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BU PETRA: Sustainable CSR Model for Community Development in River Areas

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Abstract: The purpose of this study is to explore rivers as a strategic asset that can drive economic growth and prosperity. The Community Pond Fisheries Cultivation Program (BU PETRA) is a Corporate Social Responsibility (CSR) initiative implemented by PT Pertamina Patra Niaga Fuel Terminal Lomanis to utilize the potential of freshwater fisheries around the Citanduy River as a strategy for economic empowerment and environmental conservation. This study uses a descriptive qualitative method. The data sources used are primary data collected from interviews and observations. Secondary data are obtained from documents related to the research topic. The results of this program integrate training in eel, catfish, tilapia, and mujair cultivation; training in feed production with appropriate nutritional formulations; provision of production infrastructure; and ongoing mentoring involving various stakeholders, ranging from international organizations, local governments, cooperatives, and community groups. The implementation results show increased household income, strengthened technical and organizational capacity of groups, the formation of a more robust fisheries value chain, and growing awareness of aquatic resource conservation. These findings confirm that a CSR model based on local resource potential, such as Bu Petra, is effective in addressing the gap in river utilization in Indonesia
Keywords: CSR, community empowerment, river area

1. Introduction

Rivers have long been a natural resource that plays a vital role in human survival. In various ancient civilizations, rivers served not only as a source of clean water but also as centers of economic activity, transportation routes, and social spaces connecting communities (Anggraini et al., 2023). Rivers provide water resources for domestic, agricultural, fisheries, and industrial needs. Therefore, the presence of rivers allows for the formation of settlement patterns that develop along their course. Furthermore, rivers often form part of a community's cultural identity (Fox et al., 2017), where folklore, traditions, and religious rituals are closely intertwined with river dynamics. This potential makes rivers one of the most strategic assets for the communities living around them (Fox et al., 2016).

Globally, various countries have optimally utilized rivers to support their economies and strengthen socio-ecological resilience. For example, in the Netherlands, an integrated river management system aims not only to mitigate flooding but also to develop the water tourism, transportation, and renewable energy sectors (Edelenbos et al., 2017). In Japan, river revitalization programs are being implemented to revitalize aquatic ecosystems while developing community-based economic activities (Suzuki et al., 2015) such as fishing tourism and water culture festivals. Meanwhile, in the United States, river utilization is focused on recreational activities, ecosystem conservation, and local economic development through the development of small and medium-sized enterprises (SMEs) around river basins (Asif et al., 2023). The success of these countries demonstrates that rivers can be a crucial instrument in addressing economic challenges while maintaining environmental sustainability.

Indonesia, as an archipelagic nation with thousands of rivers stretching across various regions, has enormous potential for developing productive river use. Indonesian rivers not only provide water for agriculture (Muchlashin, 2019), ecotourism development (Kholil & Mutiara, 2018), transportation (Stellamaris, 2017), and even as a source of microhydro energy (Ibrahim et al., 2019). However, this potential is often not optimally utilized. Many river basins are in poor condition due to pollution, sedimentation, and environmental degradation. Furthermore, most people living around rivers still view rivers only as a source of water for daily needs, rather than as a strategic asset that can drive economic growth and prosperity.

The gap between river potential and the reality of its utilization is a fundamental problem in local resource-based development (Masthura et al., 2023). In many regions, riverside communities rely heavily on informal livelihoods or work in the informal sector, which are not directly related to the productive use of rivers. As a result, opportunities to develop new economic sectors derived from rivers have not been fully exploited. Furthermore, limited management capacity and inadequate infrastructure support prevent many communities

from utilizing rivers for value-added economic activities (Haidir et al., 2016). This is ironic, considering that rivers have significant potential to be a key driver of poverty alleviation in rural and peri-urban areas.

This condition should be a concern not only for the government, but also for the private sector through the implementation of corporate social responsibility (*Corporate Social Responsibility*). As part of their legal and ethical obligations, companies, especially extractive companies operating in areas around rivers, have a crucial role to play in supporting the sustainable management and utilization of river potential (Hayati, 2020a). Indonesian law stipulates that CSR is not merely a voluntary activity, but rather an obligation for companies, particularly those whose business activities impact the environment and communities. Through targeted CSR programs, companies can contribute to the development of supporting infrastructure, increasing community capacity (Hayati, 2020b), and empowering river-based economies. This approach not only helps bridge the gap in river potential utilization but also creates a positive reciprocal relationship between companies and local communities, so that environmental sustainability and community well-being can go hand in hand.

This gap in problems emphasizes the need for a new, more comprehensive and sustainable approach. One approach that can be adopted is through a Corporate Social Responsibility (CSR) model aimed at empowering communities around rivers. CSR, which has previously focused on providing aid or philanthropic activities, can be developed into a local resource-based economic empowerment program (Eid & Sabella, 2014). One form of local community empowerment activity is the Community Pond Fishery Cultivation Program (BU PETRA), initiated by the corporate social responsibility (CSR) of PT Pertamina Patra Niaga Fuel Terminal Lomanis.

From an academic perspective, this research is novel in offering a CSR model that specifically focuses on the utilization of rivers as strategic resources for community development. Unlike most CSR research, which tends to focus on the industrial, education, or health sectors, BU PETRA combines an ecosystem approach with river-based local economic empowerment. This approach is expected to become a new reference for the development of CSR programs in other regions with similar characteristics. Thus, this research not only provides practical contributions to local communities but also offers theoretical contributions to the literature on sustainable development and natural resource-based CSR management.

Overall, this background emphasizes that utilizing rivers as community assets requires a holistic, integrative, and sustainable approach. The vast potential of rivers is often not matched by adequate community capacity and policy support. Through the development of a CSR model like BU PETRA, it is hoped that synergy will be created between the private sector, government, and communities in managing rivers productively and sustainably. Thus, rivers will no longer be viewed merely as water sources, but as driving forces for economic, social, and environmental development that can improve the well-being of surrounding communities.

2. Discussion

2.1 Overview of BU PETRA programs

Community Pond Fishery Cultivation Program (BU PETRA) is a real implementation of Social and Environmental Responsibility (*Corporate Social Responsibility/CSR*) run by PT Pertamina Patra Niaga Fuel Terminal (FT) Lomanis. The implementation of this program began in 2024 in Sidamukti Village, Patimuan District, Cilacap Regency, Central Java, which is geographically located on the strategic route of the fuel oil (BBM) distribution pipeline from Cilacap to Bandung. The existence of this vital infrastructure not only brings macroeconomic benefits to the company and the country, but also demands a commitment to make a direct contribution to improving the welfare of the community in the affected area. In this context, the CSR program becomes a strategic instrument that bridges the interests of the company with the needs of the local community through an empowerment approach based on local resource potential.

Sidamukti Village was selected as the program location due to its high social urgency. Based on Cilacap Regent Decree No. 400/482/37/2021, this village is categorized as one of the *poor village*, with the number of poor families (KK) reaching 766, or approximately 24.5% of the total 3,131 KK (Sidamukti Village Data, 2024). This high poverty rate is closely correlated with the low level of community education. A total of 38.7% of the population only completed elementary school, 25.1% had no or never received formal education, and 16.4% only reached junior high school. Combined, 80.2% of the population has a low level of education, which has a direct impact on the high unemployment rate of 29.6%. This condition reflects a cycle of problems between limited education, minimal skills, and limited access to productive employment.

Despite these challenges, Sidamukti Village holds significant natural potential, particularly in the agriculture and fisheries sectors. Its proximity to the Citanduy River provides a strategic advantage in terms of water availability, both for irrigating rice fields and filling inland fish ponds. Most residents rely on farming and freshwater fish farming for their livelihoods. One of the leading commodities with high economic value is eel (*Anguilla sp.*), which has export potential to Japan, China, and Taiwan. Eels are an endemic species found only in certain regions of Indonesia, including the Citanduy River estuary. This potential makes Sidamukti Village a

strategic area for the development of high-value fisheries, while also opening up opportunities for increasing community income if managed sustainably.

Based on the identification of these problems and potentials, PT Pertamina Patra Niaga Fuel Terminal (FT) Lomanis initiated BU PETRA Program as an integrated effort to address socio-economic problems while utilizing the wealth of local resources. This program involved 20 members of the Fish Farming Group "Pokdakan PUR 123 Indah Jaya" who had previous experience cultivating freshwater fish. This study used a descriptive qualitative method. The data sources used were primary data taken from interviews and observations. Secondary data were obtained by taking documents related to the research topic. The findings of this study are expected to provide significant scientific contributions in the development of CSR studies, environmental management, and sustainable development.

2.2 Implementation of BU PETRA programs

BU PETRA Social Innovation Program is a strategic initiative initiated by PT Pertamina Patra Niaga Fuel Terminal (FT) Lomanis as part of the company's social and environmental responsibility, with the aim of encouraging community empowerment in Sidamukti Village, Cilacap Regency, through increasing the capacity of fish farming groups (Pokdakan) and fishery product processing groups (Poklahsar).Main activities include the cultivation of eels, catfish, tilapia, and mujair; training in fish feed production; provision of fish ponds and solar-powered water wheels; provision of feed-making machines; and assistance with cooking equipment for processing fishery derivative products. This strategy is designed to create an integrated business ecosystem, increase production capacity, strengthen the value chain, and promote community economic independence.

In addition to its economic focus, BU PETRA program has a strong conservation dimension. Eels are a vulnerable species, with populations likely to decline due to habitat degradation and overfishing. The integrated cultivation developed through this program provides a means to manage and maintain the sustainability of eel populations with a science-based and sustainable approach. This effort aligns with the Cilacap Regency Government's policy of *Grand Design for Sustainable Eel Fisheries Management*, which emphasizes the importance of balancing economic development and ecological sustainability. Thus, BU PETRA program is not only a solution for poverty alleviation but also a model of synergy between corporate CSR obligations, community empowerment, and natural resource conservation.

This program is designed not only to address poverty through income generation, but also to foster group self-reliance through knowledge transfer, technical capacity building, infrastructure provision, and ongoing mentoring. The approach integrates technical, social, and institutional aspects, thus going beyond providing physical assistance to building an ecosystem that supports business sustainability.

The overall objective of this program is to create jobs through fisheries cultivation activities, which can increase community income and ultimately reduce poverty in the region. To achieve this overall objective, PT Pertamina Patra Niaga Fuel Terminal (FT) Lomanis has formulated several specific, more operational objectives, including improving community skills in fish cultivation, improving fish feed production skills, and supporting community livelihoods by providing adequate facilities and infrastructure. These three specific objectives are implemented through three major, interrelated activities that form a series of integrated interventions.

The first major activity was fish farming training. At this stage, Pokdakan PUR 123 Indah Jaya members were provided with knowledge and skills regarding fish farming techniques covering tilapia, mujair, catfish, and eel species. Prior to this program, Pokdakan Pur 123 Indah Jaya already had experience cultivating catfish, tilapia, and tilapia, but had never managed eel farming. FT Lomanis saw this opportunity as an entry point for innovation, as eels have a higher selling value in both local and export markets. The training featured speakers from various parties with expertise in their fields, such as the Mina Sidat Bersatu Cooperative, which plays a role in providing eel seeds and feed, the Cilacap Regency Fisheries Office, which provided technical assistance, and internal company experts. The material presented covered maintenance techniques, water quality management, disease control, and optimal harvesting strategies.

The second major activity was fish feed production training. Prior to this program, Pokdakan PUR 123 Indah Jaya members already had basic skills in manually preparing fish feed, but they lacked understanding of proper nutritional formulation, proper mixing techniques, and how to create feed that floats in water. Non-floating feed has the potential to pollute ponds because it will settle if not consumed by the fish, thus degrading water quality. Through this training, participants learned how to measure the appropriate composition of raw materials, utilize local ingredients such as maggots as a protein source, and operate modern feed production machines, including vertical pellet machines and extruders. They were also taught how to test the nutritional content of feed, ensuring that the resulting feed not only meets the fish's nutritional needs but is also environmentally friendly.

The third major activity is the provision of facilities and infrastructure to support fish farming. The assistance provided includes fish ponds, a solar-powered hybrid water wheel (Hy Surya), a feed-making machine, water quality testing equipment, cooking utensils for processing crops, and other relevant equipment. The provision of these facilities is intended to ensure direct application of the knowledge gained through the training in the field, ensuring practical and results-oriented learning. The equipment provided also serves as initial capital, enabling groups to independently expand their businesses.

The program's implementation is complemented by a participatory monitoring and evaluation mechanism. FT Lomanis, along with the Pur 123 Indah Jaya Community Empowerment Group (Pokdakan Pur 123 Indah Jaya), routinely monitors the progress of activities. Monitoring is conducted to identify obstacles, discuss solutions, and agree on joint improvement steps. This approach fosters a sense of ownership in the program, thus encouraging group members' commitment to maintaining business sustainability.

The program's progress can be seen in the annual activity records from 2022 to 2025. In 2022, the primary focus was the informal formation of group institutions, which then evolved into the establishment of the Pur 123 Indah Jaya Fish Farming Group Decree (SK Pokdakan Pur 123 Indah Jaya) in 2022. In 2022 also marked the beginning of training in catfish, tilapia, and mujair cultivation, followed by assistance with ponds and tarpaulins. In 2024 marked a significant milestone with the commencement of eel cultivation training, assistance with ponds and waterwheels for eels, and training in eel product processing. 2025 focused on increasing production capacity and marketing of processed eel products, adding solar panels to support operations, and training in ongoing equipment maintenance.

The involvement of various stakeholders is a key factor in the program's success. The Indah Jaya Pur 123 Fish Farming Group (Pokdakan Pur 123 Indah Jaya) serves as the primary beneficiary and implementer of the cultivation. The Indah Jaya Fish Farming Group (Poklahsar Indah Jaya) processes the remaining cultivation products into value-added products. The Mina Sidat Bersatu Cooperative provides eel seeds and feed and conducts technical monitoring. The Sidamukti Village Government supports this by providing permits and assistance with feed flour production machinery, while the Cilacap Regency Fisheries Office facilitates technical supervision. The FAO, as an international organization, plays a role in connecting this program with a broader network, thereby strengthening legitimacy and development opportunities.

BU PETRA programs's strength lies in its distinct approach compared to conventional programs typically run by local governments. Government programs tend to be incidental, with training and assistance interrupted without follow-up. In contrast, BU PETRA programs is designed with sustainability in mind, with each activity being followed by a relevant follow-up. Intensive mentoring and adequate initial capital support enable groups to truly master skills and develop their businesses independently. For example, in eel cultivation, after training, groups are immediately provided with ponds, seeds, and feed, and are supported by the cooperative through a daily monitoring system.

This approach creates a continuous learning cycle, building the group's technical and managerial capacity, expanding collaborative networks, and ultimately generating more stable economic impact. Thus, BU PETRA programs is not simply a technical intervention, but a model of social innovation that combines training, infrastructure assistance, mentoring, and partnership networks in one integrated community development strategy.

2.3 Stakeholder involvement in the BU PETRA program

The implementation of BU PETRA Social Innovation Program in Sidamukti Village involves various parties with strategic and complementary roles. This collaboration includes international organizations, local government agencies, cooperatives, and local community groups. The stakeholders involved include the Food and Agriculture Organization (FAO), the Cilacap Regency Fisheries Office, the Mina Sidat Cooperative, the Mina Sari Fisheries Group, and the Sidamukti Village Government. The success of this program does not depend solely on one party, but is the result of the synergy and commitment of all stakeholders who contribute according to their capacity and expertise.

The FAO, as an international organization, played a crucial initial role in program formulation. The organization proposed the eel cultivation development project in Cilacap Regency based on an in-depth study it had conducted. This study included field research, identifying potential community groups capable of cultivating eels, and mapping river basins that serve as the natural habitat of this species. The FAO research findings formed the basis for the program, which was then submitted to the Cilacap Regency Fisheries Office for further action.

The FAO's process extends beyond the research phase and includes efforts to raise awareness of the economic and ecological potential of sustainable eel management. The resulting information then serves as technical recommendations for the Fisheries Agency and facilitates communication with PT Pertamina Fuel

Terminal Lomanis, the primary implementing partner. Thus, FAO acts as a catalyst, connecting global knowledge with local needs and potential.

The Cilacap Regency Fisheries Office acts as both an implementing partner and a mentor in this program. They serve as a liaison between the Sidamukti Village community and the Pertamina Fuel Terminal Lomanis. Through intensive coordination, the office ensures that training, technical assistance, and the provision of cultivation facilities meet established standards. Furthermore, the Fisheries Office plays a role in ensuring the program's sustainability by regularly monitoring and evaluating the progress of community-based businesses.

The Sidamukti Village Government also provided significant support. As the village authority, they are responsible for granting permits to implement the Bu Petra program in their area. This support provides formal legality, ensuring the program can run smoothly without administrative obstacles. Furthermore, the village government also provided a tangible contribution in the form of a fish meal machine (diskmill) to the PUR 123 Indah Jaya Fish Farming Group (Pokdakan PUR 123 Indah Jaya), which is a crucial component in the production of quality feed.

The Mina Sidat Cooperative acts as a partner providing production inputs, particularly eel fingerlings and eel feed. This role is crucial because the availability of quality fingerlings determines the success of cultivation. The cooperative also provides technical guidance on fingerling handling, feeding, and pond management to meet standards. This partnership is mutually beneficial, with the cooperative securing a stable market while the community group receives guaranteed supply and quality.

The Mina Sari Fisheries Group (Poklahsar) is tasked with mentoring the Indah Jaya Fisheries Group (Poklahsar) in fishery product processing, particularly eel processing. The guidance provided includes product development, from eel chili sauce to high-value eel crackers. These processing skills open up opportunities for business diversification, allowing the group's income to depend not only on fresh fish sales but also on processed products with longer shelf life.

The involvement of all parties is strengthened by active community participation. Twenty members of the Farmers' Group (Pokdakan) and 15 members of the Farmers' Group (Poklahsar) have been directly involved from the initial planning stage, through implementation, through to product management and marketing. This involvement demonstrates that the program is built on a foundation of equal partnership, where the community is not only a beneficiary but also a key player in the business's sustainability.

The impact of this participation is not only seen in increased household income, but also in crucial non-material aspects. Group members experience increased self-confidence, stronger solidarity among members, and significantly expanded organizational capacity. This is evident in their ability to organize production schedules, manage group finances, and forge partnerships with external parties.

The multi-stakeholder collaboration within BU PETRA programs serves as a concrete example of how community-driven development can succeed when global knowledge, government support, private sector facilitation, and local community commitment are integrated. Each stakeholder brings different expertise and resources, but together they form an ecosystem capable of driving real change in Sidamukti Village.

3. Conclusion

The conclusion of this study confirms that the gap between river potential and the reality of its utilization requires a comprehensive, integrated, and sustainable approach. The implementation of BU PETRA program demonstrates that an integrated CSR model designed by utilizing the potential of local resources, in this case freshwater fisheries around the Citanduy River, can have a real impact on improving community welfare while supporting environmental conservation. The success of this program demonstrates the relevance of a multi-stakeholder approach involving international organizations, the government, cooperatives, community groups, and the private sector in addressing the low optimization of river utilization. The approach implemented does not solely focus on providing physical assistance, but emphasizes knowledge transfer, capacity building, and the development of a sustainable business ecosystem. As a result, the Sidamukti Village community not only gained increased income but also developed technical skills, strengthened social solidarity, and formed a resilient economic network. BU PETRA model, rooted in the utilization of rivers as a strategic resource, provides a practical contribution as a fisheries-based poverty alleviation strategy and a theoretical contribution to the development of sustainable development and CSR management literature. Thus, this model has the potential to be replicated in other regions with similar resource characteristics, in order to achieve a balance between economic growth, social sustainability, and environmental sustainability.

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