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Regional Case Study

Analysis of Community-Based Waste Management through Waste Bank in Tinjomoyo Urban Village, Semarang City, Central Java

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Abstract

Waste is a problem that, until now, has been difficult for the Indonesian government to solve. The emergence of waste banks can make people aware of the need to manage waste properly. The community eventually became more educated about managing and sorting household waste. The household waste consists of used cardboard, used plastic drink bottles, used shoes, and other used items. If waste banks exist in a community and whether they have an impact on that community or other "aspects" is a question unto itself. This study aims to see the impact of waste banks on the community and help local governments realize effective waste bank management. The type of research used in this study is observational-descriptive research. In addition, interviews were also conducted with waste bank administrators, and questionnaires were distributed to waste bank customers. The data was analysed with simple quantitative descriptive. The results of this study reveal the underlying aspects of the establishment of a waste bank in Tinjomoyo Urban Village and the impact of the waste bank on the surrounding community, especially on waste bank customers. As a result, some people feel a positive impact from the waste bank in Tinjomoyo Urban Village.

Keywords: Waste, waste bank, landfill, waste management

1. Introduction

The Indonesian government has struggled to address the issue of waste up until this point. One of the reasons is the massive population growth, which is then accompanied by urbanization as part of the impact of modernization, which increasingly triggers the volume of waste that must be managed (Ridwan et al., 2021). The waste problem will not be solved if it only relies on the government without community interaction in waste management itself (Wahanani & Umh Rizky, 2020). Waste in Indonesia is a serious problem as well as a social, economic, and cultural one. Every year, it has been confirmed that the volume of waste that is the impact of people's consumerism patterns continues to increase (Munandar et al., 2020).

Currently, it is a problem that arises due to the increasing purchasing power of the community to meet basic needs and technology products (Prayogo & Sukim, 2021). as well as increasing efforts to support economic growth to greatly contribute to improving the quality or quantity of waste produced. Waste is something that is unused, disliked, or discarded from human activities and does not happen by itself. The Waste Management Law of the Republic of Indonesia Number 18 of 2008 states that waste is the remnants of daily human activities and natural processes in the form of solids.

Waste is something that is still quite difficult to handle in Indonesia. For years, the Indonesian government has had difficulty tackling this waste problem. Waste disposal, as seen in the form of daily

waste in the form of plastic packaging, cans, and paper scattered or piled on roads, alleys, and drainage channels, is a challenge that is quite difficult to overcome. Waste is a serious problem in Indonesia because waste left untreated will cause environmental damage, but this has a more direct effect on the lower middle class in socially vulnerable settlements (Putri & Wahyudi, 2018).

Waste that accumulates can make it easier for vectors such as cockroaches, flies, mosquitoes, and even rats to breed (Rahman et al., 2020). These vectors can carry diseases such as diarrhea, cholera, and dengue hemorrhagic fever. Waste that accumulates can cause aesthetic disorders and unpleasant odors. In addition, waste dumped in the river will result in pollution of river water, which can disrupt the river ecosystem and even result in the extinction of aquatic species (Guntoro et al., 2021). Waste thrown into the river can also cause disruption to the activities of residents around the river who still use river water for daily purposes such as washing, bathing, or irrigating plantations or rice fields (Zulkarnain & Dewi, 2020).

Waste banks are one of the strategies for realizing a waste-free society by applying the 3R principle (reduce, reuse, recycle) in the community realm (Triana & Sembiring, 2019). The waste bank is one of the social inventions that invites the community to sort waste. Priceless waste can have economic value if the community has the empowerment to manage it (Zairinayati et al., 2020). The pattern that usually collects, transports, and disposes of it in landfills can be changed to reduce, separate, and make good use of waste (Santoso et al., 2020). One solution to this problem is to establish waste banks in every existing area. In addition to reducing waste, waste banks can also provide economic benefits for the community. The exchange of waste with valuables that can be saved raises public interest in waste banks (Hani & Safitri, 2019).

The emergence of waste banks can make people aware of the need to manage waste properly and correctly (Saputro et al., 2015). The community eventually became more educated about managing and sorting household waste. The household waste consists of used cardboard, used plastic drink bottles, used shoes, and other used items. However, only dry household waste can be collected into waste banks; wet waste, such as food waste, will be directed to poultry farmers and maggots to be used as food for these livestock or can be processed independently into organic fertilizer (Darmawan & Tahyudin, 2019).

In 2019, in Semarang City, there are more than 1,200 tons of waste per day, or 432,000 tons per year. If the waste is not controlled thoroughly, then the landfill (TPA) provided by the government, covering an area of 42 hectares, will be full for the next 10 years (Rahmayani, 2021). For this reason, it is necessary to add waste banks in every region of Semarang City to reduce the impact of landfills that are increasing over time. Based on Minister of Environment and Forestry Regulation Number 14 of 2021 concerning Waste Management in the Waste Bank, the waste bank unit (BSU) must meet certain requirements, namely having the means to group waste based on the type of waste, equipped with labels or signs on the facility, having an area of location and waste management capacity as needed, having a location that is easily accessible, and not polluting the environment.

It is recorded that the unit waste bank in Semarang City currently touches 229 in all existing sub-districts. Unit waste banks (BSU) are waste banks that operate administratively at the level of community harmony in neighborhood communities, villages, and towns. In Tinjomoyo Urban Village, one of the sub-districts in Banyumanik District, there are 7-unit waste banks scattered in each hamlet, consisting of 1 main waste bank, 4 active child waste banks, and 2 others that are inactive. The 4 waste banks are centered on 1 waste bank located in the Ngudi Lestari Waste Bank (Wicaksono & Warsono, 2020). This number is quite a lot based on the population in Tinjomoyo Urban Village, which is 10,916 people. The Ngudi Lestari waste bank has 306 families. The existence of waste banks raises the question of whether the waste banks in the community have an impact on the community or have an impact on other aspects. In previous studies, which only discussed waste bank management, program design, and community empowerment, there was no article discussing the impact of waste banks on the community in Tinjomoyo Urban Village. So, in this study, the aim is to see the impact of waste banks on society and help local governments realize

effective waste bank management. The authenticity of this study lies in the fact that it involves direct participation by the Tinjomoyo community.

2. Methods

The type of research used in this study is observational descriptive research, which is by observing a situation in the field, it can be described according to field conditions based on relevant theories. In addition, the interview method was also used to interview the manager of the parent waste bank to find out five important aspects of the establishment of the waste bank, namely institutional aspects, technical operational aspects, community participation aspects, financing aspects, and basic legal aspects. This aspect is very important for the sustainability of the waste bank in Tinjomoyo Urban Village because with this aspect, the waste bank becomes directed and well managed. In addition, the impact of waste banks consists of socio-cultural impacts, economic impacts, and environmental impacts.

In Tinjomoyo Urban Village, one of the sub-districts in Banyumanik District, there are 7-unit waste banks scattered in each hamlet, consisting of 1 main waste bank, 4 active child waste banks, and 2 others that are inactive. The four waste banks are centered on one waste bank located in the Ngudi Lestari Waste Bank. This number is quite a lot based on the population in Tinjomoyo Urban Village, which is 10,916 people. The Ngudi Lestari waste bank has 306 families. The sampling technique is by using simple random sampling. The number of samples is known using the Isaac and Michael Table with a population of 306 with an error rate of 10% so that a sample of 143 respondents was obtained (Permadi et al., 2020).

This research instrument is in the form of a questionnaire consisting of ten simple questions about the impact felt by the surrounding community about the existence of a waste bank in Tinjomoyo Urban Village. The data obtained is then analyzed descriptively and quantitatively by grouping the answers (yes, no, and maybe) into percentages of the questions present. In addition to data from respondents, there is secondary data in the form of the number of memberships participating in waste banks and waste data from January–December 2022 in Tinjomoyo Urban Village.

3. Result and Discussion

3.1. Waste Management in Tinjomoyo Urban Village

Before the waste bank in Tinjomoyo Urban Village was established in 2019, people tended not to sort waste, but household waste was collected in front of their homes to wait for waste collectors to transport their waste to the landfill.

In Tinjomoyo Urban Village itself, there is a university area consisting of Soegijapranata University, Ivet University, 17 August University, PGRI University, and the Indonesian State Maritime Polytechnic. The existence of these universities can cause a buildup of waste in Tinjomoyo Urban Village, Banyumanik District, Semarang City.

3.2. Aspects of Establishing Ngudi Lestari Waste bank in Tinjomoyo Urban Village

1. Aspect of Technical Operations

Based on interviews with the management of the Ngudi Lestari waste bank, the operational procedures of the waste bank start with sorting waste by customers or residents, then handing it over to the Ngudi Lestari waste collectors, followed by weighing and recording, and ending with profit sharing. This is in accordance with the Regulation of the Minister of Environment Number 13 of 2013 concerning the Implementation of Reduce, Reuse, and Recycle in Waste Banks.

There are eight types of inorganic waste received by the Ngudi Lestari Waste Bank, which is hard plastic, flexible plastic, paper, metal, glass, rubber-leather, fabric-textile, and other category materials. The amount of waste collected in 2022 is shown in Table 1. Meanwhile, household wet waste is processed independently in each household to be used as compost.

Table 1. Total inorganic waste in 2022

Month	Inorganic Waste (kg)					
	Hard Plastic	Flexible Plastic	Paper	Metal	Glass	Other Basic Ingredients
January	140	6	250	47	35	30
February	125	2	138	37	10	20
March	160	10	322	65	26	69
April	59	6	151	50	7	30
June	100	20	202	57	20	110
August	82	5	219	17	123	24
September	60	3	53	3	-	-
October	70	4	136	20	98	40
November	117	5	412	45	10	24
December	-	8	30	-	16	18
Total	913	69	1.913	341	345	365

Source: (Ngudi Lestari Waste Bank, 2022)

Waste sorting by the Ngudi Lestari Waste Bank can at least reduce the inorganic waste that will be disposed of at the Jatibarang landfill, even though it is not yet significant.

Based on data from the National Waste Management Information System, in 2022, a total of 45,918 kg of waste entered waste banks throughout Semarang City. Meanwhile, the Ngudi Lestari Waste Bank in 2022 will manage 3,946 kg of waste, or around 8.6% of the total waste management in Semarang City. Meanwhile, the landfill capacity in Semarang City in 2022 will be 431 million kg. When compared to waste management at the Ngudi Lestari Waste Bank, the management at the waste bank does not reach 1% of the existing landfill.

Handing over waste to the waste bank is done once a week. At the beginning of the establishment of the waste bank, it could still be done. However, over time, many customers claim to have difficulty collecting waste every week due to time constraints. The waste handover period of one week also does not produce too much waste. Then, the policy of the period of handing over waste to the waste bank is made more flexible, particularly having to contact the waste bank management first to submit the waste to the waste bank.

After the waste is received, weighing and recording are carried out. Recording is carried out in the customer's passbook and in the cash record book of the treasurer of the waste bank. In addition, customers also receive proof of waste deposits. Savings collection is agreed upon after one year. Generally, customers usually take their savings when approaching the new savings year or when approaching Eid al-Fitr. Savings can also be taken if there is a sudden need, such as for children's medical expenses and others.

The price offered by the waste bank for each type of waste is cardboard Rp. 1,500 per kg, used bottles Rp. 2,800 per kg, and iron Rp. 4,000 per kg. Based on interviews with waste bank administrators, the price is down from 6 months ago, decreasing by 50% from September 2022.

The profit-sharing system of the Ngudi Lestari Waste Bank varies, ranging from 5% for waste banks and 95% for customers to 10% for waste banks and 90% for customers, depending on the selling price of each type of waste. This is considered so that the difference between collectors and waste banks is not too large because people think it is better to sell their waste to collectors than to hand it over to waste banks. The difference between collectors and waste banks can be expected to be that collectors are more active in saving at waste banks.

2. *Institutional Aspects*

Based on the results of interviews with the management of the Ngudi Lestari Waste Bank, the institution prepared to form a waste bank in Tinjomoyo Urban Village was carried out under technical guidance by DLH Semarang City and supported by PT Pegadaian, in 2019. The technical guidance includes waste bank operations, sorting waste that has economic value, weighing waste, recording in passbooks and treasurer books, training on making compost from household wet waste, and training on making waste into other objects that have economic value (bags, key chains, and others).

Based on the results of the interview, the Ngudi Lestari Waste bank is still in the form of a pre-cooperative that does not yet have an Articles of Association or Bylaws. This is still not in line with Minister of Environment Regulation Number 13 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle through Waste Banks, which states that waste banks can be in the form of foundations or cooperatives.

3. *Legal and Regulatory Aspects*

Based on interviews with the management of the Ngudi Lestari Waste Bank, the establishment of the Ngudi Lestari Waste Bank was based on the Decree of the Head of Tinjomoyo Urban Village Number A.01.034/II/2019 concerning the Development and Determination of the Management of the Ngudi Lestari Waste Bank in Tinjomoyo Urban Village, Banyumanik District, Semarang City. The Semarang City Government has established Mayor Regulation Number 79 of 2018 concerning Regional Policies and Strategies in the Management of Household Waste and Similar Household Waste, which states that household waste management activities and household-like waste must have permission from the mayor to operate. The decree issued by the head of Tinjomoyo Urban Village was issued after the Semarang mayor regulation, so the decree was in sync with Mayor Regulation No. 79 of 2019.

4. *Financing Aspects*

The management of the Ngudi Lestari Waste Bank informed that the Ngudi Lestari Waste Bank was established with the support of a state-owned enterprise, PT Pegadaian Kota Semarang, as CSR (corporate social responsibility) or corporate responsibility in the field of social society. The assistance provided by PT Pegadaian is in the form of a waste bank building, a waste press machine, and a shredding machine. Meanwhile, assistance from the Semarang City Environmental Office comes in the form of composting machines, waste transport vehicles, and fire extinguishers.

Costs for maintaining and operating waste banks include labor costs, operational costs, and equipment maintenance costs. Currently, Ngudi Lestari Waste Bank does not have an expenditure for labor because the waste bank workforce is still voluntary. In the future, labor costs can be incurred to pay waste pick-up officers and waste bank administrators. Operating costs to date have only been used to buy batteries, digital scales, and photocopies of invitations, while equipment maintenance has never been carried out to date.

5. *Aspects of Community Participation*

Based on interviews with the management of the Ngudi Lestari Waste Bank, the establishment of the waste bank came from ideas from residents of Pentul and Tinjomoyo Urban Village itself, who were then assisted by PT Pegadaian. The Tinjomoyo Urban Village Government then formed a board and discussed the location, operational technicalities, financing, and others to form the Ngudi Lestari Waste Bank. The role of the government here is only as a facilitator; the Tinjomoyo Urban Village Government acts as a legal umbrella, and DLH Semarang City collaborates with PT Pegadaian to provide direction and technical guidance on waste bank operations and help in the form of waste bank facilities and infrastructure.

Community participation in the Ngudi Lestari Waste Bank can be seen from the customers' activeness in sorting waste at the respective household level. Waste is sorted based on the type of waste

that has been determined by the waste bank, including: cardboard, marga (thin cardboard), newspaper, white plastic, mixed plastic, mixed paper, aluminum cans, and glass bottles. After the waste is sorted and collected in sufficient quantities to be deposited, waste bank customers then contact the waste bank manger by telephone or SMS. The next day, both customers and waste bank managers met at the waste bank location.

Then the waste is weighed and recorded in the passbook and cash book of the waste bank. After collecting, waste bank customers will contact the waste bank management to submit the sorted waste, and then the weight of the waste is measured and recorded in the passbook and treasurer book of the waste bank. The results of waste bank savings can only be taken once a year or if there is an emergency, such as medical expenses for children or other emergencies.

According to the initial agreement, the savings of Ngudi Lestari Waste Bank members can be taken after running for one year. Members of the waste bank generally use the savings to buy daily necessities; some also use it to pay social gathering fees and their children's school fees. Some others keep their savings in the waste bank because they don't really need them.

Formal community evaluation has not been carried out since the establishment of the Ngudi Lestari Waste bank. Informally, the community provides input to waste bank administrators, for example, by taking waste from house to house. However, these inputs must be discussed by the Tinjomoyo Urban Village Government, PT Pegadaian, and DLH Semarang City. In addition, because the community can play a role in controlling the entire decision-making process at the Ngudi Lestari Waste Bank, the community can negotiate with parties who have the source of funds to help with financing.

3.3. Impact of Ngudi Lestari Waste bank, Tinjomoyo Urban Village Village

1. Social and Cultural Impact

This social impact is seen in whether there is a change in behavior towards handling household waste in Tinjomoyo Urban Village (Nisa & Saputro, 2021). Based on the results of the questionnaire in Figure 1, as many as 87.4% answered that by becoming a member of a waste bank customer in Tinjomoyo Urban Village, it can change household waste handling behavior for the better. Meanwhile, as many as 12.6% answered that it might affect their handling household waste, and none of the respondents answered that it did not affect the handling of household waste. By minimizing the use of single-use items and opting for products with little packaging, the community of Tinjomoyo Urban Village can make an effort to reduce waste. Recycling waste through the separation of organic and non-organic waste is also one effective solution. Organic waste can be used as compost, while non-organic waste such as plastic, glass, and paper can be recycled.

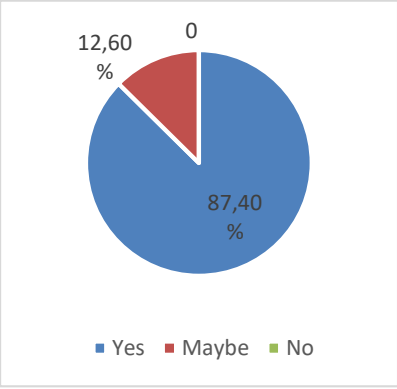

Figure 1. Behavior change in handling waste

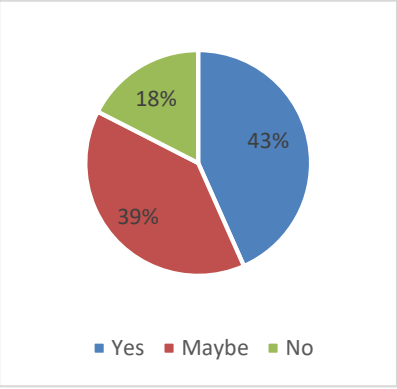

Figure 2. Disposing of waste in its place

Furthermore, the social impact can also be seen from the existence of waste banks and the behavior of disposing of waste in their place. Disposing of waste in its place is a culture that is difficult to apply to society, especially for people in big cities (Ismiandini et al., 2020). Evident in the results of the questionnaire, with the existence of waste banks, only 43.4% agreed with improving the culture of disposing of waste in their place. Disposing of waste in its place is very simple and easy, but it is very difficult to make a "culture" for society in general, especially in big cities. It's easy to find litter and piles of waste of all kinds. Therefore, the recommendation to dispose of waste in its place is the first step of the next waste management system, such as 3R. Disposing of waste in its place is an action that reflects people's awareness and responsibility towards the environment. This action not only helps in keeping the environment clean but also contributes in preventing the spread of diseases caused by waste. In addition, these good practices reduce negative impacts on ecosystems and help in environmental preservation. Therefore, it is important for every member of the community to always dispose of waste in its place.

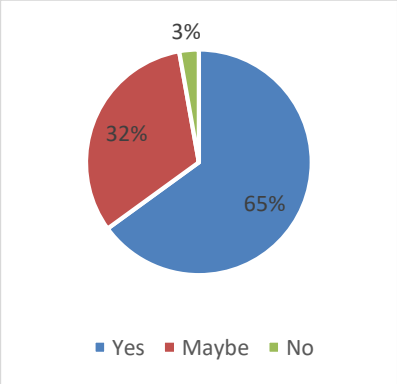

Figure 3. Sorting household waste

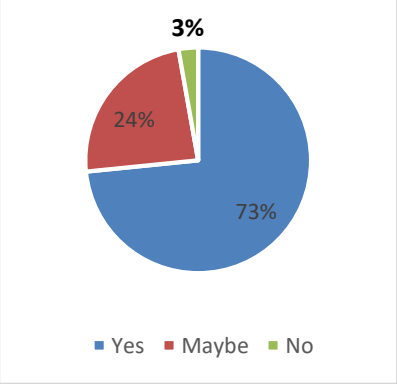

Figure 4. Improve knowledge

The recommended waste sorting is a sorting pattern that is carried out starting from the level of the source or origin of the waste that appears because the waste is still pure and has not been mixed or contaminated with other waste. Based on Andina (2019), the main problem with waste sorting efforts is how to increase community involvement in the business. So, the existence of waste bank activities is one of the right ways to "force" the community to sort the waste it produces. Sorting waste is an important action for the community to support recycling and waste reduction efforts. People must understand the types of waste, namely organic, inorganic, and B3 (Hazardous and Toxic Materials) and how to sort them properly. Organic waste such as food waste can be processed into compost, while inorganic waste such as plastic, glass, and paper can be recycled. B3 waste must be handled carefully and disposed of in a place provided by the government. By sorting waste, communities can reduce negative impacts on the environment and maintain ecosystem balance.

Then, the existence of a waste bank has increased knowledge about waste management in Tinjomoyo Urban Village. Unlike in rural areas, the available land is still large and organic waste can mostly be decomposed or easily decomposed. Meanwhile, inorganic waste in rural areas has begun to become a problem that will pollute the environment in the future. Similarly, in urban areas, the problem of waste management is a challenge that will determine the environmental sustainability of a city (Nurdiansah et al., 2020). Failure in waste management will increase the risk of city residents dealing with various diseases, which will increase social costs for health. In addition, waste thrown into rivers and sewers has the potential to cause flooding (Amrina, 2021).

Education and training can give the public a better understanding of the negative impacts of waste accumulation and how proper waste management can prevent this problem. This includes knowledge about waste sorting, recycling, and composting. Apart from that, disseminating information regarding penalties or fines for waste management violations can also increase public awareness. Through

increasing this knowledge, it is hoped that the community can play an active role in waste management so as to create a healthier and more sustainable environment.

2. *Economic Impact*

People tend to be more interested in something that can be of economic value; for that reason, many people are interested in becoming waste bank customers (Sulistiyowati et al., 2022). Based on Figure 5, the economic impact of the existence of a waste bank in Tinjomoyo Urban Village is seen from the additional income from waste generated per household. Almost all solid waste can be exchanged for certain money or tokens, so that it can increase income from the community while reducing waste in the environment (Wardany et al., 2020). Waste banks can also create new jobs. For example, through collection, processing, to the sale of waste that has been sorted. Thus, the Waste Bank has the potential to become a new source of income for the community, while making a positive contribution to environmental conservation efforts.

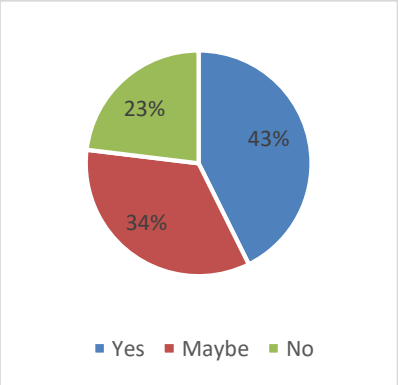

Figure 5. Get extra income

3. *Environmental Impact*

The environmental impact of the waste bank in Tinjomoyo Urban Village can be viewed from the community's perspective before and after the establishment of a waste bank in Tinjomoyo Urban Village (Haryanti et al., 2020). As a result of the questionnaire in Figure 6, there are 60.8% of people who feel that a waste bank can solve the waste problem in Tinjomoyo Urban Village. As many as 32.2% of people feel that a waste bank might be able to solve the waste problem in Tinjomoyo Urban Village. The remaining 7% answered that the existence of waste banks could not solve the waste problem in Tinjomoyo Urban Village. This indicates that the community believes that the existence of a waste bank can reduce the waste problem in Tinjomoyo Urban Village, this is in line with research from Dewanti et al (2020), which shows that waste banks can reduce waste problems in an area. In addition, waste banks also encourage people to behave more environmentally friendly through reducing, reusing, and recycling waste. This can directly reduce the volume of waste entering landfills, reduce pollution, and promote a circular economy. As a result, waste banks have great potential in overcoming waste problems.

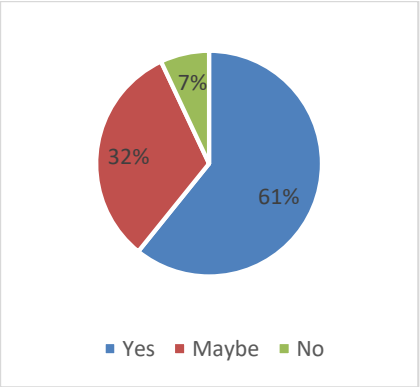

Figure 6. Solve the waste problem

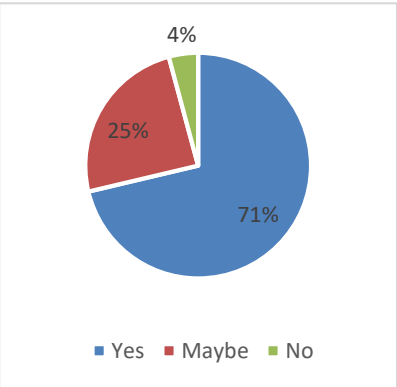

Figure 7. Reduced waste piles

Environmental impacts related to aesthetics: waste that has accumulated is not pleasing to the eye. In addition, piles of waste can also facilitate the breeding of disease vectors such as cockroaches, flies, and mosquitoes (Rosmala & Rosidah, 2019). These vectors carry diseases such as diarrhea, dengue hemorrhagic fever, cholera, and others (Fajariani et al., 2022). Environmental impacts can also be seen in piles of waste in every corner or on vacant land. Based on Figure 7, as many as 71.3% of people answered that the existence of a waste bank could reduce the pile of waste in Tinjomoyo Urban Village. This is in line with research from Husein et al (2021) stating that the existence of a waste bank can reduce the pile of waste sent to landfills. Through waste banks, waste can be collected, sorted, and recycled into products that have economic value. Thus, waste banks not only contribute to maintaining the cleanliness of the environment, but also provide economic benefits to the community. The implementation of waste banks in various regions needs to be encouraged in order to overcome the waste problem more effectively. As many as 24.5% of people felt that waste banks only slightly reduced landfills, and the remaining 4.2% of people answered that the existence of waste banks did not reduce landfills in Tinjomoyo Urban Village.

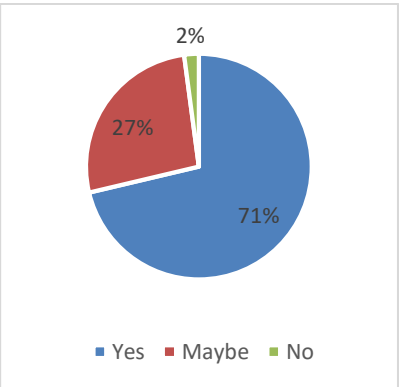

Figure 8. Cleaner environment

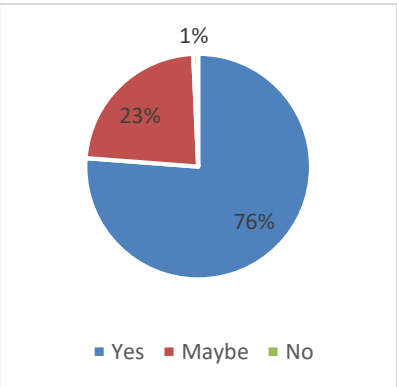

Figure 9. The waste bank is already operating well

Furthermore, in Figure 8, as many as 71.3% of people feel that with the waste bank, the environment is cleaner when compared to before the establishment of the waste bank in Tinjomoyo Urban Village, 26.6% of respondents stated that the environmental conditions became quite clean, and the rest (2.1%) stated that the environment was still the same as before the construction of the waste bank in Tinjomoyo Urban Village. Waste banks have a significant role in maintaining the cleanliness of the environment. With the existence of waste banks, waste produced by the community can be managed properly and not scattered in the environment. This certainly greatly contributes to maintaining the cleanliness and health of the environment. In addition, waste banks also help in reducing the amount of waste that goes to landfills, which are often a source of environmental pollution. Therefore, waste banks can be an effective solution to maintain environmental cleanliness.

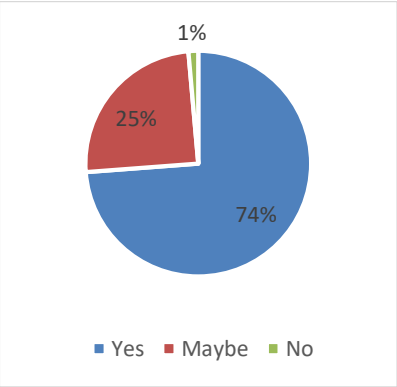

Figure 10. Waste bank can survive

The community's perspective of the waste bank in Tinjomoyo Urban Village is quite good. This can be proven by the answers from respondents in Figure 9. As many as 76.2% agreed that waste bank activities are going well, as many as 23.1% of respondents feel quite good, and 0.7% of respondents feel that waste banks are not running well. In addition, the community believes that waste banks will be able to survive from year to year. This can be proven by the answers from respondents in Figure 10, particularly that 73.8% of respondents feel that waste banks will continue to survive, 24.8% answered "not sure," and the remaining 1.4% feel that waste banks cannot survive over time.

4. Conclusion

Before the waste bank in Tinjomoyo Urban Village was established in 2019, people tended not to sort waste, but household waste was collected in front of their homes to wait for waste collectors to transport their waste to the landfill. Based on interviews with the management of the Ngudi Lestari waste bank, the operational procedures of the waste bank start with sorting waste by customers or residents, then handing it over to the Ngudi Lestari waste collector, followed by weighing and recording, and ending with profit sharing. The institution prepared to form a waste bank in Tinjomoyo Urban Village was carried out under technical guidance by DLH Semarang City and supported by PT Pegadaian, in 2019. Ngudi Lestari Waste bank was established with the support of a state-owned enterprise, PT Pegadaian Kota Semarang, as CSR (corporate social responsibility) or corporate responsibility in the field of social society. Based on the results of a questionnaire distributed to customers of the Ngudi Lestari Waste Bank, the majority of people consider that the existence of a waste bank in Tinjomoyo Urban Village has a positive impact on socio-cultural aspects, people become more aware of disposing of waste in its place, more aware of handling waste, sorting waste, and adding Knowledge about waste: In the environmental aspect, people believe that the existence of a waste bank can reduce the waste problem, reduce piles of waste, and make the environment cleaner. Meanwhile, on the economic aspect, most people agree that the existence of a waste bank can increase income.

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