



Analysis of the Role of Garbage Bank in Improving the Community Economy in Medan Belawan District

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Abstract. Waste is a serious problem in Indonesia, including in Medan Belawan Regency. The Waste Bank Program is presented as a solution for waste management and community economic empowerment. This study aims to determine the role of the Waste Bank in community income. The research method used is descriptive statistics presented in the form of frequency distribution tables, histograms, stem and leaf (stem and leaf diagrams) or box plots (box line diagrams). Data collection was carried out through interviews, questionnaires and observations. The data analysis technique used is statistical analysis. The Waste Bank Program in Medan Belawan Regency has provided economic, social and environmental benefits. Economic benefits include increasing community income, creating jobs, and saving waste transportation costs. Social benefits include increasing public awareness of the importance of good waste management, and increasing public concern for the environment. Environmental benefits include reducing rubber production, reducing environmental pollution, and preserving natural resources. The Waste Bank Program in Medan Belawan Regency is one example of the application of an effective and sustainable green economy concept. This program can be a model for other waste management programs in Indonesia.

Keywords: Rubbish Bank, Community Economic Empowerment, Medan Belawan District

1. INTRODUCTION

The increasing population will result in the ability of natural resources to recover (for example water and air) to absorb waste caused by human activities to decrease. The increase in population will also increase the volume of waste produced, especially in big cities in Indonesia. Serious handling is needed to overcome the large amount of waste production. This is because waste is one of the causes of environmental pollution which will ultimately cause environmental damage. Waste management that has been seen so far has only been carried out conventionally, namely collection, transportation and final disposal at the Final Disposal Site (TPA). Limited land is a problem for the opening of new TPA so that currently the condition of existing TPA has experienced excess capacity. It is estimated that at most only around 65 percent of waste can be transported to the TPA by institutions responsible for waste and cleanliness issues. Waste Bank can act as a dropping point for producers for products and product packaging that have expired. So that part of the government's responsibility in waste management also becomes the responsibility of the community. By implementing this pattern, it is hoped that the volume of waste disposed of at the landfill will be reduced. The application of the 3R principle as close as possible to the source of waste is also expected to solve the waste problem in an integrated and comprehensive manner so that the final goal of the Indonesian

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Waste Management policy can be implemented properly. Waste is one of the problems faced by almost all countries in the world. Both developing countries and developed countries. Waste is always a problem, on average every day big cities in Indonesia produce tens of tons of waste. The problem of waste in urban areas has not been resolved. Because the growth rate and population density are very high, it makes public consumption high. Students as a social component of society have a major role in national development which is expected to be able to participate scientifically according to the disciplines they have to improve the quality and quantity of human resources. Efforts to develop the nation require students as successors to have the competencies needed, especially in the scope of society. Improvements in the scope of society include religious, social, economic, educational and community aspects. In the future, waste will become a serious problem that is difficult to control because the factors that cause waste, namely the increasing population, socio-economic conditions and technological advances are expected to experience a significant increase (Slamet, 2000).

This problem arises because humans are less aware that in the economic activities they do there are other supporting aspects that must be considered, especially the environment. If environmental aspects are not considered, there is a very high possibility of damage to natural disasters that will occur. Waste is defined as all forms of solid waste originating from human and animal activities that are then discarded because they are no longer useful or their existence is no longer desired. (Tchobanoglus, 1993). Waste that is not handled properly can disrupt the aesthetics of the environment, cause odors and cause the development of diseases. Good and proper waste management can prevent natural disasters and create a clean and healthy environment, and can generate economic value for the community. Such as the management of organic waste or waste that can be decomposed can be used as fertilizer, biogas animal feed and others. And as for inorganic waste, namely waste that is not easily decomposed such as plastic, iron, glass bottles and others, it can be recycled and has a selling value, so it is not surprising that many Indonesian people work as waste collectors. The problem of waste has raised public awareness to play a role and take part in waste management. The Waste Bank is one of the stimuli for public awareness of the importance of waste management and utilization. The existence of the Waste Bank increases public awareness of waste management. Gugah Nurani Indonesia Foundation is a non-governmental humanitarian organization that works in accordance with the pillars of the SDGs (Sustainable Development Goals), especially in the field of children's rights and community empowerment. Gugah Nurani Indonesia is a foundation with a legal entity under the Decree of the Minister of Law and Human Rights Number: AHU-594.AH.01.04. on February 24, 2009. Gugah Nurani Indonesia is a foundation

with a legal entity under the Decree of the Minister of Law and Human Rights. Gugah Nurani Indonesia is a partner of Good Neighbors International, a South Korean international development NGO founded in 1991, with the Nation (UN ECOSOC). Gugah Nurani Indonesia carries out projects that promote and protect children's rights, strengthen partnerships, and advocate for the rights of the most vulnerable groups in a respectful and effective manner. We work through active participation of communities and stakeholders in our work areas. Gugah Nurani Indonesia believes that one of the best ways to transform society is to empower people. We work with those who are marginalized socially and economically to support them to be more aware of human rights and become independent. And has a Mission as an effort to realize a world without hunger, where every human being lives in harmony. Gugah Nurani Indonesia respects the human rights of those in poverty, disaster, oppression, to help realize independence and provide access to rebuild their hopes.

2. LITERATURE REVIEW

Rubbish is one of the most pressing environmental issues in Indonesia, including in Medan Belawan Sub-district. Unmanaged Rubbish accumulation can have a negative impact on human health, the environment, and city aesthetics. The green economy concept offers a solution to the Rubbish problem by combining economic and environmental aspects. Berkah Waste Bank in Medan Belawan Sub-district is one example of a program that applies the concept of green economy through sustainable Rubbish management and community economic empowerment.

Understanding Of Waste Bank

A waste bank is a place used to collect sorted waste. The results of the collection of sorted waste will be deposited to a place for making crafts from waste or to a waste collection point. Waste banks are managed using a banking-like system carried out by volunteer officers. Depositors are residents who live around the bank location and receive savings books like saving in a bank. A bank is a place to store money. It is a conventional bank. waste Bank, is a place to store waste. The working pattern is similar to a real bank. At a waste bank, residents can earn money by selling waste produced from households. According to Unilever, a waste bank is a collective dry waste management system that encourages people to participate and be active in it. This system will accommodate, sort, and distribute waste with economic value in the market so that people get economic benefits from saving waste. Waste deposited by customers must be sorted. This requirement encourages people to separate and group waste. For example, based on the type of material: plastic, paper, glass and metal. So a waste bank

will create a new culture so that people want to sort waste. Thus, the waste bank system can be used as a tool for social engineering, so that a better waste management system or order is formed in society.

Types Of Waste

The types of waste around us are quite diverse, there are household waste, industrial waste, market waste, hospital waste, agricultural waste, plantation waste, livestock waste, institutional / office / school waste, and so on. Based on its origin, solid waste can be classified into two, namely as follows :

a. Organic Waste

Organic waste is waste produced from biological materials that can be degraded by microbes or are biodegradable. This waste can easily be broken down through natural processes. Household waste is mostly organic. Including organic waste, for example kitchen waste, food scraps, packaging (other than paper, rubber, and plastic), flour, vegetables, fruit peels, leaves and twigs. In addition, traditional markets also contribute a lot of organic waste such as vegetable waste, fruit and others.

b. Inorganic Waste

Inorganic waste is waste produced from non-biological materials, either in the form of synthetic products or the results of mining technology processes. Inorganic waste is divided into: metal waste and processed products, plastic waste, paper waste, glass and ceramic waste, detergent waste. Most inorganic cannot be broken down by nature or microorganisms as a whole (unbiodegradable). Meanwhile, some others can only be decomposed over a long period of time. This type of waste at the household level includes plastic bottles, glass bottles, plastic bags and cans.

c. Waste Management

Waste banks will help build public awareness to care about waste management. Bambang Suwerda embedded an important philosophy in waste bank management, namely sorting waste. The sorting process is carried out in stages. Waste bank customers sort waste at home. At a minimum, sort and separate organic waste and non-organic waste. Customers then deposit the waste at the waste bank. Most waste banks only accept non-organic waste. The waste sorting process does not stop there. Upon arrival at the waste bank, waste bank officers again sort non-organic waste organic. Sorting is based on the type of non-organic waste that can be sold. Each waste bank has a category of waste types that they receive from customers. Waste banks buy customer waste at fluctuating prices. The price of this waste depends on the

selling price of the waste to collectors or traders. What is clear is that the selling price of waste to collectors or traders must be greater than the purchase price of the waste bank to its customers. Waste management aims to improve public health and environmental quality and make waste a resource. The waste management mechanism is as follows :

1) Waste Reduction

Activities to overcome the emergence of waste from waste producers (households, markets and others) recycling waste at the source or at the processing site.

2) Waste Management

Is a series of waste management activities that include sorting (grouping and separating waste according to type and nature), collection (moving waste from the waste source to the TPS or integrated waste processing site), lifting (activities to move waste from the TPS source or integrated waste processing site), processing the final results (changing the form, composition, characteristics and quantity of waste so that it is further processed, utilized or returned to nature.

d. Waste Bank Management Mechanism

The mechanism in the Big Indonesian Dictionary (KBBI) means the working method of an organization (association and so on). Thus, the mechanism must be arranged in a sequential or sequential manner, and no process should be missed. In relation to the waste bank mechanism, it would be better if it was accompanied by the community leader, facilitator forum or community association, and non-governmental organizations or other institutions. This aims to ensure that the socialization of the waste bank has a wider reach and impact and to ensure that the implementation of the waste bank system is in accordance with standards.

1) Sorting

Members/customers sort the waste that will be deposited into the waste bank. This sorting is done in their respective homes. So, members come to the waste collection point bringing waste that has been sorted. In this sorting process, of course, members have been given prior knowledge about the types of waste and how to sort it. Usually, waste is sorted based on organic and inorganic types. Inorganic waste itself will be sorted again according to its material, for example, paper, plastic, or glass. Usually the sorting process is carried out directly by customers every day, without waiting for the schedule from the waste bank. so that when the schedule arrives, they are ready with the sorted waste

2) Deposit

The waste that has been sorted is then taken to the designated waste collection location. The deposit time is for example two days in one week every Wednesday and

Saturday. This scheduling is intended to match the time for customers to deposit and transport waste to collectors. This aims to prevent waste from piling up at the waste bank location.

3) Weighing

Officers weigh the waste brought by customers. Weighing is done according to the type of waste. The minimum weight of waste deposited is usually agreed upon in advance, for example a minimum of one kilogram. This makes it easier for officers to record.

4) Recording

Officers will record the type and weight of waste deposited by customers. The weighing results are then calculated or cashed and then written in the customers' savings books. In the waste bank savings system, it is usually taken at least three months later. This is done so that the savings collected are relatively large. At this stage, the community can already feel the benefits of the waste bank. By setting aside a little energy to sort waste, the community can have savings from unexpected results. These savings can also be modified into holiday savings, education savings and others. For urban communities, this waste bank system is very effective and relatively more profitable than having to pay cleaning staff.

5) Transportation

After the weighing and recording process is complete, the waste bank officers and collectors negotiate the price and after it is agreed, the collectors can immediately transport the waste. So that there is no waste piling up at the waste collection location. Waste banks can also be a source of raw materials for used goods crafts. If the waste bank already has supporting activities like this, then the benefits obtained by the customers will be double. Namely the benefits of waste bank savings and also the benefits of profits from producing crafts from used or recycled goods.

e. Waste Management Mechanism

In the Law of the Republic of Indonesia Number 18 of 2008 concerning Waste Management, it is stated that waste management is carried out based on the principles of responsibility, sustainability, benefits, justice, awareness, togetherness, safety, security, and economic value. Waste management aims to improve public health and environmental quality and make it a resource. The waste management mechanism can be described as follows :

1) Waste Reduction

Activities to reduce the generation of waste from waste producers (households, markets, etc.), recycling waste at the source or at the processing site.

2) Waste Handling

A series of waste handling activities including sorting (grouping and separating waste according to type and nature), collection (moving waste from the waste source to the TPS or integrated waste processing site), lifting (activities to move waste from the TPS source or integrated waste processing site), processing the final results (changing the form, composition, characteristics and amount of waste so that it is further processed, utilized or returned to nature).

f. Implementation Of Waste Bank

The implementation of waste banks that have been regulated by the Regulation of the Minister of Environment of the Republic of Indonesia Number 13 of 2012 concerning Guidelines for the Implementation of Reduce, Reuse, and Recycle Through Waste Banks is as follows :

1) Working Hours

Unlike conventional banks, the working hours of waste banks depend entirely on the agreement between the waste bank implementer and the community as savers. The number of working days of the waste bank in a week also depends, it can be 2 days, 3 days, 5 days, or 7 days depending on the availability of time of the waste bank manager who usually has a main job.

2) Savings With Drawals

Everyone can save waste at a waste bank. Every waste that is saved will be weighed and valued according to market price. The money can be directly withdrawn by the saver or recorded in a savings book prepared by the bank. Based on experience so far, it is better if the waste that is saved is not immediately cashed but saved and recorded in a savings book, and then it can be withdrawn. This is important in an effort to collect sufficient funds to be used as capital and prevent a consumer culture.

3) Waste Management

A series of waste management activities that include sorting (grouping and separating waste according to type and nature), collection (moving waste from the waste source to the TPS or integrated waste processing site), lifting (activities to move waste from the TPS source or integrated waste processing site), processing the final results (changing the form, composition, characteristics and quantity of waste so that it can be further processed, utilized or returned to nature).

4) Money Lending

In addition to saving waste, in practice, waste banks can also lend money to savers with a profit-sharing system and must be returned within a certain period of time.

5) Savings Book

Every waste that is saved is weighed and valued according to the market price of waste and then recorded in an account book (savings book) as written evidence of the amount of waste and the amount of money owned by each saver. In each account book, there are credit, debit, and balance columns that record every transaction that has been made. To facilitate the administration system, the account book of each RT or RW can be distinguished by color.

6) Waste Collection Service

As part of the service, waste banks can provide transportation to pick up waste from village to village throughout the service area. Savers simply call the waste bank and place their waste in front of their house, the waste bank officer will weigh, record, and transport the waste.

7) Types Of Savings

In practice, waste bank managers can implement two types of savings, individual savings and collective savings of individual savings.

3. METHODS

Methodology is a systematic study through procedures and techniques that are connected to something. While research methods are methods used in the research stages. The type of research used in this study is a type of Qualitative research, which is used in this study is library research and field research by reading, reviewing books and articles related to the Role of Waste Banks in Increasing Community Income. The purpose of the study is the discovery, proof and development of science. Discovery is Data obtained from research is new data that has never been known. Proof is Data obtained from research is used to prove the existence of doubts about certain information or knowledge. Development is Data obtained from research is used to deepen and expand existing knowledge. The method used to collect data or sources related to the topic of Multidimensional Child Poverty (Health Dimension, Education Dimension, Quality of Life Dimension) in Bulu Cina Village. This literature study was obtained from various sources, journals, books, documentation, the internet and libraries and making questionnaires.

In addition, the method for obtaining data is by conducting direct observation of the object to be studied regarding Multidimensional Child Poverty (Health Dimension, Education Dimension, Quality of Life Dimension) in Medan Belawan. Data collection is carried out by interview, questionnaire, observation, and a combination of the three. Interviews are conducted as a data collection technique to conduct preliminary studies in finding the problems being studied. Questionnaires are conducted as a data collection technique. which is carried out by giving a set of written questions or statements to respondents to be answered. Observations are made regarding human behavior, work processes, symptoms of stunting and if the respondents observed are not too large. In collecting data this study uses two types of data namely :

- a. Primary data is a source of research data obtained directly from the original source in the form of interviews, opinion polls from individuals or groups (people) or the results of observations of an object, event or test results (objects).
- b. Secondary data is a source of research data obtained through intermediary media or indirectly in the form of books, notes, existing evidence, or archives that are published in general.

Data processing is given meaning and significance that is useful in solving research problems. The raw data that has been collected will be broken down into groups, categorized, manipulated and squeezed in such a way that the data has meaning to answer the problem and is useful for testing hypotheses or research questions. Several levels of activities are carried out, including checking raw data, again, making it into a useful table, either manually or using a computer. After the data is arranged in groups and the relationships that occur are analyzed, then interpretations are made of the relationships between the phenomena that occur and comparing them with other phenomena outside the research. Based on the data processing, it is necessary to analyze and draw conclusions from the research results. Data processing is simply defined as the process of interpreting field data according to the objectives, design, and nature of the research. For example, in a quantitative research design, the numbers obtained through the data collection tool must be processed quantitatively, either through inferential statistical processing or descriptive statistics. In contrast to qualitative research design, data processing uses non-statistical techniques, considering that field data is obtained in the form of narratives or words, not numbers. Given that field data is presented in the form of narrative words, data processing cannot be quantified. This difference is understood by researchers, so that data presentation and analysis of research conclusions are relevant to the nature or type of data and data processing procedures to be used. It is stated above that data processing is interpreted as the process of interpreting field data, which means that field data obtained

through data collection tools can be interpreted, both quantitatively and qualitatively, so that the process of drawing research conclusions can be carried out. Thus, data processing in relation to educational practices is an effort to interpret data or facts into meaning.

4. RESULTS AND DISCUSSION

Analysis

Researchers describe the data analysis techniques used including data analysis and analysis requirements testing. Data analysis with descriptive statistics is presented in the form of a frequency distribution table, histogram, stem and leaf (stem and leaf diagram) or box plot (box line diagram). Data analysis with inferential statistics is in accordance with the research hypothesis to be tested. After going through the data collection stage, researchers must determine the type of analysis to be used according to the level of research needs. Non-statistical data analysis includes qualitative data, namely data that cannot be quantified, non-statistical analysis is more appropriate to use. Qualitative data is usually processed or analyzed based on its content (substance). This non-statistical analysis is also often referred to as content analysis, which includes descriptive, critical, comparative, and synthetic analysis. After the data and information needed are considered complete, the data is then analyzed using the induction technique, namely analysis based on the data obtained, then describing a general proposition or proportion and a number of specific propositions, then the results of the study can be concluded.

Operasional Definision

Operational definition is an explanation of the term that explains operationally, it contains the terms used in the research. Operational definition is a definition given to a variable or construct by giving meaning or specifying activities, or providing an operationalization needed to measure a particular construct or variable. Operational definition is used to equalize the possibility of various understandings between researchers and people who read their research. In order to avoid misunderstandings, operational definition is compiled in a research.

Data

Table 1. Weekly Operational Report 2024 Bank Sampah Berkah (BSB) Belawan

Bulan	Week	Tonnage (kg)	The Customer Owes
January	I	567,4	-
	II	154,4	14
	III	852	10
	IV	251,2	6
	V	108,7	4
Total		1.257,6	34
February	I	549,7	20
	II	331	18
	III	628	13
Total		1.509,3	51
March	I	105,8	-
	II	208,1	-
	III	716,7	-
	IV	84,8	-
Total		1.115,4	0
April	I	52	-
	II		-
	III	180,4	-
	IV	397	-
Total		272,1	0
May	I		
	II	207,9	6
	III	43,4	4
	IV	38,4	4
Total		289,7	14

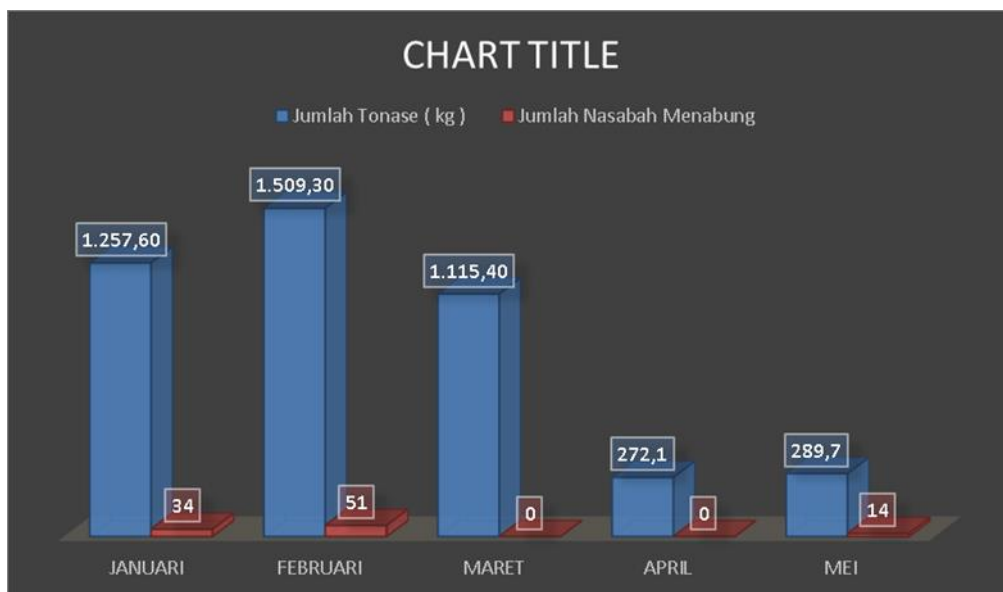


Figure 1. Weekly Operational Report Bank Sampah Berkah Belawan 2024

5. CONCLUSION

Based on the description of the research results and discussion, the researcher can draw the following conclusions. The process of community empowerment through waste management at the Panca Daya Waste Bank has 5 stages of the empowerment process namely:

- a. Awareness is raised through socialization activities related to waste banks, types of waste, benefits of waste and waste processing.
- b. Educating the community by providing knowledge related to waste and providing training.
- c. Waste bank managers provide a sense of security and guarantees to the community in the form of developing craft products and helping customers in marketing crafts.
- d. Providing guidance and support to customers by facilitating customers so that customers can become independent and able to create their own customer creativity and fully support customer activities.

Waste management activities at the Karya Peduli Waste Bank make waste that was previously worthless into economic value. The Berkah Waste Bank applies the concept of a real bank, where the method used is to save household waste that has been collected. The concept of waste savings is used strategically to attract people to be involved in the activities of the Belawan Berkah Waste Bank. The Belawan Berkah Waste Bank provides a price or rupiah value for the waste saved according to its type. The money will later become customer savings. In addition, to increase the selling price of waste, Bank Sampah Berkah Belawan also disseminates information about waste and the environment to the community, after which the community is introduced to the Waste Bank, introduced to the programs offered by the Waste Bank, and shown examples of how to become a customer and how to save waste. Suggestions for Management, namely :

- a. Follow up on the results of the activity socialization to improve future activity plans.
- b. Hold interesting and meaningful activities so that they can increase community participation.

For the Community, namely :

- a. He community should participate in providing suggestions for the progress of the waste bank.
- b. Increase the intensity of community service and environmental cleanliness so that the cleanliness of the environment is maintained.
- c. Provide bonuses to increase the enthusiasm of management in carrying out their duties.

- d. For the hamlet head, he should continue to socialize and provide motivation to the community so that the number of customers increases and the community becomes aware of the correct way to manage waste.

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