






The Implementation of Corporate Social Responsibility on Environmental Management and Its Effect on Local Community

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ABSTRACT

The role of companies as actors in production processes that utilize nature and resources is crucial. Therefore, to reduce increasing environmental degradation, companies carry out activities that are not only aimed at making profits but also pay more attention to survival, nature preservation, and socio-economic communities in the areas where they operate through corporate social responsibility (CSR). This research aims to evaluate the implementation of corporate social responsibility (CSR) programs and environmental management carried out by PT Sorik Marapi Geothermal Power (PT SMGP) and their impact on the local communities around the company's operational area. This evaluation includes the effectiveness and efficiency of the CSR programs implemented by PT SMGP, as well as the environmental management efforts undertaken. The data collection methods used are observation methods, interview methods, and documentation methods. The source of information in this research uses primary and secondary data. The research shows that, *first*, the company's CSR programs include relationship building, public services, and community empowerment. *Second*, environmental management activities carried out by the company are still not effective and efficient because many bad incidents occur, such as gas poisoning, noise, and drought.

Keywords: Corporate Social Responsibility, Dynamics Relationship, & Environmental Management

1. Introduction

Geothermal energy known as geothermal is a relatively environmentally friendly energy source because it comes from heat within the earth (Basid et al., 2014). According to Law of the Republic of Indonesia Number 27 of 2003 article 1 paragraph 1 concerning Geothermal which reads "geothermal is a source of thermal energy contained in hot water, water vapor, and rocks along with associated minerals and other gasses which are genetically inseparable in a geothermal system and for their utilization a mining process is needed"

Companies realize that the success of an organization depends largely on the balance created between the corporate organization and the citizens and the environment around the corporate organization. Corporate social care is mainly based on the reason that the company's activities have an impact for better or worse, on the environmental and socio-economic conditions of the community, especially around the company it operates (Suharto, 2008).

The company's encouragement to carry out corporate social responsibility is based on Law of the Republic of Indonesia No. 23 of 1997 Article 5 concerning Environmental Management and Law Article 74 No. 40 of

2007 concerning Limited Liability Companies (UU PT) which states: (1) Companies that carry out their business activities in the field related to natural resources are required to carry out Social and Environmental Responsibility (TJSL) (Hapsari et al., 2018).

The presence of companies in society is indeed quite dilemmatic. On one hand, the presence of companies brings positive impacts, but on the other hand, it also brings negative impacts. One of the positive impacts that companies provide is through Corporate Social Responsibility (CSR) programs. In addition to CSR programs being a tangible manifestation of corporate social responsibility, they also aim to improve relations with stakeholders (Rosmaladewi & Poetri, 2020).

The specific benefits of implementing CSR for society include not only creating job opportunities for the community but also making companies more attentive to the community. One way to do this is by implementing activities or policies aimed at improving the well-being of the community (Yusuf et al., 2020).

Furthermore, companies will also pay more attention to the surrounding environment by participating in environmental conservation efforts. The goal is to prevent disasters and minimize the impact in case of a disaster. Besides benefiting society, CSR is also beneficial for the government. Its benefits include creating a good relationship between companies and the government in addressing social issues. In this regard, the government will feel more supported in its efforts to create community welfare (Situmeang et al., 2016).

One of the areas designated for geothermal power plant development is PT Sorik Marapi Geothermal Power, also known as PT SMGP, located in the Sorik Marapi mountain region. This area has significant geothermal potential. According to historical records, Sorik Marapi mountain is an active volcano. It is predicted to still be an active volcano, but its heat does not accumulate within the Earth's crust but flows in the form of geothermal heat. This geothermal heat is used to drive turbines to generate electricity.

With the entry of PT SMGP in the Puncak Sorik Marapi District, there have been dynamics in the community. One of them is the pro and con debate regarding the development of this geothermal power plant project. The pros and cons views of PT SMGP are due to its presence in residential areas, which is suspected to cause various issues, especially in environmental management.

Some recent environmental management issues at PT SMGP include, for example: An incident on January 25, 2021, which resulted in 5 fatalities and hundreds of people being treated in hospitals due to a flow test activity. Then, on April 24, 2022, an incident led to dozens of residents being taken to the hospital due to a blowout activity (Nurbaiti & Bambang., 2017). As a result of these incidents, the company's operations were restricted by regulators, in this case, the Ministry of Energy and Mineral Resources (ESDM), and there were demands from the local community. Another issue is that during these incidents, residents around the project engaged in theft, threats, and assaults against PT SMGP employees.

Socioeconomic communities are numerous. Here, nonetheless, the researcher would like to draw attention to the study that the author carried out, specifically focusing on the effects of PT SMGP's corporate social responsibility on the social, economic, and environmental spheres in Puncak Sorik Marapi District. With this, the literature review functions as the main material for comparisons and similarities in previous research, as an initial basis for obtaining information about theories related to the researcher's title, including: "The Implementation of Corporate Social Responsibility on Environmental Management and Its Effect on Local Community".

CSR can be seen from the benefits aspect, it is proven that CSR can improve the social and economic aspects of society. Research conducted by (Febriani, 2018) that CSR programs can improve community welfare, CSR programs such as fogging, free medical treatment, breaking the fast together, sharing Coca-Cola products, sacrifices, scholarships for achievement, tree planting, and clean water. So the community hopes that this program will continue following community needs.

Based on research from (Syarifuddin, 2020) the CSR program has proven to be quite influential on the welfare of the community around PT PLN TJB, such as in the economic sector through the flashlight program and tourist villages which have a direct impact on the surrounding community. As well as a free treatment program that received enthusiastic and positive responses from the community. The mechanism for implementing the

CSR program in the partnership program involves several parties, namely the PT PLN TJB CSR unit, universities, regional government, and the PT PLN livestock group community.

Based on research from (Nurasmawi et al., 2018) CSR has a significant effect on the economic conditions of the community in the Rokan Hilir PKS factory environment. In its implementation, the company carries out CSR following promises and openly, on time, admits weaknesses and shortcomings, always improves the quality of goods or services on an ongoing basis, and does not cheat or lie. The company is trustworthy by displaying an attitude of openness, honesty, optimal service, and doing your best in everything, especially when it comes to community service.

Based on research from (Simatupang et al., 2018) the research results show that there is a positive impact from the existence of PT. Sarulla Operational Limited (SOL) on the community's economy, such as in the field of work, people have the opportunity to increase their income such as opening stalls, restaurants, rented/boarding houses, selling driver services and laundry so with this the income of the community increases.

Based on research from (Onibala et al., 2022) the impact felt by society in the social aspect is increasing the quality of human resources through CSR empowerment. The economic aspect is that there are job opportunities for people to be able to work at Pertamina Geothermal Energy which helps improve the community's economy where the salary earned can be used as business capital and also reduces poverty and unemployment. Meanwhile, the environmental aspect is not felt by the community because exploration activities are environmentally friendly.

Then we look at the impact of CSR in building an image. It means to describe how Corporate Social Responsibility (CSR) contributes to building a company's image. It refers to how CSR activities conducted by a company can influence the perception and reputation of the company among various stakeholders. In this context, companies engaged in CSR activities have the opportunity to enhance their image in the eyes of the public by demonstrating their commitment to social and environmental issues. Here are some key points related to the impact of CSR in building a company's image.

First, enhanced reputation. Through CSR activities, a company can improve its reputation as a responsible corporate citizen in the eyes of the public. This can result in a positive perception of the company among the general public. Second, increased trust and credibility. Engaging in CSR can increase trust and credibility among stakeholders. By demonstrating commitment to ethical practices and contributing to social welfare, companies can build stronger relationships with customers, employees, and investors.

Third, differentiation in the market. Companies actively involved in CSR activities can distinguish themselves from competitors in the market. Consumers tend to support companies that demonstrate commitment to social and environmental issues, which can provide a competitive advantage. Fourth, attracting and retaining talent. CSR activities can also play a role in attracting and retaining talent. Employees are attracted to companies that prioritize social responsibility, and CSR initiatives can contribute to employee satisfaction and engagement. Fifth, mitigating negative publicity. Engaging in CSR can help mitigate negative publicity or backlash that may arise from controversial business practices or events. By demonstrating commitment to addressing social and environmental concerns, companies can improve their image and minimize reputational damage.

Overall, the impact of CSR on building a company's image is multifaceted and can have significant implications for long-term success and sustainability. Companies that effectively integrate CSR into their business strategies have the opportunity to gain a better reputation, increased trust, and enhanced competitiveness in the market.

The results of research (Hamzah, 2022) show that there is an influence of CSR in building a company's image. From the results of the Coefficient of Determination test, the CSR variable can influence the company's image. It can be seen that the R square is 42.0%, and the remaining 58.0% is influenced by other factors that are not in this research. It means, in regression analysis, the coefficient of determination, often denoted as R^2 , represents the proportion of the variance in the dependent variable (in this case, the company's image) that is explained by the independent variable (CSR). An R^2 value of 42.0% indicates that 42.0% of the variability in the company's image can be accounted for by CSR activities.

The remaining 58.0% of the variability in the company's image is attributed to other factors not included in the research. These factors could include various internal and external influences that were not examined in the study but may still impact the company's image, such as economic conditions, market competition, leadership effectiveness, or unforeseen events. Based on the results (Namiradita, 2020), it was found that the program involves five stages, starting with Social Mapping to identify coffee potential, followed by surveys to validate data and communicate with the community, then the development of the program according to community needs, implementation of the program including training from seed planting to coffee production, and finally monitoring and evaluation of the program's success. The adoption of this program is driven by the potential and needs of the community, especially coffee farmers in the geothermal area, as well as previous lack of understanding and attention. Additionally, the program serves as a long-term social responsibility initiative for community empowerment. The program benefits the company by enhancing its reputation, earning awards, and fostering good relations with stakeholders. For employees, it serves as a learning opportunity and helps improve the welfare of involved communities. For the community, it provides skill development, experience, solutions to problems, and economic improvement.

Based on these issues, the author is interested in researching the Dynamics of the Relationship between PT SMGP and the Community in the implementation of CSR Programs and Environmental Management in the Puncak Sorik Marapi District. The research focus of this study is to investigate the impact of Corporate Social Responsibility (CSR) programs implemented by PT Sorik Marapi Geothermal Power (PT SMGP) on environmental management and the local community in the Puncak Sorik Marapi District. This study aims to understand how CSR programs affect the relationship between PT SMGP and the local community, as well as their impact on the environmental conditions surrounding the geothermal power plant project.

Considering several environmental incidents that have occurred around the PT SMGP project, this research explores the effectiveness of CSR programs in minimizing negative impacts such as air pollution, noise, and other related health issues. Additionally, this study also aims to understand how CSR programs influence the social and economic well-being of the local community.

Through data collection using observation, interviews, and documentation methods, this research seeks to provide comprehensive insights into the dynamics of the relationship between PT SMGP and the local community, as well as the effectiveness of CSR programs in achieving desired environmental and social goals.

State-of-the-art research in this study includes a current overview of topics relevant to the implementation of Corporate Social Responsibility (CSR) in environmental management and its impact on the local community. Some key points in the state-of-the-art research may include:

First, a literature review on how CSR affects environmental management practices in various industries. This may include research on the effectiveness of CSR programs in reducing negative environmental impacts and promoting sustainable practices. Second, research on the dynamics of the relationship between companies and local communities in the context of implementing CSR programs. This may include studies on conflicts or collaborations between companies and communities in efforts to preserve the environment and improve social conditions.

Third, a review of literature investigating the impact of CSR programs on the social and economic well-being of local communities. This could include research on increased access to education, health, or employment as a result of CSR programs. Fourth, research on evaluation methods and measuring the effectiveness of CSR programs in achieving their environmental and social objectives. This may include studies on CSR performance indicators and impact assessment techniques used by companies. Fifth, identification of best practices in implementing CSR programs as well as challenges faced by companies and communities in ensuring the sustainability and success of these programs.

This state-of-the-art research will provide a comprehensive understanding of the theoretical and practical context in which current research is situated, and strengthen the foundation for the ongoing research.

2. Method

This type of research falls under field research. The research was conducted from January 2023 to March 2023. The research location is PT Sorik Marapi Geothermal Power and the Puncak Sorik Marapi District, Mandailing Natal Regency, North Sumatra Province. Researchers use a type of field research (field research) using the nature of descriptive analysis. The data collection methods used are observation methods, interview methods, and documentation methods. The technique of taking informants in research uses purposive sampling techniques, namely by using certain criteria. The informants in this study were 2 employees, 2 residents, and 2 village governments. The source of information in this study utilizes primary data information and secondary data. Data analysis techniques used are data reduction, information presentation, and conclusion drawing.

3. Result and Discussion

1. General Conditions of the Research Site

Puncak Sorik Marapi District is one of the districts in the Mandailing Natal Regency. The area of Puncak Sorik Marapi District covers 5,854.75 hectares, with elevations ranging from 700 to 980 meters above sea level. Puncak Sorik Marapi District is bordered by Panyabungan Selatan District and Lembah Sorik Marapi District to the North, Tambangan District and Batang Natal District to the South, Tambangan District to the East, and Batang Natal District to the West. Puncak Sorik Marapi District has 11 villages with a total population of 9,799 people. This developing district is home to one of the volcanoes known as Mount Sorik Marapi, which has an elevation of approximately 2,180 meters above sea level. The presence of this volcano makes the area fertile and rich in natural resources, including geothermal energy.

PT Sorik Marapi Geothermal Power, often referred to as PT SMGP is one of the subsidiaries of KS Orka Renewables Pt. Ltd since 2016. KS Orka acquired the 240 MW PT SMGP project in Mandailing Natal, North Sumatra, from PT Origin Tata Power Geothermal Services Indonesia, which had been in operation since 2010 [Feronika et al., 2020]. This Chinese energy company entered the Indonesian energy industry by acquiring 95% of its shares in April 2016 and completed the transaction in mid-August 2016. PT SMGP is currently in the electricity production phase. PT SMGP achieved the Commercial Operating Date (COD) for Unit I of 45 MW in 2019, Unit II of 45 MW in 2021, and Unit III of 50 MW by the end of 2022. Thus, PT SMGP's total electricity contribution to PLN reached 140 MW. PT SMGP's development activities continue until they reach the agreed-upon 240 MW capacity with PLN. Currently, the development of Unit IV is underway.

In determining the areas affected by PT SMGP's activities, the company categorizes the surrounding villages into three "ring" or categories. "Ring" or category 1 consists of villages directly affected by the company's activities, typically where the company's facilities are located within the village's administrative jurisdiction. The following villages are included in "Ring" or category 1 at PT SMGP as of the time of the interview. However, as PT SMGP's development progresses, more villages may be included in the region "Ring" or Category 1.

Table 1. Villages in the "Ring" or Category 1 area of PT SMGP

District Puncak Sorik Marapi	District Lembah Sorik Marapi	District Panyabungan Selatan
Sibanggor Tonga	Purba Lamo	HutaJulu
Sibanggor Julu	Purba Baru	Huta Raja
Sibanggor Jae		
Hutalombang		
Hutanamale		
Purba Julu		

Source: Interview, 2023

"Ring or Category 2 consists of villages that are not directly impacted, typically where the company's facilities are not within the village's administrative jurisdiction. If there are any potential direct impacts from the company, they are very small. The villages included in "Ring" or Category 2 of PT SMGP are as follows:

Table 2. Villages in the "Ring" or Category 2 area of PT SMGP

District Puncak Sorik Marapi	District Lembah Sorik Marapi	District Panyabungan Selatan
Hutabaringin MG	Bangun Purba	Hayu Raja
Hutabaringin Julu	Aek Marian	
Hutatinggi	Siantona	
Handel	Maga Dolok	
Hutabaru	Pasar Maga	

Meanwhile, "ring" or Category 3 comprises villages that are not directly impacted and are situated at a considerable distance from the company's activities, within the SorikMarapi Geothermal Working Area (WKP). Villages included in "ring" or Category 3 of PT SMGP are as follows:

Table 3. Villages in the "ring" or Category 3 area of PT SMGP

District Puncak Sorik Marapi	District Lembah Sorik Marapi	District Panyabungan Selatan
-	Maga Lombang Pangkat	Tanobato Pagaran gala-gala Hutarimbaru Kayu Laut Roburan Dolok Roburan Lombang Lumban Dolok Aek Ngali

Source: Interview, 2023

2. Implementation of CSR Program by PT SMGP

Based on the type of CSR implementation proposed by Budimantara (2008), we can analyze 3 pillars of CSR implementation, namely relationship building, community service, and community empowerment [11]. In this case, it is also implemented in the CSR program at PT SMGP, here is the explanation:

a. Community Relations

Relationship building is a form of activity that is more generous to the community, with the main aim of reducing conflict. By providing compensation or indemnity. Compensation in this program is defined as compensation given by the company to employees or residents due to negligence from the company. As the opinion of the citizen with the initials B dated February 25, 2023:

"...I have landed in Aek Raja in the form of coffee, chili, and tomatoes near the company. But since the expansion until it was near the river to my garden, that's when the mud entered my garden for about a week, and my plants died, I demanded that they be responsible, and thank God they gave compensation in the form of money..."

b. Community Services

Community Services. Community services are provided to meet the interests of the community or other public interests. The form of activity in this category is more about the socialization of extension workers to the community. As the results of an interview with an employee with the initials A conducted on March 02, 2023 that:

"...We communicate with the village government and the sub-district government for this socialization activity; SMGP will facilitate this activity, and SMGP invites related parties to succeed in this activity. We conduct socialization of company activities by inviting residents, especially those in affected areas; this activity we adjust to the company's readiness..."

c. Community Empowerment

Community empowerment is an activity that encourages community empowerment and independence. With Giddens' (2010) view of social practices, the stages and processes of CSR activities can be understood as practices that underlie the existence of agents. Through the CSR structure, social practices of social responsibility activities are carried out. However, the ways of carrying out social responsibility activities are not necessarily based on understanding among the stakeholders involved. The assistance provided is in the

form of empowering farmer groups, scholarship assistance for underprivileged achievements, and others. Assistance in the field of education is provided to students. As the results of an interview with an employee with the initials A conducted on March 02, 2023 that:

“...There are already several programs that have been realized, but there are also many that have not been realized, one of which SMGP focuses on empowering farmer groups, for example, procuring seeds, fertilizers, and others. In the field of education, there is also a scholarship program for underprivileged and outstanding students...”

Assistance in the health sector, according to informants, includes providing BPJS Health to residents, especially residents who have experienced victims of toxic gas or work accidents. Then the company also cooperated with the local hospital department.

CSR is a corporate social responsibility to the environment around the company, the function of CSR is not only an obligation to carry it out but processes into a deeper impact, namely how CSR can solve poverty and succeed in moving the real sector. CSR is born from public insistence on corporate behavior that ignores social responsibilities such as environmental destruction, exploitation of natural resources, and oppression of workers. In short, the company stands diametrically with social life. The impression of companies, especially capital owners, shows a more social face (Garzellya & Fiorentino, 2014)

In conducting its business, PT SMGP has also implemented CSR (Corporate Social Responsibility) programs. The first CSR program was initiated in 2017 but was only fully realized in 2018, with some villages still in the process of completing it until 2021. Therefore, in 2022, PT SMGP reminded those villages that had not yet completed their 2017 CSR program to do so promptly or to close the program. In 2019, the CDCR (Community Development and Corporate Responsibility) Department initiated another CSR program. This year, the focus was primarily on assessing and identifying the needs of the community, without fully implementing the program (Wastiti et al., 2021)

In 2020, the CSR program was carried out in the Puncak Sorik Marapi District. Out of the villages in this district, only 10 received the CSR program. One village, Hutabaru Village, did not receive the CSR program because the village authorities were not willing to participate. The CSR program in 2020 was tailored to the specific potentials and needs of each village. In 2020, there was a particular focus on the areas of Puncak Sorik Marapi District and Purba Lamo, as most of the company's activities were concentrated in these areas.

Table 4. CSR Program 2020

Village Name	Program	Group Name	Group Leader
Hutabaringin MG	Chili Farm	Subur Sejahtera	Hasbullah
Handel	Tomato Farm	Handel Jaya	Sakban
Sibanggor Tonga	Chili Farm	Marsada Roha	M. Ali
Sibanggor Julu	Catfish cultivation	NNB	Abdul Kuddus
	Sanitation Improvement		Lahuddin
	Sports Facilities Land Pawnshop		Ismail
Hutabaringin Julu	Chili Farm	Subur Nain	Ikhwan Rosadi
Hutanamale	Chili and Celery Farm	Berkah Jaya	Ismail
Sibanggor Jae	Chili Farm	Tulus Sibanggor Jae	Maratahan
Purba Lamo	Ginger Farm	Rumbuk Satahi	Puli Rangkuti
Hutatinggi	Ginger Farm	Maju Bersama	Muhri Rangkuti/Taufik

Table 5. CSR Program 2020

Village Name	Program	Group Name	Group Leader
Hutalombang	Chili Farm	Serumpun	Syukri
Hutajulu	Shallot farming	Harapan Kami	Somad
Purba Julu	Chicken Farm		Pamusuk/Mora
	Education Land Acquisition (PAUD)		Pamusuk/Mora
Purba Baru	Chili Farm	Purba Baru Jaya	Ikhwan Tanjung
Hutaraja	Chili Farm	Pasada Hata	Sulhan
Haturaja	Chili Farm	Aek Silalahi	Ahmad Darwis
	Bean and Corn Farming	Tunas Muda	Sangkot
	Land Acquisition		Mulyadi
	Cinnamon seedlings		
Sibanggor Julu	pawnshop		Awaluddin
Sibanggor Jae	Bean and Corn Farming		Masir
Hutanamale	Cattle Farm		Sattar
	NPK Fertilizer		Rahmat
Hutabaringin MG	Procurement		
Hutabaringin Julu	Chili and Mustard Farming	Melati Jaya	Waddi
	NPK Fertilizer		
Hutatinggi	Procurement		Ahmad Taufik
Purba Lamo	Cattle Farm	Serasih	Aslamiyah/Nur Azizah

Then, in 2021, the CSR program was implemented in all villages within the three Districts of WKP Sorik Marapi. The 2021 program followed the previous year's approach, focusing on the potential of each village.

Subsequently, in 2022, the CSR program was conducted again, with a renewed focus on villages in "ring" or category 1. The CSR program in 2022 was organized based on the pillars of CSR, including Economics, Education, Health, Social-Cultural (Religious), and Infrastructure. Meanwhile, for Ring 2 villages, the support provided was in the form of assistance for proposals submitted by the communities.

Table 6. Program CSR 2022

Village Name	Program	Person in Charge
Sibanggor Tonga	Procurement of Urea Fertilizer	Pak Mulyadi
	Repair of MDTA Al-Ihsan Madrasa	Pak Mulyadi
Sibanggor Julu	Procurement of Urea Fertilizer	Pak Awaluddin
Sibanggor Jae	Mosque Repair	Pak Mukhtar
Hutanamale	Mosque Repair	Pak Syaiful Bahri
Hutalombang	Construction of Mosques	Pak Azhar
Purba Lamo	Construction of Mushalla	Pak Darwis
Hutajulu	Village Road Repair	Pak Diris
Hutaraja	Procurement of Urea Fertilizer	Pak Rahmat Hamonangan
	Development of tourism Aek Milas	Pak Rahmat Hamonangan
Purba Julu	Procurement of Urea Fertilizer	Pak Pamusuk
	Construction of Mosques	Pak Pamusuk

3. Environmental Management at PT Sorik Marapi Geothermal Power

The implementation of the Regulation of the Minister of Energy and Mineral Resources Number 21 of 2017 Article 3 paragraph (1) concerning the Management of Waste of Drill Mud and Drill Powder in Geothermal Drilling by the Environmental Office of Mandailing Natal Regency has been carried out. PT SMGP also strives to do more than just provide energy. PT SMGP strives to invest in people, and all parties benefit. PT SMGP's programs try to engage communities and individuals, empower them to drive sustainable economic growth, and help realize long-term socio-economic benefits. The target beneficiaries of this initiative are communities living around PT SMGP's operational area. All environmental management activities have been submitted in the AMDAL, but PT SMGP's allegations have not been and are not carried out fully. PT SMGP only focuses on targets and objectives and ignores environmental management and monitoring processes and efforts. By ignoring and not carrying out environmental management there are frequent incidents to the environment.

Previously, there have been several researchers who discussed CSR, including those discussed (Sucipto, 2017) about the aspects of benefits that CSR programs can improve community welfare and increase community productivity. In line with research by Febriani (2018), PT. Coca-Cola Amatil Indonesia needs to pay attention to the environmental impact of their operations, such as the use of large amounts of water in the production of their drinks, fogging, waste management, or the effect of plastic from their packaging on the environment, through a commitment to reducing the environmental impact of their operations, PT. Coca-Cola Amatil Indonesia can improve its image as a socially and environmentally responsible company. Collaboration with governments, NGOs, and local communities can help them achieve these goals more effectively.

Then based on research from Syarifuddin (2020) CSR programs are proven to affect the welfare of the community around PT PLN TJB such as in the economic sector, tourism villages, and free medical programs. The same thing was also revealed in research by Nurasmawi, et.al (2018) that CSR has a significant effect on the economic condition of the community in the Rokan Hilir PKS factory environment.

Research from (Simatupang et al., 2018) also shows that there is a positive impact from the existence of PT. Sarulla Operational Limited (SOL) to the community's economy such as opening stalls, restaurants, rents/boarding houses, selling driver services, and laundry so that with this the community's income increases. Research from (Onibala, et.al., 2022) also improves the quality of human resources through CSR empowerment.

Thus, it can be concluded that the impact felt by the community is very significant for the welfare of the community. The focus of this research is the evaluation of the implementation of corporate social responsibility (CSR) programs and environmental management by PT Sorik Marapi Geothermal Power (PT SMGP) and their impact on local communities in the Sorik Marapi peak area. This research will evaluate the effectiveness and efficiency of the CSR program implemented by PT SMGP as well as the environmental management efforts that have been carried out. It will discuss how these programs have contributed to the relationship between companies and local communities, as well as their impact on the social, economic, and environmental aspects of the region. This evaluation can provide insight into the success of existing CSR programs as well as areas where companies need to improve their efforts in environmental management.

PT SMGP also strives to do more than just provide energy. PT SMGP seeks to invest in people, and all parties benefit. PT SMGP's programs seek to engage communities and individuals, empowering them to drive sustainable economic growth and help realize long-term socio-economic benefits. The target beneficiaries of this initiative are people living around the PT SMGP operational area.

Environmental management is one of the most crucial aspects of conducting business in the natural resource sector. To operate a business, one must obtain environmental permits. Environmental permits are granted when the Environmental Impact Assessment (AMDAL) has been fulfilled. During its operation, PT SMGP has received sanctions or warnings on several occasions. The purpose of these warning letters is to officially notify the company and its employees and convey the possible consequences if the violations continue.

While operating, the company has received three warning letters. The first warning letter (SP 1) was issued due to the incident on January 25, 2021. SP-2 was given in the case of May 14, 2021. Then, SP-3 was issued by the Ministry of ESDM (Energy and Mineral Resources) in the case of April 24, 2022, related to a blowout incident during the well drilling process.

The first paragraph describes PT SMGP's commitment not only to provide energy but also to invest in society and the environment. They emphasize the importance of programs that enable communities and individuals to engage in sustainable economic growth, with the hope of producing long-term social and economic benefits. These programs are aimed at strengthening the communities living around PT SMGP's operational area.

The second paragraph discusses the importance of environmental management in the natural resource industry. PT SMGP is required to obtain environmental permits before operating. Environmental permits are granted after the Environmental Impact Assessment (AMDAL) is fulfilled. However, the company has received three warning letters related to environmental violations, indicating that there have been incidents or practices that do not meet the required environmental standards.

The third paragraph details the three warning letters received by PT SMGP. The first warning letter was issued on January 25, 2021, the second on May 14, 2021, and the third on April 24, 2022. The last warning letter was issued by the Ministry of Energy and Mineral Resources (ESDM) related to a blowout incident during the well drilling process. These warning letters aim to officially notify the company and its employees and convey the possible consequences if the violations continue.

Analysis and comparison with previous research can be conducted by considering several aspects as follows.

- a) First, commitment to sustainable development. Previous research may have highlighted the importance of companies' commitment to sustainable development and its impact on long-term business performance. The analysis can focus on the extent to which PT SMGP implements sustainable development principles in its operations and programs.
- b) Second, environmental management evaluation. Previous research may have identified best practices in environmental management for natural resource industries. The analysis can compare the practices adopted by PT SMGP with industry standards or guidelines suggested by previous research. Special attention can be given to corrective actions taken after receiving warning letters related to environmental violations.
- c) Third, community engagement. Previous research may have emphasized the importance of community engagement in the operations of natural resource industries. The analysis can evaluate PT SMGP's efforts in involving and empowering local communities, as well as their impact on the relationship between the company and its surrounding community.
- d) Fourth, regulatory compliance. Previous research may have highlighted the importance of companies' compliance with environmental regulations. The analysis can compare PT SMGP's actions in responding to warning letters with best practices or other case studies described in previous research.

From the explanation in the three paragraphs above, then the importance of continuing to improve operational practices to comply with the principles of sustainable development and established environmental standards. By comparing the practices and performance of PT SMGP with the findings and recommendations of previous research, we can identify areas where the company can improve its performance in terms of sustainable development, environmental management, community engagement, and regulatory compliance.

PT SMGP is making efforts to improve and comply with the requirements stated in the AMDAL document to minimize accidents and incidents. The company also conducts regular measurements, monitoring, and reporting to the relevant authorities following regulations. Although it has not been fully implemented effectively, PT SMGP is striving to improve and meet the AMDAL document's requirements.

In the development of PT SMGP's projects, various issues have arisen. To record complaints, PT SMGP uses a document called a "grievances form." Complaints received by PT SMGP are followed up with joint surveys between PT SMGP and the complainants. PT SMGP has often been slow to respond to complaints, and it is suspected that they have not adequately managed the company's activities, leading to environmental pollution and damage in the vicinity of PT SMGP.

4. Conclusion

The CSR program implemented at PT SMGP consists of three parts, namely: First, Community Relations. Relationship building is carried out by providing compensation to affected people with the main aim of reducing conflict. Second, Community Services. Community services are provided to meet the interests of the community or other public interests. The form of activity in this category is more about the socialization of extension workers to the community. Third, Community Empowering Community empowerment is given to encourage community empowerment and independence. The assistance provided is in the form of empowering farmer groups, scholarship assistance for the underprivileged, and achievements.

Environmental management activities carried out by PT SMGP in collaboration with the Mandailing Natal environmental office and submitted to the Environmental Impact Assessment (AMDAL), but environmental management activities have not been maximized and are not carried out fully. PT SMGP focuses more on targets and objectives and ignores environmental management and monitoring processes and efforts.

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