

Implementation of Corporate Social Responsibility (CSR) Program Based on Community Empowerment with a Sustainable Environmental Ecology Approach

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ABSTRACT

Discussions related to the implementation of Corporate Social Responsibility (CSR) programs are often not accompanied by the impact produced, this often makes the implementation of CSR only limited to charity activities without having an impact on the community in a sustainable manner. This study examines the implementation of a Corporate Social Responsibility (CSR) program by PT KPI RU IV Cilacap, focusing on community empowerment and sustainable environmental ecology in Lempong Pucung Hamlet, Indonesia. The program, named Kolak Sekancil, addresses the critical decline of mangrove ecosystems due to illegal logging and land conversion, which has severely impacted local livelihoods and biodiversity. The research aims to evaluate the program's effectiveness in fostering community empowerment, ecological restoration, and economic improvement through mangrove conservation and utilization. Using a qualitative approach, data were collected via interviews, observations, and document analysis. Findings reveal that the program successfully engaged 90 direct beneficiaries across four dimensions: natural, economic, social, and wellbeing. Key outcomes include the planting of 1.6 million mangroves, the creation of eco-tourism and MSMEs generating monthly turnovers of up to IDR 7.5 million, and enhanced community awareness. Stakeholder collaboration, including local governments and universities, played a pivotal role in the program's success. The study highlights the importance of integrating environmental conservation with economic empowerment to ensure sustainability. Implications suggest replicating this model in similar regions to address ecological and socio-economic challenges.

KEYWORDS CSR, Empowerment, Environmental Ecology



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INTRODUCTION

Lempong *Pucung* Hamlet, Ujungalang Village, Kampung Laut District, is one of the areas in the Segara Anakan region that has experienced a crisis of illegal mangrove logging, resulting in a decline in mangrove land by up to 46.2%. This is supported by several studies stating that between 1978 and 2016, there was a shrinkage of the lagoon area by 2,703.7 hectares, with a corresponding increase in land area in the lagoon of 71.15 hectares per year, which has impacted land use conversion (Winanto, Anggoro, Zainuri & Dewi: 2016). Other research indicates that the Segara Anakan area covers approximately 34,018 hectares, with the latest data showing 6,716 hectares of mangrove area as of 2014 (Supriyanto: 2017).

One of the main causes of the decline in mangrove quality is human activity. Human activities in the Segara Anakan mangrove forest area have damaged the ecosystem, affecting its ecological and biological functions as well as the role of mangrove forests as carbon stores (Sudiana, Ardli & Azizah: 2013). Additionally, the conversion of mangrove forest land into pond land was carried out by investors in Ujungalang Village around 1990. However, these ponds went out of business due to a shrimp disease outbreak, leading investors to abandon them. This has caused severe land degradation in Ujungalang Village and a decline in fish populations due to habitat damage, which may also impact local residents. Therefore, this issue requires serious attention from various stakeholders, including the government, private sector, other institutions, and the community.

Lempong *Pucung* Hamlet itself is located in ring 2 of the operational area of PT Kilang Pertamina Internasional (KPI) Refinery Unit (RU) IV Cilacap (SODEC Study Report Document: 2018). The majority of its residents work as fishermen and farm laborers with low incomes. The Corporate Social Responsibility (CSR) activities initiated by PT KPI RU IV Cilacap adopt a community empowerment concept. This empowerment-based CSR focuses on efforts to improve community welfare through capacity building and empowerment of individuals or communities around the company's operational areas (Sutrisno: 2016). Ethical responsibilities require corporations to adhere to moral principles regarding right and wrong behavior in society (Yun & Hasan: 2017). Successful CSR is characterized by a significant impact, and the effect of CSR-related activities on company performance can vary, indicating that social responsibility approaches should differ across industry categories (Huong & Binh: 2022).

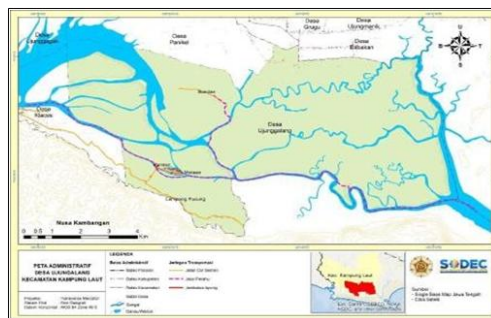


Figure 1. Map of Ujungalang Village
 Source : Document of Social Innovation Studies

On the other hand, the condition of the Lempong *Pucung* Hamlet area is classified as a coastal zone, located precisely on the slopes of Nusakambangan Island. This makes the hamlet rich in natural potential, ranging from mangroves and fish to other resources that can be optimized to support the sustainability of the environment and society in the region. The synergy and relationship between mangroves and humans represent a form of symbiotic relationship that should be maintained sustainably. Humans play a crucial role in preserving the mangrove ecosystem. However, the lack of public understanding about the importance of maintaining the mangrove ecosystem, especially regarding its functions and services, poses a challenge (Khoirunisa et al.: 2023). Based on observations made, this hamlet has the potential to have a local hero figure. As environmental conservation advocates, local heroes need support from various agencies to ensure their activities can be carried out optimally.

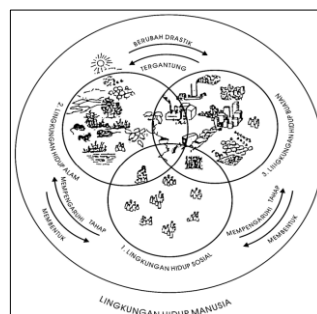


Figure 2. Environmental Concept
 Source : Soerjani, (1987)

The environment consists of the natural environment, the built environment, and the social environment, which are interrelated and determine the pattern or quality of the environment as a whole. This is highly relevant to the concept of environmental ecology itself, where the environmental ecology approach is interpreted as a concept that not only examines natural phenomena but also investigates how human activities can affect the balance of the ecosystem and the quality of the environment (Adeel & Muntaz, 2020; Sharma & Kumar, 2022; Ferris & Lopez, 2021). In terms of the socio-economic aspect, the mangrove ecosystem provides the surrounding community with various fisheries and non-timber forest products, as well as opportunities for ecotourism development (Makarova & Matveeva, 2023; Gupta & Kumar, 2020). Humans and nature are inseparable and both play essential roles in maintaining environmental stability (Li & Zhao, 2019; Brown & Miller, 2021).

Despite the growing emphasis on Corporate Social Responsibility (CSR) programs, many initiatives remain limited to charitable activities without achieving sustainable community empowerment or measurable ecological impact. Existing studies often focus on the theoretical aspects of CSR or its financial implications for companies, leaving a gap in empirical research on how CSR can integrate environmental conservation with socio-economic development (Ilyas & Pervez, 2020; Hartono & Mahendra, 2021; Singh & Pandey, 2022). The case of mangrove degradation in Lempong Pucung Hamlet highlights this gap, as previous interventions failed to address the root causes of deforestation or empower communities to become active stewards of their environment (Wijaya & Wijayanti, 2022). This study bridges the gap by examining PT KPI RU IV Cilacap's Kolak Sekencil program, which combines mangrove restoration with livelihood creation, offering a model for sustainable CSR implementation (Alimuddin & Rizki, 2020; Madan & Soni, 2023).

The urgency of this research lies in the critical state of mangrove ecosystems in Segara Anakan, where illegal logging and land conversion have reduced mangrove cover by 46.2%, threatening biodiversity and local livelihoods. Without innovative solutions, coastal communities face heightened vulnerability to climate change and economic instability. This study introduces novelty by analyzing a unique empowerment-based CSR model that transforms beneficiaries from passive recipients into active participants in conservation and economic activities. Unlike traditional top-down approaches, the program leverages local knowledge and multi-stakeholder collaboration, ensuring long-term sustainability. Its success in achieving ecological restoration, economic growth, and social cohesion provides a replicable framework for similar regions.

The findings of this study have significant implications for CSR practitioners, policymakers, and environmental managers. By demonstrating the tangible outcomes of integrating ecological and socio-economic goals, the research advocates for a paradigm shift in CSR design—from charity-driven to empowerment-focused models. For policymakers, the study underscores the importance of supporting community-led conservation through regulations and incentives. Academically, it contributes to the literature on sustainable development by showcasing how corporate-community partnerships can address environmental degradation while fostering resilience. Ultimately, this research highlights the potential of CSR programs to achieve the United Nations Sustainable Development Goals (SDGs), particularly

SDG 13 (Climate Action) and SDG 8 (Decent Work and Economic Growth), when aligned with local needs and capacities.

METHOD

This study employed a qualitative research approach to explore the implementation and impact of the CSR program, Kolak Sekancil, in Lempong *Pucung* Hamlet. The research design was descriptive, aiming to provide an in-depth understanding of community empowerment and ecological sustainability through mangrove conservation. Primary data were collected from direct beneficiaries, including members of community groups (*Krida Wana Lestari*, *Patra Bina Mandiri*, *Batik Mekar Canting*, and *Pokdarwis Scout Group*), local leaders, and stakeholders such as government officials and academic researchers. Secondary data were obtained from program reports, social mapping documents, and relevant literature.

The study used purposive sampling to select 90 direct beneficiaries and key informants, ensuring representation from all involved groups. Research instruments included semi-structured interview guides, observation checklists, and document analysis templates. To ensure validity, triangulation was applied by cross-verifying data from interviews, observations, and documents. Reliability was maintained through consistent data collection protocols and peer debriefing. Data were collected over multiple phases, beginning with social mapping and followed by interviews, focus group discussions (FGDs), and field observations. The procedure involved initial engagement with local leaders, followed by participatory interactions with community members to gather insights on program outcomes.

Qualitative data were analyzed using thematic analysis, facilitated by NVivo software to categorize responses into themes such as ecological impact, economic benefits, and social empowerment. The process included coding, theme identification, and interpretation to align findings with the research objectives. Quantitative data, such as mangrove planting statistics and economic turnover figures, were analyzed descriptively to support qualitative insights. The integration of both data types provided a comprehensive evaluation of the program's effectiveness, ensuring robust conclusions and actionable recommendations for sustainable CSR practices.

RESULTS AND DISCUSSION

The direct beneficiaries consist of several groups that are members of the Kolak Sekancil program with a total of 90 people, including the *Krida Wana Lestari* group which consists of 20 people (Mangrove Nursery & Planting), the *Patra Bina Mandiri* Group of 10 people (Mangrove Processing), the *Batik Mekar Canting* Group of 30 people (Mangrove Natural Dye Batik) and the *Nature Scout Pokdarwis* 20 people (Mangrove *Arboretum Tourism Manager*). Meanwhile, the indirect beneficiaries are the entire community of Lempong *Pucung* Hamlet which totals 335 families with average middle to lower economic conditions. The basic reason for the selection of beneficiaries is besides economic conditions as well as sustainability factors where the community is expected to become an actor in environmental improvement, especially *Mangroves* in the Segara Anakan Area and become a pilot for others. The benefits of this mangrove are ecologically and economically, product quality includes health and hegemonic standards, business financial analysis, business legality and product marketing (Triadi, Rahmawati, Lestari, Samuun & Fikri: 2023). In the development of this

program, activities target several groups that have different focuses but are related. Each group has its own focus of activity which is summarized in the following table:

Table 1. Community Groups Involved in the Program

Yes	Group Name	Activities
1	Krida Wana Lestari Group	This group focuses on mangrove nurseries, nurturing and marketing activities. The group also collected data on the types of mangroves found in the development area.
2	Patra Group Builds Independent	The group focuses on processing MSME products from the potential of surrounding mangroves, in this case the group already has a total of 4 products and is PIRT certified.
3	Batik Mekarcanting Group	This group focuses on the development of natural dye batik, where in this case natural dyes are used from mangrove leaves.
4	Pokdarwis Scout Group	The group focuses on tourism activities and visits from various stakeholders. The group provides boat accommodation to get to the location and also homestay maintenance.

Source : Research Data Processing

Departing from the problem of the destruction of mangrove land in the Segara Anakan area and the economic condition of its middle-to-lower citizens, PT KPI RU IV Cilacap initiated the Kolak Sekancil Program to answer the problems that exist in the community. The initiation of the Kolak Sekancil program goes through a long-term process to achieve the independence phase. The planting program began in 2009, while the program leading to empowerment began in 2016 with initial activities in the form of social mapping. Social mapping activities are carried out every 5 years to identify potentials and problems, especially those inherent in the company's community development area, one of which is Ujungalang Village, which is then used as a basis for running the program. Social mapping provides a comprehensive picture of the mapped location, including actors who play a role in the process of social relations, social networks, the strength and interests of each actor in community life, especially in improving people's living conditions, existing social problems including the existence of vulnerable groups, as well as the available potential, both natural, human, financial, and infrastructure and social capital (Hasanuh, Putra & Arnu: 2020). Entering the second year, the company began to initiate the development of nursery gardens and mangrove rehabilitation design. The following year, the strengthening stage of the program led to the creation of the Kolak Sekancil mangrove arboretum as well as the certification of mangrove seedlings and the use of mangroves into products of economic value. The program roadmap can be seen in the following image.

Table 2. Roadmap of the Kocomte Sekancil Program

CSR Program Roadmap Activities					
Year					
2016	2017	2018 - 2019	2020 - 2021	2022	2023 2025
- Identify the needs of the Segara Anakan area	- Creation of Mangrove Arboretum	- Edutourism Arboretum Mangrove	- Development of Mangrove Edutourism Supporting	- The creation of the tourist attractio	- Planting 50,000 mangrove seedlings annually

- Ecosystem rehabilitation design & mangrove planting	- Mangrove Seed Certification	- Kocompote Sekancil Development of Mangrove <i>Natural Preparations & Dyes</i>	<i>Facilities & Infrastructure</i> (Homestay & Virtual Educational Tour)	n "The Adventure of Segara Anakan"
- Development of nursery/nursery for maintenance purposes		- Formation of Tourism Awareness Group (Pokdarwis)		

Source : Research Data Processing

The year 2018-2019 is the stage of developing compote mangrove edutourism. The company began encouraging groups to create learning media as well as to educate local communities and tourists about the importance of *mangrove forests* in maintaining coastal ecosystems and other benefits for the community. Like a welcome dipper, this year Ujungalang Village spawned Village Regulation Number 3 of 2019 concerning Mangrove Ecosystem Management in the Segara Anakan Area. This interagency synergy is urgently needed in maintaining the *mangrove* ecosystem. Furthermore, in 2020-2021 due to the pandemic and the edutourism pioneers that have been developed have retreated, the company encourages the public to take advantage of the nipah sap that is very abundant in the offspring to be used as a hand sanitizer product as a preventive effort to reduce the rate of the corona virus and become a new business for community groups. After the pandemic gradually improved, in 2022 the company again optimized the *compote mangrove education campaign through a trip package entitled "Pesisire Inyong Mandiri"* to revive the *pioneering mangrove* educational tourism . In the same year, Kolak Sekancil eduwisata began to be crowded again by both local and out-of-region tourists, as well as schools in the Cilacap Regency area. In addition, researchers from both campuses, BRIN institutions and so on also often synergize with groups in the context of *mangrove* research in the Segara Anakan area. Furthermore, from 2023 to 2025, the company will focus on carbon credit calculation activities and *mangrove planting* in several other critical lands to support the sustainability of the program.



Figure 3. *Mangroves* in the area of Lempong Pucung Hamlet, Ujungalang Village

Source : Research Documentation

The purpose of the CSR program for the Conservation of Lagoons in the Cilacap Fresh Anakan Area (Kolak Sekancil) is to empower the people of Kampung Laut through *mangrove* conservation activities to create community independence with the target of vulnerable communities in Lempong Pucung Hamlet as many as 90 direct beneficiaries. The pilot program began with social *mapping*, Focus Group Discussion (FGD) with local community groups, in this case the Krida Wana Lestari Group and related stakeholders for the preparation of work plans (*renja*). Community involvement is carried out from the initial planning of the program, so that the program is expected to be on target, answer the needs and the community has a commitment and responsibility in running and caring for the program. Furthermore, the success of the program can be replicated to other areas that have the same characteristics of problems and potentials as Lempong Pucung Hamlet.



Figure 4. Pak Wahyono is a Local Hero

Source : Research Documentation

Wahyono, an environmental conservationist / Local Hero in Kampung Laut explained that based on these problems and potential, since 2009 PT KPI RU IV Cilacap began to carry out *mangrove conservation activities* which began with planting. Furthermore, in 2016, the CSR activity program began to be developed in the direction of empowerment with *the branding* of the Lagoon Conservation Program in the Segara Anakan Cilacap Area (Kolak Sekancil). This program is the company's effort to overcome the problem of illegal logging and efforts to save and restore *the mangrove ecosystem* in the Segara Anakan Cilacap Area. The program is also carried out in order to improve the community's economy through its supporting activities in the form of the use of *mangroves* both for educational tourism and used as processed products. The implementation of the Lagoon Conservation program in the Segara Anakan Cilacap Area (Kolak Sekancil) refers to the potential and problems inherent especially in the area of Lempong Pucung Hamlet, Ujungalang Village, Kampung Laut District based on the results of Social Mapping conducted by third parties. In addition, this program is supported by a local hero who also serves as the chairman of the Krida Wana Lestari Group, namely Wahyono. The role of Mr. Wahyono is quite central not only as the Head of the Hamlet but also as a driving figure for *mangrove conservation* in the Segara Anakan Cilacap Area. The implementation flow of the Kolak Sekancil program has been packaged in the image below

The innovation carried out by PT KPI RU IV Cilacap in the Kolak Sekancil program is to optimize the potential of *mangroves* to support increasing community awareness and economy. Previously, the company had planted *mangroves* at critical points since 2009, the total plants that have been planted until 2022 reached nearly 1.7 million spread across the Segara Anakan Area with a total land area of 180 hectares. The growth of *mangrove* seedlings that have been planted has reached 80% and has re-greened the previous critical points.



Figure 7. Mangrove Plant Nursery in 2014

The conservation program that the company has carried out with community groups is clear evidence of the company's concern for environmental improvement. The success of *mangrove* conservation that has been carried out does not stop there, the group is encouraged to carry out massive nurseries and has now become a group business that is able to improve the economy of members as well as the community in Lempong Pucung Hamlet. In one year, the group was able to seed 1.5 million *mangrove* plants. Besides being grown by themselves, the marketing of seeds by the group has reached the national market. The company also helps the community to certify *mangrove* seeds. Within one year, the group's income in mangrove sales was recorded as follows:

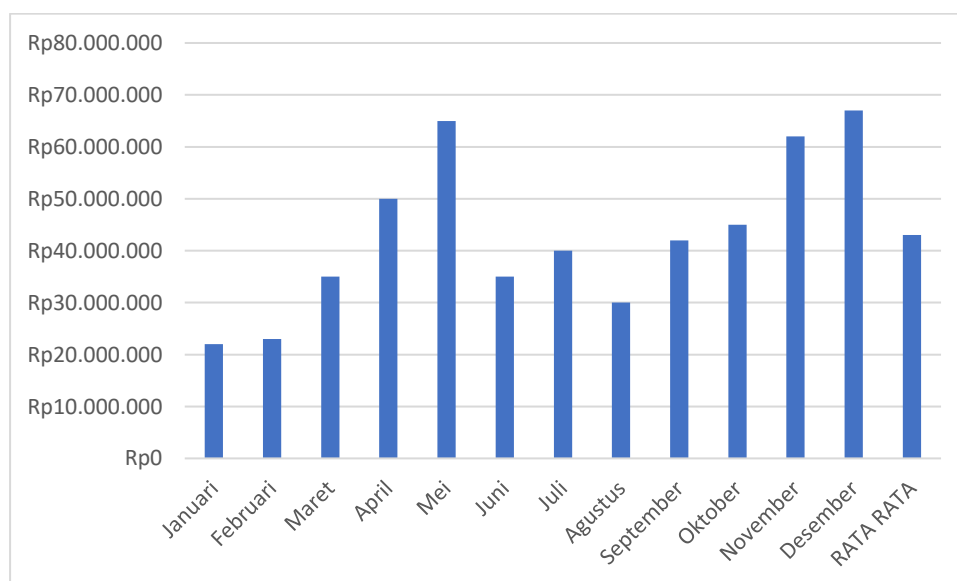


Figure 8. Recap of Mangrove Seed Sales Turnover

In the end, many areas from the coast such as Tegal, Kulonprogo, Kebumen, Cirebon and other areas bought seeds from the Krida Wana Lestari Group. In addition to the seeds that have been certified, the group also dares to guarantee that damaged seeds will be replaced. *Mangrove seeds* are sold at a price of Rp 1,500 / stem.



Figure 9. MSME Products

Successful in planting and *nurturing mangroves*, the company continues its innovation by utilizing *mangrove* fruits as processed products and also natural dyes for *mangrove batik*. This activity was carried out by the Patra Bina Mandiri (processed *mangrove*) and Mekar Canting (Mangrove Batik) groups. The turnover generated from these 2 activities can reach an average of Rp 4,500,000 / month and is enough to help improve the economy of its members who previously did not have jobs.

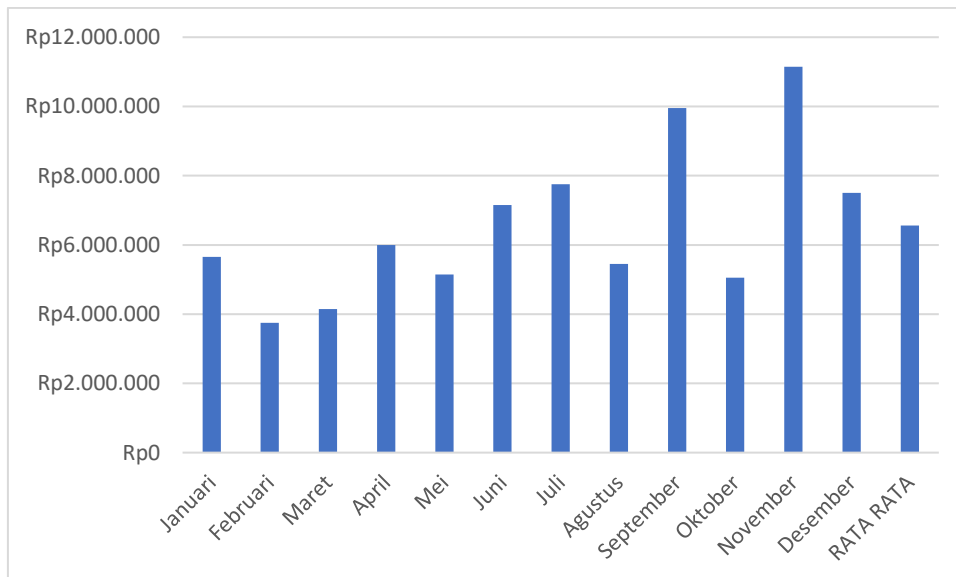


Figure 10. Recap of the Sales of Mangrove Batik Processing



Figure 11. Processed Mangrove and Mangrove Batik

Source : Documentation

The sustainability of conservation that has been carried out is further developed by creating a *mangrove arboretum* as an educational forum and also a campaign on the importance of *mangrove* ecosystems, the right is intended to reduce illegal logging and encourage a change in people's mindset on the importance of *mangrove* ecosystems in coastal areas.

Currently, Kolak Sekencil mangrove *edutourism* is an educational tourist attraction that is also able to bring economic benefits to local tourism-aware groups. The average monthly visitor reaches 250 people with an entrance fee of IDR 10,000. Efforts to boost visitors to the *compote mangrove arboretum* are carried out by making a trip package titled Inyo Mandiri Coast which also involves influencers which is carried out once a month. In addition to traveling, participants also received educational packages related to *mangroves*. Participants were also given the opportunity to plant *mangroves* and also taste the typical *mangrove* processed dishes at the Arboretum. This is quite good in introducing nature conservation-based tourism.



Figure 12. Your Own Way Batch 1

In addition to tourists, the visiting guests were also from campus academics, as well as government agencies in the context of research and discussions regarding *mangrove management* in the Segara Anakan Cilacap Area, especially Ujungalang Village, which can be said to have been successful. Lodging facilities for visitors who want to stay overnight are

also available with the establishment of Kolak Sekancil homestay. The edu tourism program is able to increase the compression of this activity within one year as follows:

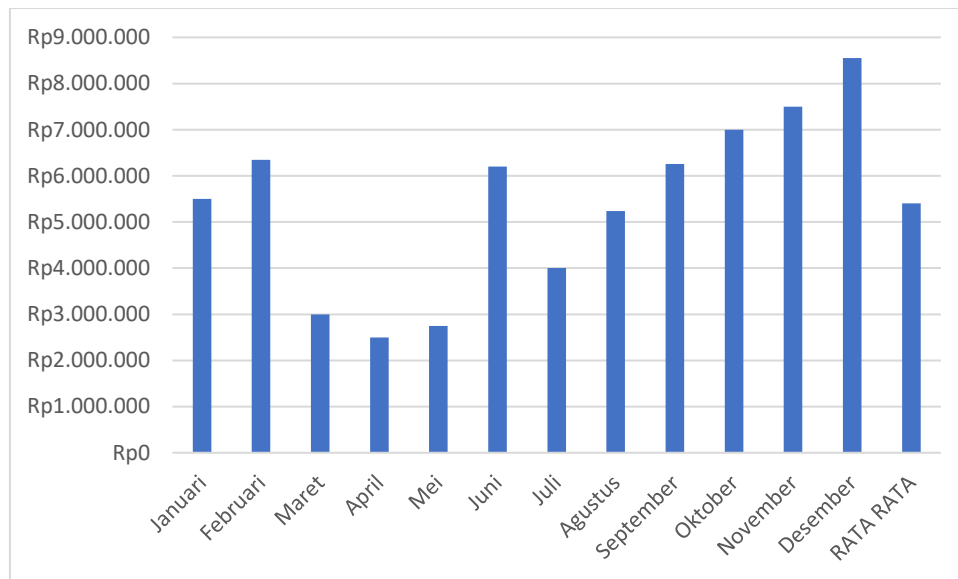


Figure 13. Average Group Revenue Turnover from Natural Tourism Activities

Then the development of the program in 2023 will be calculated for carbon credits from *mangroves* that have grown and will be replanted until 2025 with a target of 50,000 seedlings planted every year. In carrying out the program, there are obstacles, including the distance that must be traveled using a boat with a distance of 1.5 – 2 hours. Moreover. The rest of the challenge is to change the mindset of the community on the importance of caring for and maintaining *mangroves* for the sustainability of their lives on the coast and the environment. In establishing communication, often the company is early through local heroes which will then be conveyed to the public. The role of local heroes themselves, in addition to bridging the community, also encourages collective awareness in order to support the implementation of good CSR programs. So that they will reap good results as well. Processing with the people of Kampung Laut since 2009 has been an effort by the company to build closeness with the community. So that until now the community has changed a lot and has a fairly good relationship with the company to be like their own family. Many people who previously cut *down mangrove* trees for fuel, this time have been involved in planting and helping to protect *mangroves* from illegal logging. Based on the results of monitoring and evaluation conducted by PT KPI RU IV, through a survey of the community satisfaction index, the Kolak Sekancil program showed a conversion value of 90.24% or it could be said to be included in the very good predicate. One of the indicators shows that 59% of people are very confident that they will continue the program if they are no longer assisted by the Company, while as many as 41% of people are confident that they will continue the program.

Through this program, beneficiaries have experienced significant economic changes from those who previously did not have jobs can get the results of activities carried out both from tourism management, product sales, and resource persons related to *mangrove* management. Community groups hope that this program can continue to be sustainable with assistance from RU IV Cilacap. The group feels that it has a program because in planning,

implementation and evaluation always involve the community. In the implementation of the program, PT KPI RU IV collaborates with stakeholders, including:

Tabel 3. Stakeholders Mapping

Yes	Stakeholder	Role Description
1	Gadjah Mada University	conducting a social mapping study in mapping the potential and problems so that it is narrowed down to program recommendations
2	Environment Agency	Mangrove care companions and learning
3	Health Office	Issuing P-irt certificates for processed mangrove MSME products .
4	Cilacap State Polytechnic	As a technical companion partner in the manufacture of bioethanol and hand sanitizers made from nipah
5	National Research and Innovation Agency (BRIN)	conducting research with groups related to fertilizers to accelerate <i>mangrove growth</i> and other research.
6	Ujungalang Village Government	support the existence of a program through the issuance of Village Regulations

The success of the Kolak Sekancil program is a shared responsibility between stakeholders. Although the company initiated, the collaboration between these stakeholders greatly supports the sustainability of the program and to improve the welfare of the community. The program evaluation itself is carried out by monthly monitoring method involving related stakeholders. The importance of the role of stakeholders as stakeholders plays a very important role in the development of CSR policies (Liviana, Abigail & Saputri: 2024). What was done in the evaluation was a Groub Discussion Forum (FGD) with beneficiaries to find out the obstacles and progress of program implementation. The steps in assessing the progress of the program are as follows: **(1)** Communication & CSR function of RU IV to channel CSR assistance to the community, **(2)** Monitor and document the development of CSR programs that have been implemented, **(3)** Coordinate with community groups / fostered partners, **(4)** Collecting the results of the fostered partner's report in the form of a monev report, **(5)** The CSR officer submits the report and evaluation of the CSR program to the Area Manager of Comm, Rail & CSR ru IV to be forwarded to the GM RU IV and continued ratification, **(6)** The final results of the monev report are submitted back to the Comm, Rail & CSR Area of RU IV, **(7)** The final results of the monev report are considered for the sustainability of the CSR Program in the future, Attached is a flowchart regarding TKO Monitoring and Evaluation of CSR Programs below:

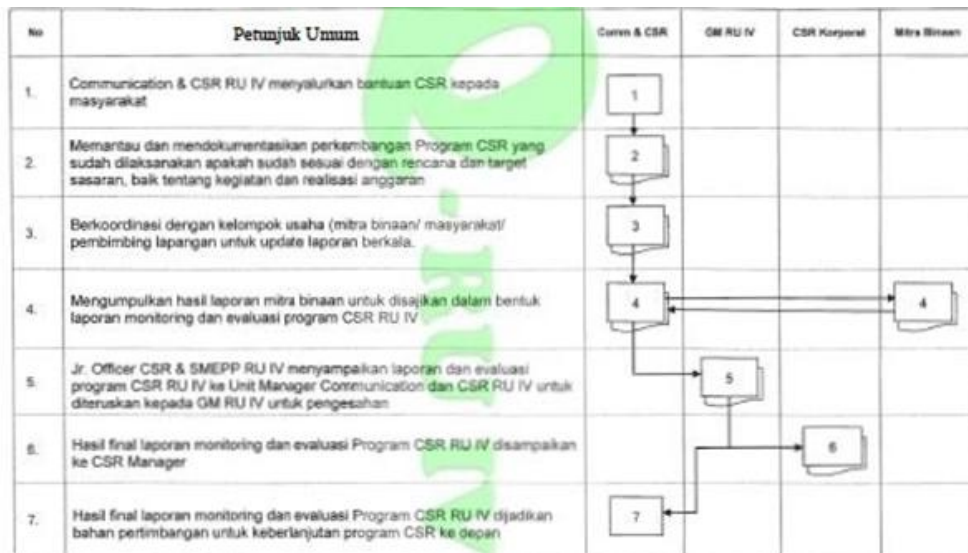


Figure 14. TKO flowchart MONEV CSR Program

The indicators used by PT Kilang Pertamina Internasional RU IV Cilacap in measuring the success of the program include: (1) *The* CSR program that is carried out is monitored properly periodically according to the needs for the sustainability of the program, (2) There is an evaluation and monitoring report on the CSR program that is carried out, (3) The occurrence of good cooperation and coordination between companies, communities and local governments, (4) There is an increase in community independence in developing their businesses. The results and impacts of the program are mapped out 4 dimensions *sustainability compass* is a form of development of the concept *of sustainability*, the concept *of sustainability compass* is considered as a more implementable concept by analogizing the direction of the cardinal as a certain indicator, namely, the natural dimension refers to what natural impact is obtained in a program, the economic dimension refers to what economic impact is obtained in a program. A program, the social dimension refers to every impact that can be measured using social aspects, the wellbeing dimension is the conditions that are created or expected and are the ideal indicators to be achieved (Nugroho, Rahmawati & King, 2024). So that the results of this research are mapped to the following:

Table 4. Results of CSR Program Impact Mapping

Natural dimensions	Economic dimension
1. 1,636,300 total <i>mangrove plantings</i> in the Segara Anakan area	1. Increase in the selling value of certified mangrove seedlings by 50% with a seed production capacity of 50,000 seedlings/month
2. 180 hectares of land planted with mangroves	2. The turnover of the Pokdarwis Pandu Alam Group in the management of mangrove edutourism averages 7,500,000/month
3. 8 types of certified mangroves	3. Average Group Turnover from Batik and Mangrove Processed Sales worth 4,500,000/month
4. 56 types of mangroves were identified.	4. The average turnover of the blessing group is 1,400,000 / Month.
5. 64 species of birds, 8 species of mammals,	
6. 3 species of reptiles were identified & 2 species of flora as well as 12 fauna with high conservation status.	

7. CO2 absorption 41,371,680 pounds/year & O2 production 224,096,600 pounds/year.	
8. The utilization of 95 tons/year of Mangrove fruit waste.	
Dimension wellbeing	Social dimension
1. Improvement of the welfare of 90 direct beneficiaries.	1. PERDES No. 3 2019 concerning the Management of Mangrove Ecosystems in the Segara Anakan Cilacap Area.
2. 10 fishermen became the introduction of KOLAK SEKANCIL tours.	2. 5 groups are integrated in KOLAK SEKANCIL (Krida Wana Lestari, Pokdarwis Pandu Alam, Patra Bina Mandiri, Berkah Rejeki, and Mekar Canting)
3. The Mekar Canting Batik Group gave birth to the innovation of natural dyes of mangrove batik.	3. 1039 beneficiaries of the program.
4. Blessings of Fortune Group	4. Synergy with Cross-Stakeholders (Dafam Hotel, Tourism Office, DLH, UGM, UNS, Cilacap Polytechnic, etc.)
5. Innovation in the Utilization of Nipah into Bioethanol for Ship Fuel and Hand Sanitizer.	5. Reduction of poverty rate by 15 families
6. Increase in the number of visitors to mangrove edutourism by an average of 100 people/month after the pandemic	
7. To become a laboratory for research and education of mangrove academics, freelance researchers, and so on.	

The Kolak Sekancil program has received several awards both for its activities and its local heroes and has been documented both through the company's internal and external media. For internal media, this program has been disseminated through social media accounts, both YouTube and Instagram. Meanwhile, external media have been covered by local, national and international media. This makes Lempong Pucung Hamlet a pilot project and reference for all people who are concerned about improving the environment in coastal areas, one of which is by optimizing mangroves. On the other hand, the introduction of the program through coastal tour activities is also carried out by the company by collaborating with influencers and target young participants as a learning medium for them related to sustainable management of mangrove ecosystems.

CONCLUSION

The conclusion of this study shows that the Kolak Sekancil Program initiated by PT KPI RU IV Cilacap has been successful in empowering the people of Lempong *Pucung* Hamlet through mangrove conservation and local economic development. Through a process involving social mapping, community group strengthening, and training provision, the program not only improved the well-being of 90 direct beneficiaries but also created strong synergies between communities, companies, and various stakeholders. Suggestions for further research include the expansion of this program to other areas with similar characteristics, as well as increased community involvement in planning and implementation to ensure the sustainability and effectiveness of mangrove conservation programs more broadly.

REFERENCE

- Adeel, Z., & Muntaz, S. (2020). Environmental Ecology and Human Interaction: A Synergy for Sustainable Development. *Journal of Environmental Science and Sustainable Development*, 12(3), 155-171.
- Anggi Pasca Arnu, Raden Aditya Kristamtomo Putra, and Nanu Hasanuh. Social Mapping on Bamboo Craftsmen in Parungsari Village, Karawang Regency. *Journal of Non-Formal Education AKSARA 6.2* (2020): 139-148.
- Alimuddin, S., & Rizki, M. (2020). CSR and Community Empowerment: Exploring the Link in Ecological Conservation Projects. *Social Responsibility Review*, 25(1), 88-105.
- Brown, P., & Miller, G. (2021). Integrated Approaches to Environmental Ecology: The Impact of Human Activity. *Sustainable Development Studies*, 30(2), 102-118.
- Ferris, L., & Lopez, M. (2021). Ecological Balance and Human Influence: A Contemporary Overview. *International Journal of Environmental Studies*, 28(4), 298-314.
- Gupta, R., & Kumar, V. (2020). The Human-Nature Relationship in Environmental Conservation. *Ecology and Society*, 22(1), 67-80.
- Hartono, B., & Mahendra, A. (2021). Bridging CSR with Ecological Conservation: A Critical Analysis. *International Journal of Corporate Social Responsibility*, 19(3), 142-158.
- Huong & Binh. (2022). Corporate Social Responsibility and Firm Performance: Evidence from Vietnamese Listed Companies. *Indonesian Journal of Sustainability Accounting and Management*. DOI : 10.28992/ijSAM.v6i1.500.
- Ilyas, M., & Pervez, M. (2020). Corporate Social Responsibility and Environmental Sustainability: A Theoretical Review. *Journal of CSR and Sustainable Practices*, 8(4), 55-70.
- Khoirunisa, Dewi, Mahdiana, Junaidi, Prayogo, Hilmi. (2023). Increasing Community Understanding in Building Mangrove Conservation in Segara Anakan Cilacap. *Community Journal : Jurnal Community Service*. Vol. 6, No. 1.
- Li, J., & Zhao, Y. (2019). Environmental Ecosystem Management: Bridging Human Activities with Natural Resources. *Journal of Ecosystem Management*, 14(5), 133-147.
- Liviana, Abigail, Saputri. (2024). Application of Stakeholder Theory to Corporate Social Responsibility (CSR) Practices. *Journal of Management and Accounting*. Vol 1, No 4, pp. 461-475. DOI: <https://doi.org/10.62017/wanargi>.
- Makarova, E., & Matveeva, S. (2023). Socio-Economic Benefits of Mangrove Ecosystems: A Case Study of Southeast Asia. *International Journal of Ecotourism*, 10(1), 75-91.
- Madan, A., & Soni, S. (2023). Examining CSR in Ecotourism Development: Evidence from Indonesia. *Tourism and Sustainability Journal*, 15(2), 60-75.
- Moleong, Lexy J. (2017). *Qualitative Research Methodology*. Teenager : Bandung.
- Ngidu, Alfikri, Dwianto, Ekyastuti, Ekamawati, Widiastuti, Roslinda & Astiani. 2024. Stand growth and carbon stocks of community-based mangrove rehabilitation in Singkawang City West Kalimantan Indonesia. *Biodiversitas Journal of Biological Diversity*. DOI: 10.13057/biodiv/d250701.
- Nugroho, Rahmawati & King. (2024). Sustainability Compass in the Corporate Social Responsibility Program of Pt Kilang Pertamina Internasional Ru IV Cilacap (Case Study of the Kutawaru Independent Community Program). *Journal of Management Science*. Vol 12, No. 2.
- Singh, R., & Pandey, M. (2022). The Role of CSR in Enhancing Sustainable Development: Challenges and Solutions. *Journal of Business Ethics and Sustainability*, 10(6), 245-259. Social Development Studies Centre. 2018. Innovation Study. Gadjah Mada University: Yogyakarta.

- Sudiana, Ardli, Azizah. (2013). Analysis of Mangrove Forest Carbon Stock at Various Levels of Damage in Cilacap Saplings.
- Supriyanto. (2017). Perspective on Literacy in Handling SA Areas in Supporting Food Security in Cilacap Regency. The paper was presented at the Seminar on Guarantee Food Security through Reclaiming Land and Produce Storage and Transportation for Cilacap Area and Indonesia, Cilacap, May 22, 2017. Archives and Library Service of Cilacap Regency, 2017.
- Tae Mei Yun & Rashedul Hasan. (2017). Theoretical Linkage between Corporate Social Responsibility and Corporate Reputation. Indonesian Journal of Sustainability Accounting and Management. DOI: 10.28992/ijSAM.v1i2.32.
- Triadi, Rahmawati, Lestari, Samu'un & Fikri. (2023). The Utilization of Mangrove Forests as an Alternative Source of Income for Coastal Communities in Sukerta Village, Karawang. Journal of Community Service. Vol 6 (1), 6-10.
- Wijaya, F., & Wijayanti, E. (2022). Mangrove Conservation and CSR: Examining the Effectiveness of Social Programs. *Environmental Management Journal*, 14(4), 307-320.
- Winanto, Anggoro, Zainuri & Dewi. (2016) . Analysis of land changes in the Segara Anakan Lagoon area during the time period 1978 – 2016 using a multitemporal Landsat satellite. *Journal of Fisheries and Marine Research*. Vol 12 (3): 144 – 14.