

## THE APPLICATION OF LOSEDA AND KANG EMPOS IN ORGANIC WASTE MANAGEMENT IN SUPPORT OF THE SUSTAINABLE DEVELOPMENT GOALS (SDGS) OF NEIGHBORHOOD GROUP IN BANDUNG, INDONESIA

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*The authors declare that no funding was received for this work.*

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Received: 21-July-2025

Accepted: 30-July-2025

Published: 08-August-2025

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This article is published by **MSI Publishers** in **MSI Journal of Multidisciplinary Research (MSIJMR)**

ISSN 3049-0669 (Online)

Volume: 2, Issue: 8 (August-2025)

**ABSTRACT:** The active role of the community is very important in creating a clean and healthy environment. In an urban context, the community has a responsibility to sort, reduce, and process household waste. The objective of this article is to evaluate the implementation of the program carried out in the RW 07 Sadang Serang, Bandung City area over a two-year period and to assess the level of environmental ethics within the Rukun Warga community, and to connect this with the SDGs. LOSEDA is an abbreviation of “lodong sesa dapur”, which is taken from the Sundanese language and means a place for storing kitchen leftovers for compost. Meanwhile Kang Empos is a practical and efficient household-scale organic waste management system. This research was conducted in RW 07, Sadang Serang, Bandung. The data collection method uses a quantitative approach with a survey method and a qualitative approach with interview, and observation or what is commonly referred to as a mixed methods research approach. In terms of environmental program participation, 75% of respondents have participated in the LOSEDA (Lodong Sesa Dapur) program, but only 30% are still actively involved.

Meanwhile, 85% of respondents have participated in the Kang Empos program, with 25% continuing to do the program. Environmental ethics awareness among the community of RW 07 is at the level of environmental awareness but has not yet been effectively implemented. The LOSEDA and Kang Empos programs also need to be evaluated in terms of government implementation regarding the understanding of available community-owned land.

**Keywords:** *Organic waste, waste, evaluation, LOSEDA, Kang Empos, sustainability*

## 1. Introduction

Humans play an important role in protecting the environment, because the quality of an environment is determined by human attitudes towards it. The city of Bandung is known to be the largest contributor of waste to the Sarimukti landfill, with a volume of 172 truckloads per day, despite efforts to reduce waste (Bagaskara, 2024). According to the National Waste Management Information System of the Ministry of Environment and Forestry of the Republic of Indonesia, waste generation data for the city of Bandung from 2020 to 2022 has shown an annual increase. In West Java, Bandung is the third-largest contributor of waste after Bekasi Regency and Bekasi City. According to waste type, food waste (organic) is the most abundant type of waste generated in Bandung City (Puspita, 2023). Based on this data, it is necessary to take action to preserve the environment in Bandung City. However, before addressing the city as a whole, it is essential to understand the attitudes and programs implemented at the smallest community level first.

Ethics is a branch of philosophy that studies values, norms, and morals that guide behavior, distinguishing between what should and should not be done (Basri *et al*, 2024). Ethics is a branch of philosophy that discusses values, norms, and moral principles that guide humans in determining right and good actions. According to Bertens (1993), ethics has three main meanings, namely as a system of values and moral norms in society, as a rational and critical reflection of moral philosophy on moral principles, and as a science that systematically studies human moral behavior. Ethics is normative because it discusses what should be done, not merely describing reality. Ethics is also rational because moral demands must be logically justifiable, and it is universal because ideal moral principles should apply to everyone in the

same situation. Ethics is divided into general ethics, which studies moral principles theoretically, and special ethics, which applies moral principles to specific areas of life such as political ethics or economic ethics (Bertens, 1993).

The environment is an entire system that includes physical elements such as air, temperature, soil, landforms, and water, as well as living organisms such as plants, animals, and microorganisms (Coppola, 2015). Environmental ethics is a moral study that examines the relationship between humans and the environment as a whole, including our obligations to other species, ecosystems, and future generations. Effective environmental ethics must be based on a clear set of basic principles, such as the precautionary principle, biodiversity, environmental justice, and sustainability (Spike & Spike, 2024).

As mentioned before, one of which is sustainability that emphasizes the importance of maintaining the sustainability of natural resources for the needs of present generations without compromising the ability of future generations to meet their needs. This principle is in line with the public trust doctrine, which is also referred to in the context of Environmental Justice, namely the view that natural resources such as air, water and land are the common property of all humanity, not just commodities that can be monopolized by a handful of economic and political elites for their short-term interests (Sax, 1970). Sustainability challenges the human practice of over-consuming finite and non-renewable natural resources. It demands consideration of the wise and efficient use of renewable resources, and encourages efforts to minimize environmental damage-especially that which nature cannot restore within a reasonable period of time, such as within the span of one human generation (Joaquin & Biana, 2020). While environmental justice is the application of the concept of justice in environmental ethics, which demands that all members of society, regardless of race, ethnicity, or economic status, have the same right to live in a healthy and safe environment (Spike & Spike, 2024).

Following the sustainability program, which is a priority for future achievements as outlined in the Sustainable Development Goals (SDGs). One of the key points in the SDGs is to significantly reduce waste production through prevention, reduction, recycling, and reuse in point 12, as well as sustainable cities and communities in

point 11. Therefore, there is a need to increase public awareness of environmental sustainability. Responsibility for environmental protection is an effort to cultivate human awareness of the environment.

Waste management can be considered a gateway to achieving sustainable development targets, as it is a multi-sectoral issue that impacts various aspects of society and the economy. Waste management is linked to health, climate change, poverty reduction, food and resource security, and sustainable production and consumption (UNEP, 2015). However, waste management can also be considered a "system bottleneck." Several factors influencing it include population distribution and density, socioeconomic and physical environmental characteristics, and attitudes, behaviors, and culture within the community (Sahil, 2016).

The active role of the community is very important in creating a clean and healthy environment. In an urban context, the community has a responsibility to sort, reduce, and process household waste. According to Darmawan (2019), community participation is key to the success of community-based waste management programs, because a top-down approach from the government alone is not enough without the support and awareness of residents. The role of the community in environmental management is clearly regulated in Law No. 32 of 2009 concerning Environmental Protection and Management (UUPPLH) in Indonesia. Environmental management, which includes efforts to prevent, mitigate damage and pollution, and restore environmental quality, cannot rely solely on government policies and programs, but also requires the active involvement of the community. The community has rights guaranteed by the UUPPLH, such as the right to a good and healthy environment, the right to environmental education, the right to information, participation, and the right to provide suggestions, proposals, objections, and complaints regarding activities that have the potential to damage the environment (Edorita, 2014).

Article 70 of the UUPPLH emphasizes the importance of optimizing community participation, including through social oversight, information dissemination, and reporting. This aligns with Principle 10 of the 1992 Rio Declaration, which emphasizes public participation in environmental management. The benefits of community involvement include enriching information for the government,

increasing acceptance of policies, preventing legal conflicts, and realizing a more democratic decision-making process. Furthermore, Article 66 provides legal protection to every individual who fights for the right to a good and healthy environment, so that they cannot be prosecuted criminally or civilly. Thus, the role of the community is one of the important pillars in realizing sustainable development that harmonizes the utilization of natural resources and the preservation of environmental functions (Rahmadi, 2011).

RW (Rukun Warga) is an institution formed through local community deliberation for the purpose of government and community services as determined by the village or sub-district government (Retnowo et al., 2024). “Rukun Warga” (often abbreviated as RW) is an administrative unit in Indonesia that can be translated as “Community Association” or “Neighborhood Group.” It is part of the local government structure and functions as an intermediate level between smaller neighborhood groups (Rukun Tetangga or RT) and the village or urban subdistrict (Kelurahan). Neighborhood Group (RW) are formal community institutions established as a bridge between residents and the sub-district/village government. As administrative institutions, the role of RW includes managing population data, communicating government policies, and facilitating public services at the local level. RT/RW are community institutions that interact directly with the community; they are the mouthpiece and ears of the government, functioning as conveyors of government policies and as the first recipients of community aspirations (Yuliastuti et al, 2024). Small habits in the smallest communities, such as managing waste properly can have a significant impact on the health and sustainability of the wider environment. The effectiveness of ongoing programs also depends on the understanding and capacity of RW administrators to coordinate well with the government and residents. With direct engagement and action at the smallest level, these communities can drive sustainable social and environmental change, and form a strong foundation for effective environmental management at a larger scale.

Waste is something that is unused, no longer needed, unwanted, or even discarded as a result of human activity and does not occur naturally (Yuwana & Adlan, 2021). Waste is divided into three categories: organic waste, inorganic waste, and hazardous

waste. In an effort to reduce waste, the government has launched several programs, including the LOSEDA and Kang Empos programs. LOSEDA is a container for food scraps such as rice, vegetables, and fruits that are no longer edible. It is left for several months to produce compost that is beneficial for plant fertilizer (Fitriani, 2024). LOSEDA is a pipe or PVC pipe measuring 120 cm in length with a diameter of 20 cm or as needed, buried in the ground at a depth of 40 cm. The buried section is fitted with several holes as entry and exit points for worms, which are then covered with pipe caps of the appropriate size (Dinata, 2024). The process involves preparing a pipe with a diameter of 20 cm, then creating holes at 40 cm intervals from the bottom, burying the pipe at a depth of 40 cm, and the LOSEDA is ready for use. Its application is simple and practical, allowing users to simply add organic materials into it. As can be seen in **Figure 1**, the shape of the LOSEDA and an illustration of the required size.

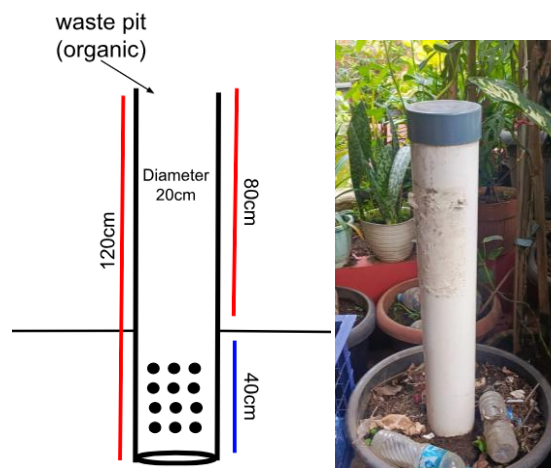


Figure. 1 Visualization and form of LOSEDA in real life  
(Source: Author, 2025)

Meanwhile Kang Empos is a practical and efficient household-scale organic waste management system. This method uses bags (a composting system in bags), buckets that can be seen in Figure 2, and compost as the primary media, directly reducing organic waste at its source. The program was launched in the city of Bandung as an emergency waste mitigation effort aimed at reaching 20% of the population per neighborhood (Jovan, 2023).



Figure. 2 A picture of Kang Empos  
(Source: Author, 2025)

Kang Empos is one method of processing organic waste using bags, buckets, and compost. The results of the processing can be utilized as planting media (Republika, 2023). The process involves preparing a bucket, a sack, rice husks/paddy husks, and compost/soil as a starter. During the filling stage, the sack is placed inside the bucket with a first layer of rice husks, followed by soil. Next, add organic waste, cover with another layer of soil, and then close the bucket. The compost can be harvested after about one month. Both programs are actually very easy to use once you understand how they work, but community participation and willingness to implement them are even more important.

The purpose of this article is to evaluate the implementation of the program carried out in the RW 07 Sadang Serang, Bandung City area over a two-year period and to assess the level of environmental ethics within the Rukun Warga community, and to connect this with the SDGs.

## 2. Methods

This research was conducted in the neighborhood of 07, Sadang Serang Village, Coblong District. Rukun Warga 07 is a community organization that is part of the area under the village or sub-district. The number 7 here indicates the specific administrative number of the area located in Bandung as illustrated in **Figure 3**. The reason for choosing this location as a research site is because the researcher wants to observe and deepen the understanding of the program implemented around the

neighborhood. Because the best understanding of the environment is to understand the surrounding environment first.



Figure. 3 Place where the experiments were conducted.

(Source: Adapted from Official website PPDB kota Bandung, 2021)

The data collection method uses a quantitative approach with a survey method and a qualitative approach with interview, observation, and documentation methods, or what is commonly referred to as a mixed methods research approach. Mixed methods involve data collection and data analysis using a combination of methods in a sequential manner, namely quantitative and qualitative methods or vice versa (ITEBA, 2021). The selection of data collection methods is tailored to the type of data to be obtained during the research. The data used consists of secondary data and primary data. Secondary data is obtained from previous literature and bibliographic studies. Primary data, on the other hand, consists of the results of questionnaire analysis from the survey conducted. According to (Sudarsono, 2013) The selection of survey methods is intended to assess a population with a representative sample. The selection of surveys focuses on evaluating the implementation of the LOSEDA and Kang Empos programs that were previously carried out by Rukun Warga 07. The questions researched are interview questions for the head of the Neighborhood Group and its residents in the form of a Google Form questionnaire, as follows:

1. What are the roles and responsibilities of the head of the Neighborhood Group in protecting the environment?
2. So far, what is the condition of the environment in your neighborhood?

3. What behaviors do you think reflect poor environmental ethics?
4. What is the attitude of residents toward cleanliness, waste management, and environmental conservation?
5. What are the biggest challenges faced by the Neighborhood Group in maintaining a clean and healthy environment?
6. Are there any cases of environmental pollution or serious waste-related issues in this area?
7. What programs or initiatives has the neighborhood implemented to raise environmental awareness?
8. Is there any collaboration with external parties such as the village government, NGOs, or private sector in this regard?
9. Do waste collectors have a specific schedule for collecting waste?
10. Is there any collaboration with external parties such as the local government or private sector in this regard?
11. How does the Neighborhood Group encourage and involve residents to actively contribute to maintaining the environment?
12. Does the neighborhood have any long-term plans to address environmental issues sustainably?
13. What message does the Neighborhood Group head want to convey to residents to encourage them to be more environmentally conscious?

Based on the interview research questions, these questions were narrowed down to determine whether the RW head knew and understood his duties. The questions for the community survey were measured using a sample, which was then narrowed down to a sample of people who were willing to answer and who were representative of each neighborhood unit that had participated in the LOSEDA and Kang Empos programs. The survey design used was a cross-sectional design. This survey design has descriptive and predictive characteristics, making it suitable for this research.

Cross-sectional research can explain the relationship between one variable and another in the population being studied (Maidana, 2021). Cross-sectional research is also research that studies objects within a certain period of time without long-term continuity (Sugiyono, 2013). There's also survey questionnaire design as follows:

Table 1. Number of receptors in each container

Indicators	Questions
Individual Demographics	Name
	Gender
	Age
	Last Education
	RT
Ownership and concern for living things	Do you take care of plants at home?
Participation in programs	Have you ever participated in the Loseda program?
	Have you ever participated in the Kang Empos program?
	Have you ever received education about waste sorting from the RW?
Understanding of the program in progress	Do you understand how the program works?
	Do you have land to implement the program?
	Do you know the steps involved in the program?
	Are you still participating in the program? If yes, please state the reason; if no, also please state the reason!
Concern for waste	How many trash bins are there in your home?

management	Are the trash bins labeled as organic/inorganic?
Basic knowledge	The following items should be placed in the inorganic trash bin (you may select more than one). <ul style="list-style-type: none"> <li>- Plastic bottles</li> <li>- Batteries</li> <li>- Vegetables</li> <li>- Hoses</li> <li>- Cans</li> <li>- Light bulbs</li> <li>- Plastic bags</li> </ul>
	Based on your knowledge, how many types of trash bins should be provided in a home?
Attitude toward people and the environment	How important is it for you to protect the environment?
	If there is a community cleanup event, would you participate?
	Do you agree that littering is an immoral act?
	Have you ever thrown away small trash (e.g., candy wrappers, cigarette butts) on the street because you couldn't find a trash bin?

In addition to the survey, field observations were also conducted to observe the correlation between the responses of the community and the actual conditions in the field. This is in line with Sudarsono's (2013) research on observation as a method of direct data collection by researchers when they go into the field, where researchers can observe the symptoms and issues being studied, so that researchers can describe the situation.

### 3. Results and Discussions

In presenting the results and discussion, this section will describe the results of the survey data analysis to answer whether the results of the program implementation are

going well or not. The analysis of the survey questions will answer the interview questions, then the field observation results will answer the survey questions. Thus, the results of the analysis of all answers to the questions will be interpreted in relation to the final discussion. The following is a further explanation of the research results and discussion.

### **3.1 Research Question 1: Results of the interview**

The interview process was conducted by visiting the head of RW 07 directly, and afterwards the researcher requested secondary data to supplement the research data that had been obtained. Following the interview, it was found that the RW holds primary responsibility for maintaining the environment, including coordinating activities between RTs, communicating government programs, and facilitating communication between the community and the government. Additionally, the head of RW 07 is responsible for overseeing development programs and community activities at the RW level. This aligns with what was stated by Zuhdi (2019), RT/RWs function as coordinators between residents, bridges between community aspirations and the local government, and mediators in resolving community issues faced by residents. Their tasks include assisting in the delivery of public services that are the responsibility of the city government, maintaining community harmony, and developing plans and implementing development by fostering community aspirations and self-reliance.

According to the head of RW 07, the environmental conditions in RW 7 are still considered fairly good, thanks to community service programs and waste cleanup initiatives. Despite these programs, some residents are deemed to lack environmental ethics, as there are still instances of improper waste disposal, both organic and inorganic. The biggest challenge faced by RW 07 in maintaining a healthy and clean environment is the lack of public awareness about the importance of environmental conservation. Additionally, there is an insufficient infrastructure for waste management.

In the RW 07 area, particularly in Sadang Serang and generally in the city of Bandung, environmental pollution and waste management issues are quite serious in

the Sadang Serang area. Therefore, various waste management programs have been proposed to address these issues. Furthermore, RW has implemented environmental campaigns and education programs, greening activities, and waste management initiatives, both independently and with government assistance. Other efforts include scheduling waste collection twice a week. The head of RW 07 hopes that residents will become more active in preserving the environment, such as through waste management, and continue programs that have proven effective in reducing organic waste.

### **3.2 Research Question 2: Survey & Observation Results**

The survey process was conducted using a questionnaire integrated with Google Forms. The questionnaire was distributed via a g-form link. After the survey, 20 residents agreed to fill out the g-form, with representatives from each neighborhood association. RW 07 consists of 5 RTs. The survey results provided information about their environmental practices, including participation in waste management programs, recycling habits, and environmental awareness levels. The majority of respondents were over 40 years old (70%), 29-34 years old (15%), and 35-40 years old (15%). Responses were dominated by women (75%) with the rest being men (25%). The latest education is dominated by high school graduates (55%), followed by bachelor graduates (40%), and finally junior high school graduates (5%). This survey aimed to determine the demographics of the respondents. Additionally, the survey aimed to determine whether the implementation of programs in RW 07 was considered good or not, by measuring respondents' understanding.

From the survey responses obtained, 75% of respondents take care of plants at home. The question about plants was aimed at determining whether those participating in the LOSEDA and Kang Empos programs are people who care about their plants, as LOSEDA and Kang Empos involve the production of natural fertilizers. Therefore, it is necessary to validate whether respondents do so because it is beneficial for the plants they cultivate or simply because they are following the government program.

In terms of environmental program participation, 75% of respondents have participated in the Loseda (Lodong Sesa Dapur) program, while 25% did not

participate in the program. But from 75%, only 30% are still actively involved. Reasons for stopping include limited land availability and work commitments. The survey results also revealed the level of understanding of how the program works and land ownership for its implementation.

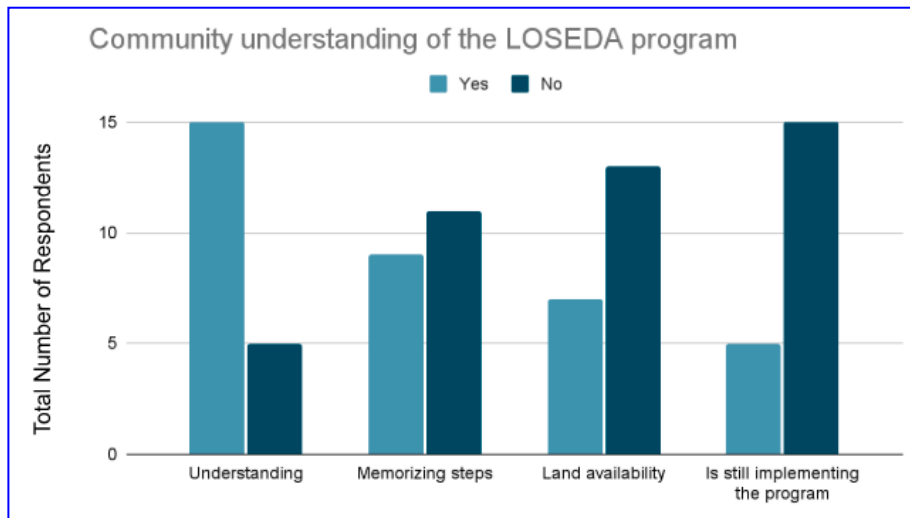


Figure. 4 Community understanding LOSEDA program chart

Meanwhile, 85% of respondents have participated in the Kang Empos program, while 15% did not participate in the program. From 85%, only 25% of them still continuing the program because of its benefits in reducing organic waste and producing compost.

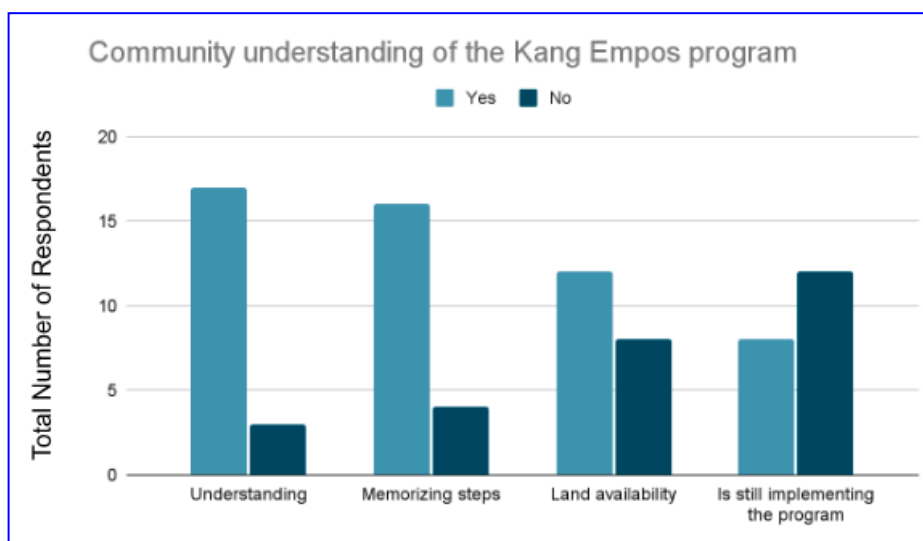


Figure. 5 Community understanding Kang Empos program chart

Regarding household waste management, half of the respondents (50%) have three trash bins at home, but only 60% of them labeling the trash can as organic/inorganic. Most (95%) claim to have received education on waste sorting from the neighborhood association, while the 5% claim they did not receive the education about waste sorting. From the data presented in Figure 4 and Figure 5, although many understand the program, only a few people continue to participate in the program.

Community participation in waste management programs and other environmental activities directly contributes to the achievement of the Sustainable Development Goals (SDGs), particularly SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate action), SDG 14 (Life below water), SDG 15 (Life on land) (United Nations, 2015). Participation in the LOSEDA and Kang Empos programs demonstrates residents' genuine efforts to reduce organic waste and utilize it as compost, supporting the principles of a circular economy and waste reduction.

In the trick questions prepared by the researchers to test respondents' knowledge, some respondents still could not sort waste types, even though 95% of respondents claimed to have received education on waste sorting in their RW.

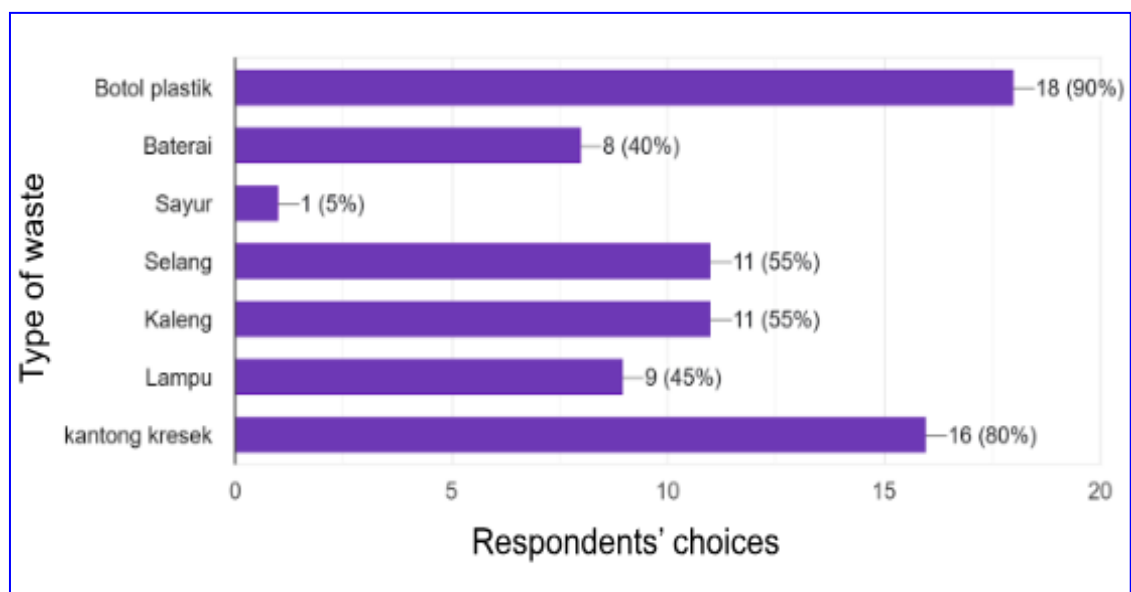


Figure. 6 Community understanding waste sorting chart

From **Figure 6**, it is evident that some individuals still classify vegetables, batteries, and light bulbs as inorganic waste. However, according to Anggraini's (2014) research, waste that is explosive, oxidizable, flammable, and toxic is categorized as hazardous and toxic waste (B3). Additionally, survey results indicate that only 40% of respondents labeled their trash bins, and 75% of respondents were aware that there should be three types of trash bins provided at home.

The results of the waste awareness indicator showed quite varied results. As many as 45% often bring their own drinking bottles, while 41% do so occasionally. If they forget to bring a cloth bag, 77% choose to carry items manually, and only 23% buy plastic bags. Most (91%) collect used plastic for reuse, mainly as trash bins (45%) or storage containers (27%).

Environmental awareness is relatively high, with 80% of respondents considering it very important. However, only 30% are certain they will participate in community service, while 70% admit they might participate if they have time. 85% stated they never dispose of small trash carelessly, though 15% admitted to occasionally doing so. From this data, while environmental awareness is fairly high (80% consider it important), this has not fully translated into concrete actions to protect the environment, such as participating in community service (only 30% are certain to participate). According to Kencanasari et al. (2019), indicators of environmental awareness can be determined by whether they are pro-environment or not by paying attention to knowledge, attitude, and behavior. Knowledge about environmental care must be followed by attitude and behavior. Awareness among the three indicators must be fulfilled to determine whether the community has environmental awareness. This gap between knowledge and action is known as the value-action gap, a common phenomenon in environmental studies, where individuals have high values and knowledge about environmental issues but do not necessarily apply them in their daily behavior (Kollmuss & Agyeman, 2002). Therefore, awareness-raising strategies need to be combined with community empowerment and the facilitation of sustainable practices to strengthen their contributions to achieving SDGs targets.

The community empowerment strategy for waste management using the "Kang Empos and Loseda" method can be key to achieving the Sustainable Development Goals (SDGs) and sustainable development. This initiative emphasizes the importance of engaging local communities in addressing environmental challenges by transforming waste into valuable resources through composting and recycling. The "Kang Empos" program focuses on composting organic waste into fertilizer, while "Loseda" is centered on the separation and processing of organic waste. The target is to provide training, facilities, mentoring, and the formation of community self-help groups through the Kang Empos and Loseda socialization program.

A core component of the strategy involves providing constant training to community members. These training sessions focus on practical skills such as sorting waste, composting techniques, and creating recycled products from inorganic waste. Participants are equipped not only with knowledge but also with the tools needed to implement these practices in their daily lives. This education component ensures that communities can independently manage their waste while also understanding the broader implications of their actions on the environment and public health.

In addition to training, the initiative also includes the provision of facilities to support these activities. Compost bins, waste segregation stations, and simple recycling equipment are distributed to targeted neighborhoods, particularly in areas where waste management infrastructure is lacking. These facilities act as catalysts, enabling the community to apply the knowledge gained during training and to take ownership of their waste management processes. Furthermore, accessible facilities make it easier for all community members to participate, regardless of age or background.

Overall, this strategy aligns closely with several SDGs, that is SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate action), SDG 14 (Life below water), SDG 15 (Life on land). By empowering communities to manage their waste effectively, the Kang Empos and Loseda program contributes to cleaner environments, reduces greenhouse gas emissions, and creates economic opportunities. Most importantly, it places the power

of change directly into the hands of the people, ensuring that sustainable development is not only a government policy but a community-driven reality.

### **3.3 Discussion combining observations and secondary data**

From secondary data obtained from the head of RW 07, there are a total of 339 residents in RW 07, with a total of 133 family cards, and the majority of residents have a high school education. From secondary data, only 20 people participated in the Kang Empos program, 17 people participated in LOSEDA, and only 12 people participated in the government's waste sorting education program out of the total population. The environmental conditions around RW 07 are indeed clean, thanks to the efforts of the RW in directing sanitation workers in the area. However, the low participation in this program is partly due to the fact that residents in the RW 07 area rarely stay in the RW area, some residents do not reside there permanently, and others are busy. Another factor is that the Kang Empos program requires additional materials to function, but these materials are not available for replenishment. For the Loseda program, the lack of land to implement the program is an issue. Most residents have little to no land available for the program, and even if there is land, it is less than 5 meters in size. According to Febriansyah et al. (2023), the standards used in a policy must have policy objectives that essentially contain what a program or policy will achieve, whether tangible or intangible, in the short, medium, or long term. The clarity of the standards and policy objectives must be specific so that at the end of the program, the success or failure of the program can be determined. On the other hand, educational status does not significantly influence public understanding of the implemented program. The lack of continuity in participation highlights the importance of continuous education and the provision of adequate facilities to ensure that environmental programs continue to operate optimally.

The Kang Empos and Loseda waste management programs, which are part of the sustainable development efforts in Bandung City, have several key policies that support their success. These policies include waste reduction, sorting, organic waste processing, and community empowerment. Policies related to the Kang Empos and Loseda programs include: Limiting waste generation by reducing the amount of waste generated at the source, for example by reducing the use of single-use plastics

and choosing products with minimal packaging. Reusing by maximizing the use of items that can still be used before being thrown away, such as plastic bottles, food containers, and clothing. Recycling by separating waste by type (organic and inorganic) for recycling into new products.

Supporting policies include regional regulations governing waste management, including sanctions for non-compliance. Local governments also provide waste processing facilities such as TPS 3R (Reduce, Reuse, Recycle Waste Processing Sites), transfer stations, and TPA (Final Processing Sites). Collaboration can be carried out with various parties, including the government, the private sector, and non-governmental organizations, to expand the reach and increase the effectiveness of the program. Through these policies, it is hoped that the Kang Empos and Loseda programs can contribute to sustainable development in Bandung City by reducing the negative impact of waste on the environment and improving community well-being.

To achieve sustainable development from an environmental perspective, an environmentally sound waste management system can contribute to the realization of sustainable cities, as environmentally sound waste management will create a healthy environment. This demonstrates that sustainable waste management can influence the achievement of SDGs targets, particularly SDGs 11,12,13, 14, and 15.

According to Van de Klundert and Anschutz (2001) as cited in Wilson et al. (2013), Integrated Sustainable Waste Management (ISWM) is a concept for sustainable waste management that integrates three main dimensions: (1) stakeholders, (2) waste system elements, and (3) strategic aspects. In addition to these three dimensions, waste management policies in each country also serve as the foundation for a sustainable waste management approach.

#### **4. Conclusion**

As described in the results and discussion, it can be seen that the basic level of environmental ethics awareness among the community of RW 07 is at the level of environmental awareness but has not yet been effectively implemented. The LOSEDA and Kang Empos programs also need to be evaluated in terms of government implementation regarding the understanding of available community-

owned land. Its connection to the SDG 11, as there are concrete efforts toward cleaner and healthier settlements. When the community properly manages its waste, the burden on waste transfer stations or landfills decreases, the environment becomes more organized, and the quality of life improves. It is also aligned with SDG Goal 12, specifically Target 12.3, which aims to reduce global per capita food waste. Additionally there is SDG 13, 14, and 15 which this program support reducing global warming and saving life below water and on land from additional waste. Recommendations that can be provided include enhancing waste sorting education constantly, providing solutions for land constraints in the composting program to optimize environmentally friendly practices in RW 07.

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