

PT Pertamina Patra Niaga DPPU Minangkabau's Corporate Social Responsibility Kampung Apar Innovation Center (KAIC): Creative Economy Based Environmental Management Integration

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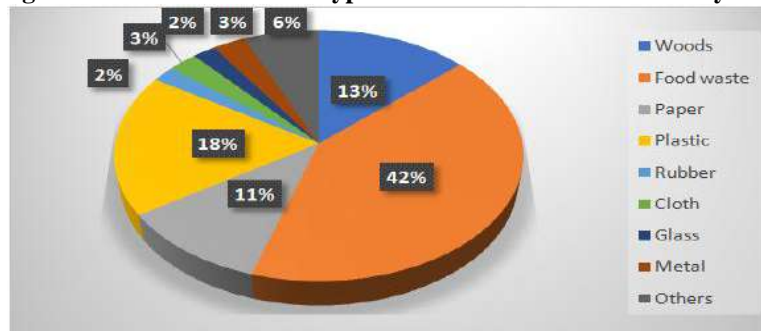
ABSTRACT : This research was conducted to analyze the impact of creative eco-development activities based on environmental management at Kampung Apar Innovation Center (KAIC) KAIC which is a group fostered by PT Pertamina Patra Niaga DPPU Minangkabau. The location of this research was conducted in Kampung Apar Village, South Pariaman District, Pariaman City, West Sumatra. The method used in this research is descriptive qualitative research using a behaviouristic theory approach. The conclusion from the results of this study was that PT Pertamina Patra Niaga DPPU Minangkabau's CSR activities through the Kampung Apar Innovation Center (KAIC) community development activities had several measurable impacts. This can be seen based on an analysis of the sustainability compass in the form of the impact from the nature side of reducing the formation of Greenhouse Gases (Methane) from decomposition of 2714.929 Tons of CO₂/year from an economic perspective income from waste management increases group income IDR 14,000,000/year from a social perspective, there are 10 permanent members who are the initiators of 50 other communities in waste management. This creative economic development activity is one of the innovations in developing integrated and environmentally friendly waste processing in the Kota Pariaman area, West Sumatera.

KEYWORDS: CSR; Kampung Apar Innovation Center (KAIC); Community development; Creative Economy; Waste Treatment.

I. INTRODUCTION

Garbage is one of the problems that is quite complicated in Indonesia, improper waste management is a phenomenon that can be found almost anywhere in the country, landfills or final disposal sites are mountainous and overloaded because waste is not sorted based on type and the behaviour of some parties involved. still throwing garbage carelessly makes the waste problem in this country unfinished. According to data from the West Sumatra Provincial Government, in 2022 the amount of waste generated from 5,640,629 residents of regencies/cities in West Sumatra in 2022 is 2,153.24 tonnes per day. Regencies/cities in West Sumatra that produce the highest volume of waste are Padang City 643.76 tons/day, Padang Pariaman Regency 218.06 tons/day, Agam Regency 213.68 tons/day and Pariaman City 38.36 tons/day. Based on these data, Pariaman City is one of the generating cities with a high potential risk rate in the Province of West Sumatra if it is not managed wisely. In the future, it requires holistic handling sourced from the smallest unit, namely the household.

Figure 1.1 Diversification of types of waste in the Pariaman City area



Source: Ministry of Environment Data. 2022

The volume of waste in Paraman City (West Sumatera Province) is classified into several types, including 42 % food waste, 18% plastic, 13% wood, 11 % paper. The Pariaman City Government is trying to handle waste management through the Public Housing, Settlements and Environment Services Office. This is implemented starting from the addition of landfill infrastructure development and the mechanism for accelerating the transportation of generated waste through routine scheduled periods. This is an act of breaking down the generated waste that has accumulated significantly. In order to support the succession of local government activities in efforts to handle waste in the West Sumatra Province area, PT Pertamina Patra Niaga DPPU Minangkabau is carrying out community development activities in the area of Kampung Apar Village, South Pariaman District, Pariaman City, West Sumatra. Community development activities involve community groups in organic waste processing activities, inorganic waste savings and derivative activities in the form of manufacturing various kinds of creative economic products.

II. METHODS

This study uses a descriptive qualitative approach with primary and secondary data collection. Creswell, J.W (Research Design, 2016) defines qualitative research as research used to examine human and social problems. The researcher reports the results of the research based on the data view report and data analysis obtained in the field, then describes it in a detailed research report. This is appropriate to do in order to analyze the social impact of the community from the Kampung Apar Innovation Center (KAIC) Creative Economy community development activities. The research was conducted in the area of Kampung Apar Village, South Pariaman District, Pariaman City, West Sumatra in June 2022. provided, among others, community-based waste management in the form of waste savings, maggot cultivation, manufacture of liquid and solid organic fertilizers, and most recently the management of agricultural greenhouses. The Research Analysis Unit is informants who are able to fulfill research data, namely members of the Bank Sampah Sahabat Alam (BSSA) group who are managers for KAIC waste processing activities, staff of PT Pertamina Patra Niaga DPPU Minangkabau in charge of CSR activities, stakeholders, and other communities who related to KAIC. Primary data is obtained or collected directly in the field by people who carry out research or those who need it. This primary data is obtained from informant sources, namely individuals or individuals such as the results of interviews. Besides that, primary data was obtained, among other things, from observation notes, field observation results, as well as data regarding informants (Hasan, 2022). Secondary data is in the form of previous research results to support primary data.

Analysis of data and issues uses an approach based on analysis from Miles and Huberman in Prastowo (2016), namely Data Reduction, Data Presentation and Drawing Conclusions. The data reduction stage is to simplify the data so that it fits the needs and of course it is easy to obtain information. After the data reduction phase, there will be a form of presentation of the data, then various data can be presented in the form of graphs, charts and pictograms. The data set can be more easily conveyed to others. This goes into presenting the data so that the reader can read the information. The next stage is drawing conclusions and conclusion drawing so that the data that has been compiled and grouped is then presented with a technique or pattern that can be concluded. This conclusion becomes information that can be presented in a research report and placed in the closing section. Namely in the conclusion section so that readers of the research report can also draw these conclusions. The theory used in understanding the results of activities is Skinner's behaviouristic theory. This theory is part of the paradigm of social behaviour. This paradigm focuses on the relationship between the individual and the environment. As already explained, this paradigm focuses on the relationship between individuals and their environment, consisting of:

- (a) various social objects,
- (b) and various non-social objects

Which consists of various social objects (such as legal norms, religion, education, family, and others) and non-social objects (such as biological, geographical, and others). Symptoms of social and non-social objects, produce effects or social changes in environmental factors that cause changes in human behaviour itself. In short, the main problem in sociology from the paradigm of social behaviour is individual behaviour that takes place in relation to environmental factors. It produces consequences or changes in environmental factors that cause changes in behaviour (Ritzer, 2014). The theory used in this approach is the behaviouristic theory of Skinner.

Picture 1 The Behavioristic Concept of Thought



Source: Data processed from Ritzer, 2014

In the view of B.F Skinner (1985) learning is a process or adjustment of behaviour that takes place progressively. Understanding learning is a change in the possibility or chance of a response. Skinner argues that reward is an important element in the learning process, but the term needs to be replaced with reinforcement. Reward is something that makes you happy, while reinforcement is something that causes a certain response to increase. Strengthening is not always a happy thing, but it can also happen the other way around (Ritzer, 2014).

III. FINDING/DISCUSSION

The Kampung Apar Innovation Center (KAIC) community development activity is the result of the development of a waste management program initiated by PT Pertamina Patra Niaga DPPU Minangkabau in collaboration with various community groups in the Kampung Apar Village area. In 2020 PT Pertamina Patra Niaga DPPU Minangkabau will provide a screening mapping of initial needs for activities. This coincides with the condition of the COVID-19 pandemic which is occurring globally and has a major impact on reducing the economic capacity of the community. The reduced economic capacity of the community due to the COVID-19 pandemic and efforts to reduce waste generation are challenges in the initial steps of starting activities. The following is the Activity Roadmap for Kampung Apar from 2020-2024.

Figure 1.2 Roadmap for Kampung Apar 2020-2024



Source: Minangkabau DPPU Internal Document

Community development begins in 2020, the company works together with the community to carry out initial activities in the form of infrastructure preparation with land acquisition and group training. This is done as a basis for community abilities to carry out activities and develop group institutions. In 2021 community development activities focused on expanding infrastructure to support the KAIC (Kampung Apar Innovation Center) office and developing maggot cultivation as a step to accelerate organic waste’s decomposition. In 2022 Greenhouse development activities carried out withexpanding maggot’sbiopon size and creating product packaging. This was accomplished through collaboration of several stakeholders, involving educational

institutions, namely Andalas University, as well as NGOs namely the Human Initiative. In 2023, it is planned to develop product variants and productive plants that's resilient of changing climate. In 2024 it will be used as an Eco Tourism Edu Village. This is the ultimate goal of Program activities inKampung Apar Village. Waste management is not only accomplished through waste handling alone. This can also develop its potential for the application of technology that is able to make the Kampung Apar Village area an area that is used as a role model for waste management in the Province of West Sumatra. The Kampung Apar Village area has good potential to be developed into a valuable product. It is hoped that the chain of waste processing activities will not be limited only in waste treatment activities, but also for productive economic development activities that made an impact on people's welfare.

The following figure is a visualization of the implementation of community development in the Kampung Apar Village area through the KAIC (Kampung Apar Innovation Center) scheme.

Figure 1.3 Kampung Apar Village Program Creative Eco Scheme



Source: Minangkabau DPPU Internal Document

Kampung APAR Village activities have an initial activity, namely collecting dry waste or inorganic waste such as plastic and cardboard. In the first year of establishment, activities at the Bank Sampah Sahabat Alam (BSSA) were just collecting dry waste or inorganic waste such as plastic and cardboard. Then by seeing the extraordinary potential in the field of organic waste management or wet waste, especially in Pariaman City, then the use of organic waste was developed by making a breakthrough, namely maggot cultivation. Then the innovation that emerged afterwards was the creative economy which the Bank Sampah Sahabat Alam (BSSA) tried to develop by making various Pariaman City's typical food. In this third year, the waste bank will also continue to promote the existence of waste banks, especially in the organic sector, using maggot cultivation where maggot is a "production machine" that will produce compost which is then sold with high economic value. Maggot is packaged and marketed around Pariaman City as fish feed and fishing bait. The results of organic waste from maggot cultivation are used as a growing medium for aloe vera, TOGA plants, and hydroponic melons at KAIC. Not only has waste processing activities, KAIC has several business units engaged in productive economic businesses such as Jahelo beverage products, Kapasnack snacks in the form of Ladu (a typical Pariaman City snack) and banana chips. The Bank Sampah Sahabat Alam (BSSA) also produces herbal drinks with the brand name Jahelo. Jahelo is a product of PKK ladies in Kampung Apar Village which is accommodated and fostered under the Kampung Apar Innovation Center (KAIC) in collaboration with the Faculty of Pharmacy, Andalas University. During the Covid-19 pandemic, Jahelo was selling well as an immunity booster product that can increase the body's immunity. Jahelo marketing is also sold online and offline through sales to several herbal drink shops.

In the future, KAIC wants to become a storefront for small business in Pariaman City. Began with the making of a mini storefront which is used for several typical products of the City of Pariaman such as songket cloth, embroidery typical of the City of Pariaman and knitting. Some of the activities carried out by KAIC include:

1. Waste Bank

The Waste Bank activity is carried out by sorting inorganic waste such as used bottles, used cardboard, and other household waste that is collected by the people of Kampung Apar Village to the Bank Sampah Sahabat Alam. The Waste Bank system uses a savings system.

Table 1.1 Recapitulation of Inorganic Waste Volume of Bank Sampah Sahabat Alam

2022	Type	Month								
		Jan	Feb	March	April	Mei	June	July	August	September
	Anorganic(Kg)	3	3	2	2	4	2	2	3	2

Source: BSSA Documentation, 2022

In contrast to junk collectors who directly provide cash to the community as a return on the waste that is deposited, Bank Sampah Sahabat Alam also provides garbage pick-up services to residents' homes using operational vehicles in the form of motorized tricycles. This of course makes it easier for the community not to have to come to the Bank Sampah Sahabat Alam person.

2. Organic Waste Processing and Maggot Black Soldier Fly (BSF) Cultivation

Organic waste management is a sustainable activity with maggot cultivation. Organic waste such as kitchen waste (fruits and vegetables) is processed in the Waste Material Recovery Center (WMRC) unit belonging to the Bank Sampah Sahabat Alam. Organic waste that has been processed will be used as feed for the Black Soldier Fly maggot larvae. The cultivation process is carried out in a special cage designed for maggot cultivation.

Table 1.2 Recapitulation of Organic Waste Volume of Bank Sampah Sahabat Alam

2022	Type	Month								
		Jan	Feb	March	April	Mei	June	July	Agusts	September
	Organic(Kg)	960	600	450	250	430	870	1200	860	600

Source: BSSA Documentation, 2022

The people of Kampung Apar Village, especially village women and youngster, are empowered in this maggot cultivation process. Apart from utilizing organic waste, maggot products which are used as high protein animal feed are also able to bring in profits from sales to farmers and ranchers in Pariaman and its surroundings. Economic benefits are not only obtained from maggot cultivation, the Bank Sampah Sahabat Alam also produces compost from organic waste management. Compost fertilizer products are also traded to farmers around Pariaman.

Organic waste management activities at the Bank Sampah Sahabat Alam (BSSA) are carried out by picking up each household's waste. Organic waste that has been managed in an average of 619 kg/month. The organic waste picked up by the group is then processed using a chopping machine to be processed into POC and solid fertilizer.

3. Exchanging Kitchen Waste to Fresh Vegetables

The Kitchen Waste to Fresh Vegetable Exchange activity is aimed at increasing community participation in depositing organic waste into the Bank Sampah Sahabat Alam. The organic waste that is deposited will be exchanged for fresh vegetables farmed by independent agriculture at the Bank Sampah Sahabat Alam.

4. Green Alms

Green Alms is a charity activity by giving donations to vulnerable communities in Kampung Apar Village. The source of donation funds comes from the sale of inorganic waste that has been collected by the community to the village waste bank.

5. Alms of Used Cooking Oil

Alms of Used Cooking Oil is an activity to collect used cooking oil waste from households which is deposited by the community to the Bank Sampah Sahabat Alam. Used cooking oil that has been deposited will be sold to biodiesel producers to be processed into valuable products such as hand washing soap, candles and fuel. Profits from the sale of used cooking oil will be donated to vulnerable communities in Kampung Apar Village.

In addition, PKK Kampung Apar cadres who are also affiliated with the waste bank have also begun to be able to share information about the creative economy through outreach forums and seminars with the aim of sharing information and knowledge about waste management and the creative economy. Environmental management activities developed into sub-activities in the form of eco-creative economic value which is manifested in the activities of making handcraft products and making Jahelo products. Meanwhile, in terms of inorganic waste processing, it is donated to vulnerable groups. This is a form of external type of social entrepreneurship model. The external model of social entrepreneurship is where the target of donations or beneficiaries is not affiliated with existing activities, in this case waste management.

Figure 1.2 Creative Economy Activities in Kampung APAR Village



Source: Minangkabau DPPU Internal Document

The existence of the Bank Sampah Sahabat Alam not only provides useful input for the continuity of the organization and cadres of the Waste Bank, but also provides benefits for local residents and other groups or organizations that are assisted by the existence of the Bank Sampah Sahabat Alam. Through educational and socialization activities held by the Bank Sampah Sahabat Alam in numerous organizations and groups as well as in various forums, activities at the Bank Sampah Sahabat Alam can be considered productive. The Bank Sampah Sahabat Alam often provides outreach and education about waste and the environment as well as being a place and research study facility for numerous universities in West Sumatra, such as Andalas University, Nahdlatul Ulama University, West Sumatra University and the Maritime and Fisheries Polytechnic. Even Jahelo's product, KAIC, was a local product that was appreciated by the Minister of Tourism and Creative Economy for its potential as a product that could be developed in the 2021-2022 Assessment of the Association of Indonesian Tourism Village Events.

Figure 1.3 Appreciation of KAIC Products by the Ministry of Tourism and Creative Economy



Source: Group Internal Documents

The Kampung APAR Village activity also supports SDGs activities. Several things, among others, based on the points of the Sustainable Development Goals (SDGs), if the existing waste management program in Kampung Apar is aligned with the Bank Sampah Sahabat Alam, the program will also contribute to the field of climate change management. This is based on the activity of the Bank Sampah Sahabat Alam which plays a role in waste management both organic and inorganic which is able to contribute in reducing greenhouse gas emissions that can arise due to the mixing of residual waste between organic and inorganic. Through waste management at the Bank Sampah Sahabat Alam, waste that was previously unmanaged is then managed optimally and is able to have an economic value impact on the surrounding community.

PT Pertamina DPPU Minangkabau's concern is not only manifested in the form of physical assistance, capital, training, but also implemented in activities carried out by the HSSE Dept. through sharing knowledge of corporate governance values and organizational ethics that can be applied to the Bank Sampah Sahabat Alam. This is done as an effort to instill corporate values that can be applied to community groups. This is a form of channelling the company's core competency.

IV. CONCLUSION

Currently the Kampung Apar Innovation Center (KAIC) group has implemented an optimal waste management program in the Kampung Apar Village area with a focus on waste management efforts that are integrated with creative economic activities to improve the quality of life of the community. The results of community development activities in the Kampung Apar Village area include:

1. Nature

- a. The effectiveness of the speed of waste processing capacity increases by up to 75%
- b. Eliminate garbage buildup by 100%/day
- c. Reducing the production of Greenhouse Gases (Methane) from decomposition of 2714.929 tons of CO₂/year
- d. Produces solid fertilizer with a total of > 300 kg/month and liquid organic fertilizer > 1000 liters/month

2. Economics

- a. Increase group income by IDR 14,000,000/year
- b. The formation of 2 village-based economic circulars which are the capital to maintain business sustainability

3. Well Being

- a. Introducing cheap, easy and environmentally friendly waste management methods to 50 village-scale waste management communities
- b. 31 people are registered as KAIC Garbage Bank customers

4. Social

- a. Increasing village community perceptions regarding the value of waste, which has an impact on increasing new cultures and changing behaviours in organic waste management in villages
- b. The formation of 5 Educational Institutions and Community Service Research Institutes namely SMA 3 Pariaman, Andalas University, Nadhatus Ulama University, West Sumatra University, Marine and Fisheries Polytechnic
- c. There are 10 permanent members who become initiators for other communities

The creative economic activities of the Bank Sampah Sahabat Alam (BSSA) through the Kampung Apar Innovation Center (KAIC) have been able to contribute in dealing with climate change. This is described as the results of the program's activities. The multiplier effect from activities succeeded in raising productive economic activities which is able to provide an increase in the economic level of the community around the Kampung Apar Village area. Based on SROI calculation, this activity was able to produce a total of 2.16. This means that community development activities are socially appropriate and able to provide positive beneficial values for both the community and social investment that is profitable from the company's point of view.

Based on this, it can be concluded that several community development activities have been proven capable of having an impact on the environment and surrounding communities. **If an analysis of the results and conclusions is carried out based on Skinner's behaviouristic theory (response and stimulus)**, it can be concluded that the tourism development activities carried out by the BSSA group are a form of response to the stimulus in the form of awareness of the potential and problems in the area of Kampung Apar Village. This is the potential of an existing institutional waste bank. On the other hand, Kota Pariaman faced a problem of the volume of residual waste that has not been optimally processed. Along with assistance from PT Pertamina Patra Niaga DPPU Minangkabau, BSSA carries out the processing of liquid and solid organic fertilizers, maggot cultivation, inorganic waste savings. **This made an impact on reinforcement**, namely strengthening actions in the form of developing activities for the production of special food from the City of Pariaman in the form of ladu crackers, storefront for selling products for small business throughout Pariaman City, Jahelo herbal products. On the other hand, strengthening is also reflected in the implementation of organic melon cultivation development.

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