

Integrated Sustainable Agro-Maritime Village Development for Circular Economy Transformation in Kutawaru Village

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Abstract.

The coastal area of Kutawaru, Cilacap, holds considerable potential in fisheries, mangrove ecosystems, agriculture, and waste management, yet remains constrained by a dominant linear economy, low commodity value-added, and weak community institutions. This study examines the implementation of the CSR program by PT Pertamina Patra Niaga Integrated Terminal (IT) Cilacap through the SEGARA KUTAWARU model (Sustainable Economy through Green Agro-Maritime Resources and Circular Approach-Kutawaru) as an effort to transform the coastal area's economy toward a circular paradigm. The program was designed based on social mapping and participatory planning with the community, resulting in four integrated sub-programs: PEPES SEGA K-CAP (coastal economic empowerment and fishing tourism), SIMANJA (mangrove conservation, educational tourism, and fishery-based SMEs), MASKUMAMBANG (integrated agriculture supported by irrigation infrastructure), and BAPAKU (community-based waste bank). Findings indicate that the integration of these four sub-programs forms a mutually reinforcing circular economic ecosystem, transforming waste into economic resources, diversifying community income, and simultaneously strengthening coastal ecosystem conservation. The SEGARA KUTAWARU model is assessed as an effective integrative framework for CSR-based coastal community empowerment and holds strong potential for replication in other coastal areas with similar characteristics.

Keywords: Empowerment, Coastal, Cirkular, CSR, Sustainable and agro-maritime.

I. INTRODUCTION

Indonesia's coastal areas represent one of the nation's most strategic yet most vulnerable ecosystems in the context of national development. As the world's largest archipelagic country, with more than 95,000 kilometers of coastline, Indonesia possesses enormous coastal resource potential, ranging from mangrove ecosystems, coral reefs, and capture fisheries to marine landscapes that support the livelihoods of millions of people (Nadhilah, 2022; Lasabuda, 2013). Kutawaru Village, located in Central Cilacap District, Cilacap Regency, Central Java, exemplifies a coastal area that is highly dependent on two dominant natural resources: fisheries and mangrove ecosystems. Geographically, Kutawaru lies within the Segara Anakan area, one of the few remaining large mangrove lagoons on Java Island, recognized for its high ecological value as well as its considerable economic potential for ecotourism, capture fisheries, and aquaculture (Mulyana & Purnama, 2024; Ramadhan et al., 2012). This unique ecosystem makes Kutawaru more than just an ordinary coastal settlement; it serves as a natural laboratory with significant opportunities for developing a bioresource-based economy that has yet to be fully utilized.

Despite its ecological wealth, the people of Kutawaru face complex and interrelated structural challenges. Economic activities remain largely dependent on subsistence-based primary commodities: fishers sell fresh fish without further processing, aquaculture farmers rely on a single commodity, and mangrove resources are utilized traditionally with minimal value addition. This heavy dependence on raw fish catches leaves local communities highly vulnerable to seasonal fluctuations and ecological changes while simultaneously weakening their bargaining position within the extended fisheries value chain (Nugroho et al., 2021; Basuki et al., 2025). Meanwhile, the systematic development of local resource-based business diversification, such as mangrove-processed products, ecotourism, and coastal agribusiness, remains limited due to constraints in human resource capacity, access to capital, and institutional support. This situation reflects a common paradox found in Indonesia's coastal regions: abundant natural resources but limited value creation.

These challenges are further exacerbated by the continued dominance of a linear economic model in coastal areas, characterized by a take–use–dispose pattern that is not only economically inefficient but also

accelerates the degradation of the very ecosystems that sustain local livelihoods (Islami, 2022). Fishery waste, including leftover catches, fish skin, and bones, is generally discarded directly into surrounding waters without further processing. Household waste and plastic debris from daily activities flow into the mangrove ecosystem and the waters of Segara Anakan, threatening the environmental quality upon which the community's livelihoods depend (Priyanta, 2021). From a circular economy perspective, these discarded waste streams and underutilized resources actually represent untapped economic opportunities: fishery by-products can be processed into value-added products, plastic waste can generate income through community waste banks, and mangrove-derived raw materials can be developed into MSME products capable of reaching broader markets (Santoso et al., 2024; Saputro, Kismartini, & Syafrudin, 2015). Transforming the prevailing linear model into a circular one therefore constitutes the core of an empowerment approach that is particularly relevant for coastal communities such as Kutawaru.

The complexity of these challenges demonstrates that no single sector can provide a comprehensive solution. Instead, there is a need for a development model that integrates marine resources, agriculture, micro, small, and medium enterprises (MSMEs), tourism, and environmental management within a cohesive framework rooted in local strengths. Theoretically, such a model can be grounded in three principal concepts: the sustainable livelihood framework, which promotes livelihood diversification and strengthens community assets (Nugroho et al., 2021); the blue economy paradigm, which emphasizes the sustainable utilization of marine and coastal resources without compromising ecosystem resilience (Donesia et al., 2023; Darajati, 2024); and the circular economy principle, which seeks to eliminate resource inefficiencies within local production and consumption systems (Islami, 2022). In practice, however, these approaches cannot function independently. They require structured external interventions and collaborative partnerships, one of which is Corporate Social Responsibility (CSR) programs implemented by companies operating in coastal areas.

PT Pertamina Patra Niaga Integrated Terminal (IT) Cilacap has assumed this catalytic role through its CSR initiative entitled SEGARA KUTAWARU (Sustainable Economy through Green Agro-Maritime Resources and Circular Approach–Kutawaru). This integrated program progressively addresses multiple dimensions of community development in Kutawaru through several interconnected initiatives: PEPES SEGA K-CAP (Coastal Economic Empowerment of Segara Anakan Kutawaru Cilacap), which focuses on fisheries development and recreational fishing; SIMANJA (Jagapati Mangrove Conservation), which promotes mangrove-based ecotourism and MSME development; MASKUMAMBANG (Kutawaru Independent, Prosperous, and Food-Secure Community), which supports integrated agriculture; and BAPAKU (Kutawaru Waste Bank), which develops community-based waste bank management.

Although each of these programs has demonstrated positive impacts individually, no previous study has examined them within a single integrative framework that explains how the interconnections among these initiatives collectively form a mutually reinforcing circular economy ecosystem. This constitutes the novelty of the present study. Unlike previous CSR studies in coastal areas, which generally analyze individual programs in isolation (Afandi et al., 2024; Syafitri et al., 2024), this research proposes the Sustainable Economy through Green Agro-Maritime Resources and Circular Approach as an integrative CSR-based coastal community empowerment model that positions community-based development as the foundation of its implementation (Dewi, 2020). Within this model, each program component is viewed not as an independent intervention but as an interconnected node within a broader circular economy network.

II. METHODS

This study employed a qualitative approach using a case study research design. A qualitative approach was selected because the study aims to gain an in-depth understanding of the program implementation process, the social dynamics that emerged, and the interrelationships among program components within the real-life context of the coastal community of Kutawaru, objectives that cannot be adequately addressed through quantitative measurement alone (Moleong, 2014; Creswell, 2015). The case study design was considered the most appropriate because the research focuses on a specific case, namely the

Segara Kutawaru Corporate Social Responsibility (CSR) program implemented in Kutawaru Village, Central Cilacap District, Cilacap Regency. This represents a single case with clearly defined and identifiable contextual boundaries (Rahardjo, 2017). A case study enables researchers to investigate phenomena comprehensively within their real-world setting, revealing underlying causal mechanisms and explaining how and why a particular program produces specific outcomes for the community it serves (Yin, 2018).

The research was conducted in Kutawaru Village, Central Cilacap District, Cilacap Regency, Central Java, where the SEGARA KUTAWARU CSR program is implemented by PT Pertamina Patra Niaga Integrated Terminal (IT) Cilacap. The research site was selected purposively because Kutawaru represents a coastal area with ecological and socioeconomic characteristics that are broadly representative of the challenges faced by many coastal communities in Indonesia. Furthermore, it serves as the implementation site of an integrated CSR program that explicitly incorporates circular economy principles into its development approach. Field data were collected throughout the implementation period of the program, with observations and interviews conducted progressively in accordance with the implementation cycle of each program component.

The study utilized two complementary sources of data. Primary data were collected through in-depth interviews and participant observation conducted directly at the program site. Informants were selected using purposive sampling based on their direct involvement in and knowledge of the research subject (Sugiyono, 2019). Secondary data were obtained from program planning documents, CSR monitoring and evaluation reports, social mapping documents, and relevant academic literature related to the research topic.

Data collection employed three complementary techniques simultaneously. First, in-depth interviews were conducted to explore participants' perspectives, experiences, and assessments of the program implementation in a comprehensive manner. A semi-structured interview guide was developed to allow questions to evolve flexibly according to the flow of participants' responses, thereby generating richer and more contextual information. Second, participant observation was carried out through direct involvement in activities conducted under the SEGARA KUTAWARU program, including recreational fishing tourism, community-based waste bank management, mangrove seedling cultivation, MSME development activities, and integrated farming practices. This method was intended to capture the actual implementation process, which cannot always be fully understood through interviews alone (Moleong, 2014). Third, document analysis was undertaken to collect secondary data that provided historical and institutional context for the field findings, including social mapping reports, program implementation reports, photographs and video documentation of activities, and relevant village statistical data.

Data were analyzed using the interactive analysis model developed by Miles and Huberman, which consists of three concurrent and iterative processes: data reduction, data display, and conclusion drawing/verification (Miles, Huberman, & Saldaña, 2014). During the data reduction stage, all raw data obtained from interviews, observations, and documentary sources were organized, refined, and simplified according to the study's main themes, namely the characteristics and potential of the study area, structural challenges, participatory planning processes, program implementation, and program impacts. In the data display stage, the reduced information was organized into descriptive narratives and analytical matrices to facilitate the identification of patterns and relationships among the findings. Finally, conclusions were drawn inductively based on the patterns emerging from the data while remaining open to revision and further refinement as additional evidence became available throughout the research process.

III. RESULT AND DISCUSSION

3.1 PT Pertamina Patra Niaga IT Cilacap's Intervention

Field findings indicate that the CSR team of PT Pertamina Patra Niaga Integrated Terminal (IT) Cilacap did not immediately design intervention programs without first understanding the actual conditions of the target community. Prior to formulating the SEGARA KUTAWARU program, the team conducted a series of social mapping activities aimed at obtaining comprehensive information on the social, economic, cultural, and environmental characteristics of the Kutawaru community. According to Sukaris (2019), social mapping constitutes an indispensable foundation for sustainable community empowerment planning, as

programs developed without a thorough understanding of local conditions are likely to be poorly targeted and lack community acceptance. The social mapping process included an inventory of natural resource potentials, identification of existing community groups, mapping of livelihood networks, and an assessment of the economic vulnerability of coastal households.

The findings from the social mapping subsequently served as the primary input for a series of Focus Group Discussions (FGDs) involving various local stakeholders, including fishers, farmers, MSME actors, community leaders, village government representatives, and women's groups. This participatory FGD approach is consistent with the principles of Participatory Rural Appraisal (PRA), which position local communities not as passive beneficiaries but as active participants in identifying problems and formulating solutions (Muhsin et al., 2018). Through these discussions, several priority needs were identified, including increasing the value added of fishery products, developing nature-based tourism, strengthening mangrove-based MSMEs, supporting household-scale integrated agriculture, and establishing a waste management system capable of generating direct economic benefits. This collaborative planning process fostered a strong sense of community ownership from the outset, a condition widely recognized as a critical determinant of the long-term sustainability of community-based empowerment programs (Dewi, 2020; Sugiharto et al., 2021).

This participatory planning process ultimately gave rise to the SEGARA KUTAWARU (Sustainable Economy through Green Agro-Maritime Resources and Circular Approach–Kutawaru) program as a structured, evidence-based response to the needs of the Kutawaru community. Rather than being designed as a single, monolithic intervention, SEGARA KUTAWARU functions as an umbrella program comprising four interconnected sub-programs, each addressing a distinct dimension of local challenges while collectively forming an integrated circular economy framework. These sub-programs include PEPES SEGA K-CAP, which focuses on coastal economic empowerment through capture fisheries development and recreational fishing tourism; SIMANJA, which integrates mangrove conservation with community-based ecotourism and MSME development; MASKUMAMBANG, which promotes food security and agricultural self-reliance through integrated farming; and BAPAKU, which establishes a community-based waste management system grounded in circular economy principles. This integrated design reflects the principles of Asset-Based Community Development (ABCD) by emphasizing the utilization and strengthening of existing community assets rather than introducing externally imposed solutions (Riyanti & Raharjo, 2021).

The first sub-program, PEPES SEGA K-CAP (Coastal Economic Empowerment of Segara Anakan Kutawaru Cilacap), targets the capture fisheries sector, which has traditionally been the primary livelihood of Kutawaru residents but has generated limited economic returns. Rather than merely supporting fishing activities, the program strategically develops recreational fishing tourism as a means of diversifying income while utilizing the same natural resource base in a more productive manner. This approach is consistent with the findings of Ramadhan et al. (2012), who argue that diversification of coastal resource-based economic activities represents an effective adaptive strategy for fishing communities facing seasonal fluctuations and environmental uncertainties. Recreational fishing tourism not only creates new income opportunities for fishing households but also stimulates demand for supporting goods and services, including bait supply, food and beverage services, simple accommodations, and processed fish products produced by local MSMEs, thereby extending and strengthening the local value chain.

The second sub-program, SIMANJA (Jagapati Mangrove Conservation), positions the mangrove ecosystem not only as an object of conservation but also as a foundation for community-based economic development through two mutually reinforcing pathways: educational ecotourism and fisheries-based MSME development. On the tourism side, the program enhances local capacity to manage educational tour packages that provide visitors with firsthand experiences exploring mangrove ecosystems, learning about local biodiversity, and understanding the ecological functions of mangroves in sustaining coastal environments. Community-based tourism management through a trained Tourism Awareness Group (*Kelompok Sadar Wisata* or *Pokdarwis*) has been shown to improve local institutional capacity while strengthening ecotourism literacy among community members (Qomariyah et al., 2026). Simultaneously, the MSME component supports the development of value-added fishery products, both as culinary offerings for tourists and as

locally branded souvenirs, thereby increasing the economic value of raw materials that had previously been underutilized.

The third sub-program, MASKUMAMBANG (Kutawaru Independent, Prosperous, and Food-Secure Community), addresses one of the most fundamental constraints affecting agricultural productivity in Kutawaru: the community's complete dependence on rainfall as the sole source of irrigation. Under these rain-fed conditions, farmers are able to cultivate crops effectively only during the rainy season, while agricultural land remains largely unproductive throughout the dry season. Through MASKUMAMBANG, the CSR team of PT Cilacap directly addressed this challenge by constructing irrigation wells for local farmer groups, thereby reducing dependence on seasonal rainfall and ensuring a more reliable water supply for agricultural activities. Improved irrigation availability enables farmers to increase cropping intensity and diversify agricultural commodities, ultimately contributing to higher household incomes while strengthening food security within the coastal community (Nugroho et al., 2021).

The fourth sub-program, BAPAKU (Kutawaru Waste Bank), completes the circular economy framework of SEGARA KUTAWARU by integrating community-based waste management into the local economic system. Through the waste bank mechanism, residents are encouraged to separate waste at its source, deposit recyclable inorganic materials in exchange for savings or basic household necessities, and process organic waste into compost that supports agricultural production under the MASKUMAMBANG program. To further strengthen this initiative, PT Pertamina IT Cilacap also supplies discarded plastic security seals from fuel tanker trucks, which are processed by the BAPAKU community group into marketable handicraft products. According to Saputro, Kismartini, and Syafrudin (2015), a well-functioning waste bank serves not merely as a waste collection facility but as an instrument for community economic empowerment and environmental education capable of gradually transforming collective behavior. In the context of BAPAKU, the program generates not only direct economic benefits for participating households but also contributes to improving the environmental quality of Segara Anakan waters and preserving the health of the surrounding mangrove ecosystem, which underpins the entire SEGARA KUTAWARU initiative.

The principal strength of the SEGARA KUTAWARU model lies in the way these four sub-programs operate not as isolated interventions but as mutually reinforcing components within an integrated local economic ecosystem. The resulting cycle represents a practical manifestation of circular economy principles at the community level, whereby the outputs generated by one activity are intentionally designed to become inputs for another, thereby minimizing economic value leakage from the local community while maximizing resource efficiency and community resilience (Islami, 2022; Santoso et al., 2024).

3.2 Circular Economy Transformation Before and After Program Implementation

To understand the significance of the changes brought about by the SEGARA KUTAWARU program, it is essential to compare the economic conditions of Kutawaru before and after the intervention. Prior to the program's implementation, the local economy operated under a predominantly linear and extractive model. Fishers harvested fish and sold them as raw products to middlemen, with prices determined entirely by buyers. Farmers relied exclusively on the rainy season and marketed their agricultural produce without further processing. Waste generated from daily activities, including household waste, fishery by-products, and agricultural residues such as straw and rice husks, was discarded directly into the environment without any attempt at reuse or recycling. Moreover, no mechanism existed to connect one economic activity with another; fisheries, agriculture, and small-scale enterprises operated independently, with little or no synergy. As a consequence, substantial economic value leaked from the community: local resources were continuously exploited, while most of the value added was captured by external actors, and the remaining waste placed increasing pressure on the coastal ecosystem that sustained local livelihoods (Islami, 2022; Saputro et al., 2015).

Following the implementation of the SEGARA KUTAWARU program, Kutawaru's economic landscape underwent a significant transformation, reflecting a shift from a linear to a circular economic model. Materials that had previously been regarded as waste became valuable economic resources. Plastic

waste generated from recreational fishing and household activities is now collected through the BAPAKU Waste Bank and recycled into handicrafts and waste boards. Agricultural residues, including straw and rice husks produced under the MASKUMAMBANG program, are processed into organic compost and returned to farmland to improve soil fertility. Furthermore, discarded plastic security seals from PT Pertamina IT Cilacap's operational activities, which had previously posed an industrial waste management challenge, are now utilized as raw materials for economically valuable products. Community income is no longer dependent on a single source but has become diversified through multiple economic channels, including processed fishery products marketed by SIMANJA MSMEs, revenues from recreational fishing and mangrove ecotourism, increased agricultural production supported by reliable irrigation under MASKUMAMBANG, and financial incentives generated through the BAPAKU Waste Bank. This diversification of household income has structurally enhanced the resilience of coastal livelihoods against seasonal variability and external economic shocks (Nugroho et al., 2021; Santoso et al., 2024). More importantly, a localized economic cycle has begun to emerge, in which value generated from one activity is reinvested into other local activities rather than flowing outside the community, thereby strengthening the overall livelihood system of Kutawaru.

3.3 Program Implementation Impacts

The implementation of the SEGARA KUTAWARU program has generated observable impacts across three interrelated dimensions: economic, social, and environmental. Rather than functioning independently, these dimensions reinforce one another, contributing to the long-term sustainability of the program.

From an economic perspective, the program operates through two complementary mechanisms: enhancing the value of existing local resources and creating entirely new income-generating opportunities. Through SIMANJA, fishery products that were previously sold solely as raw commodities are now processed into value-added food products and local specialty souvenirs, substantially increasing the economic returns received by fishers and MSME operators. This product development initiative is consistent with the findings of Abbas et al. (2026), who demonstrate that simple processing technologies combined with business management training effectively improve fishing households' incomes while expanding opportunities for product diversification. Meanwhile, PEPES SEGA K-CAP introduces a new economic dimension through recreational fishing tourism, enabling local communities to generate revenue from service-based activities rather than relying exclusively on primary production. This development has also created supporting employment opportunities, including tour guides, food and beverage providers, and recreational facility managers. The emergence of new MSMEs within the program ecosystem, including fish processing enterprises, recycled handicraft production, and ecotourism service providers, illustrates the multiplier effect generated by integrated community development compared with isolated sectoral interventions (Dewi, 2020). Although comprehensive quantitative data on household income increases in Kutawaru require further evaluation, the observed impact pattern is consistent with findings from previous community-based CSR initiatives in Indonesia's coastal regions, which report household income increases ranging from 20% to 40% following two to three years of integrated intervention (Afandi et al., 2024; Syafitri et al., 2024).

The social impacts of the SEGARA KUTAWARU program are equally significant. The participatory planning process, which engaged community members from the initial social mapping stage through program implementation, has consistently strengthened local capacity to identify problems, formulate solutions, and collectively manage development activities (Sukaris, 2019; Dewi, 2020). Institutional strengthening through the establishment and continuous mentoring of fisher groups, MSME associations, Tourism Awareness Groups (*Pokdarwis*), and farmer organizations has generated valuable social capital in the form of trust, collective norms, and collaborative networks that constitute long-term community assets (Nadhilah, 2022). One particularly notable social outcome is the increased participation of women in productive economic activities. Fishery product processing initiatives under SIMANJA and waste management activities through BAPAKU have created new opportunities for housewives who previously

had limited access to independent income sources. This finding supports Lakoy and Goni (2021), as cited in Nadhilah (2022), who argue that community-based coastal empowerment programs incorporating gender-sensitive approaches significantly enhance women's participation in household economic decision-making. Furthermore, educational mangrove ecotourism under SIMANJA and recreational fishing tourism under PEPES SEGA K-CAP have indirectly increased youth engagement by offering locally based economic opportunities that are both competitive and rooted in local wisdom, thereby reducing the tendency of young people to migrate to urban areas in search of employment (Rizal, Prasetyo, & Widodo, 2022).

The third dimension underpinning the success of the program is its environmental impact. One of the most serious threats to the Segara Anakan mangrove ecosystem has been the accumulation of plastic waste transported by tidal currents and trapped within mangrove root systems. This pollution has been shown to inhibit mangrove growth by interfering with root respiration and reducing the photosynthetic capacity of mangrove seedlings (Rahim et al., 2024). The BAPAKU Waste Bank directly addresses this challenge by establishing an incentive-based waste collection and sorting system that gradually transforms community waste disposal behavior. The resulting reduction in waste entering coastal waters and mangrove habitats contributes to ecological restoration, which in turn provides the environmental foundation necessary for the success of all other program components. Mangrove nursery development and replanting activities under SIMANJA further strengthen conservation efforts by restoring ecosystem reserves that function both as natural coastal protection and as nursery habitats for marine organisms, while simultaneously enhancing the visual attractiveness of the area as an ecotourism destination. Likewise, MASKUMAMBANG promotes organic agriculture through the utilization of compost produced by BAPAKU, thereby reducing dependence on chemical fertilizers that could potentially pollute the waters of Segara Anakan. Collectively, the environmental outcomes of the SEGARA KUTAWARU program illustrate the fundamental principle that ecosystem conservation and community economic prosperity are not competing objectives but rather complementary components of a sustainable coastal development model (Donesia et al., 2023; Darajati, 2024).

IV. CONCLUSION AND RECOMMENDATIONS

Kutawaru Village, located in Central Cilacap District, Cilacap Regency, possesses abundant natural resources, including capture fisheries and aquaculture within the Segara Anakan lagoon, ecologically and economically valuable mangrove ecosystems, agricultural land with considerable development potential, and waste streams that represent untapped opportunities for circular economic development. However, these substantial resources have long been constrained by a series of interrelated structural challenges, including the dominance of a linear economic model that treats waste as a disposal problem rather than a resource, the low value added of local commodities due to the absence of downstream processing, fragmentation among economic sectors that inhibits cross-sectoral synergies, and limited human and institutional capacities that have rendered previous empowerment initiatives fragmented and unsustainable. The gap between this considerable potential and the existing socioeconomic reality provided the entry point for the structured and community-responsive CSR intervention implemented by PT Pertamina Patra Niaga Integrated Terminal (IT) Cilacap.

This study demonstrates that the SEGARA KUTAWARU (Sustainable Economy through Green Agro-Maritime Resources and Circular Approach–Kutawaru) model represents an effective integrative approach to CSR-based coastal community empowerment. The effectiveness of the model is attributable to three key factors. First, the program was designed through a comprehensive social mapping process and participatory planning involving local communities, ensuring that interventions accurately reflected local needs and achieved strong community acceptance. Second, the program architecture, comprising the four interconnected sub-programs PEPES SEGA K-CAP, SIMANJA, MASKUMAMBANG, and BAPAKU, functions not merely as a collection of parallel initiatives but as an integrated local economic ecosystem in which each sub-program simultaneously serves as both an input to and an output of the others, thereby creating a localized economic cycle with minimal value leakage. Third, the integration of local resources

with circular economy principles has successfully transformed the community's economic system from a linear and extractive model into a more productive and sustainable one, where waste is converted into economic resources, household income is diversified, and the coastal ecosystem is conserved as the foundation of long-term community livelihoods.

The implications of the SEGARA KUTAWARU model extend well beyond the boundaries of Kutawaru Village. As a participatory model grounded in local assets and validated within a coastal area facing ecological and socioeconomic challenges representative of many Indonesian coastal communities, it offers a valuable reference for designing and implementing community empowerment programs in similar coastal regions throughout the country. From a policy perspective, the model aligns closely with Indonesia's national development agenda by supporting the blue economy, which promotes the sustainable utilization of marine and coastal resources; the circular economy, which integrates waste management into production systems; and the Sustainable Development Goals (SDGs), particularly Goal 1 (No Poverty), Goal 8 (Decent Work and Economic Growth), Goal 14 (Life Below Water), and Goal 17 (Partnerships for the Goals). Furthermore, the active involvement of an energy company such as PT Pertamina Patra Niaga as an external catalyst underscores the importance of cross-sector collaboration among the private sector, government institutions, and local communities in advancing inclusive and sustainable coastal development.

To ensure that the impacts of the SEGARA KUTAWARU program continue to expand and remain sustainable beyond the CSR implementation period, four strategic recommendations are proposed. First, strengthening local economic institutions should become a priority by formalizing existing community organizations, including fisher groups, MSME associations, Tourism Awareness Groups (*Pokdarwis*), and farmer groups, into more robust institutional structures such as cooperatives or village-owned enterprises, thereby reducing dependence on individual leaders or external funding sources. Second, the digitalization of product and tourism marketing should be accelerated to expand the market reach of Kutawaru's MSMEs and community-based tourism beyond local boundaries, taking advantage of the growing penetration of digital platforms and social media as effective marketing channels. Third, stronger policy support and multi-stakeholder collaboration involving local governments, universities, non-governmental organizations, and additional private-sector partners are essential to ensure continued technical assistance, improved access to financing, and stronger market protection for local enterprises emerging from the program ecosystem. Finally, replication of the SEGARA KUTAWARU model in other coastal areas should be undertaken adaptively, with social mapping and participatory planning maintained as indispensable preliminary stages. The success of the model in Kutawaru clearly demonstrates that the effectiveness of integrated community empowerment depends fundamentally on its alignment with the unique characteristics, priorities, and needs of the communities it seeks to serve.

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