

The Impact of The Waste Bank Program on Community Social and Economic Change

Hot Tiur David Martin^{1*}, Syamsiah Badruddin²

^{1,2}Sociology Study Program, Faculty of Social and Political Sciences, National University, Jakarta, Indonesia

htdavidmartin@gmail.com^{1*}, syamsiahbadruddin0234@gmail.com²

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Abstract

Population and income growth will encourage changes in consumer behavior, thereby increasing the waste produced. Proper waste management is very important to create a healthy and clean natural environment. Waste management must be carried out using a sustainable 3R (Reduce, Reuse and Recycle) strategy. Strategic action in overcoming the waste problem can be carried out through empowerment, namely the Waste Bank program. This research use descriptive qualitative approach. The number of informants in this research was five people, selected through purposive sampling. Data collection methods involve interviews, observation, and documentation. Everett Rogers' Diffusion of Innovation Theory is used to explain the implementation of the Waste Bank program, how this Waste Bank is a new innovation in waste management that is beneficial for the social and economic life of the community. The results of this research identified that the Mawar Waste Bank program was running well, thus having a good impact on social and economic changes in the surrounding community. The resulting social change impacts are: 1) Active as a resource person for education about waste management, 2) Opening new job opportunities, 3) Waste Bank as a forum for environmental awareness. Meanwhile, the resulting economic impact: 1) Creation of additional income, 2) Recycling business opportunities.

Keywords

Waste Management, Waste Bank, Impact of Waste Bank

*Corresponding Author

htdavidmartin@gmail.com

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INTRODUCTION

In recent years, Indonesia's population has experienced rapid growth, especially in large urban centers such as DKI Jakarta. According to data released by the DKI Provincial Central Statistics Agency, in 2020, the population of DKI Jakarta reached 10.56 million people. Furthermore, in 2021, the population will increase to 10.64 million people, and in 2022, it will reach 10.74 million people. This rapid increase in population has had several impacts, one of which is an increase in the amount of waste.

The problem of waste management is one of the challenges faced by cities in Indonesia. Garbage is an inseparable part of urban life, because all their athey can pollute the soil over a long periodo prevent potential harm to the environment and protect development investments. Large piles of solid waste cannot be decomposed by decomposing microorganisms, so over a long period of time, they can pollute the soil.

Population growth and disposable income will drive changes in consumer behavior thereby increasing waste output. According to the Central Statistics Agency (BPS), daily waste production in DKI Jakarta in the last three years has fluctuated. In 2020, the amount of daily waste produced in DKI Jakarta reached 7.58 tons, while in 2021 the amount of daily waste produced reached 7.23 tons, and in 2022 the amount of daily waste produced reached 7.54 tons. Various problems such as health problems and flooding may be caused by improper waste management. In addition, the lack of support from the government in providing facilities and infrastructure causes existing services to be suboptimal, with the consequence of reducing environmental quality, especially in the context of urban waste transportation. To overcome this problem, active government involvement is needed, supported by the active participation of the local community.

Effective waste management is very important to create a healthy and clean natural environment. Negative impacts on life can be avoided if waste is managed well. Every level of society, from government to households, needs to collaborate in waste management. Waste management includes all activities carried out to deal with waste from when it is formed to final disposal. In general, waste management activities include: controlling waste generation, waste collection, transportation, processing and final disposal (Sejati, 2004).

Waste management must be carried out using a sustainable 3R (Reduce, Reuse and Recycle) strategy to maintain environmental conditions at a level commensurate with household and public sector activities. The 3R waste management approach opens up new perspectives and deeper knowledge for the community in managing waste. Trash is no longer considered useless items; On the contrary, through the 3R approach, waste is considered a resource that can add value.

It is believed that sustainability and balance can be maintained to provide a high quality of life for future generations. Independent Waste Management Groups (KPSM) and small-scale Waste Banks are new and innovative approaches in overcoming the problem of excessive waste. By 2022, DKI Jakarta will have around 3,000 Waste Bank units operating in five administrative city areas. Meanwhile, according to data from the Ministry of Environment and Forestry (KLHK), the number of Waste Banks throughout Indonesia has reached 25,000 units spread across various regions.

Especially in waste management, society is not ready for it to become a development topic. Empowerment is a sustainable strategic activity in the context of human development and an alternative solution to Indonesia's waste problem. Through the Waste Bank program, 3R knowledge and skills can be transformed. The government, private sector and society must then work together to optimize the 3Rs. Building community independence in waste management can be done in stages.

Mawar Waste Bank is one of the Waste Banks that was established as an effort to improve the quality of the environment and economy of the surrounding community. The

Mawar Waste Bank is located in Jati Padang Village, Pasar Minggu, South Jakarta, and was first opened in 2013. The aspirations of the people living in Jati Padang Village, where the Mawar Waste Bank is located, were the reason for establishing this Waste Bank. Mawar Waste Bank is also actively participating in several competitions in terms of empowerment. The highest achievement in 2018 was that the Mawar Waste Bank was the 1st national champion from the National Population and Family Planning Agency (BKKBN); besides that, the Mawar Waste Bank was assisted by the Environmental Service (DLH).

RESEARCH METHODS

This research uses qualitative research with a descriptive approach. There were five informants in this study, and were taken using purposive sampling. The data collection techniques used were interviews, observation and documentation. The data processing and analysis techniques used are qualitative descriptive analysis techniques, including data reduction, data presentation and drawing conclusions. The location of this research is at the Mawar Waste Bank Jl. Wildlife Park Rt.004/005 No.26 Jati Padang, Pasar Minggu, South Jakarta. This research was conducted from December 2023 to January 2024.

RESULT AND DISCUSSION

Mawar Waste Bank Profile

The establishment of this Waste Bank was first pioneered by Mrs. Ekawati Prayitno together with friends Rt.004/005 Jati Padang Village, South Jakarta in June 2013. In Jati Padang district, South Jakarta there are two Waste Banks, namely the Belimbing Waste Bank which was established in 2012 chaired by Mrs. Yani, RW secretary and the Mawar Waste Bank was founded in 2013.

After the Mawar Waste Bank was formed and launched, a management was formed who was responsible for the running of the Mawar Waste Bank's activities in Jati Padang, South Jakarta. There are seven Mawar Waste Bank management members who are residents of Rt.004/005 Jati Padang, South Jakarta and all of the management members are mothers. Currently, there are thirty people who are customers of the Mawar Waste Bank.

The Mawar Waste Bank utilizes both organic and inorganic waste. Organic waste, such as newsprint, books and cardboard, is processed into handicrafts such as flower vases, pencil cases and various other creative works after going through a process so that they have economic value in society. Apart from that, the Mawar Waste Bank also recycles inorganic waste, such as plastic containers and used plastic, to make handicrafts that have sales value and can increase income.

Mawar Waste Bank actively participates in various competitions in an effort to empower. Its highest achievement occurred in 2018, where the Mawar Waste Bank won the title of 1st National Champion from the National Population and Family Planning Agency (BKKBN). Apart from that, the Mawar Waste Bank is also one of the Environmental Service (DLH) facilities.

Implementation of Mawar Waste Bank Activities

The concept of Waste Banks is starting to be widely implemented in Indonesia, where people can bring certain waste, which can then be processed into useful materials. One of the Waste Banks that is active in sorting and collecting waste which is then processed into attractive and valuable crafts is the Mawar Waste Bank. The waste management mechanism at the Mawar Waste Bank starts from sorting waste, depositing waste at the Waste Bank, weighing it, and recording it in a savings book, to selling waste to collectors or processing the collected waste to make crafts which are then sold.

1) Household Waste Sorting

Waste sorting is sorting waste according to type, which is then deposited to Waste Bank officers. Waste sorting is a shared responsibility for all residents who are customers of the Mawar Waste Bank. At the beginning of the Mawar Waste Bank, there were still many customers who were reluctant to sort their waste. They save waste in mixed form without carrying out a sorting process based on waste type. The habit of saving waste, which was still in the form of mixed waste, gradually began to disappear; after about two months, the Mawar Waste Bank was established, and people started to want to save their waste which was no longer in the form of mixed waste, people started saving waste according to the type of waste. This waste sorting mechanism is important to ensure that the recycling process can take place effectively, produce high-quality recycled products, and help reduce the amount of waste that goes to landfills.

2) Depositing Waste to the Waste Bank

The time for depositing waste at the Waste Bank is usually scheduled in advance. Mawar Waste Bank schedules waste deposits every month on the 20th at 08.00-15.00 WIB. This scheduling aims to synchronize the time for depositing waste by customers with the transportation process to collectors, so as to prevent the accumulation of waste at the Waste Bank location.

Most of the waste deposited with the Mawar Waste Bank is inorganic waste which can be recycled and creatively processed into various products, such as bags, replicas of trees, wallets, and so on. Meanwhile, organic waste also receives special attention and is processed into products such as flower vases, pencil cases, and various other items.

3) Weighing

The weighing stages at the Waste Bank are the steps taken to measure and record the weight or volume of waste deposited by customers. The weighing time must also follow a predetermined schedule. Residents who have sorted their rubbish and deposited the rubbish. Next, the rubbish will be weighed by the officers working.

The Mawar Waste Bank has its own price list for each type of waste to be weighed. The following is a price list table for the sale of Mawar Waste Bank weighing according to type:

Table 1. Price list for the Mawar Waste Bank

No.	Type	Price/Kg
1.	Plastic Glass	Rp. 4,500
2.	Plastic container	Rp. 5,000
3.	Can	Rp. 2,500
4.	White Paper (book, HVS, photocopy)	Rp. 3,000
5.	Cardboard box	Rp. 3,000
6.	Newspaper	Rp. 2,500

4) Recording

At the recording stage, members on duty at the Mawar Waste Bank record the weight and type of waste after weighing it. The measurement data is then converted into rupiah values and recorded in the savings book. In the Mawar Waste Bank system, savings withdrawals can usually be made once every four months. At this stage, customers will experience the benefits of the Waste Bank system. By putting in a little effort to differentiate waste, people can benefit in the form of savings. Compared to conventional waste management systems, where people have to pay cleaning staff to manage their waste, the Waste Bank system actually provides financial benefits to the community.

The Impact of the Mawar Waste Bank on Social Change in the Jati Padang Community Active as a resource person for education about waste management

Socialization or counseling is an activity of providing information, learning and direction carried out with the target of increasing people's knowledge, understanding, attitudes and skills in a particular field. Socialization activities often involve interaction between instructors and participants, where instructors act as facilitators in the knowledge transfer process.

Since serving as founder and chairman of the Mawar Waste Bank, Mrs. Ekawati Prayitno has shown her dedication to increasing public awareness about the importance of waste management. He is actively involved in outreach activities providing in-depth information about waste education, household waste management, and the importance of Waste Banks in several junior high schools, high schools, the Environmental Service (DLH), and was covered by TV reporters.

Mrs. Ekawati's role as a resource person has increased public awareness of the importance of waste management. In the outreach session, he discussed sustainable practices that can be adopted by individuals and households to reduce the negative impact of waste on the environment. Mrs. Ekawati is able to inspire many people to actively participate in environmental conservation efforts. Apart from that, his presence as a resource person also creates a sense of togetherness and solidarity among community members, especially students who are still at school.

Mrs. Ekawati's role as a resource person in waste management outreach activities from the Mawar Waste Bank provides useful social impacts. Through his knowledge, he not only increases public awareness, but also builds connection and solidarity among citizens. Its existence is an inspiration for other people to participate in maintaining a clean environment and creating positive changes in society.

Opening New Job Opportunities

Waste banks not only provide benefits in waste management and environmental sustainability, but also act as creators of new jobs. With the existence of a Waste Bank, there is an opportunity for the community to be directly involved in waste collection, sorting and recycling activities. This job includes the roles of waste collector, waste sorting officer, waste weigher, and registrar.

To date, there are seven Mawar Waste Bank management members. Mrs. Ekawati Prayitno, as the founder and chairman of the Mawar Waste Bank, has succeeded in creating job opportunities in her community. With his courage and dedication, he created new job opportunities for the local community through the operations of the Mawar Waste Bank. As the Waste Bank grows, the community can be involved in various roles such as waste collection officers, waste sorting officers, waste weighing officers, and registrar officers.

Mrs. Risma Damayanti, one of the management members of the recording department, believes that she has been helped since joining the Mawar Waste Bank. Through her participation in the Mawar Waste Bank, Mrs. Risma not only became a responsible waste management actor, but also found new opportunities as a worker. Within the Mawar Waste Bank environment, he was involved as a recording officer. With the existence of the Mawar Waste Bank, Mrs. Risma feels benefits not only for the surrounding environment, but also for her personal life. Mrs. Desy Rochmawati, who is the manager of the weighing department, also believes that she can get a job at the Mawar Waste Bank with help from Mrs. Ekawati on how to operate the weighing equipment.

The existence of the Mawar Waste Bank not only provides an effective solution to the waste problem, but also empowers the community economically by creating sustainable jobs.

Mrs. Ekawati's initiative in creating job opportunities through the Waste Bank is a good example of providing a real and sustainable impact at the community level.

Waste Bank as a Place for Environmental Awareness

The Waste Bank is not just a place for waste management, but also a place for environmental awareness for the community. By encouraging active participation in waste collection, sorting and recycling, the Waste Bank allows individuals to contribute directly to environmental sustainability.

One of the registration officers for the Mawar Waste Bank, Mrs. Risma, is of the opinion that before the Mawar Waste Bank was introduced, the people of RT.004/RW.005 Jati Padang adopted conventional household waste management methods by throwing away or burning the waste. This practice has become the main cause of the formation of slum environmental conditions. Other factors that contribute are the lack of adequate final disposal sites and the public's lack of understanding about appropriate methods for managing waste. This condition causes the adoption of less effective waste processing methods, resulting in a lack of good management of household waste.

Mawar Waste Bank has played a role in making the surrounding environment clean and sustainable. Through waste collection and sorting activities, the Waste Bank has succeeded in reducing the amount of waste that ends up in landfills, which in turn helps prevent the formation of slum environments. Communities who are actively involved in the Waste Bank program not only adopt better waste management practices, but also become agents of change in creating a culture of cleanliness and environmental awareness.

The Impact of the Mawar Waste Bank on Improving the Economy of the Jati Padang Community

Creation of Additional Income

Waste Banks play an important role in providing communities with the opportunity to earn additional income. The Waste Bank provides financial incentives to the communities involved by motivating active participation in waste collection and sorting. This reward is of course in the form of money for daily needs. In this way, the Waste Bank creates a system that stimulates community motivation to actively engage in sustainable waste management practices, while improving their economic welfare. Residents involved in the waste bank program can earn additional income from selling the collected waste, creating a sustainable economic cycle.

The Mawar Waste Bank is the main agent in creating additional income for the local community. Through innovative waste management activities, this waste bank motivates the public to be actively involved in waste collection and sorting. People who become customers will receive money from weighing the collected waste. Customers usually use savings from the Waste Bank for daily needs.

One of the Mawar Waste Bank customers, namely Mrs. Lorin Situmorang, has felt the real economic impact. Mrs. Lorin, a housewife who owns a coffee shop business, has found a new opportunity in the form of creating additional income through waste management activities. By becoming a customer of the Mawar Waste Bank, he not only contributed to environmental conservation efforts, but also succeeded in turning waste into a source of additional income for his family. With her creativity, Mrs. Lorin has succeeded in integrating recycling activities into her business, especially by depositing used instant noodle cartons and used plastic cups into the Mawar Waste Bank.

There is also another customer, namely Mr. Agus Sutedja, who also feels the benefits from an economic perspective from depositing waste. Pak Agus, a dedicated motorbike repair shop owner, has experienced a positive economic impact through his involvement in the Mawar

Waste Bank program. He succeeded in incorporating recycling activities into the daily operations of his workshop, especially by depositing used oil cartons into the Mawar Waste Bank. The most visible economic impact is increasing income through incentives from the sale of cardboard waste.

Depositing used oil cartons to the Mawar Waste Bank is not only a source of additional income for Mr. Agus, but also contributes to the environment by reducing the bad impression of this waste. Mawar Waste Bank provides financial incentives as a reward for every kilogram of recycled material deposited.

Recycled Craft Business Opportunities

Waste Banks have emerged as a significant new business opportunity in the manufacture of recycled products. With an efficient waste collection and sorting system, the Waste Bank creates an abundant supply of raw materials to be reprocessed into recycled products. Recycling businesses related to the Waste Bank cover various sectors, one of which is the creative industry.

The Mawar Waste Bank has succeeded in changing the paradigm of waste into a creative business opportunity through recycling crafts. By utilizing waste that has been carefully sorted, this Waste Bank converts waste into various handicraft products with economic value. Waste that was previously considered waste has now become raw material for various recycled products, such as bags, wallets or home decorations. This initiative creates unique and environmentally friendly products and opens up new business opportunities in the craft sector. Through sales in cooperative shops and online, the Mawar Waste Bank supports the marketing of these recycled products, creating an additional source of income for the community.

The development of the recycled craft business by the Mawar Waste Bank not only provides economic benefits but also supports the vision of environmental sustainability. By creating added value in waste, this waste bank stimulates people's creativity in producing aesthetic and functional products. Additionally, this effort helps educate the public about the potential of waste as a valuable resource. The Mawar Waste Bank's success in integrating recycled crafts as part of its business model not only helps overcome the waste problem, but also forms an environmentally and economically sound mindset in its community.

Mawar Waste Bank's Obstacles in Management

The Mawar Waste Bank is faced with a significant obstacle, namely the lack of adequate facilities to carry out its operations. The impact of these inadequate facilities can be felt in several aspects of waste management at the Waste Bank. Limited space facilities are a serious challenge for the operations of this Waste Bank.

Limited storage space means that rubbish that has been sorted by members of the Mawar Waste Bank management can mushroom outside the yard. This creates a view that is unaesthetic and has the potential to create environmental and health problems for local communities. Another impact of inadequate storage space is the potential for hampering waste acceptance activities from the community. Due to limited space, the Mawar Waste Bank will find it difficult to accommodate the ever-increasing volume of waste from local residents. This not only hinders community participation in recycling waste but also risks creating a situation where waste that should be processed sustainably can instead be scattered outside the Waste Bank area.

To overcome inadequate facilities, the Mawar Waste Bank can establish partnerships with related parties, including the local government and private companies. This collaboration can open up opportunities to obtain financial and technical support to improve site facilities, including the construction of larger and more efficient storage areas. These steps will not only provide solutions to the obstacles currently faced but can also have a good long-term impact on the sustainability of the Waste Bank program.

Apart from having the problem of inadequate facilities, the Mawar Waste Bank also has another problem, namely that the majority of its management members are women. Even though the participation of these women shows great commitment and contribution to waste management efforts, there are several challenges that need to be overcome so that this program can run optimally.

One of the obstacles faced by the Mawar Waste Bank is the limited knowledge and technical expertise related to waste management among its female members. This limitation can hinder the efficiency of the waste management process and the quality of the services provided. Therefore, capacity building efforts are needed through training and education to increase their understanding of best practices in waste management.

Achievements of the Mawar Waste Bank

Mawar Waste Bank has achieved brilliant achievements through its participation in various community empowerment competitions. One of its highest achievements occurred in 2018, when this waste bank won the title of National Champion of Hope 1 from the National Population and Family Planning Agency (BKKBN). This achievement reflects the waste bank's commitment and success in empowering local communities through sustainable waste management.

The 1st Hope National Champion achievement from BKKBN in 2018 confirms that the Mawar Waste Bank has succeeded in developing a community empowerment model that can be used as an example for other regions. The empowerment competition held by BKKBN not only measures the sustainability aspect of waste management, but also involves other factors related to the welfare of families and society as a whole.

The success of the Mawar Waste Bank in this competition also reflects the efforts and dedication of the Waste Bank management as well as the active participation of the community. This waste bank not only focuses on the technical aspects of waste management but also integrates social and economic programs that support overall community empowerment.

The Mawar Waste Bank is also one of the facilities that receives support from the Environmental Service (DLH) in the DKI Jakarta area. Collaboration between waste banks and DLH is an important foundation for sustainable waste management efforts and has a positive impact on the environment and local communities.

As a Waste Bank supported by DLH, the Mawar Waste Bank also supports local government policies regarding waste management. They are part of a more integrated and sustainable waste management strategy. The information and data collected by the Mawar Waste Bank can also be an important source of information for DLH in planning policies and making decisions related to waste management.

Apart from that, DLH and the Mawar Waste Bank work together to deal with various obstacles and challenges that can arise during the waste management process. Through close collaboration, they can identify innovative and effective solutions to overcome certain problems faced by waste banks, such as limited facilities or changes in environmental policies.

CONCLUSIONS

The Mawar Waste Bank program managed by Mrs. Ekawati Prayitno and her management members has achieved success in various aspects, including sorting, depositing, weighing, and recording. Residents can withdraw the savings as a tangible form of the clarity of this program.

The Mawar Waste Bank Program, as a new innovation in waste management, has the potential to provide a sustainable and effective solution. The Mawar Waste Bank has succeeded in contributing to the social and economic life of the Jati Padang community. The social contributions of the Mawar Waste Bank are as follows: a) active as a resource for outreach on

waste management; b) open new job opportunities; c) Waste Bank as a forum for environmental awareness. Meanwhile, the economic contribution of the Mawar Waste Bank is as follows: a) creation of additional income; and b) recycled craft business opportunities. Even though the Mawar Waste Bank faced obstacles related to location, its success was still brilliant by achieving the 1st National Champion award from the National Population and Family Planning Agency (BKKBN). This achievement shows that despite facing infrastructure limitations, the Waste Bank is able to provide a useful impact in waste management and its contribution to environmental sustainability.

The Mawar Waste Bank Program in Jati Padang Subdistrict has provided good results for social and economic change in the community, in line with Everett Rogers' Diffusion of Innovation perspective. Through this approach, the Waste Bank, as a new innovation in waste management, becomes an agent of change that strengthens social ties, creates economic opportunities, and empowers society as a whole.

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