COMMUNITY EMPOWERMENT THROUGH WASTE BANK: CONTRIBUTION OF KKN STUDENTS IN RW. 06 KASIN VILLAGE, MALANG CITY

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Abstract - *This study examines the implementation of the Bank Sampah program in RW 06, Kelurahan Kasin, Malang City, Indonesia, as a model for community-based waste management. The program aims to address the growing plastic waste problem and empower the community through waste sorting and recycling. The ABCD (AssetBased Community Development) approach was used to facilitate community participation and engagement.Findings indicate that the Bank Sampah program has successfully reduced waste volume and increased community awareness about waste management. The program has also provided economic benefits to residents through the sale of recycled materials.The study concludes that the Bank Sampah program serves as a valuable model for other communities seeking to address waste management issues.*

Keywords: *Bank Sampah Program, Waste Management, Community Empowerment.*

1. INTRODUCTION

Over the past few decades, environmental issues, particularly waste management, have become increasingly urgent global concerns. In Indonesia, a developing country with a large population, this problem is becoming more complex, especially in urban areas. Malang City, one of the major cities in East Java, is not exempt from this challenge. According to data from the Malang City Environmental Agency, waste production in this city reaches more than 600 tons per day, with about 14% being plastic waste. These figures demonstrate the urgency to find effective and sustainable waste management solutions.

RW 06 Kelurahan Kasin, located in Klojen District, Malang City, is one of the areas facing serious challenges in plastic waste management. As a densely populated residential area, RW 06 Kelurahan Kasin produces a significant volume of plastic waste daily. Without proper management, this situation has the potential to create various environmental and public health problems. The accumulation of poorly managed plastic waste can cause soil, water, and air pollution, which in turn threatens the health of local ecosystems. Furthermore, improper waste disposal can become a breeding ground for disease vectors, increasing the risk of spreading infectious diseases in the community (Komala & Sugiharti, 2012).

Facing this challenge, the community of RW 06 Kelurahan Kasin took the initiative to establish a Waste Bank Unit. This program aims not only to address the plastic waste problem but also as a form of community empowerment. Through plastic waste sorting and an organized sales system, this Waste Bank Unit has the potential to provide dual benefits: maintaining environmental cleanliness while providing additional income for residents (Dai & Pakaya, 2019). This initiative is in line with Law Number 18 of 2008 on Waste Management, which emphasizes the importance of implementing community-based waste management strategies.

The urgency of this research lies in several critical factors. First, the significant environmental impact of improper waste management. Second, the economic potential of plastic waste which, if managed properly, can improve community welfare. Third, the need to implement government policies related to community-based waste management. Fourth, the potential for this program to become a model for other areas in Malang City or even in other cities in Indonesia.

This research aims to explore and analyze the implementation of the Waste Bank Unit in RW 06 Kelurahan Kasin as a model of community-based waste management. Aspects to be examined include the operational mechanisms of the Waste Bank Unit, community participation and awareness in waste management, the economic and environmental impacts of this program, as well as challenges and opportunities for its development. By understanding the success factors and challenges in implementing the Waste Bank Unit, this research is expected to make a significant contribution to the development of more effective and sustainable waste management policies and strategies.

Furthermore, in a global context where plastic waste issues have become a crucial environmental concern, this research has high relevance. Findings from this study can provide valuable insights into how local communities can play an active

role in addressing global issues, in line with the UN Sustainable Development Goals (SDGs), particularly Goal 11 (Sustainable Cities and Communities) and Goal 12 (Responsible Consumption and Production).

Thus, this research is not only important for the local context of RW 06 Kelurahan Kasin but also has broader implications in the effort to find sustainable solutions for urban waste management. Through an in-depth analysis of this Waste Bank Unit program, it is expected to gain a comprehensive understanding of the potential, challenges, and impacts of community-based waste management initiatives. The results of this research are expected to serve as a reference for the development of similar programs elsewhere, as well as provide valuable input for policymakers in designing effective and sustainable waste management strategies.

2. METHOD

This "Waste Bank" activity uses the ABCD (Asset-Based Community development) approach method. The ABCD method is an approach to community development that exists in a large stream in order to realize a living order in which the community will be the determinant and actor in seeking environmental development or what is commonly called Community-driven development (CDD), (Salahuddin, 2015).

The stages in this method are: First, inculturation. Inculturation is a stage of introduction to the community. Students of KKN UIN Sunan Kalijaga Yogyakarta batch 114 group 286 here mingle with the community and become part of all routines that involve many people such as praying in congregation, participating in routine diba'an activities, tahlilan, community service and being part of the 79th Republic of Indonesia Independence Day celebrations. Students also adapt to community leaders and even all residents of RW 06 in Kasin Village, Klojen Subdistrict, Malang City to get deeper information. KKN UIN Sunan Kalijaga Yogyakarta Batch 114 Group 286 students conducted observations and interviews with the Healthy Working Group, RW, PKK, religious leaders, community leaders, youth as well as the community as a whole, in order to map the assets obtained from the results of these observations and interviews.

Second, discovery. Discovery is the process of disclosing information after inculturation. Discovery is done to process in-depth about things that are positive, then discussed by KKN UIN Sunan Kalijaga Yogyakarta Batch 114 Group 286 students with the community, then mapping which can be a success that has been experienced by the RW 06 community and which is a need that must be developed further. The KKN team found a "waste bank" for waste management that produces selling value and minimizes the accumulation of waste.

Third, design. Design is a work plan based on the assets owned. In this design process, KKN UIN Sunan Kalijaga Yogyakarta students batch 114 group 286 and the community formulate a follow-up process to the existing potential. Furthermore, they formulate steps and matters related to implementation such as, how to do it,

who is experienced in carrying out these steps, and which stages should be prioritized in its implementation. As well as when and how to follow up.

Fourth, define. Define is the process of supporting the implementation of the work program. Students of KKN UIN Sunan Kalijaga Yogyakarta batch 114 group 286 invite the community to sort waste and collect it into a "waste bank" that has a selling value.

Fifth, reflection. Reflection is the process of monitoring the progress of the activities carried out and evaluating the series of stages that have been carried out to determine the success and sustainability of the work program carried out.

3. RESULTS AND DISCUSSION

Malang City is one of the autonomous regions and is the second major city in East Java after Surabaya. According to data from BPS Malang City (2024), the area of Malang City is 111.077 km2 which is divided into five sub-districts, namely: Kedungkandang, Sukun, Klojen, Blimbing and Lowokwaru sub-districts. Astronomically, Malang City is located between 112.06° - 112.07° East Longitude and 7.06° - 8.02° South Latitude, with the following boundaries:

a. North: Singosari and Karangploso sub-districts of Malang Regency
b. East : Pakis Sub-district and Tumpang Sub-district of Malang Regency
c. South: Tajinan sub-district and Pakisaji sub-district of Malang Regency
d. West Side : Wagir and Dau sub-districts of Malang Regency

In its development, Malang City is famous for one of the creative city planning concepts that can be seen through creativity in village development. The village area in Malang City can also be said to be a creative space that can become a center of creative activities and economy as a solution to the problem of slums. The existence of villages is the foundation in the development structure of Malang City and also has a role in the economy of a densely populated city.

In 2015, it was stated that the area of slums in Malang City, according to the Decree of the Mayor of Malang No. 188.45/86/35.73.112/2015 in 2015, reached 608.6 Ha. The area with the largest slum area is in Bareng (81.56 Ha); followed by Ciptomulyo (62.6 Ha); Penanggungan (53.01 Ha); and Kasin (48.20 Ha). When broken down by sub-district, the largest slum areas are in Klojen (346.51 Ha); Sukun (132.8 Ha); Kedungkandang (72.9 Ha); Lowokwaru (31.35 Ha); and Blimbing (25.04 Ha).

To realize a city without slums, Malang City Government launched the 100-0100 program, which means the target of 100 percent access to drinking water, zero percent slum area, and 100 percent access to proper sanitation. This program produced a positive impact where in 2021, the slum area began to decrease to 224.19 hectares. Then, in 2022, the area shrank again to 169.16 Ha. And by the end of 2023, there were only 133.26 Ha.

One of the well-known forms of village development and slum arrangement in Malang City can be seen through the development of thematic villages. The development of thematic villages is an effort by the government to overcome slums in several corners of Malang city. Kasin Village, which used to be one of the villages

with the most slum areas, can now be said to have undergone a transformation into a sustainable waste management and environment-based area. This transformation can be seen from several main aspects, one of which is better waste management, where the implementation of a waste bank system in RW 06 Kasin Village has shown a significant improvement in waste management. Communities in this area are more active in sorting and recycling waste, which not only reduces the volume of waste sent to landfill but also educates the public on the importance of responsible waste management. Through the Working Group (*Pokja Sehat*), villagers are invited to care about environmental cleanliness.

The Malang City government's effort to solve environmental problems, especially waste, is the *Bank Sampah Malang (BSM)* program through the concept of participation-based community empowerment. This program is based on Regional Regulation No. 10 of 2010 concerning waste management. Bank Sampah Malang is located in Sukun Village, Sukun District, Malang City. This waste bank then has branches spread in several places throughout Malang City.

Based on the data that has been collected, waste management in RW 06 Kasin Village is carried out by means of a community empowerment-based approach. This is an improvement in the performance of non-organic waste management in Kasin Village through the waste bank movement. This movement originated from a sense of concern and concern from the community of RW 06 Kasin Village for the amount of waste that was carelessly disposed of by residents to the temporary shelter every day without sorting it first. Residents feel that the amount of waste disposed of in temporary shelter can still be reduced because they see that the existing waste still has economic value. In response to this, the residents of RW 06 Kasin Village established a waste bank movement whose activity program is non-organic waste management in the RW 06 Kasin Village environment. Each household in RW 06 Kasin Village sorts waste that still has economic value such as used cardboard boxes, plastic bottles and glass. Then once a month the results of the sorting will be counted and collected in the RW waste bank, then submitted to the Malang City waste bank and then sold to collectors. The proceeds of the sale are handed over to each household in RW 06 Kasin Village according to what has been calculated previously.

The waste bank in RW 06 in Kasin Village shows that community-based waste management can significantly reduce the amount of waste going to landfill. The 20% reduction in waste volume in the first six months of operation is an indication that the sorting and collection system implemented is quite effective. This reduction not only helps to reduce the burden on the landfill but also contributes to the reduction of negative environmental impacts from mismanaged waste.

The participation rate of 75% from households indicates that there is good community support and involvement in the waste bank program. However, the survey results show that there are still some difficulties in implementing proper segregation at the household level. Increased community awareness reflected in active participation is a positive step, but education programs need to be expanded to ensure that waste management is done correctly by all residents.

Community-engaged waste management is an approach that emphasizes the active participation of the surrounding community in the waste management process. In this approach, the government's role is only as a motivator and facilitator. According to Douglas and his colleagues (1994), effective environmental management requires the support and implementation of community-based strategies, which aim to empower and improve community access to crucial environmental resources, such as land, infrastructure, and services.(Putra & Ismaniar, 2020)

Waste management programs that involve communities often fail due to low household participation. If waste management is not considered as an important issue, then this will result in low community participation. On the other hand, Koesrimardiyati (2011) argues that community-based waste management programs can continue well if there is a change in behavior from residents who manage waste independently, supported by community organizing that involves women at the community level, such as the smallest unit of the village community, the Rukun Warga.

Community-based waste management is an approach to handling waste that is designed, organized, run, managed, and owned by the community. The goal is to achieve community independence in maintaining environmental cleanliness through environmentally friendly waste management methods. The communitybased management system covers household waste which is divided into two categories: organic and inorganic waste. Organic waste is processed into compost, while inorganic waste is processed for recycling, reuse, or disposal.

The 3R (reduce, reuse, recycle) waste management program introduces new perspectives and insights to the community in managing waste. Waste is no longer considered a useless item, but with the 3R approach, waste can be transformed into something that has added value. Therefore, community participation in recycling activities is very important, both as waste generators and as community members. Bank Sampah was established as a response to people's concerns about the environmental conditions that are increasingly filled with waste, both organic and inorganic. The increasing amount of waste can cause various problems, so processing is needed to convert waste into useful materials. With the Waste Bank system, it is hoped that it can help the government in overcoming the waste problem while improving the community's economy.

The implementation of the 3R approach in Kasin Village is through the provision of a Waste Bank. The Waste Bank is a place to save waste that has been sorted by type of waste. The way the Waste Bank works in general is almost the same as other banks, there are customers, bookkeeping records and management management. If in a commercial bank what the customer deposits is money, but in the Waste Bank what is deposited is waste that has economic value. In Kasin Village, there is a Waste Bank located in RW 06 with management that runs smoothly because the Waste Bank itself is managed directly by RW 06, especially members of the RW 06 PKK. The management of the Waste Bank can also run smoothly due to

the support of RW 06 residents who actively help with activities by collecting inorganic waste to the waste bank regularly every month.

As for the Technical Operations of Waste Bank Management, which is as follows:

a. Dumpster

The community in RW 06 Kasin Village collects waste in bins that have been provided at residents' homes. The customers separate the waste, where waste that has no economic value will be placed in a bin which will then be disposed of to the TPS, while waste that has economic value will be stored and then collected at the Waste Bank to be weighed.

b. Waste Collection

Waste collection is an activity to move waste from each household to the Waste Bank, which is done once a month. The Waste Bank manager will check the waste whether it has economic value or not. Waste that has economic value will be weighed by the Waste Bank manager and then transferred to the Waste Bank of Malang City.

Figure 1. the waste collection process

c. Transfer

The stage after waste collection is transfer. The Malang City Waste Bank manager will visit the Waste Bank in each region and transport the collected waste to be valued and purchased according to the value of the waste that has been collected.

d. Sales Result

The proceeds from the sale of waste will be converted into money into the waste bank account of each resident who has collected waste. The balance of the waste bank account can then be collected after several months in the form of money to be used for customer needs.

Figure 2. Weighing process and recording of revenue results

4. CONCLUSION

Based on the exposition, it can be concluded that the Bank Sampah program in RW 06, Kelurahan Kasin, has successfully achieved its objectives of reducing waste volume and raising public awareness about the importance of waste management. The implementation of the ABCD method has proven effective in empowering the community to actively participate in environmental management. Active community participation, supported by government policies and ongoing education, has significantly reduced the volume of waste disposed of in landfills. Additionally, the program has provided economic benefits to the community through the exchange value of collected waste. The success of this program demonstrates that with the right approach and community participation, waste management problems can be effectively addressed. The Bank Sampah program in RW 06 can serve as an inspiring model for other regions in their efforts to create a clean and sustainable environment.

To enhance the sustainability and impact of the Bank Sampah program, several aspects need to be considered. Diversifying the products derived from waste has the potential to increase the program's economic value. Furthermore, strong synergy with various stakeholders will enrich resources and expand the program's reach. Comprehensive periodic evaluations are also crucial to measure performance and identify areas for improvement. In this way, the Bank Sampah program can continue to develop and make a significant contribution to sustainable environmental management.

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