSR, especially in the processing of organic and inorganic waste, in line with [14], which states that providing education to the community is in line with efforts to achieve SDGs-12 where before 2030 all people wherever they are must have relevant knowledge and awareness regarding sustainable development and a lifestyle that is in line with nature.

The community can understand various environmentally friendly waste management methods by providing appropriate training. This knowledge not only reduces waste's negative impact on the environment but also increases awareness of the importance of sustainable resource management. Through Bimtek, participants are taught composting techniques, waste separation, and recycling, all of which are in line with the principles of SDG 12.

In addition to increasing knowledge, the Bimtek program also facilitates the development of practical skills needed for effective waste management. The community is invited to participate actively in waste management activities to feel the benefits directly. This involvement fosters a sense of ownership and responsibility towards the environment and enhances the community's ability to create local solutions to waste problems. In this way, Bimtek becomes an important bridge between theory and practice in waste management.

Finally, the Bimtek program serves as a platform for building collaboration among community members and between communities and other parties, such as the government and the private sector. By sharing knowledge and experiences, communities can create more effective waste management innovations. Through this collaboration, the Bimtek program contributes to sustainable waste management and strengthens the community's capacity to achieve overall sustainable development goals.

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## 2. Establishment of a Waste Bank

The Waste Bank Program is an effective CSR initiative that supports SDG-12, which is about sustainable consumption and production. Through this program, companies not only reduce the volume of waste but also increase public awareness of the importance of waste management. By providing a place to collect and manage waste, waste banks enable people to sort organic and inorganic waste more efficiently. This creates opportunities for people to contribute directly to the environment and gain economic benefits from recycling.

Furthermore, waste banks function as an educational platform for the community. In this program, companies can hold training and socialization on how to sort waste and the benefits of recycling. Thus, the community is not only a passive participant but also active in the waste management process. This education increases understanding of the impact of waste on the environment and the importance of maintaining the sustainability of resources. In addition, waste banks can provide additional skills training for community members, such as waste processing techniques, which contribute to improving their quality of life.

One example is a study conducted by [23] stating that the existence of the Serasi Environmental Care Group Waste Bank in Sidomulyo Village has social impacts (behavior to dispose of waste in its place, behavior to sort waste, education about the importance of waste management and education about the importance of saving), economic impacts (additional income) and environmental impacts (reduced household waste disposed of at TPS, reduced piles of waste at TPS, and clean environmental conditions).

The Waste Bank program also has the potential to strengthen the relationship between companies and local communities. Companies can build better trust and collaboration by involving the community in managing the waste bank. This improves the company's reputation as an environmentally conscious entity and encourages active participation from the community in achieving sustainable development goals. Thus, the waste bank program aligns with SDG-12 and provides positive social and economic impacts for the community. This program can be a follow-up option for PT NHM in realizing the CSR (PPM) program that aligns with SDG-12.

## 3. Renewable energy maximizes Zero Waste

The concept of renewable energy that focuses on zero waste has the potential to be an effective strategy for achieving SDG-12 on sustainable consumption and production. By implementing zero waste practices, every aspect, from production to consumption, can be

designed to minimize waste. Renewable energy, such as biogas produced from organic waste, allows communities to convert waste into usable energy sources. This approach reduces the volume of waste and provides clean energy that reduces dependence on fossil fuels.

Furthermore, applying the zero waste principle in waste management can produce various products with economic value. For example, plastic waste can be processed into raw materials for new products through the recycling process. In addition, agricultural waste and food waste can be converted into organic fertilizer or biogas fuel. Thus, it will not only create waste solutions but also open up new economic opportunities and create jobs in the recycling and waste processing sectors. This aligns with the principles of a circular economy that encourages efficiency and innovation. For example, the Waste Processing System in Banyumas Regency is a waste processing system that can be said to be zero waste. This is because the waste collected at the TPST will be processed in such a way into various goods with high economic value. The remaining waste in the TPST is called residue, and the amount is minimal [24]. This makes Banyumas the best city in waste management.

Implementing a renewable energy system that supports zero waste also increases public awareness of the importance of sustainability. By showing how waste can be turned into valuable products, people become more motivated to participate in waste management and reduce consumption. Education and training programs focusing on zero waste practices can strengthen individual and community commitment to protecting the environment. Thus, this approach not only supports the achievement of SDG-12 but also creates a society that is more environmentally aware and responsible for its resources. If we look further, implementing this system will benefit not only the Lingkar Tambang community but also North Maluku as a whole.

## CONCLUSION

The goal of SDG-12 is Responsible Consumption and Production. It emphasizes the need for sustainable consumption and production patterns to reduce negative environmental impacts and optimize resources and energy. Community empowerment through CSR programs is an effective approach to supporting the implementation of SDG-12. Some effective programs used for community development are Bimtek/socialization, establishment of a Waste Bank, and utilization of renewable energy that can have economic value. PT Nusa Halmahera Minerals can carry out programs like these to directly participate in realizing SDG 12 through CSR programs. This can directly increase the value of the company and provide benefits to the surrounding community.

## SUGGESTION

The suggestion from the results of this study to further researchers is to consider the integration of PPM programs vertically and horizontally. Vertical refers to the extent to which these programs are integrated with PT NHM's core business activities and by sustainability goals through Sustainability Development Goals. At the same time, horizontal includes the extent to which these programs align with the needs and aspirations of the local community. Researchers can further investigate whether there is potential to increase synergy between PPM programs and the company's operational activities. From further research, we see the potential in the field as a helpful novelty in this science.

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