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Improvement of the Community's Economy Through Waste Bank

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Abstract.

The research aims to improve the community's economy through waste banks. The research method is the method implemented by a researcher to collect, clarify data, and analyze the facts in place of research by using measurements and knowledge. The approach used by the authors in this study is sociological. Sociology is the scientific study of human social life. A narrative design is used in this research. Narratives aim to explore the lives of individuals and ask one or more individuals to provide stories about their lives. The results of this study indicate that the creation of a waste bank can be a solution for the community in handling waste so that it has a positive impact on the socio-economic life of the community. In addition, the existence of a waste bank has changed the mindset of the community regarding concerns in waste selection and collaboration between members to strengthen friendship so that the waste that previously had no value becomes something of economic value. While the problem with the waste bank occurs is the process, the amount of waste faced and the fleet that transports it makes the waste processing process hampered for the fleet and waste processing officers, the government's lack of attention to the waste bank, the limited land to accomodate the collected waste, the price waste is unstable and often experiences a decline, reducing the enthusiasm of bank customers to save in the waste bank.

Keywords: economy, waste bank, improve the community's economy through

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1. INTRODUCTION

Garbage is something in the form of objects or materials that are no longer used by humans so they are thrown away. Society's stigma regarding waste is that all waste is dirty and disgusting. So it must be disposed of or burned properly (1).

The increasing population will reduce the ability of natural resources to recover (eg, water and air) to absorb waste caused by human activities. The increase in population

will also increase the volume of waste generated, especially in big cities in developing countries, including Indonesia.

In terms of income or income, poverty is described as a lack of income or income to meet the basic needs of life. A waste bank is a place where service activities for waste depositors are carried out by waste bank tellers.

The waste problem includes 3 parts, namely, downstream, process, and upstream. On downstream, waste disposal continues to increase. In the process part, the limitationsare resources from both the community and the government. On the upstream, in the form of a optimal system applied to the final processing (2). Savers in this case are all citizens, both individually and in groups, who are members of the waste savers as evidenced by the existence of a waste savings book and are entitled to their waste savings (3).

Serious countermeasures are urgently needed to overcome the production of this sizable waste. This is because waste is one of the causes of environmental pollution which will eventually cause environmental damage. Waste management that appears so far has only been carried out conventionally, namely, collection, transportation, and final disposal at landfills. Law No. 18 of 2008 concerning Waste Management along with Government Regulation No. 81 of 2012 mandates the need for a fundamental paradigm shift in waste management, namely, the collect-transport-waste paradigm of management that is based on waste reduction and waste handling. Waste reduction activities mean that all levels of society, including the government, the business world, and the general public carry out waste collection, recycling, and reuse of waste or what is known as reduce, reuse, and recycle (3R) through smart, efficient, and programmed efforts.

The definition of waste according to Law Number 18 of 2008 concerning Waste Management is the residue of human daily activities or natural processes in solid form.[6] Specific waste is a waste that due to its nature, concentration, or volume requires special management. Waste managed based on the law consists of household waste, household-like waste, and specific waste. The waste bank can act as a dropping point for producers of products and product packaging that have expired. So part of the government's responsibility in waste management is also the responsibility of the community. By applying this pattern, it is expected that the volume of waste disposed of in landfills will increase. The application of the 3R principle as close as possible to the source of waste is also expected to be able to solve the waste problem in an integrated and comprehensive manner so that the ultimate goal of the Indonesian Waste Management policy can be implemented properly (4).

Waste processing is only carried out as something routine, namely, only by moving, throwing it into rivers, and burning and destroying waste. Trash cans are increasingly difficult to come by and the number of landfills is increasing day by day. Therefore, public awareness must always be increased so that the problems faced can be solved together and carried out easily. Community building activities are closely related to empowering the community and developing it because besides fighting the problem of waste and environmental hygiene, it also encourages the community to be more active and full of initiative. Previous research explains to increase recycling waste from households to the TPA including a solid waste management system based on local community initiatives and not just relying on a TPA with a landfill system (5).

Other studies previously stated that household waste can bring benefits from a social, economic, and environmental perspective that has a positive impact on the waste bank (6). Previous research said there was no relationship between the number of members of a family and income with participation in the community in saving in the waste bank. Waste bank managers and related parties to increase the knowledge community about waste banks to increase community participation in savings in the waste bank in the form of socialization and education in the form of training or dissemination of information through various media (7).

Previous studies have shown that waste bank management is advised to continue to disseminate information to the public, including mass campaigns for the waste bank through the distribution of posters, print media advertisements, and campaigns in schools so that the number of customers who save waste increases and the public understands how to treat waste properly and correctly. This requires cadres who are active in each neighborhood unit to invite other residents to participate in saving waste in the waste bank. The simplest way to control waste is to raise self-awareness not to damage the environment with waste. Apart from that, socio-cultural control is also needed for the community to respect the environment more (8). So in this research, I want to look at how to improve the community's economy through Waste banks.

2. LITERATURE REVIEW

2.1. Waste Bank

Waste management is an ongoing and organized effort toward less waste and better management of that which is discarded. All around the world, waste management is undergoing a period of rapid evolution with the goal of better repurposing garbage

to increase economic value. Waste management can help increase company potential through the 3R strategy (Reduce, Reuse, and Recycle) (9).

The waste bank is a two-word noun. A bank is a type of financial intermediary that can be used for a variety of purposes, including storing money and making loans. The term ”waste” refers to anything that has been deemed unfit for further use and is therefore discarded. A waste bank is a financial institution that acts as an intermediary when the trash is sold for money. Trash Bank is an initiative that aims to remedy the waste management industry’s financial woes by repurchasing recyclables and depositing the proceeds in a bank account (10). Similar to commercial banks, waste banks require customers, bookkeeping, and administration.

However, while commercial bank customers deposit money, waste bank customers deposit waste with economic value, hence waste bank managers need to be inventive and entrepreneurial to maximize profits. Households are the backbone of the waste management bank’s incentive structure, which incentivizes waste separation and disposal with financial benefits (11).

2.2. Wasted Bank Management

Waste banks are an integral part of the waste management system, and as such, they need to constantly develop new strategies and methods. Support for waste banks is crucially important for both the government and the community. To comply with Indonesia’s Law 18/2008 on Waste Management, the government must play a role in providing management support in the form of training, regulations, guidelines, systems, or funding (12).

The Indonesian government enacts the waste bank integration model with Extended Producer Responsibility via Law no. 13 of 2012, to have manufacturers shoulder some of the recycling burden. The models are mirrored in the actions, and the presence of the trash bank is beneficial to everyone involved (13).

According to (14) There is a reason for management, and it is structured into these five parts: There are many benefits to forming BSM units in every RT/ RW and village to make their environment clean and cool, including (but not limited to) the following: (1) helping the Government to reduce the volume of garbage in the city of Malang, especially in tissue polypeptide specific antigens and tissue polypeptide antigen; (2) the social aspect that comes from a sense of concern and cooperation from society; and (3) the environmental educational aspects in the community and students who are members. (4) Almost all types of waste, including municipal solid waste, industrial waste,

and electronic waste, were collected using the BSM-based waste management model. There are 70 distinct varieties of plastic trash, as well as paper and glass containers. Depending on the marke conditions and the value of the currency in the trash bank, BSM's purchase prices may rise or fall.

2.3. Community Waste Management

The cooperative model is at the heart of community-based waste management. The goal of this strategy is to alter municipal waste management in terms of recycling, composting, and trash storage before collection. With this method, everyone in the neighborhood can feel like they have a stake in the project's success. Cooperatives are a common form of community organization seen in many types of projects. Defines community-based waste management as a method of garbage disposal that depends on the community's involvement. The government and other organizations are equally instrumental in driving and facilitating change. It has been argued that a key strategy for empowering communities and increasing their access to environmental resources, particularly land, infrastructure, and services, is to facilitate and implement community-based efforts within environmental management (15).

Because it is carried out by community members themselves, waste management at the community level is of critical importance. Individuals are responsible for determining their destinies. If it were modified according to local priorities and resources, it would be more successful (16).

Trash Management serves mostly housewives. They wanted a cleaner neighborhood first. The waste bank is well-liked. Unlike the waste bank, which accepts most trash, the second-hand model only accepts paper, plastic, and cans. Trash collection earns Rp 100–Rp 400 daily. Waste banks turn trash into money for communities. This garbage bank motivates individuals to clean up the environment and makes extra money, which benefits the community. Nowadays, garbage can be sold and used by the community. Waste prices must rise or follow market prices to urge locals to keep collecting rubbish and maintaining environmental hygiene. People expect the garbage bank to improve its systems and service. The waste bank's democratization is expected to encourage more people to collect trash and receive payment. Housewives' ability to generate extra money is vital to the family economy because most people earn only enough for their daily needs (14).

Waste turns into money, especially for people who pick up trash. Plastic trash turns into a boon that helps garbage entrepreneurs make tens of millions of dollars per

month. On the other hand, the growth of the garbage business affects how government policies about waste banks are put into place. The garbage bank program is only for ceremonial programs that have been set up to deal with waste, and it is becoming less and less effective. On the other hand, the problem with trash in Parepare is solved by the community on its own. But that doesn't mean that the government's presence and all work that has been done don't help to reduce the amount of trash. In the case of plastic waste, this means that the government has not taken the problem of waste seriously up to this point (17). An Integrated Waste Management (18) can see in Figure 1:

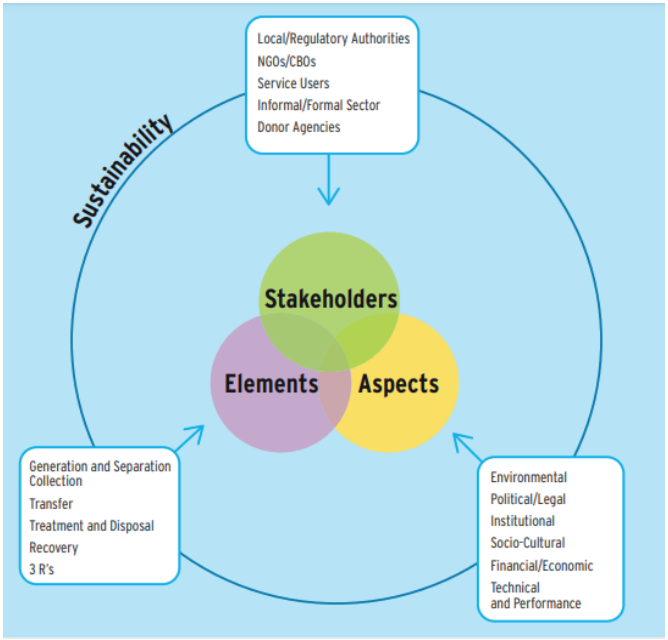

Figure 1

Stakeholders: are people or groups with an interest or a role to play. When making an SWM program, all stakeholders should be identified and, as much as possible, included.

Elements (Process): Make sure to include the technical parts of managing solid waste. Everyone affects at least one of the elements. When making an SWM program, all parts need to be taken into account at the same time for the system to work well.

Aspects (Policies and Impacts): include how the waste management system works in terms of regulation, environment, and money. Some things can be changed, like when a community gains more power or when environmental rules are made stricter. Based on these different local, national, and global factors, measures and priorities are made.

3. RESEARCH QUESTION

4. Research answer:

How can the Waste Bank help the Economy of the Community?

What is the impact of the Waste Bank on the Community?

5. METHODS

The research method is the method implemented by a researcher to collect, clarify data, and analyze the facts in place of research by using measurements and knowledge. The approach used by the authors in this study is sociological. Sociology is the scientific study of human social life. The design used in this research is narrative. Narrative aims to explore the lives of individuals and ask one or more individuals to provide stories about their lives.

This study uses qualitative analysis. As well as with the descriptive method, means describing variable by variable one by one, which aims to collect detailed actual information that describes existing symptoms or identifies problems.

6. RESULTS

Waste generation is the amount of waste that arises from the community in units of volume or per capita per day or when the building is expanded or the road is extended. The amount of waste generated is directly proportional to the increase in the number of residents in an area, including in developing countries.

Several important factors in calculating the rate of waste generation, among others, population growth, surveys for taking samples of waste from waste sources, and determining the density of waste measured in kilograms compared to the volume of waste measured (kg/m3) (19).

The grouping of waste that is often done is based on its composition, for example, expressed as % by weight (usually wet weight) or % by volume (wet) of paper, wood, leather, rubber, plastic, metal, glass, cloth, food, and others (20). The composition and properties of waste reflect the diversity of human activities. The waste bank is one of the waste management that has been collected and sorted.

Waste can be easily recycled according to its type, there are three types of waste in the waste bank management, namely, organic waste, inorganic waste, and B3 waste.

Garbage that has been collected will then be sold to collectors. Waste bank management can help reduce environmental pollution caused by humans, besides that waste bank management can help village income. One of the problems that occurred in a developing country, was the large amount of plastic waste scattered on the side of the road and the developing country.

One of the problems caused by waste is the decrease in aesthetics around the place of waste disposal, so it has the potential to cause social conflict among the people in the area surrounding. Opposition by the surrounding community is generally related to causes endangering health and safety, reduced comfort, and limited land, especially for landfill sites. Placement of TPA requires a large area of land while land in big cities is getting cramped due to increasing population growth.

The creation of a waste bank can be a community solution in handling waste so that it has a positive impact on the socio-economic life of the people in a developing country. In addition, the existence of a waste bank has changed the mindset of the community regarding concerns in selecting waste and in collaboration between members to strengthen friendship so that waste that previously had no value becomes something of economic value.

Meanwhile, the problem with the waste bank occurs is the process, the amount of waste faced and the fleet that transports it makes the waste processing process hampered for the fleet and waste processing officers, the government's lack of attention to the waste bank, limited land to accommodate the collected waste, the price waste is unstable and often experiences a decline, reducing the enthusiasm of bank customers to save in the waste bank.

According to its type, waste is divided into two, namely, wet waste (easily decomposed or organic) and dry waste (waste that cannot decompose or is inorganic) (21). Some waste is divided based on the forming substance or chemical composition. The waste bank itself is an institution that was founded to reduce the amount of waste that still has an economic amount to produce an economy.

Garbage is often simply thrown into landfills. Piled up high until finally transported by cleaning staff without knowing where it will lead. Waste that is sorted between organic and inorganic can become rupiah so that the waste bank can improve the community's economy. This waste bank also recycles waste which has the meaning of a process of turning used materials or waste into new materials that can be reused and sold to collectors where it can be useful for adding to the economy of the residents of developing countries. With the recycling process, waste can become something useful, so it is useful to reduce the use of new raw materials. Other benefits are saving energy,

reducing land damage, and greenhouse gas emissions in the process of making new goods.

Currently, data from the Ministry of Environment and Forestry records for 2021 the number of waste banks is 11,556 units spread across 363 districts/cities throughout Indonesia. With a total of 419,204 customers, a monthly turnover of approximately IDR 2.8 billion (as of July 2021), and able to reduce waste by 2.7% of the total national waste generation. The Ministry of Environment and Forestry (KLHK) noted that until 2022 there will be 16,250 waste banks in Indonesia. In 2021, there will be more than 30 million tons of landfill waste with more than 14 million tons of handled waste and more than 25 million tons of managed waste.

Various data estimate that around two million tons of plastic waste or 17% will pollute the sea in 2019-2021. This waste comes from Indonesia, the Philippines, Thailand, and Vietnam. Therefore, The Incubation Network launched an accelerator program entitled Plastic Waste to Southeast Asia Challenge to encourage innovative solutions that focus on recycling and upcycling plastic waste.

The two organizations from Indonesia selected to participate in this program are the Bersinar Garbage Bank and Kibumi. Throughout the registration period, the program has received more than 100 registrations through the UpLink platform. Of these applicants, 48 candidates have been screened by academic researchers, sustainability practitioners, innovators, as well as climate and circular economy experts.

Waste is a consequence of human activity. Every human activity must generate waste or garbage. The amount of waste is proportional to the level of our consumption of goods (materials) that we use every day. The type of waste also depends on the type of material we consume. For this reason, it is necessary to carry out waste management so that it does not pollute the environment. Innovative solutions play an important role in waste management in Southeast Asia.

Countries in the world are also experiencing waste problems. Let's see how waste is managed in developed countries. First, in Asia, for example, in Japan, which is very disciplined in managing waste, is very much different from Indonesia. Next is Europe in overcoming the waste problem. The European Commission has established basic guidelines on waste management which are intended for its member countries, such as the Netherlands, Sweden, and Germany. In terms of preparing these guidelines, those involved are the government, businessmen, and the people of each country. Then this European policy was then interpreted by the parliaments of each country in the form of domestic legislation, which applied to the central to regional governments.

The current waste bank is not only present as a useless waste collection site. The concept of a waste bank itself is growing through the application of sophisticated and creative waste processing technology. Currently, many countries are serious about developing the benefits of waste banks to reduce the amount of waste while at the same time producing products that have economic value.

The waste problem in our own country will never end, most people are still reluctant to dispose of waste in its place. However, it is different from developed countries, which usually have sophisticated and regular procedures for disposing of waste. Therefore, it is better if countries follow the example of several developed countries in terms of waste management to create a clean, comfortable, and beautiful environment.

In solving the problems that arise due to waste in the community, waste banks have a significant role, in addition to reducing the amount of waste in the environment, waste banks can also generate income for the community. Good waste management can provide important benefits besides reducing environmental pollution, the utilization of this waste can increase the economic value of the waste concerned so that it benefits the people who manage it.

The active participation of the community in sorting and processing waste at the source is the key to successful waste bank management. In Indonesia, the growth of waste banks has increased from 1,172 units in 2021 to 5,244 units in 2019. All of them are spread across 34 provinces and 219 districts or cities in Indonesia. The existence of a waste bank has proven to have a positive impact, both on the environment, socially and economically, namely, contributing to reducing national waste as well as employment opportunities and providing additional income. The main waste bank in West Jakarta has an annual turnover of up to Rp. 4.5 billion.

Waste will have economic value if it can be processed further as economic goods, both as raw materials (recycled) and as trading commodities. This is where we can see the importance of waste banks as a means for people to save, improve their socio-economics, as well as empower people in waste management. With the existence of this waste bank, it is hoped that it can further increase public awareness of sorting and managing waste properly and correctly.

The benefits provided by waste banks, such as helping to overcome waste problems, alternative sources of additional family income from the waste saved, making waste of economic value, awareness of the importance of cleanliness, and making the environment cleaner and healthier. In addition to the enormous benefits, the waste bank also has the goal of creating a clean, healthy, and comfortable environment, changing

people's habits to behave economically, and educating people who care about a clean, healthy, and comfortable environment.

The community also becomes aware of the importance of sorting waste that can be managed properly and correctly, and the community also knows about the waste that has economic value. Waste that is usually thrown away or underestimated, but if it is saved or deposited in a waste bank will generate economic value. In processing and managing the waste that is saved, the efforts implemented by the waste bank in processing and managing it are based on the 3R principles (Reduce, Reuse, and Recycle).

The improvement strategy is carried out by the waste bank so that the community participates by offering various programs or activities that can attract community interest so that people want to join the waste bank. Several programs are offered by the waste bank, one of which is the movement to sort waste from the home to provide awareness to the public to sort waste, which is organic waste and which is an inorganic waste. With this program, the community is increasingly diligent in saving canister-worthy waste to the waste bank, thereby reducing waste generation.

The waste bank program brings positive benefits to the environment, namely, making the environment cleaner and what is most felt by the community is the reduction of piles of garbage in the surrounding environment which has been an unattractive sight. After the existence of this waste bank program, there was a slight increase in people's income. This was obtained from the results of the answers of respondents who answered that their financial condition had slightly improved after the existence of this garbage bank program. Even though the timeframe for getting money is about once every 1-3 months, the results are very helpful for daily needs, for children's education, and for improving the quality of health.

After the waste bank program was running, there were so many benefits for the community by saving waste. The community saves waste, the community also earns money. With the income generated from the waste bank, it becomes easier for the community to finance their children's education. On average, people who save have families and children who are still of school age. With the income generated from the waste bank, the community will be assisted in financing children's education to get a better quality education. Therefore, the management of the waste bank must always maintain a balanced management so that it continues to run well, contributing to socio-economic life and leading to better changes in the community's concern for the environment.

Supported by previous research described in the introduction section on the role of the bank. This research also shows that the waste in improving the economy of its customers is very diverse, starting with socialization. Supporting factors are positive customer responses, support from external parties, and awareness of enthusiasm for saving. The inhibiting factors are the lack of extensive socialization, busyness constraints, and the distance to the garbage bank.

The role of the waste bank to improve people's welfare is by holding economic empowerment activities. Economic empowerment activities carried out by waste banks include waste savings, inorganic waste craft, waste alms, production of solid fertilizers, liquid fertilizer, and biogas. However, the garbage alms activity only occurs once because there are still people who are still lazy to collect and sort their inorganic waste, so community empowerment activities are lacking. So with the existence of a program carried out by the waste bank, beside the waste alms, it has played a role in empowering the community's economy, namely, being able to sort waste, so it can be saved, and recycle organic and inorganic waste, to get additional income and increase the ability of the community's human resources in handling waste and creating a healthy and clean environment.

The existence of a waste bank can empower the community's economy by involving the community's potential in handling the waste they have through proper and correct waste sorting and management. This is under the principles of community empowerment, namely, voluntary, autonomous, self-reliant, participatory, and egalitarian.

The waste bank has an impact on the community, including additional economic income from the waste savings program and inorganic waste crafts, educating the community about how to manage waste properly and correctly, besides giving impact on the community to socialize between communities so that a sense of mutual help arises. Help such as garbage alms activities, and with the existence of a waste bank, the environment becomes clean and free of garbage and improves the quality of public health from air and water pollution caused by garbage.

7. DISCUSSION

If we put together, the notion of community development is a process or effort to improve their lives both in terms of economy, education, and health as well as in terms of society and culture. And of course, this activity will not succeed perfectly if there is no intervention from external parties, namely, the enthusiasm or encouragement of the people who are members of a particular community. And the relationship between

community development and waste banks is to improve their welfare, both in terms of inner and outer satisfaction (increasing income). That is, for those who are not yet prosperous to become prosperous. The implementation of the waste bank technically consists of several stages, namely, the assessment stage, the planning stage for alternative programs or activities, and the evaluation stage, where the community is always involved in each of these stages. The impact felt by the community is greatly helped, and quite well felt by the residents by the existence of a waste bank, which is used to help pay for their children's education, although the results are not very large. The state of the environment adds a clean aesthetic value to society.

The waste bank program brings positive benefits to the environment, namely, making the environment cleaner and what is most felt by the community is the reduction of piles of garbage in the surrounding environment which has been an unattractive sight. After the existence of this waste bank program, there was a slight increase in people's income. This was obtained from the results of the answers of respondents who answered that their financial condition had slightly improved after the existence of this garbage bank program. Even though the timeframe for getting money is about once every 1-3 months, the results are very helpful for daily needs, for children's education, and for improving the quality of health.

While the problem with the waste bank occurs is the process, the amount of waste faced and the fleet that transports it makes the waste processing process hampered for the fleet and waste processing officers, the government's lack of attention to the waste bank, the limited land to accommodate the collected waste, the price waste is unstable and often experiences a decline, reducing the enthusiasm of bank customers to save in the waste bank.

It is hoped that the waste bank management will be advised to continue to disseminate information to the community including mass campaigns for the waste bank through the distribution of posters, print media advertisements, and campaigns at schools so that the number of customers who save waste increases and the public understands how to treat waste properly and correctly. This requires cadres who are active in each neighborhood unit to invite other residents to participate in saving waste in the waste bank. The simplest way to control waste is to raise self-awareness not to damage the environment with waste. Apart from that, socio-cultural control is also needed for the community to respect the environment more.

8. CONCLUSION

The results of this study indicate that the creation of a waste bank can be a solution for the community in handling waste so that it has a positive impact on the socio-economic life of the community. The existence of a waste bank has changed the mindset of the community regarding concerns in selecting waste and in collaboration between members to strengthen friendship so that waste that previously had no value becomes something of economic value.

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