

Perlis Cinta Lingkungan: Empowerment Strategy of PT Pertamina EP Pangkalan Susu Field for Coastal Communities in Improving the Economy of Perlis Village

Djulianto Tasmal¹, Nurseno Dwi Putranto², Abdur Rohim³
^{1,2,3}PT Pertamina Hulu Rokan Zone 1 Pangkalan Susu Field, Indonesia
Email: nurseno.putranto@pertamina.com

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Abstract. Corporate Social Responsibility (CSR) represents a commitment by a business corporation to contribute to sustainable economic development, which, in its implementation, consistently involves communities, local populations, government authorities, and even other corporations. Empowering coastal communities is one of the efforts aimed at enabling these communities to realize their inherent potential and strengthen their capacities. PT Pertamina EP Pangkalan Susu Field has introduced the Perlis Cinta Lingkungan program which intends to manage an organic waste, specifically plastic and organic waste, to create a clean and prosperous Perlis Village. This initiative has the potential to increase community income, minimize waste pollution, and generate value-added products from plastic waste. Consequently, the strategies implemented by PT Pertamina EP Pangkalan Susu Field, which include training programs, infrastructure support, and program monitoring and evaluation, are expected to function optimally and exemplify the company's commitment to these initiatives.

Keywords: *Perlis Cinta Lingkungan, Coastal Community Empowerment Strategy.*

A. INTRODUCTION

PT Pertamina Hulu Rokan Region 1 Zone 1 Pangkalan Susu Field, formerly known as PT Pertamina EP Pangkalan Susu Field, is a constituent of Pertamina Sub Holding Upstream located in the Pangkalan Susu District, Langkat Regency, North Sumatra Province. In the execution of its business operations, Pertamina EP Pangkalan Susu consistently implements Corporate Social Responsibility (CSR) as an integral component of the company. CSR represents a business commitment that contributes to sustainable economic development and, in its implementation, invariably involves the participation of the community, local communities, government authorities, and even other companies. Pertamina Hulu Rokan Region 1 Zone 1 Pangkalan Susu Field engages stakeholders in every stage of program planning, execution, and evaluation, ensuring that CSR programs are optimally realized with maximum success.

PT Pertamina Hulu Rokan Region 1 Zone 1 Pangkalan Susu Field serves as an enabler of community empowerment in the vicinity of its operational area, committed to executing empowerment programs in the form of Corporate Social Responsibility (CSR) under the guidance of national laws, the company's vision and mission, as well as CSR governance and standardization designed by the company to ensure its implementation (Adrian, 2019; Surya et al., 2020). In realizing the vision of becoming a globally standardized oil and gas exploration company, PT Pertamina EP Rantau Field adheres to the mission of conducting company operations that are oriented towards environmental sustainability through corporate social and environmental responsibility. The execution of this responsibility is manifested through the Corporate Social Responsibility program, which is divided into four pillars: education, economics, environment, and health. As an oil and gas production company that remains committed to environmental sustainability, it is dedicated to playing a role in achieving

Sustainable Development Goals (SDGs) through innovative CSR programs (Hendriks, 2019; Sukmawati & Maryanti, 2022).

Corporate Social Responsibility (CSR) is a form of action rooted in a company's ethical considerations aimed at enhancing economic growth and improving the quality of life for employees, the surrounding community, and society at large (Hadi, 2011; Bag et al., 2023). According to Bowen, cited in Totok Mardikanto's book, CSR is seen as an obligation for entrepreneurs to formulate policies, make decisions, or follow desired courses of action regarding the objectives and values of society (Mardikanto, 2014)(Bandiera et al., 2019).

Coastal Community Empowerment is one of the efforts to empower communities, enabling them to realize their potential and strengthen their capabilities. For coastal communities, improving their well-being involves providing education and knowledge to maximize the utilization of available natural resources and the application of appropriate technology, thereby increasing their production and income (Kusnadi, 2006; Clark et al., 2019; Kapoor, 2019).

Perlis, situated directly above a river, is highly susceptible to environmental pollution. The increasing accumulation of poorly managed waste poses a continuous threat to the local environment, affecting both the community's living conditions and the broader ecosystem. Approximately 80% of Perlis residents dispose of their waste in the sea due to the lack of waste management facilities. In response, Pertamina EP Pangkalan Susu Field has initiated the Perlis Cinta Lingkungan (Perlis Environmental Care) program, intending to manage inorganic waste such as plastic and organic waste to achieve a clean and prosperous Perlis Village. This program aims to increase community income, minimize waste pollution, and create value-added products from plastic waste.

The Perlis Cinta Lingkungan program contributes to SDG Goal 12, Responsible Consumption and Production, by reducing waste production through prevention, reduction, recycling, and reuse. It also aligns with other SDGs, such as Goal 1, No Poverty; Goal 2, Zero Hunger; Goal 6, Clean Water and Sanitation; Goal 15, Terrestrial Ecosystems; and Goal 14, Ocean Ecosystems. In addition, in 2022 and 2023, PT Pertamina EP Pangkalan Susu Field received the Indonesia SDG's Award (ISDA) at the national level, specifically the gold category, for its achievements in SDG's Responsible Consumption and Production through the Perlis Cinta Lingkungan program. This recognition was conferred by the Corporate Forum for Community Development (CFCD) and the Ministry of National Development Planning (Bappenas).

B. METHOD

This study employed a qualitative and descriptive research design to depict and summarize events that occur in society in accordance with the prevailing conditions and situations (Bungin, 2007). Data for this study were obtained from program documents of PT Pertamina EP Asset 1 Pangkalan Susu Field. In addition to documents, data were also acquired through confirmation from community development officers. Data collection, apart from the documents accompanying the program, was also based on supporting documentation of the activities that had been conducted. Furthermore, in-depth interviews were conducted with program support personnel to gain insights into the program's progress.

The focus of this study was on the Perlis Cinta Lingkungan program, which aims to empower coastal communities through economic enhancement in Perlis Village. As stated by Aprillia Theresia (2015:93), community empowerment is an effort to enable communities to realize the potential and capabilities they possess.

C. RESULT AND DISCUSSION

The majority of Perlis Village's population is engaged in fishing, resulting in unstable incomes. This, in turn, impacts the community's difficulties in meeting their basic needs, including access to adequate sanitation. Furthermore, poor sanitation conditions have led to limited community access to proper sanitation facilities, resulting in open defecation practices among many residents. This health situation is exacerbated by the high prevalence of stunting in Perlis Village, underscoring the need for improved public health conditions. Consequently, since 2019, PT Pertamina EP Asset 1 Pangkalan Susu Field, through its CSR program, has demonstrated its commitment by establishing the "Semangat Baru Waste Bank" as an incentive for the community to collect and manage waste as part of their environmental stewardship efforts. It is hoped that through the Perlis Pelangi Cinta Lingkungan Program, waste, which was once a problem, can now become a source of income for the community while also contributing to improved environmental quality and the health of the Perlis Village residents.

Community empowerment is the endeavor of a community to improve their status from a position of weakness towards empowerment by ensuring the fulfillment of basic needs to prevent the disempowerment process. Community empowerment embraces the concept of economic development that encompasses social values. This concept signifies a new paradigm in development that is "people-centered," participatory, empowering, and sustainable (Zubaedi, 2013)(Bouncken et al., 2020)(Kamberidou, 2020).

1. Empowerment Strategy through the Perlis Cinta Lingkungan Program

In its Corporate Social Responsibility (CSR) program, Pertamina EP Asset 1 Pangkalan Susu Field has implemented a waste management system based on the principles of Reducing, Reusing, and Recycling (3R) for plastic waste, transforming plastic waste into something of value. PT Pertamina EP Asset 1 Pangkalan Susu Field is not only committed to conducting CSR programs in its immediate vicinity (ring I), but it also commits to implementing CSR programs in the company's extended operational area (ring II). Through community-based waste management, Pertamina aims to empower communities to independently manage waste, leading to improved income, environmental quality, and community well-being. Perlis Village, as a coastal region, faces challenges not only in waste management but also in the areas of economics and healthcare. Strategies undertaken include:

a. Providing Training Initiatives

Training is a means of assisting communities in developing their skills and capacities. In the context of empowerment, training, and mentoring are activities that support the implementation of programs and activities. Various parties are involved in providing training activities. The training provided includes compost making, waste utilization, and management for toilets and brick.

Firstly, with the training on compost making in 2022, the group innovatively transformed a program called "Pikenom," which involved the utilization of economically less valuable small fish, into Liquid Organic Fertilizer (LOF) or Fish Amino Acid. Apart from plastic waste, economically less valuable fish were previously discarded on land and in the sea, causing unpleasant odors. The group derived economic benefits from selling LOF products while simultaneously reducing environmental impacts such as foul odors in Perlis Village, West Brandan District, Langkat, North Sumatra. The Pikenom innovation represents a novel initiative undertaken by the Semangat Baru Waste Bank group. Pikenom contributes to environmental conservation by preventing the accumulation of fish waste, which previously amounted to 1,200 kg per year. Furthermore, this program has also contributed to a reduction in the level of foul odors, as it transitioned from having an odor to being odorless.



Figure 1. Training on Making Liquid Organic Fertilizer/Pikenom

Firstly, the Liquid Organic Fertilizer Processing Group receives fish waste from fishermen in the Perlis area, processes it, and then provides it to residents in Perlis. Secondly, the Liquid Organic Fertilizer (LOF) is marketed and used by the Abadi Sejahtera Group for the cultivation of organic vegetables such as spinach, water spinach, mustard greens, and pak choi in Teluk Meku Village, Babalan District. It is also used for planting mango trees and by the general community in the Langkat area. The following is the value chain of the Pikenom initiative:

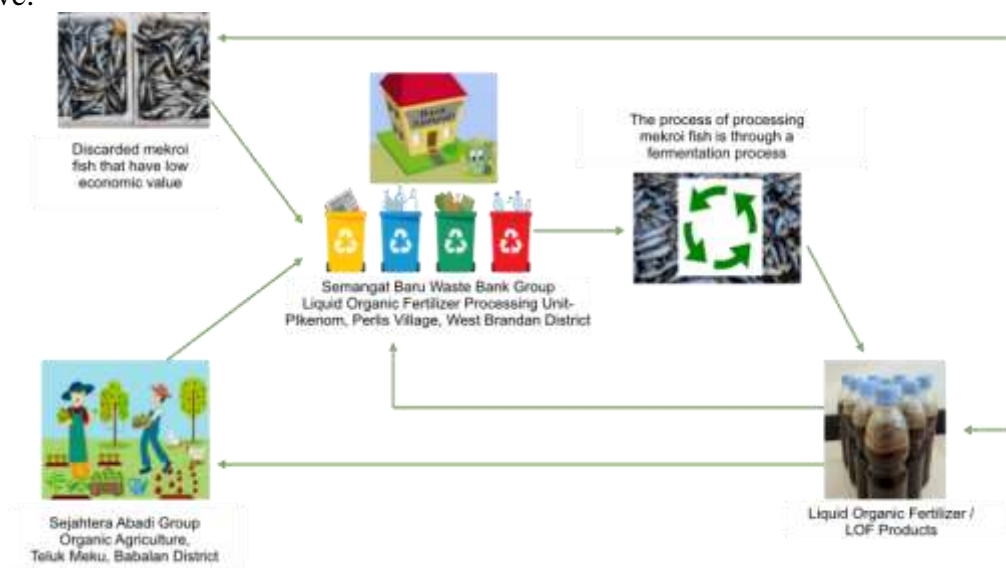


Figure 2. Value Chain Scheme of Pikenom

Secondly, training on the utilization and management of plastic waste for making toilets and bricks has been carried out as part of community empowerment programs since 2019. Recognizing the significant benefits for Perlis Village, the village government continues to encourage waste collection activities among residents. Subsequently, plastic waste is processed into bricks. However, the outbreak of the COVID-19 pandemic in 2020 disrupted the community's discipline in collecting plastic waste and the duties of the members responsible for collecting the waste. This activity was temporarily halted due to the pandemic. Observing this, the village government has reactivated the initiative by urging residents to resume plastic waste collection. This was done because plastic waste in Perlis Village had begun to scatter and had not been properly managed since the pandemic. It is hoped that with this appeal, the

residents of Perlis Village will resume waste collection, and the members will resume their regular collection duties.

After the waste bank group resumed its active role in waste collection, its members innovated by turning plastic waste into plastic bricks, a concept that had not been seen in the Langkat Regency before. These plastic bricks have started to be used for toilet construction in Perlis Village. Additionally, collected plastic waste is transformed into paving blocks and flush toilets. The community empowerment program in Perlis Village through the waste bank group can contribute to preserving the river environment and reducing the amount of plastic waste in the area.



Figure 3. The Result of Innovation in Closets and Bricks from Recycled Plastic

b. Infrastructure Enhancement

Since 2019, PT Pertamina EP Pangkalan Susu Field, through its CSR program Perlis Cinta Lingkungan, has realized infrastructure support to facilitate the objectives of Perlis Village as a model village for the management of organic and inorganic waste in the Langkat region. The infrastructure support provided includes *First*, the construction of the Bank Sampah Semangat Baru building along with a plastic melter.



Figure 4. Perlis Semangat Baru Waste Bank Building and Plastic Melter

Second, the provision of hydroponic greenhouse facilities for the cultivation of hydroponic vegetables and fruits.



Figure 5. Perlis Hydroponic Vegetable and Fruit Greenhouse

Third, support for the provision of equipment and materials for liquid organic fertilizer in Perlis, distributed to members of the Semangat Baru Waste Bank group.

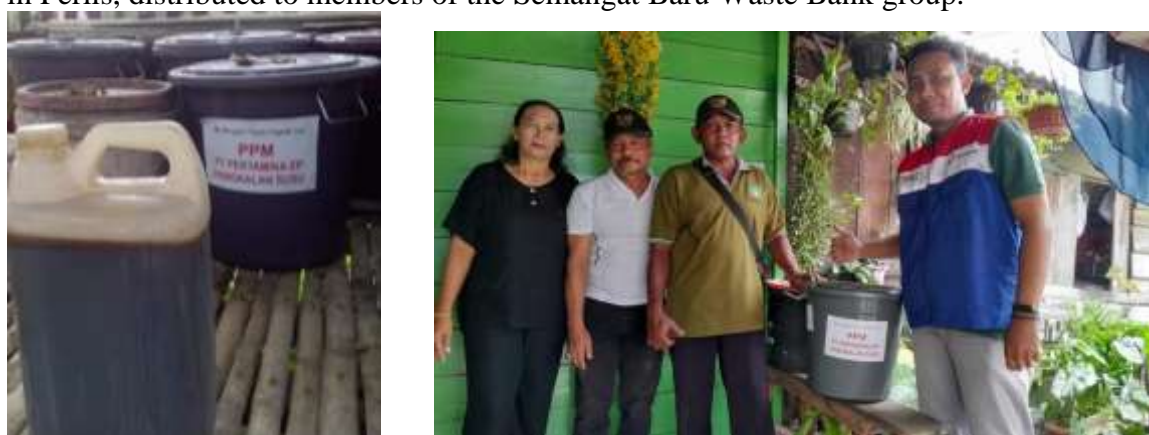


Figure 6. Support for Liquid Fertilizer Storage and Processing Tanks

Fourth, support for a crab shell grinding machine to produce chitosan flour. This machine is operated by group members to process crab shell waste into chitosan flour with economic value.



Figure 7. Machine Assistance for Extracting Chitosan from Crab Shell Waste

c. Program Monitoring and Evaluation

Monitoring and evaluation are activities designed to observe progress and assess or compare the outcomes of a project or task to determine their quality and effectiveness. This phase involves program managers from Pertamina conducting ongoing monitoring and assessments of the activities carried out during the Perlis Cinta Lingkungan program, which

involves multiple stakeholders. The monitoring and evaluation phase is not solely carried out by program managers but also involves the program's partners, who assess whether the program aligns with the intended beneficiaries' needs. PT Pertamina EP Asset 1 Pangkalan Susu Field conducts monitoring activities twice a year and carries out evaluations once a year to ensure program effectiveness and alignment with its objectives.

2. Results of Empowerment through the Perlis Cinta Lingkungan Program

The Perlis Cinta Lingkungan Program is a waste management initiative focusing on plastic and organic waste within the Perlis Village, West Brandan District, Langkat Regency. In 2022, the Perlis Program underwent intensification efforts, which included the development of nutrition houses/hydroponics and the processing of organic waste into liquid organic fertilizer. This was prompted by the accumulation of discarded fish waste on land and in the sea, resulting in unpleasant odors. In response, the group-initiated waste processing and utilization with the support of the CSR program from PT Pertamina EP Pangkalan Susu.

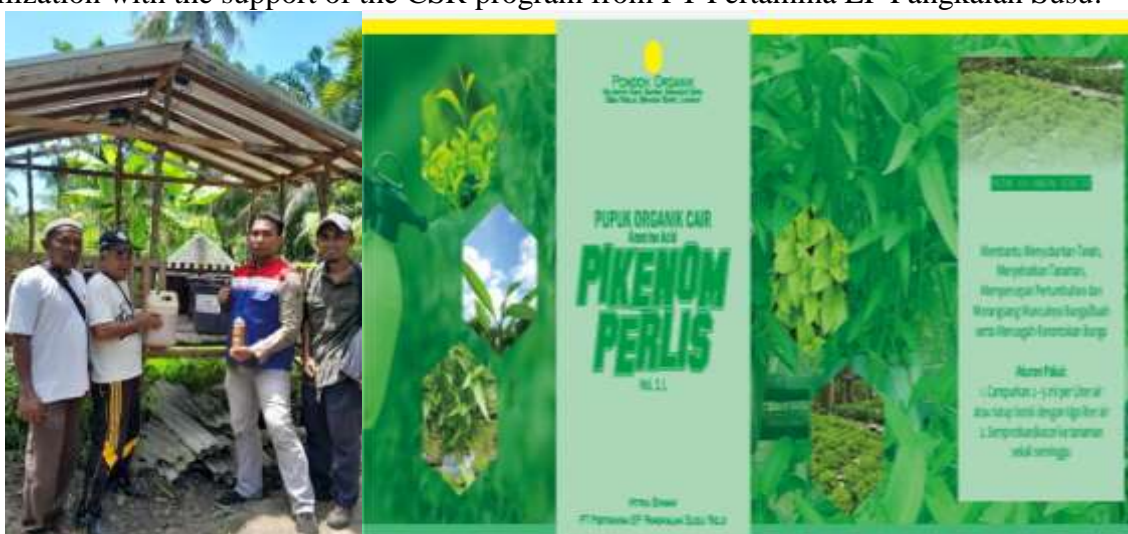


Figure 8. Utilization of Discarded Fish into Liquid Fertilizer and Pikenom POC Products

Furthermore, there was an initiative within the group to establish a nutrition garden involving the cultivation of hydroponic vegetables. The group cultivated vegetables such as water spinach, spinach, and pak choi, which are commonly consumed by the residents. However, the hydroponically grown vegetables are known for their crispiness, setting them apart. This aligns with the government's efforts to promote vegetable cultivation and enhance vegetable nutrition at the village level to support food security.



Figure 9. Hydroponics Training at Gizi Perlis Gardens

The success achieved above cannot be separated from the grassroots efforts or local heroes residing in Perlis. Among them are Fadlan and Zainudin, along with members of the Bank Sampah Semangat Baru, who serve as advocates and initiators of plastic and organic waste management in Perlis. Fadlan joined the initiative in 2019, and Zainudin became a member in 2021. They were deeply concerned about the accumulation of waste in the village during low tide, which was the result of waste from the Brandan and surrounding areas.

The Perlis Cinta Lingkungan Program has received several prestigious awards, including the Indonesia Sustainability Development Goals 2023 Gold category, TOP CSR 2023 Bintang 3 category, Indonesia Social Responsibility Awards 2023 Silver category, and Marketers Award 2023 local sustainability best program category.

Table 1. Program Profile

Program Name	Program Objectives	Number of Direct Beneficiaries	Number of Indirect Beneficiaries
Perlis Cinta Lingkungan	Processing plastic and organic waste into economically valuable products Creating public awareness of waste processing	14 people	450 people

With the support of mentoring groups from Pertamina EP Asset 1 Pangkalan Susu Field, new business opportunities have been created through waste management and other initiatives, resulting in increased income for the local community. Previously, these communities primarily relied on fishing for their livelihoods. However, with the assistance provided, they have been able to generate additional income streams.

Table 2. Income

Group member income (direct)	Month/ people	2018	2019	2020	2021	2022
		2,000,000	2,100,000	2,000,000	2,400,000	2,500,000
Beneficiary income (indirect)	Month/ people	75,000	550,000	350,000	600,000	700,000

D. CONCLUSION

Through the Perlis Cinta Lingkungan program, initiated by PT Pertamina EP Pangkalan Susu Field in 2018 with a focus on plastic waste management in coastal areas, significant efforts have been made to promote environmental sustainability. In 2019, a waste bank was established to encourage the community to collect waste as an expression of their concern for the environment. PT Pertamina EP Pangkalan Susu Field has remained committed to providing mentoring and training as a means of assisting the community in developing their skills and capacities. The training initiatives encompass various aspects: *firstly*, in 2022, training on compost making was conducted, and it resulted in the innovative transformation of a program known as “Pikenom,” which involved the utilization of economically less valuable small fish, into Liquid Organic Fertilizer (LOF) or Fish Amino Acid (FAA). Previously, economically less valuable fish were discarded on land and in the sea, causing unpleasant odors. The group derived economic benefits from selling LOF products while also reducing the environmental impact by eliminating foul odors in Perlis Village, West Brandan District, Langkat, North Sumatra. The Pikenom innovation represented a new and innovative initiative undertaken by the Bank Sampah Semangat Baru group. Pikenom has contributed to environmental

conservation by preventing the accumulation of fish waste, amounting to 1,200 kg per year, and has also significantly reduced foul odors.

Secondly, training on the utilization and management of plastic waste for making toilets and bricks was initiated in 2019 as part of community empowerment efforts. Recognizing the immense benefits for Perlis Village, the village government has continued to encourage waste collection activities among residents. Subsequently, plastic waste is processed into bricks. Furthermore, the company has provided infrastructure support for the establishment of the Waste Bank, the processing of liquid organic fertilizer, hydroponic greenhouses, and a crab shell grinding machine. This support aims to ensure the quality, speed, and efficiency of the work and products produced. In addition, PT Pertamina EP Pangkalan Susu Field conducts monitoring activities twice a year and carries out evaluations once a year. The Perlis Cinta Lingkungan program has yielded various outcomes, including the realization of a clean and prosperous Perlis Village. This, in turn, has had a positive impact on increasing community income, minimizing waste pollution, and creating value-added products from plastic waste.

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