

DOMESTIC WASTE MANAGEMENT THROUGH THE WASTE BANK PROGRAM IN PASIRLAWANG VILLAGE PURWADADI DISTRICT CIAMIS REGENCY

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Abstract

Suboptimal waste management resulted in environmental hygiene problems in Pasirlawang Village, Purwadadi District, Ciamis Regency. In 2021, there is one effort to overcome this problem, namely by establishing a waste bank. The purpose of this study is to find out domestic waste management activities through the waste bank program on environmental cleanliness and to find out the benefits resulting from the existence of a waste bank for the community in Pasirlawang Village. The research method used is quantitative descriptive. The results of the study show that domestic waste management activities through the waste bank program for environmental cleanliness include waste sorting carried out by members by providing waste containers for organic and inorganic waste, depositing waste whose time changes no longer according to the initial agreement, weighing waste of one to more than five kilograms each time depositing, recording later the amount of money received can be taken directly or stored in the passbook, waste transportation is carried out by the manager to each member's house who cannot deposit their waste directly to the waste bank location, and the use of waste by members including organic waste is used as animal feed and ecoenzymes. As for inorganic waste, it is made by handicrafts or used according to the same/different functions.

Keywords: *Waste Management, Domestic, Waste Bank*

INTRODUCTION

One of the big problems that occurs in every country in the world is waste. Waste can be interpreted as materials that people do not like and do not want, where most of this waste is materials or leftovers that are no longer used and will cause disturbances to public health and the environment (Rohim, 2020:6). Waste management in Indonesia has not yet achieved optimal results. This can be proven by looking at data from the National Waste Management Information System (SIPSN) of the Ministry of Environment and Forestry (KLHK) in 2022 stating that the number of national waste piles reaches 67.8 million tons per year with the most dominant waste composition being organic waste 57%, paper waste 11%,

plastic waste 15%, and for other types of waste as much as 17% (Wisnah et al., 2023).

The many waste management problems that occur are usually inseparable from the lifestyle and culture of the community itself which contributes to creating increasingly diverse types of waste, including packaging waste that is dangerous or difficult to decompose naturally. Therefore, waste management efforts require the participation of the community at large. If this problem is not handled properly, it can cause various problems. Good waste management is an activity to manage waste that starts from the appearance of waste to its disposal including collection, transportation,

processing, and disposal (Tarigan & Dukabain, 2023).

Problems regarding suboptimal waste management occur in various regions, one of which is in Pasirlawang Village, Purwadadi District, Ciamis Regency which along with the development and growth of the population is increasing, making the value of community consumption high so that the waste produced will be more and more. However, waste management still lacks optimal attention and handling from various parties, both from the community and the government. The condition of Pasirlawang Village, Purwadadi District, Ciamis Regency initially did not have an adequate Waste Disposal Site (TPS), so that the habits or behavior of the community towards waste, namely that people tend to still often underestimate the garbage scattered in the surrounding environment and throw garbage into the river.

In 2021, one of the efforts to overcome problems regarding environmental cleanliness, especially domestic waste management activities in Pasirlawang Village, Purwadadi District, Ciamis Regency, is by establishing a waste bank. The waste bank is a collective dry waste management system that encourages the community to play an active role in it. This system will accommodate, sort, and distribute waste that has economic value in the market so that people benefit from saving waste (Utami, 2013:3). The waste bank in Pasirlawang Village, Purwadadi District, Ciamis Regency is called the Mitra Hariwang Waste Bank.

The Mitra Hariwang waste bank in carrying out its program is certainly inseparable from the involvement of the community in Pasirlawang Village, both those who play the role of managers and members of the waste bank. Thus, the existence of this waste bank can be one of the solutions in improving the public's view of the importance of maintaining environmental cleanliness and improving the waste management system.

This study aims to determine domestic waste management activities through the Mitra Hariwang waste bank program on environmental cleanliness in Pasirlawang Village, Purwadadi District, Ciamis Regency and to find out the benefits resulting from the existence of the Mitra Hariwang waste bank for the community in Pasirlawang Village, Purwadadi District, Ciamis Regency.

METHOD

The research method used is a quantitative descriptive method. Quantitative research methods are research methods based on the philosophy of positivism, used to research on certain populations or samples. Sampling techniques are generally carried out randomly, data collection uses research instruments, data analysis is quantitative/statistical with the aim of testing the hypothesis that has been determined (Sugiyono, 2013:8). The quantitative descriptive method in this study is to describe related to domestic waste management activities through the waste bank

program in Pasirlawang Village, Purwadadi District, Ciamis Regency.

The population in this study is the community of Pasirlawang Village, Purwadadi District, Ciamis Regency who are members of the waste bank, which is 80 people and who are the managers of the Mitra Hariwang waste bank as many as 7 people and the Head of Pasirlawang Village. The sampling techniques used are simple random sampling and purposive sampling. The sample used using the simple random sampling technique was taken 50% of the total number of members of the Mitra Hariwang waste bank in Pasirlawang Village, Purwadadi District, Ciamis Regency, which was 40 members of the waste bank, while the sampling using the purposive sampling technique was aimed at the Chairman of the Mitra Hariwang Waste Bank and the Head of Pasirlawang Village.

The data collection techniques in this study are by literature study, field observation, interviews, questionnaires, and documentation studies. The data analysis technique used is quantitative descriptive or simple percentage with the formula:

$$\% = \frac{f_0}{n} \times 100$$

Information:

% : Percentage of each alternative answer

F_0 : Number of answer frequencies

n : Number of samples/respondents

RESULTS AND DISCUSSION

Domestic Waste Management Activities through the Mitra

Hariwang Waste Bank Program on Environmental Cleanliness in Pasirlawang Village, Purwadadi District, Ciamis Regency Waste Sorting

Waste sorting at the source is very important to know and classify waste that can be reused, reprocessed, and that cannot be reused (Andina, 2019). According to Widyaningsih et al (2015) The characteristics of household waste can be divided into two main categories, namely organic waste and inorganic waste. Organic waste produced from the household activities of Mitra Hariwang waste bank members is in the form of vegetable waste, fruits, food, plant leaves, tree branches, and others. As for inorganic waste produced from household activities, it is in the form of waste derived from materials such as plastic, paper, metal, glass, and waste containing B3 and/or B3 waste. After the members of the Mitra Hariwang waste bank know the type of waste produced, the next activity that must be carried out is to sort the waste before depositing it into the waste bank (Utami, 2013:20).

Waste sorting activities at residential (household) waste sources according to SNI 3242-2008 can be carried out by providing a minimum of two waste containers per house for organic and inorganic waste containers. Based on the results of the research, the majority of Mitra Hariwang waste bank members or as many as 60.00% sort waste from waste generated from household (domestic) activities, namely by providing waste containers

for organic waste and inorganic waste. In addition, there are 40.00% of members who provide waste containers not only for organic and inorganic waste but also for each type of inorganic waste according to their materials such as plastic, paper, metal/glass, and B3 waste so that by separating the waste containers can make it easier to save inorganic waste in the waste bank, making organic, inorganic, and B3 waste not mixed, It makes it easier to dispose of and reuse, makes waste more environmentally friendly, and reduces waste generation in the environment.



Figure 1. Waste Sorting

Source: Trisna Afriany, 2024

Waste sorting activities at the Mitra Hariwang waste bank are not only carried out by members from their respective homes, but managers also re-sort waste after collecting waste savings from members. This waste reclassification is to separate waste according to its type more specifically so that waste will be collected to be disposed of, recycled, or directly sold to collectors because recycling of waste requires experts so that the proceeds from the sale will later become members' savings and become added value that goes into the Mitra Hariwang waste bank treasury.

Waste Deposit

The deposit of waste by members to the Mitra Hariwang waste bank is after the members carry out waste sorting

activities from their respective homes. The time for depositing waste is usually agreed in advance. This scheduling is intended to equalize the time customers deposit and transport to the collector (Utami, 2013:20). The time of depositing waste to the waste bank was initially in accordance with the agreement between the waste bank manager and members as savers, which was carried out every Saturday and Sunday at 08.00 - 12.00 WIB, but entering the third year of the Mitra Hariwang waste bank program, there were obstacles in maintaining the consistency of the opening schedule or the waste deposit schedule.

Changes in the waste deposit schedule can occur not entirely due to the availability of existing waste from members, but also due to several factors such as the lack of funds to meet the inadequate waste bank facilities, this can be seen from the beginning of the establishment of the Mitra Hariwang waste bank until now the buildings used by the waste bank are still borrowed from local residents, causing the spirit of the manager to decrease and the manager feels feeling uncomfortable and free in carrying out activities at the waste bank. In addition, the factor that caused the change in the waste deposit schedule was due to the busyness of managers outside the activities of the Mitra Hariwang waste bank, resulting in no one carrying out activities at the waste bank. This causes 80.00% of members who have limitations in depositing their waste directly and relying on the transportation (pick-up) of waste carried out by the manager to each

member's house find it difficult to find the right time to transport or deposit their waste to the waste bank. Thus, members must wait for further information from the manager regarding the schedule for opening the waste bank, both through direct communication by word of mouth and through social media such as WhatsApp.

In contrast to members whose houses are located near the waste bank warehouse or close to the house of the chairman of the waste bank and faithfully deposit their own garbage every 2 weeks or as many as 12.50% of members and 7.50% of members who deposit their waste once every 1 month, the chairman of the waste bank Mitra Hariwang gives a little freedom to continue to serve the deposit of waste even outside the uncertain opening schedule.

Depositing waste from members to the Mitra Hariwang waste bank for now can still run even though in reality with an uncertain schedule because it must be adjusted to the free time owned by the manager.



Figure 2. Garbage Ready to be Deposited

Source: Trisna Afriany, 2024

The criteria for waste that are usually deposited by members to the Mitra Hariwang waste bank include inorganic waste derived from materials such as plastic, paper, metal/glass, and waste

containing B3/B3 waste. Examples of goods produced from household activities that contain these materials include plastic bottles, crackle plastics, cardboard, duplicates, cans, and others. In depositing waste to the Mitra Hariwang waste bank, members only need to bring or show the sorted waste for the next process, namely weighing the waste.

Garbage Weighing

The waste weighing process is carried out by the Mitra Hariwang waste bank manager on waste in a sorted state that is brought by members to be deposited into the waste bank. Waste deposited by members must be weighed according to its type. This waste weighing is carried out using a weighing device in order to get accurate results regarding the weight of the waste according to its type.



Figure 3. Garbage Weighing

Source: Trisna Afriany, 2024

According to Utami (2013:20) The weight of the garbage deposited has been determined in the previous agreement, such as how many kilograms must be at least. Based on the results of the study, it was stated that 40.00% of ordinary members deposited their garbage as much as more than 5 kg/deposit, 32.50% of ordinary members deposited their garbage as much as 5 kg/deposit, 17.50% of ordinary members deposited their garbage as much as 3 - 4

kg/deposit, and 10.00% of ordinary members deposited their garbage as much as 1 - 2 kg/deposit.

Recording

Recording is carried out by the Mitra Hariwang waste bank manager after the waste weighing activity is completed and later can be recorded in the administrative book as evidence of waste saving activities carried out by members. According to Utami (2013:20) In the recording process, the officer will record the type and weight of the waste after weighing. The results of the measurement are then converted into rupiah value and then written in the savings book. At this stage, members will feel the benefits of the waste bank system.

The proceeds from the sale of waste after being converted into rupiah value do not fully belong to the members, but there is a profit-sharing system between the members and the Mitra Hariwang waste bank, which is 80:20, where 80% is returned to the members and 20% is for the Mitra Hariwang waste bank which is used for the wages of the manager and the operational activities of the waste bank such as the purchase of fuel for waste transportation facilities (pick-up). Purchase stationery, make administrative books, and purchase equipment for the implementation of waste bank operations, and can be used to give rewards to members who are diligent in saving their waste or who have the highest savings results.

The amount of the profit sharing system between members and the waste bank is not in accordance with the operational standards of the waste

bank according to the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 14 of 2021 concerning Waste Management in Waste Banks which states that the amount of profit sharing that is commonly used today is 85:15, namely 85% for savers and 15% for waste bank implementers used for waste bank operational activities.



Figure 4. Recording Process

Source: Trisna Afriany, 2024

The amount of money obtained from saving waste after recording waste can later be taken in cash or put into a savings book. Based on the results of the study, it is known that 2.50% of members answered that their money can be taken immediately in cash, 2.50% of members answered that their money is put into the passbook and can be withdrawn once every three months, 37.50% of members answered that their money is put into the passbook and can be withdrawn once a year, and 57.50% of members answered that their money is put into the passbook and can be taken during an emergency. This is adjusted back to the needs of the members of the Mitra Hariwang waste bank.

Garbage Transportation

Waste transportation activities are carried out by the Mitra Hariwang waste bank manager to each member's house who cannot deposit directly to the Mitra Hariwang waste bank

location. The transportation of this waste is carried out using a three-wheeled vehicle, while the transportation time is adjusted to the schedule for depositing waste or the schedule for opening the Mitra Hariwang waste bank.

According to Utami (2013:20) Regarding waste transportation, the waste bank has collaborated with collectors or central waste banks that have been appointed and agreed. So the waste will not accumulate at the location of the waste bank. The results of the study show that on its journey, the Mitra Hariwang waste bank collaborates with the Main Waste Bank (BSI) of Ciamis Regency which acts as a collector in waste transportation activities and will provide a price for each type of waste that has been collected. The transportation (pick-up) of waste carried out by the Main Waste Bank (BSI) of Ciamis Regency to the Mitra Hariwang waste bank is after the manager of the Mitra Hariwang waste bank contacts the Main Waste Bank (BSI) of Ciamis Regency to request the pick-up of the waste, this is intended so that the collected waste is not stored in the warehouse of the Mitra Hariwang waste bank for too long and to adjust the number of transportation facilities used by the Main Waste Bank (BSI) of Ciamis Regency to transport garbage. In collecting garbage, usually the Main Waste Bank (BSI) of Ciamis Regency uses four-wheeled vehicles.



Figure 6. Transportation of Waste by Collector to Waste Bank

Source: Waste Bank Documentation, 2023

Waste Utilization

The participation of the community (members) in the Mitra Hariwang waste bank activities is not only to save waste, but members also use the waste they produce. The implementation of waste utilization training activities carried out by most members through the Mitra Hariwang waste bank program is not scheduled regularly for the reason that it is only limited to increasing the level of creativity in reusing waste generated from household (domestic) activities and to take advantage of the free time owned by Mitra Hariwang waste bank members, the majority of whom are housewives.

The form of waste utilization carried out by members of the Mitra Hariwang waste bank to date is 7.50% answering to reuse organic waste to be used for animal feed, 57.50% reuse organic waste into compost/ecoenzyme, 25.00% reuse inorganic waste into goods/handicrafts, and 10.00% reuse inorganic waste according to the same or different functions.

The reuse of inorganic waste into goods/handicrafts requires waste materials such as used plastic coffee packaging, used plastic detergent packaging, used cardboard, used fabric,

and others. These goods/handicrafts include bags, wallets, pin brooches, shopping bags to go to the market, and plastic carpets. As for the reuse of inorganic waste according to the same or different functions, such as plant pots from gallons of used drinking water, plant pots from used plastic cooking oil packaging, plant pots from used paint cans or from plastic buckets, reuse drink bottles to store drinks in the refrigerator, use used cloth as wipes, and so on.

Benefits Resulting from the Existence of the Mitra Hariwang Waste Bank for the Community in Pasirlawang Village, Purwadadi District, Ciamis Regency

Social Benefits

The motivation of the community to participate in waste management activities comes from improving environmental and social sustainability, namely creating a clean environment, free from waste and open disposal (van Leeuwen & Surya, 2024; Prasetya et al., 2025). The community's participation in waste management at the Mitra Hariwang waste bank in Pasirlawang Village was motivated by encouragement from within themselves and because of invitations from outside parties, both from neighbors and the management of the Mitra Hariwang waste bank itself. The awareness of individuals in the members of the Mitra Hariwang waste bank is due to the problem of waste management in the Pasirlawang Village environment, while the awareness that arises from outside parties is through socialization carried out by the management of the

Mitra Hariwang waste bank and the Pasirlawang Village Government.

According to Sarfiah & Juliprijanto (2017) The social benefits obtained from the waste management system through the waste bank program are that the community can understand the importance of protecting the environment and can strengthen relationships between community members. Based on the results of the research, the social benefits of the existence of the Mitra Hariwang waste bank can be seen from the presence or absence of influence and encouragement to local residents (at the household level) to carry out waste sorting activities from home, depositing waste into the waste bank, and waste utilization, although changing the behavior pattern is not easy because it is related to cultural changes and perspectives.

Changes in community behavior in handling waste generated from household activities can be seen from the behavior of the community before and after the existence of the Mitra Hariwang waste bank in the Pasirlawang Village area, Purwadadi District, Ciamis Regency. The existence of the Mitra Hariwang waste bank can familiarize the community to be responsible for the waste produced and can change the community's perspective on waste, this is because the Mitra Hariwang waste bank assisted by the Village Government carried out large-scale socialization before the Mitra Hariwang waste bank was established and until now it is still continuing to socialize so that most of the community has known the

existence of the Mitra Hariwang waste bank in Pasirlawang Village.

Activities at the Mitra Hariwang waste bank can indirectly educate the public about the importance of protecting the environment with good waste management so that this is what makes the community more responsible for the waste produced. Community participation in the Mitra Hariwang waste bank can also increase knowledge and change the perspective on waste, where at first the people in Pasirlawang Village thought that waste is a waste that has no reuse and has no economic value, now that assumption has changed to waste that is well managed can reduce environmental pollution and will create a clean environment, waste can be saved so that it produces economic value, and waste can be reused into useful goods. The existence of the Mitra Hariwang waste bank can also be a center of social activities to unite the community in an effort to maintain environmental cleanliness. The efforts made by 62.50% of members in maintaining environmental cleanliness are by participating in community service activities in the environment around Pasirlawang Village.

The community service activities that were followed included those that were carried out quite routinely, namely on Friday or commonly known as "Clean Friday", in addition to the community service activities that were followed, namely in commemoration of National Waste Care Day (HPSN) and World Cleanup Day (WCD). The activities carried out in the community service work include sweeping on the roadside,

cleaning sewers, picking up and throwing away scattered garbage. Other efforts made by members to maintain environmental cleanliness were 20.00% answered by inviting others to participate in implementing the waste sorting system, and 17.50% answered by reminding others not to litter.

Environmental Benefits

Waste banks are one of the effective solutions in an effort to maintain environmental cleanliness. With the existence of a waste bank, it can help handle waste management so that over time it raises public concern to create a healthy environment and avoid waste, reduce the habit of burning waste that can damage environmental health and cause air pollution, and reduce the habit of hoarding waste that can pollute the soil (Sarfiah & Juliprijanto, 2017). In addition, the existence of a waste bank makes it easier for the community to overcome and distribute waste to the right parties.

The existence of the Mitra Hariwang waste bank has provided improvements in environmental cleanliness in Pasirlawang Village, Purwadadi District, Ciamis Regency, which can be seen from the difference in environmental conditions before and after the existence of the waste bank. Before the existence of the Mitra Hariwang waste bank, environmental problems caused by poor domestic waste management were still not resolved, this was evident from 67.50% of members who answered that there was still waste scattered or burned on vacant land, 22.50% answered that there was still waste that was thrown

carelessly into the river, 7.50% answered that there was less waste scattered or burned on vacant land, and 2.50% answered that there was a reduction in waste that was thrown carelessly into the river. Meanwhile, after the existence of the Mitra Hariwang waste bank, the environmental conditions in Pasirlawang Village have become cleaner and more organized, this is due to the community who have carried out waste management activities properly and wisely, such as by sorting waste from homes based on its type so that later there will be collected where the waste will be reused, combined into the Mitra Hariwang waste bank and which will be disposed of. This indicates that the existence of a waste bank plays a role as a tool to improve the environment or as an effort to increase public awareness of the environment through education (Yandri et al., 2023). The cultural change can increase public awareness of the importance of maintaining environmental cleanliness and can help reduce the volume of waste that will be disposed of as well as reduce waste scattered or left on the side of the road and vacant land, reduce waste burned on vacant land, reduce waste that is thrown carelessly into the Ciseel River. Thus, environmental conditions become cleaner, comfortable, healthy, waterways look cleaner and smoother, and can increase aesthetic value, especially in the area of Pasirlawang Village, Purwadadi District, Ciamis Regency.

Economic Benefits

The mechanism of waste management through a waste bank is identical to the

activity of saving waste, it can be said that waste is not just an item that is no longer used and has no useful value. With the existence of a waste bank, there will be waste management activities that include waste sorting, utilization, and saving activities. This is in line with research Wijayanti & Suryani (2015) that the economic value of waste saving activities can be an "incentive" for people to sort and collect waste. According to Sarfiah & Juliprijanto (2017) The economic benefits of the waste management system through the waste bank program are increasing family income obtained from saving waste and reducing transportation costs that must be incurred by collectors to transport waste.

The involvement of the people of Pasirlawang Village in becoming members of the Mitra Hariwang waste bank can bring benefits in the form of increased financial income from each time they save waste even though it is still a very small amount. The amount of financial income obtained by Mitra Hariwang waste bank members from waste saving activities is based on how much waste is collected. The amount of financial income generated from each time of saving waste can be known that 45.00% of the member's income from each time of saving waste is Rp. 5000 - Rp. 10,000, 25.00% of the member's income from each time saving waste is Rp. 10,000 - Rp. 15,000, 15.00% of the member's income from each time of saving is Rp. 15,000 - Rp. 20,000, and 15.00% of the member's income from each time saving waste is more than Rp. 20,000.

The income from saving waste at the Mitra Hariwang waste bank can be one of the sources of funds that are useful for members to help meet their various

CONCLUSION

Domestic waste management activities through the Mitra Hariwang waste bank program on environmental cleanliness in Pasirlawang Village, Purwadadi District, Ciamis Regency include waste sorting activities carried out by members of the Mitra Hariwang waste bank, namely by providing waste containers for organic waste and inorganic waste, depositing waste whose time changes is no longer in accordance with the initial agreement at the time of formation, Weighing waste, which is from one kilogram to more than five kilograms each time deposited, recording later the amount of money received can be taken directly or stored in a passbook, waste transportation is carried out by managers to each member's house who cannot deposit their waste directly to the waste bank location, and waste utilization by Mitra Hariwang waste bank members, including organic waste used as animal feed and ecoenzymes. The use of inorganic waste is made by handicrafts or used according to the same/different functions. The benefits resulting from the existence of the Mitra Hariwang waste bank for the community in Pasirlawang Village, Purwadadi District, Ciamis Regency are social benefits that can familiarize the community to be responsible for the

needs such as being used to meet daily needs, increase school children's pocket money, and for holiday celebrations.

waste produced, change the community's perspective on waste, and strengthen relationships between community members regarding environmental cleanliness, environmental benefits create a clean and comfortable environment free from pollution, and economic benefits can increase financial income even though it is still a very small amount.

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