

# Community Empowerment in Waste Management Through the "Patuh Muamalat" Waste Bank Program in Larangan Village, Candi District

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## ABSTRACT

**Objective:** This study aims to describe and analyze community empowerment in waste management through the waste bank program in Larangan Village. **Method:** The research employs a qualitative approach with data collected through interviews, observations, and field documentation, while data analysis follows the Miles and Huberman (1984) model, consisting of data collection, data reduction, data presentation, and conclusion drawing. **Results:** The findings indicate that community empowerment in Larangan Village has been achieved through three main aspects: (1) awareness empowerment, which has increased residents' awareness and active participation in waste management through socialization and training; (2) capacity empowerment, where communities receive training and counseling to enhance knowledge and skills, supported by the establishment of waste management groups to strengthen organizational capacity; and (3) authority empowerment, which provides opportunities, authority, and competencies for communities to sustainably and independently manage waste. **Novelty:** This study contributes by offering an evaluative perspective on waste bank programs as a model of community-based empowerment that integrates awareness, capacity building, and authority, positioning waste management not only as an environmental initiative but also as a strategy for sustainable village development.

## INTRODUCTION

Waste is one of the most urgent problems in Indonesia that requires serious attention. As the country with the fourth largest population in the world, public consumption is high and the amount of waste produced every day is quite large (Ardiansyah., 2023). Inefficient waste management and lack of public awareness in many areas make the management of waste piles even more difficult. The waste problem is not only limited to the urban environment, but also extends to waters, especially the ocean, making Indonesia one of the largest waste producers in the world. Based on data from the National Waste Management System (SIPSN) of the Ministry of Environment and Forestry (KLHK) in 2023, it was recorded that as of July 24, 2024, the number of national waste heaps from 290 districts/cities has reached 31.9 million tons. The average waste produced by humans per day consists of 60-70% organic waste while non-organic waste is 30-40%.

According to the Law of the Republic of Indonesia Number 18 of 2008 concerning Waste Management, waste is defined as the residue of daily human activities or natural processes in solid form. So the meaning is that unwanted waste must be disposed of

(Silolongan & Apriyono, 2019). To prevent environmental pollution due to waste, many regions have implemented waste reduction efforts. One of the efforts made by the government and the local community in protecting the environment is also implemented in the Sidoarjo area. As a beneficiary of Adipura, Sidoarjo has made efforts to protect the environment through waste management and reduction. As part of waste reduction efforts, the Sidoarjo Government issued Sidoarjo Regency Regional Regulation Number 6 of 2012 concerning Waste Management. With the help of proper management methods and processing technology, it is hoped that the entire waste processing process will not have a bad impact on the environment.

Many waste banks are run in Sidoarjo Regency, one of which is in Larangan Village. In Larangan Village, there are twenty (20) registered waste banks spread throughout the Larangan Village area. One of them is the waste bank "Pattuh Muamalah" which started in October 2013. The Pattuh Muamalah waste bank has also won the first place at the "Intermediate" level in the clean, cool, and neat (BERSERI) category. In carrying out the management of the waste bank, it can be done through a waste weighing mechanism which is carried out on a scheduled basis once a month, precisely on Saturday in the third week. This activity was carried out with a rolling system between waste bank officers and people who are members of the Dasawisma group. With the rolling system, each dasawisma has the opportunity to participate alternately, thereby increasing community involvement in waste management. This activity not only aims to record the volume of waste that has been successfully managed, but also to increase public awareness of the importance of waste sorting and reduction. Every year, the amount of waste managed by waste banks has increased significantly. Below is the recapitulation data of the results of the "Pattuh Muamalah" waste weighing in Larangan Village:

**Table 1.** Waste Weighing Recapitulation Data "Pattuh Muamalat" in 2023

No	Month	Kg
1	July	528.9 kg
2	August	439.3 kg
3	September	435.3 kg
4	October	477.3 kg
5	November	443.1 kg
6	December	510.9 kg

Source: Processed from Pattuh Muamalat Waste Bank in 2023

It can be seen in the table above that in July, waste management was recorded at 528.9 kg, which is the highest figure in the last 6 months. However, in August and September, there was a significant decrease with management of 439.3 kg and 435.3 kg respectively. Meanwhile, October showed a slight increase to 477.3 kg, followed by November which again decreased to 443.1 kg and in December, waste management increased again to 510.9 kg.

According to (Briliani et al., 2023) in a study entitled "Community Empowerment Through the Resik Apik Waste Bank of Sronдол Kulon Village". This study uses a qualitative descriptive approach with data collection techniques in the form of observation, interviews, and documentation. The results of the study show that community empowerment through the Resik Apik Waste Bank in Sronдол Kulon Village has not fully met the expectations of residents. This can be seen from the non-optimal aspects of non-physical, supervision, and access to education and health facilities. Nonetheless, several dimensions of empowerment have shown a correlation between people's expectations and conditions on the ground.

According to (Winarno et al., 2019) in a study entitled "Community Empowerment Through Organic Waste Banks in Krenjengan Village, Probolinggo". This study uses a qualitative descriptive method, with data collection techniques through observation, interviews, and documentation. The results of the study show that organic waste recycling activities at the Krejengan Village Organic Waste Bank are expected to be able to bring positive changes to the community and the surrounding environment. The community began to dispose of garbage in its place, which was then sorted, so that the environmental conditions became cleaner. This recycling activity also provides benefits in building public awareness of the importance of protecting the environment.

According to (Amallia et al., 2024) in a study entitled "Community Empowerment Through Waste Banks in Improving Community Welfare in Sumberejo Sejahtera Village, Kemiling District, Bandar Lampung". This study uses a qualitative descriptive method, with data collection techniques in the form of observation, interviews, and documentation. Based on the results of the research, community empowerment through the "Emak Id" Waste Bank is considered quite good, but not fully effective. This is due to the community's limitations in participating in socialization activities organized by community leaders and waste bank managers, because these activities are often carried out during working hours. As a result, there are still many residents of Sumberrejo Sejahtera Village who do not fully understand the Waste Bank program.

Based on observations in the field, there are several problems, namely the level of public awareness to sort and manage waste is still low, many people throw waste carelessly and do not care about waste management in waste banks.

Based on the above research issue, the author is interested in identifying the results of the research using the theory of Wrihatnolo and Dwidjowijoto (2007:147-152) stating that community empowerment can be measured through 3 (three) main dimensions. The three indicators are as follows: First, the awareness stage, which is the process in which the community as the subject of empowerment is given an understanding that each individual has potential that can be developed. Second, the capacity building stage, which includes strengthening the capacity of individuals, organizations, and value systems, so that the community is able to accept and manage the power provided. Third, the empowerment stage, which is the process of giving empowerment, authority, and

opportunities to the community so that they can develop and achieve independence, taking into account the quality and skills of each individual.

## RESEARCH METHOD

In the research related to "Community Empowerment in Waste Management Through the "Pattuh Muamalah" Waste Bank Program in Larangan Village, Candi District, this is a qualitative data type research. With qualitative research, the author intends to find out the role of community empowerment in waste management through waste banks and to find out how much community participation in managing waste banks. The location of this study is in Larangan Village, Candi District, Sidoarjo Regency. In this study, the authors used interviews, observations, and documentation to collect data. Primary data is data taken through direct interviews with the main informants, namely the Director of the waste bank and the management of the waste bank. To obtain more precise information, the author also involved other informants, such as the Village Secretary and the Larangan Village apparatus. In addition, the author uses secondary data from available books, journals and articles. The focus of this research is community empowerment in waste management through waste banks in Larangan Village with indicators that refer to the variables of Motivator, Facilitator, and Dynamizer according to Pitana and Gayatri (2005). The determination of informants was carried out based on an assessment of the characteristics of the sample needed and in accordance with the purpose of the study. As for the data analysis technique, the research results are guided by the data analysis model from Miles and Huberman, After the data is collected, the next step is to analyze it through the following steps: 1) Interviews with informants, field observations, and photo documentation are used to collect data. 2) Data reduction is a stage in field research where the data that has been collected is filtered, focused, simplified, and abstracted to make it more manageable. 3) The presentation of the data is Conveying information that is easy to understand through tables, graphs, diagrams and narratives. 4) Conclusion drawing is summarizing the data or findings obtained from the data presented. (Sugiyono, 2016).

## RESULTS AND DISCUSSION

### *Results*

Community empowerment in waste management through the waste bank program "Patuh Muamallah" in RT 09 Larangan Village, Candi District according to Wrihatnolo and Dwidjowijoto (2007:147-152). To find out community empowerment in waste management through the Patuh Muamallah waste bank program, the author uses the theory of Wrihatnolo and Dwidjowijoto (2007:147-152) which mentions several indicators that state that community empowerment describes that empowerment has a basic basis, namely 1) Empowerment Awareness 2) Empowerment Capacity 3) Empowerment Empowerment.

## 1. Empowerment Awareness

The society that is the subject of empowerment is given the realization that every human being has potential that can be developed. The awareness stage is the first step in the community empowerment process which aims to increase the awareness of individuals or groups about their potential and rights. At this stage, the community is given the understanding that they have the ability to change their living conditions through the use of existing resources. The activities carried out include counseling, training, and discussions that encourage active community participation in identifying problems and finding solutions together.

Through awareness, it is hoped that the community will not only be aware of their rights and potential, but also motivated to play an active role in the process of social change. Empowerment that starts with awareness will create individuals and groups who are more confident, empowered, and ready to take positive action in improving their quality of life. The following is information on the results of the interview with Mrs. Santi as the Director of the "Patuh Muamallah" Waste Bank RT 09 Larangan Village, Candi District, Sidoarjo Regency.

"We hold various activities to increase public awareness about the importance of waste management. One of the activities is socialization and counseling. Through this activity, the community is invited to understand the negative impact of waste on the environment and health, and is taught how to sort waste correctly. We also invite resource persons who are experts in the field of waste management to provide waste recycling training, so that people have the skills to turn waste into valuable goods."

(interview 06 January 2015)

The community empowerment program implemented by RT 09 Larangan Village has shown a positive impact in increasing awareness and active participation of residents in waste management. Through socialization and training, people not only understand the negative impact of waste on the environment and health, but also have the skills to turn waste into goods of economic value.

The above phenomenon if associated with the theory of Wrihatnolo and Dwidjowijoto is appropriate, the reason is that according to the theory, the efforts made to increase public awareness about the importance of waste management are the application of empowerment through awareness. In the interview above, one of the awareness activities carried out was

socialization and counseling that reflect efforts to provide knowledge, skills, and encouragement to the community to be more aware of the negative impact of waste on the environment and health. Through socialization and counseling, the public is invited to understand their role in proper waste management. Training on recycling also provides practical skills that enable communities to utilize waste as a valuable resource. Thus, this interview has been in accordance with Wrihatnolo and Dwidjowijoto's theory in the indicator of awareness empowerment.

In a previous study entitled "Community Empowerment in the Management of the "ARUNIKA" Waste Bank in Mungseng Village, Temanggung District, Temanggung Regency". Research conducted by Choliq Ilcham Ramadhan, Slamet Santoso, Retna Hanani, Ari Subowo using Wrihatnolo and Dwidjowijoto theories showed optimal results. This is due to the management of the Arunika Waste Bank conducting socialization and education to the community through direct communication, such as attending RT meetings and community activities. This aims to make the community understand the benefits of good waste management and encourage active community participation in waste management programs. The results of the awareness stage show that the community is beginning to be aware of the importance of waste management, which is reflected in their desire to actively participate in the Waste Bank program. In addition, the two studies also underline the importance of public awareness of waste management and its negative impact on the environment and health.

## **2. Capacitance Empowerment**

The capacity stage refers to the condition when the community has the ability to receive and manage the power given. This stage is often referred to as capacity building, which includes strengthening three main aspects, namely individuals, organizations, and value systems that support the empowerment process. Capacity building is a process in which people are given the ability to manage problems and take advantage of the opportunities that exist around them. This process can be achieved when the community already has the ability to accept and use the various resources or knowledge provided. The following is information on the results of the interview with Mrs. Santi as the Director of the "Patuh Muamallah" Waste Bank RT 09 Larangan Village, Candi District, Sidoarjo Regency.

"First, we provide training and counseling to the community on the importance of waste management, such as how to sort waste, recycle, and reduce unusable waste. This training provides human capacity, where any individual or group can understand how waste can be managed properly and beneficially. In addition, we form a waste management group that can organize waste management activities, from sorting to recycling. Through this group, the community can work together in dealing with waste problems in a more structured and organized manner. We also strive to transform the value system of society, by instilling the importance of environmental awareness and the negative impact of waste on environmental health and sustainability. Programs such as waste savings, where people save waste that has been sorted to be exchanged for money or other necessities, are also a means to increase awareness that waste has economic value that can be utilized. " (interview January 06, 2025). The following is a recap of the waste weighing of the "Pattuh Muamalat" waste bank, Larangan Village, Candi District, Sidoarjo Regency.

**Table 2.** Recapitulation Data of the Results of Weighing Waste "Pattuh Muamalah" in 2023

Yes	Weighing Month	Nominal
1	July	IDR 1,109,400
2	August	IDR 1,003,400
3	September	IDR 954,490
4	October	IDR 981,100
5	November	IDR 891,000
6	December	IDR 1,208,850

Source: Processed from Pattuh Muamalah Waste Bank in 2023

At the capacity stage of RT 09 Larangan Village, the community was given training and counseling to improve knowledge and skills in managing waste. In addition, a waste management group was formed to strengthen organizational capacity at the village level. Programs such as waste savings are also implemented to foster public awareness of the importance of waste management and its impact on the environment. The goal is for the community to manage waste independently and responsibly.

The above phenomenon if associated with the theory of Wrihatnolo and Dwidjowijoto is appropriate, the reason is that according to the theory, RT 09 Larangan Village, the capacity is reflected in the training and counseling provided to the community on how to manage waste properly, such as sorting and recycling waste. In addition, the establishment of waste management groups at the village level strengthens organizational capacity, allowing communities to work together in addressing waste problems in a structured manner. Waste savings programs that connect waste with economic incentives also strengthen community capacity to utilize existing resources. Thus, this interview has been in accordance with Wrihatnolo and Dwidjowijoto's theory in the indicators of empowerment and capacity.

In a previous study entitled "Community Empowerment in the Management of the "ARUNIKA" Waste Bank in Mungseng Village, Temanggung District, Temanggung Regency". Research conducted by Choliq Ilcham Ramadhan, Slamet Santoso, Retna Hanani, Ari Subowo using Wrihatnolo and Dwidjowijoto theories showed optimal results. This is because training and counseling to the community is an important first step to ensure they understand how to sort waste and recycle. In addition, there is a focus on empowering the capacity of individuals and groups to manage waste properly and beneficially. In addition, the two studies underline the importance of groups or communities to organize waste management activities, so that communities can work together in a structured and effective manner.

### **3. Enablement Enablement**

Empowerment where the community is given power, authority, or opportunities to develop to achieve independence. Power provision is adjusted to the quality of each individual's skills. Empowerment means giving opportunities, strength, or authority to the community so that they can develop and achieve independence. In this case, people

are given the opportunity to make decisions, manage problems, and utilize the potential that exists in themselves. This empowerment is done by paying attention to the abilities and skills of each individual, so that everyone

given opportunities according to what they can do or learn. The following is information on the results of the interview with Mrs. Santi as the Director of the "Patuh Muamallah" Waste Bank RT 09 Larangan Village, Candi District, Sidoarjo Regency.

"We do this by giving the community the opportunity and authority to manage waste independently. It starts with providing knowledge and skills that suit each individual's abilities through training, such as how to sort waste, recycle, and manage waste in a more environmentally friendly way. In addition, we also provide opportunities for the community to be directly involved in waste management programs, such as being part of a village waste management group that has the responsibility to plan and implement waste management activities. Thus, people are not only given knowledge, but also given the authority to manage waste in their environment." (Interview 06 January 2025)



Figure 1. Implementation of the "Pattuh Muamalat" waste bank

Source: Processed from the "Pattuh Muamalat" waste bank in Larangan Village (2025)

### *Discussion*

The above phenomenon if associated with the theory of Wrihatnolo and Dwidjowijoto is appropriate, the reason is that according to the theory, empowerment of empowerment involves providing opportunities and abilities to the community to act independently and responsibly. In this case, in RT 09 Larangan Village, the community is given the opportunity to acquire knowledge and skills related to waste management, which is in accordance with the quality of each individual's skills. In addition, the community is also given the authority to be involved in waste management through participation in village waste management groups. This gives them the authority to plan and carry out waste management activities, according to the understanding and skills they have learned. Thus, this interview is in accordance with Wrihatnolo and Dwidjowijoto's theory in the indicators of empowerment of empowerment.

In a previous study entitled "Community Empowerment in the Management of the "ARUNIKA" Waste Bank in Mungseng Village, Temanggung District, Temanggung Regency". Research conducted by Choliq Ilcham Ramadhan, Slamet Santoso, Retna Hanani, Ari Subowo using Wrihatnolo and Dwidjowijoto theories showed optimal results. This is due to several factors, one of which is the active involvement of the community in every stage of the program, which creates a sense of ownership and responsibility for waste management. Well-designed and relevant training programs are essential to improve people's skills and knowledge, so that they can apply appropriate management techniques. Support from stakeholders, including governments, non-governmental organizations, and the private sector, is influential in providing the necessary resources, facilities, and financing. In addition, it encourages innovation and creativity. The community in processing waste into useful products can increase participation and success.

## CONCLUSION

**Fundamental Finding :** This study concludes that community empowerment through the waste bank "Pattuh Muamalah" in Larangan Village has effectively enhanced awareness, skills, and authority in waste management, enabling residents to transform waste into resources of economic value while fostering collective responsibility. **Implication :** The findings imply that waste bank programs can serve as sustainable models for community-based environmental management, combining ecological preservation with economic benefits, and strengthening village-level organizational capacity. **Limitation :** However, the study is limited by its localized focus on one waste bank initiative, making generalization to other contexts difficult, and by the lack of quantitative measurement of long-term behavioral changes and economic impact. **Future Research :** Further studies should examine comparative waste bank programs in different regions, assess their long-term sustainability, and explore policy frameworks that could scale up community-based waste management as part of broader environmental governance strategies.

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