

## *Waste Management Through Community Participation- Based Waste Bank*

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**Abstract** – This research is motivated by the increase in population every year, which causes problems in environmental conditions, especially in increasing the volume of waste. This problem needs to be handled and managed properly through the role of the community as users and producers of waste. This research focuses on community involvement in waste management through the waste bank system in Talang Village, Bandar Lampung City and the driving and inhibiting factors of the community's role. The method used is a qualitative approach with a phenomenological study. Data were collected through observation, interviews, and documentation. The results stated that the forms of community participation in Talang Village in waste management with the waste bank system consisted of decision making, implementation, utilization, and evaluation. Factors driving community participation include the benefits that can be felt directly and sustainably. The inhibiting factors include the limited time each individual has and the uncertain price of goods. The results of this study are consistent with the theory of community participation, where people play an active role in waste bank activities because they see the benefits obtained.

**Keywords**— Community Participation, Waste Management, Waste Bank, Participation Factors.

## I. INTRODUCTION

Indonesia has a population that continues to increase every year. This increase causes a settlement to become dense, and all of its activities can cause several impacts that affect each residential area they occupy (Budiman, 2022). The increase in population in Indonesia, which has increased continuously, can cause problems in environmental conditions that lead to waste generation. Based on data, Indonesia ranks fifth as the largest waste-producing country in the world (Rosa, 2022). Waste has become a national problem and a major problem in the environment, especially in urban areas. Waste is mostly generated in urban areas, due to the rapid rate of urbanization, causing the volume of waste in urban areas to continue to increase (Rizal, 2020). This creates new challenges in waste management including waste collection, management, and treatment.

In Lampung Province, Bandar Lampung City is one of the areas that has a high volume of waste. Until now, the waste problem in Bandar Lampung City has not been fully resolved. According to the Lampung Environmental Agency (DLH), only about 40% of waste in urban areas is successfully handled (Lampung Environmental Agency, 2022). The following is data on waste generation in Lampung Province in 2022.

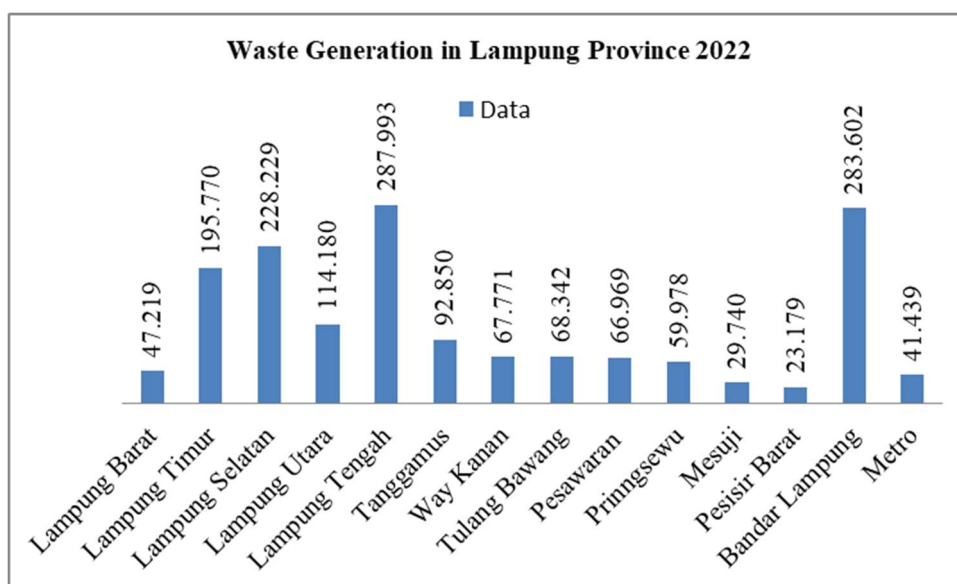


Figure 1. Data on waste generation in Lampung Province 2022

(Source: Departement of Environment (DLH) 2022)

Based on the data above, it can be seen that Bandar Lampung City is in second place with the highest amount of waste, which is 283,602 tons per year. The high amount of waste in Bandar Lampung City that continues to increase every day is a serious problem, so it requires more effective waste management, so that all existing waste can be managed properly. Waste management is not only the responsibility of the cleaning agency, but also requires support and active participation from the community.

Waste management requires active participation from the community. Research conducted by Budi (2019) shows that the success of waste management in Palembang City can be realized due to the active involvement of the community in reducing the amount of waste in their settlements. The community is the main party that produces waste, so the community also has an obligation to actively participate in waste management, especially by trying to reduce the amount of waste produced. Community involvement will be the midpoint in waste management, so that later it can create a much better waste management system and realize a clean residential environment.

Current waste management requires other strategies in order to minimize the amount of waste. One of the strategies needed is through the waste bank system (amaliah, 2020). Based on the Regulation of the Indonesian Minister of Environment Number 13 of 2012, a waste bank is a place for sorting and collecting waste that can be recycled or reused and has economic value (Permen NLH, 2012). Waste Bank is a household dry waste collection plan, such as used plastic, paper, glass or plastic bottles and others that use a conversion order from collecting waste to later earning money in the form of savings and customers like banks in

general that use the 3R principle (Reduce, Reuse, Recycle). Reduce which means cutting the amount of waste produced by eliminating the use of unnecessary materials. Reuse, reusing waste that can still be used. Recycle, recycling waste (Marwani, 2022).

The waste management system through waste banks is carried out by recycling, but not all types of waste can be recycled. By recycling waste, it can control the waste that will be disposed of in landfills (Pratiwi, 2018). According to Dewanti (2020) Waste management through waste bank arrangements goes through several stages, namely:

1. Segregation of household waste
2. Depository
3. Weighing and Recording
4. Sale of waste to collectors
5. Profit sharing

Waste management with the 3R principle is an important step that needs to be used as a reference. However, its implementation must be done properly and consistently. The three principles will run well and effectively if they involve active participation from the community, because this participation can encourage mutual concern for the environment (Fatmawati, 2019). The presence of waste banks teaches the community to sort waste according to its type and reuse items that are still suitable for use. With the new management system through waste banks, communities have the opportunity to improve their environmental conditions.

One of the waste bank programs that involves community participation in its management and still exists today, is in Talang Village, Bandar Lampung City, which has been established since June 2017. This waste bank was formed through community initiatives that work together in finding solutions to reduce the amount of waste. Through discussions, the community jointly designed how to create a clean environment and that waste is not just thrown away after use, but is used to produce economic value for the community. Active participation from the community that supports each other is an important factor in waste bank activities, so that they can run smoothly and successfully. The community is taught to sort household waste by using different containers, as well as distinguishing materials that can still be reused or recycled waste. In addition, waste bank activities also provide benefits to the communities involved.

The establishment of the waste bank has brought significant changes to the Kelurahan Talang neighborhood. The environment that was previously dirty due to garbage piling up in the yard has now become clean since the establishment of the waste bank. In addition, this waste bank program also provides various benefits, such as increased knowledge, social benefits, economic benefits, and the environment. It cannot be denied that the community in Talang Village is very enthusiastic about the existence of the waste bank because it can bring many changes that they feel until now (Interview results with the waste bank coordinator, 2023). The waste bank is one of the alternative solutions in managing waste with the 3R method (reduce, reuse, recycle) which has now been successfully implemented by the community in Talang Village. The active role of the community in the new waste management system is key to the success of this program. Their active involvement proves that joint participation can bring real change.

Based on the explanation above, the purpose of this research is to find out the forms of community participation in waste management and the driving factors and inhibiting factors of community involvement in waste management with the waste bank system which is currently still active and continues to run in Talang Village, Bandar Lampung City. Therefore, researchers are interested in studying community involvement in waste bank activities.

## II. METHODOLOGY

This research uses a qualitative approach with phenomenological studies. According to Moleong (2016) this qualitative research aims to understand the events experienced by the research subject through the process of analyzing and describing. According to Creswell (2013) phenomenology is used to describe the meaning of an event experienced by a person or group. People who play a role in tackling a phenomenon by exploring the structure of consciousness of human life experience. This researcher focuses on the experience of community involvement in waste management through waste banks in Talang Village, Teluk Betung Selatan District, Bandar Lampung City. To obtain data, researchers conducted interviews with informants using general and detailed questions.

Data collection techniques include observation, in-depth interviews, and documentation. The data obtained were analyzed through three stages, namely data reduction, data presentation, and conclusion drawing. Data validity was carried out using source triangulation, technique triangulation, and time triangulation.

## III. RESULT AND DISCUSSION

### 3.1. The Shape of Community Participation in Waste Management Through Waste Banks

#### 1. Participation in Decision-Making/Planning

Success for better waste control requires active community involvement, especially in decision-making and planning. In the waste bank program, planning is an important element in determining an indicator of success (Budi, 2019). The waste bank in Talang Village was formed through joint decisions and agreements without any assistance from external parties. The formation of the waste bank began with Mr. Zainal as the individual who initiated the establishment of the waste bank. He then discussed with the head of the RT and the local pamong in Talang Village to agree on the establishment of a waste bank. After the proposal was approved, the local pamong held a discussion with the community to plan the formation of waste bank activities aimed at reducing the volume of waste in Talang Village.

Mr. Zainal, as the individual who proposed the establishment of the waste bank, gave some explanations about it. The explanation included how the waste bank works so that the community could understand it clearly. In addition, after the explanation, the community asked questions related to the disbursement mechanism after depositing the waste. The discussion was enthusiastic and the community expressed their support for the waste bank to be established soon. They realized that this program would not only help reduce the volume of waste, but also educate the community on proper waste management.

The community provides suggestions related to the waste bank program together without any element of mutual opinion from each individual. The decision to establish a waste bank was made based on input from the community, which as a whole agreed with the establishment of a waste bank in Talang Village. The local Pamong then decided and approved the results of the discussion and drafted the activities, as well as the administrators who would run the waste bank program. The formation of the waste bank was motivated by the community's concern about the increasing volume of waste that threatens the environment. Therefore, effective waste management is needed to convert waste into valuable goods (Masruroh, 2022).

Looking at the results of the research above, it is known that community involvement in decision making is one of the important points that support the success of waste bank activities in Talang Village. Participation by the community is in the form of contributing ideas, exchanging ideas, and providing input so that the waste bank is properly formed. In addition, this involvement provides a direct opportunity for the community to contribute to planning related to their prosperity. Community involvement is very important, because without involvement from the community, the success of the program will be

hampered.

## 2. Participation in Implementation

According to Uphoff (1980), the community can participate in supporting the implementation of the waste bank program through contributions in the form of energy, money or goods. The first step in the implementation of the waste bank program carried out by the community in Talang Village is to join as a customer first. After joining as a customer, the community then begins to sort their respective household waste based on its type. The community must have two different containers to separate dry waste (bottles, aluminum, plastic) from wet waste such as food scraps that are easily decomposed. Waste that can be deposited in the waste bank is dry waste, which is then collected and put into sacks. After sorting, the waste is deposited at the waste bank according to a previously agreed schedule. The community independently brings their waste to the waste bank to be weighed and recorded. This part is carried out by the management, but other community members also help and ease the task of the management.

In addition, the community also made additional contributions in the form of labor, money and goods. Monetary contributions, for example, came from 15 residents who donated money for waste bank activities, such as the purchase of stationery, savings books and the purchase of sacks for waste containers. In the form of donations of goods, 3 residents provided goods in the form of scales and a 3-wheeled motor vehicle for waste transportation. Contribution of labor, namely the community helps in transporting goods that have been recorded to the vehicle, assisting in weighing, assisting in recording in the customers' savings book and other activities related to waste bank activities.



Figure 2. Community participation in waste bank activity

## 3. Participation in Benefit Capture

The benefits of waste management through waste banks, both in terms of quality and quantity, can be seen and felt (Budi, 2019). The initial goal expected by the community with this waste bank activity is environmental cleanliness in their residence. This hope is now starting to be realized and felt by the community in Talang Village. Waste banks provide benefits that can be felt in various ways, ranging from benefits for environmental, economic and social conditions. This diversity of benefits encourages people in Talang Village to continue to actively participate in supporting the sustainability of waste bank activities.

## 4. Participation in Evaluation

After the waste bank activity was underway, a joint evaluation was conducted, facilitated by Mr. Zainal and the local pamog. An evaluation forum was set up for the community who had participated in the waste bank activities. During the evaluation, the community was given the opportunity to provide feedback and suggestions on how the waste bank was set up and run. The suggestions were related to changes in the deposit schedule.

Based on the researcher's findings above, the forms of community participation are in line with the definition according to Cohen and Uphoff (1980), where it is explained that the form of community involvement is divided into 4 forms, namely



participation in decision making / planning, participation in the implementation of activities, taking benefits, and the last is evaluation. In Kelurahan Talang, it is known that the form of community involvement in waste management through waste banks consists of participation in decision making, which leads to the process of establishing a waste bank by providing opportunities for each individual to have an opinion which is used as the basis for determining the final result, namely the formation of a waste bank program. Participation in implementation, where the community consistently participates in waste bank activities up to the profit-sharing stage. In addition, the community also helps in the implementation in the form of donations of money, energy, and also goods owned by the community to help during waste bank activities. Benefit taking, which is in the form of the community enjoying the results obtained from the waste bank, both for individuals and for together and finally evaluation, the community who participates in the waste bank provides suggestions and input during the waste bank activities, both in terms of management and in terms of the waste bank system.

### **3.2. Factors Encouraging and Hindering Community Participation in Waste Bank Management**

#### **1. Driving Factors**

##### **a. Incentives**

Incentives are one of the main factors that encourage people in Kelurahan Talang to participate in waste bank activities. People participate in waste bank activities because they benefit from the sale of waste. Previously, people in Talang Village underestimated the problem of waste, now they are starting to be friendly with waste. Providing incentives in waste bank activities is important to generate community enthusiasm to remain active in waste bank activities. In general, people will be more likely to be actively involved if the program provides positive benefits for them.

##### **b. Multiple Benefits**

Waste bank activities provide a variety of benefits to individuals and the local community, including benefits for environmental sustainability, social benefits, and economic benefits. From the economic aspect, the waste bank helps the community to earn money from the sale of the waste they collect and can help them buy their daily needs. Social benefits are more directed towards strengthening the nature of kinship between one individual and another, because this waste bank activity is carried out together so that it can strengthen social relations. Based on the research results, this finding is in line with the results of Slamet's research (2019), which states that the factors driving community participation include the benefits for sustainability. People are involved because they believe that the program has positive value and provides real benefits. Incentives and the many benefits of the waste bank in Talang Village make the community continue to move and actively participate.

The results of the study are also in line with the theory put forward by Keith Davis (1962) which explains that people tend to participate if these activities provide benefits or benefits that are in accordance with the needs and desires of the local community. This can be found in the field that people in Talang Village participate in waste bank activities because they can provide direct benefits for the environment, economy and social. Where the presence of a waste bank can provide benefits in the form of incentives from the sale of waste. The many benefits that can be felt by the community, not only for individuals, but also for the common scope in improving environmental conditions.

#### **2. Inhibiting Factors**

##### **a. Time Limitations**

The different occupational backgrounds of each individual in Kelurahan Talang affect the level of busyness and ability of each individual to participate in all activities in the waste bank. Some people who work do not have much time to be actively involved in participating in all waste bank activities. However, some residents still make other contributions to participate in meeting the needs of the waste bank, even though they are not directly involved in its activities.

b. The Price of Goods is Uncertain

The instability of the price of goods has become Kendall for some customers in Talang Village. This condition makes them temporarily stop depositing waste into the waste bank, with the excuse of waiting for the price of goods to stabilize or increase. People tend to be interested in depositing waste when they feel that they are getting greater benefits, not losses.

Based on the results of the research, the obstacles found by researchers have differences with the results of research conducted by Ulya (2018), which states that the factors inhibiting community participation are the ignorant nature of individuals, lack of community knowledge, and no support from outside parties. In Kelurahan Talang, the obstacle is the limited time owned by each community due to various activities, as well as the instability of the price of goods which has an impact on people's interest in participating. This is certainly an inhibiting factor, because the waste bank in Talang Village was formed based on mutual agreement, so community participation is the main key to the success of waste bank activities. If community involvement is reduced, then waste bank activities cannot be carried out regularly, which in turn can hinder the main objectives of the program.

#### IV. CONCLUSION

The conclusion of this research is that the form of community involvement in waste bank activities in Talang Village includes, first, decision making in the establishment of waste banks. The community jointly held a joint discussion about the program. Second, the community actively contributes by contributing in the form of labor, money, and goods to support the sustainability of waste bank activities. Third, in taking benefits, the community focuses more on the condition of the environment where they live and utilizes the results of the waste bank activities as a result of their hard work. Fourth, in evaluation, the community in Talang Village actively provides criticism and suggestions regarding the implementation of the waste bank that has been carried out. The driving factors of community involvement in waste management through waste banks are incentives and benefits in the form of environmental, social and economic benefits. Then the inhibiting factors are the limited time they have and the instability of the price of goods.

The government or cleaning service is expected to help and provide support by granting facilities in the form of facilities and infrastructure that can help the sustainability of waste bank activities, especially in Talang Village, which has been proven to have a positive impact in reducing the amount of waste.

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