

## Increasing Environmental Awareness Through Socialization of Sorting Organic and Non-Organic Waste in Ubung Village

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### Article Info

#### Article history:

Received March 2, 2025

Revised March 25, 2025

Accepted April 19, 2025

#### Keywords:

Environmental Awareness,  
Organic and Non-Organic  
Waste,  
Waste Sorting,  
Waste Management

### ABSTRACT

The increasing complexity of waste management, driven by population growth and declining quality of life, has become a critical issue, particularly in areas like Ubung Village, Bali. This community service program aimed to raise awareness among Ubung Village residents about the importance of sorting organic and non-organic waste. The program utilized socialization and demonstration methods to educate the community on proper waste management practices. The results indicated an improvement in the community's understanding of waste sorting, leading to more organized waste management. The program highlighted the necessity of education and access to information in fostering sustainable waste management practices. Data from the Bali Provincial Forestry and Environment Agency revealed that Bali's waste volume reached 3,198 tons per day in the first half of 2024, with Denpasar City contributing the most. The lack of public awareness and proper waste sorting systems exacerbates environmental issues, particularly with non-organic waste like plastic, which takes centuries to decompose. The program emphasized the 3R principle (Reduce, Reuse, Recycle) as a strategic approach to waste management. Through direct socialization activities, including presentations and questionnaires, the program successfully increased the community's motivation to implement waste sorting. However, challenges remain due to the lack of adequate facilities for waste separation. The program concluded that ongoing education and regular follow-up activities are essential to sustain waste sorting practices and reduce environmental pollution. This initiative serves as a foundational step towards building a more environmentally conscious community in Ubung Village.

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### INTRODUCTION

The issue of waste has become increasingly complex over time, with population growth and declining quality of life contributing to the problem. Waste comes from various sources, such as shopping centers, markets, and households. One of the main factors exacerbating this issue is the lack of public awareness in sorting and managing waste properly. In many areas, including Ubung Village, the implementation (Paramitha & Widiantri, 2022) of organic and non-organic waste systems is still not optimal, leading to mixed waste that complicates recycling and environmentally friendly waste management processes. Additionally, the lack of public awareness regarding waste sorting worsens the situation, as improper sorting can lead to inefficient

waste processing and potential environmental damage. (Sari et al., 2024), shown that low awareness of waste sorting is a major factor hindering sustainable waste management, making education and access to information crucial for improving waste management systems in the region.

Data from the Bali Provincial Forestry and Environment Agency shows that the volume of waste in Bali in the first half of 2024 reached 3,198 tons per day. Compared to the previous year, this represents an increase of 169 tons. According to I Made Dwi Arbani, Head of Waste Management, B3 Waste, Pollution, and Environmental Damage Control at the Bali Provincial Environment Agency, Denpasar City produces the most waste, with an average of 1,005 tons per day. The average waste production per person in Denpasar is 1.04 kg per day. With Bali's population reaching 4.2 million, plus 6 million international tourists and 17 million domestic tourists annually, waste is expected to remain a major issue in Bali for years to come. Plastic waste, which takes approximately 400 years to decompose, will continue to pose a long-term problem for Bali and the planet (Gusti et al., 2021).

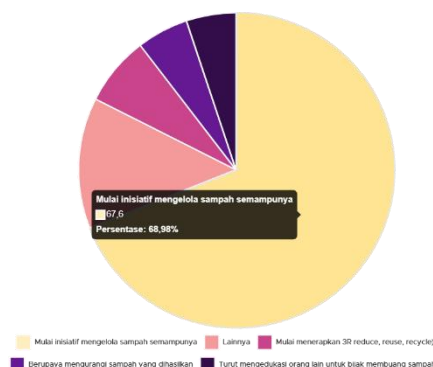
Tahun	Provinsi	Kabupaten/Kota	Timbunan Sampah Harian (ton)	Timbunan Sampah Tahunan (ton)
2024	Bali	Kota Denpasar	1,004.95	366,806.75
2024	Bali	Kab. Gianyar	562.02	205,137.00
2024	Bali	Kab. Badung	547.43	199,810.15
2024	Bali	Kab. Buleleng	413.37	150,880.05
2024	Bali	Kab. Karangasem	281.22	102,643.48
2024	Bali	Kab. Jembrana	164.28	59,962.20
2024	Bali	Kab. Bangli	113.86	41,557.88
2024	Bali	Kab. Klungkung	111.38	40,654.25
			<b>3,198.50</b>	<b>1,167,451.75</b>

**Figure 1 . Bali Province Waste Generation Data 2024. Source: [sipsn.menlhk.go.id](https://sipsn.menlhk.go.id)**

Waste can be classified into two main categories: organic and non-organic. Organic waste, such as food scraps and leaves, decomposes naturally and can be processed into useful compost. Non-organic waste, such as plastic and metal, requires more complex recycling processes and takes a long time to decompose. "Public knowledge influences waste management behavior" (Syahadat & Mulyawati, 2024) so education on the importance of waste sorting can increase awareness and participation in better waste management practices. However, without an effective sorting system, non-organic waste can pollute the environment and increase the volume of waste sent to landfills. Therefore, implementing organic and non-organic waste sorting is a strategic step in reducing the negative impact on the environment.

The 3R principle (Reduce, Reuse, Recycle) is a key approach to managing waste effectively (Gusti et al., 2021) Reduce involves minimizing waste generation by stopping the use of plastic bags and using reusable items like tumblers. Reuse involves repurposing used items into products that still have value, such as handicrafts that can be used personally or sold to others. In Jakarta, the principle of reuse is implemented through a program that encourages the use of reusable packaging and composting of organic waste. (Ekananda & Sumendar, 2023) noted that more than 50 participants had adopted reusable products, so this initiative shows great potential for reducing waste at source. Recycle is the third principle of the 3R process, which means that we recycle items that we have used into new products. Recycle involves processing used items into new products, such as turning vegetable scraps into organic compost for home gardening.

In Ubung Village, challenges in effective waste management persist. Based on initial observations, many residents still do not practice or understand the importance of waste sorting and its benefits for the environment. One of the main contributors to the increase in food waste generation in an area is the household sector (Chaerul et al., 2020), but this problem is exacerbated because household waste is often disposed of without proper segregation and the lack of clear sorting exacerbates the problem. The absence of socialization on waste management also contributes to the low awareness of waste sorting practices. Poorly managed waste can have negative impacts on the environment, health, and comfort (Erika et al., 2024).



**Figure 2. Management of Household Waste Issue. Source: data.goodstats.id**

Socialization is the most effective method for increasing environmental awareness at the community level, and it is also proven through interactive and culturally relevant approaches can foster a deeper understanding and encourage sustainable practices among community members. Various studies support the effectiveness of socialization as a behavior transformation tool, for example, a program at SMA 2 Denpasar effectively increased students' awareness of the benefits of public transportation through presentations and discussions, leading to improved knowledge and positive habits (Mardikawati et al., 2024). Through educational approaches, the community can gain a better understanding of the importance of waste sorting and how to implement it in daily life. Socialization programs that use persuasive methods have the potential to change the mindset and behavior of the community in managing waste better. With the socialization that is carried out on an ongoing basis, it is hoped that the community, especially in Ubung Village, can begin to implement the habit of sorting waste consistently.

Increasing environmental awareness not only helps maintain cleanliness but also contributes to long-term ecosystem sustainability. Proper waste sorting can reduce the volume of waste sent to landfills, improve recycling efficiency, and support broader environmental programs. Additionally, increased public awareness of cleanliness can foster a sense of social responsibility in maintaining environmental sustainability for future generations. These efforts can be strengthened through education programs focusing on hygiene and environmental management, which significantly contribute to improving public understanding. For example, participatory action research in Serang sub-district showed that community training on waste management not only improved environmental cleanliness but also fostered higher ecological awareness in daily life (Febriadi et al., 2024).

Based on the issues outlined, the authors chose Ubung Village as the location for a community service program aimed at increasing environmental awareness of organic and non-organic waste sorting. Through a systematic educational approach, this activity is expected to provide useful recommendations for local governments and communities in designing more sustainable waste management strategies.

Community service in the form of work program activities "Increasing Environmental Awareness Through Sorting Organic and Non-organic Waste in Ubung Village" has the aim of providing several benefits to Ubung Village itself. This activity can provide an understanding of the importance of sorting organic and non-organic waste in an effort to keep the surrounding environment clean, increase environmental awareness among the community through a deeper understanding of the impact of waste on the environment and the benefits of good waste management. With this activity, it is hoped that the community can implement the sorting of organic and non-organic waste to reduce environmental pollution and support sustainable waste management programs. Contributions are provided with material related to sorting organic and non-organic waste and how to apply it daily, so that people are no longer confused in managing household waste.

## METHOD

The program was conducted through direct socialization activities, which included brief presentations on increasing environmental awareness and the importance of sorting organic and non-organic waste. The stages of the program were as follows:

### 1. Observation

Before determining the program, an observation was conducted to identify the problems in Ubung Village. Discussions with community welfare officials led to the decision to conduct socialization activities during community health posts to reach a wider audience.

### 2. Preparation

Materials on organic and non-organic waste sorting were prepared, along with pre-test and post-test questionnaires for participants.

### 3. Implementation

The program was conducted on January 19, 2025 at Banjar Sedana Mertha, Ubung Village. The activity began with a pre-test questionnaire, followed by a presentation on the differences between organic and non-organic waste, the types of waste, the impacts of not sorting waste, and examples of waste management practices. After the socialization is complete, a final questionnaire will be given, namely the post-test questionnaire in order to find out whether the audience can understand the socialization given, and closed with a group photo session.

### 4. Evaluation

In this section, the evaluation was based on the pre-test and post-test questionnaires. This questionnaire can be used as a reference for comparing audience understanding from before and after the socialization activities are carried out.

## RESULTS

The main issue faced by Ubung Village is the difficulty in sorting organic and non-organic waste, both in offices and households. This has led to challenges at landfills, where mixed waste accumulates. The socialization program aimed to address this issue by increasing awareness of waste sorting. With these problems, a work program was held to raise environmental awareness through the socialization of sorting organic and non-organic waste in Ubung Village. The activity was held on Sunday, January 19, 2025 located in Banjar Sedana Mertha. This activity was attended by several urban village staff and cadres who could be invited to gather to carry out socialization activities regarding increasing environmental awareness through socialization of sorting organic and non-organic waste.

Before the explanation of the socialization material, the author gave a pre-test questionnaire to the audience who came, the questionnaire contained the sorting of organic and non-organic waste. Afterward, the author explained the explanation of organic and non-organic waste. Organic waste is waste that comes from nature and can be processed or decomposed easily such as leaves, vegetable scraps, and others that come from nature. Whereas non-organic waste is waste that is difficult to decompose or takes a very long time to decompose and even takes years to decompose, examples are plastic bags, cans, glass, and others. In addition, it explains the types of containers or bins that can be used, the importance and impact of waste segregation, and how to sort waste.



**Figure 3. Presentation of Socialization Materials on Sorting Organic and Non-Organic Waste**

After the presentation of the material is complete, the author will provide a final post-test questionnaire to find out whether the audience understands and what the next steps will be taken after listening to this socialization in the future. The results of this socialization can be seen through a questionnaire, this questionnaire is given to find out whether anyone has done waste sorting, has implemented, what obstacles the community feels so that they have not also carried out the waste sorting activity.

**Tabel 1. Comparison of Conditions Before and After the Work Program "Increasing Environmental Awareness Through Sorting Organic and Non-organic Waste in Ubung Village"**

Aspects	Before Socialization	After Socialization
Community Understanding	Some people do not fully understand the difference between organic and non-organic waste. Lack of information and socialization about the benefits of waste sorting.	The community understands the explanation of organic and non-organic waste sorting quite well. The education provided encourages awareness that waste sorting can have a positive impact on the environment.
Waste Sorting Implementation	The majority of household waste is disposed of without separation. There is no habit of sorting waste routinely, even though there have been government instructions.	Some people have started sorting waste according to the Governor's direction which will be effective starting October 1, 2024. There is an increasing desire to separate organic and non-organic waste separately.
Barriers and Facilities	There is no separate place/container for organic and non-organic waste. Lack of support for sorting facilities in the surrounding environment (houses, hamlets, and so on).	Even though they understand the importance of waste sorting, not all residents can do it because they are still constrained by the lack of adequate containers or separation facilities. Self-help efforts have begun to emerge, such as making separate trash bins in several houses.
Motivation and Follow up	Low motivation of the community to change because they have not seen real examples around them. Sorting is considered troublesome because there is no support for facilities and infrastructure.	After socialization, residents are more motivated to implement waste sorting Several residents plan to spread information and encourage relatives or neighbors to also provide separate containers, so that they can carry out sorting consistently.

Based on the results of the questionnaire answered by the audience, a result was obtained that the Ubung Village community had sufficiently understood an explanation of the sorting of organic and non-organic waste. Some people have also done a separate waste sorting in accordance with the direction of the Governor regarding waste sorting which was implemented starting October 1, 2024 which emphasized that the sorting of organic and non-organic waste was carried out separately. However, not all of them carry out the waste segregation activity due to the obstacles that occur when they want to do the waste segregation. The main obstacle faced by the community is the unavailability of special facilities or containers that separate organic and non-organic waste, so waste sorting activities cannot be carried out routinely. As a result, unsorted waste is sent to landfills, which in turn exacerbates environmental problems (Lestari et al., 2023) . To overcome this, the community has taken the initiative to make separate bins for organic and non-organic waste, and to disseminate information about the importance of waste segregation to friends, relatives, and closest relatives, so that they are motivated to implement waste segregation consistently.

**Figure 4. Final Documentation Photo with All Participants of the Socialization "Increasing Environmental Awareness Through Sorting Organic and Non-organic Waste in Ubung Village"**



## CONCLUSION

Socialization activities can run smoothly also thanks to the help of friends and the community who can be invited to cooperate in the course of this activity even though there is a slight change in time adjustment to the location directly. But this did not hinder part of the socialization activities because it could run according to plan. As well as the audience who were very enthusiastic in listening to the socialization held.

Because of the main problems that clearly occur in Ubung Village, it can be concluded that the community has understood some of the concepts of sorting organic and non-organic waste but has not been able to implement or realize these activities correctly or in reality. This is due to the limitations or absence of available facilities such as different containers or bins based on the type of waste commonly used, so that residents have not been able to realize these sorting activities. After this work program activity was held, it can be seen that the community began to be motivated to carry out waste sorting activities and realized how important waste sorting was carried out and was willing to provide a separate container for organic and non-organic waste according to the type of waste in general.

It is hoped that with this work program activity, the community can continue to carry out waste sorting in accordance with the rules set by the Balinese government. In addition to carrying out independently, hopefully environmental awareness raising activities will still be carried out regularly every few months or once a year to remind local residents about sorting waste so that there is no accumulation of garbage that is booming. Checking is also carried out in several areas or in several places that are important or often visited by residents such as banjar, and others so that it can be used as an example to the surrounding community that supports this waste sorting program.

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