

Training on Making Trash Cans from Gallons to Encourage Waste Sorting Habits among Students at Kanzul Ulum Middle School

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Abstract : The waste problem in Indonesia , particularly plastic waste, remains an environmental issue and requires early intervention through education in schools. One of the issues at Kanzul Ulum Middle School is the limited number of trash bins and the low level of waste sorting habits. This community service activity aims to raise awareness and practice waste sorting through training on making trash bins from used gallon jugs. The implementation method is systematically structured. using a Participatory Action Research *approach Action Research /PAR*) combined with training methods and activity mentoring, including socialization of community service activities for trash bins from gallons, training on making trash bins, evaluation of the success of the training/implementation in learning. This community service activity was attended by all students in grades VII, VIII and IX of Kanzul Ulum Middle School. The results of the community service activity showed an increase in students' enthusiasm, creativity, and understanding of the types of waste and how to sort them. In addition to producing products in the form of trash bins that can be used directly in the school environment, this activity can encourage the formation of an attitude of caring for the environment in students. Thus, training on making trash bins from used gallons provides an educational solution to support waste management.

Keywords: Garbage, Used gallons, Trash cans, Waste sorting.

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Received : December 27th, 2026 **Accepted :** January 15th 2026 **Published:** February 28th, 2026
DOI: 10.61142/samakta.v3i1.322

How to cite: Maghfiroh, I., Muhyati, M., Ferdiana, M. D., Khoiri, F. A., dan Mu'aziyah*, S. E. S. (2026). Training on Making Trash Cans from Gallons to Encourage Waste Sorting Habits among Students at Kanzul Ulum Middle School. *Samakta: Jurnal Pengabdian Kepada Masyarakat*, 3(1), 18–26.

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INTRODUCTION

The waste problem is a significant concern due to its increasing volume and the difficulty of reducing it due to the difficulty of some waste to decompose. It is widely known that the most abundant waste, and currently still in demand, is plastic waste, at 17.07%, placing this type of waste in second place in terms of waste generation by type in Indonesia (Maskun *et al.*, 2022). Waste that is left to pile up often produces unpleasant odors and is detrimental to public health and the environment. Some of this unprocessed waste is transported to final disposal sites (TPA) (Juriani & Anugrahini, 2025).

Rubbish is remainder activity man as well as natural processes that have No used, no liked, and must thrown away, so that its existence need managed with good so as not to cause impact negative for life. Trash become the part that is not inseparable from life daily humans, because If No managed in a way Correct can cause various problem environment and discomfort community (Nurikah, *et al.*, 2022). Disposal trash that is not managed, such as accumulation garbage, disposal carelessly on the land open, burning, or disposal to river, can result in pollution land, water, and air as well as trigger blockage potential water channels cause flood (Badri, *et al.*, 2022). One of the type waste that requires attention special is rubbish inorganic Because difficult decompose, such as plastic, glass, and cloth the real scar own mark sell and get recycled repeat, but If its management No appropriate can damage land, lowering fertility land, as well as increase risk floods and landslides (Febriyanti, *et al.*, 2023).

Until now, waste management is still an environmental problem that has not been handled optimally, especially in developing countries like Indonesia (Maskun *et al.*, 2022). Waste is generally perceived by the public as leftover items that are no longer used and therefore must be discarded. This perception views waste as having no use value, synonymous with dirty conditions, and is often considered disgusting (Mislan *et al.*, 2025). Trash that only abandoned by society the precisely become Problems. According to Putri & Antrati 2025, Indonesia is a country with a high level of waste production, with a predominance of plastic waste that is difficult to decompose and has the potential to cause environmental pollution if not managed properly. The problem of waste management does not only involve individuals, but has developed into an environmental issue that requires the ongoing involvement of various parties (Putra & Antrati, 2025).

The waste problem is an environmental issue that has received special attention from various parties due to the ever-increasing amount of waste. Waste (*refuse*) is defined as objects or materials that are unused or unwanted and therefore must be discarded. This waste is generated from various human activities, including industrial activities, mining, agriculture, livestock, fisheries, transportation, households, and trade activities. The increase in human activity in various sectors contributes to an increase in waste volume that has the potential to cause environmental problems if not managed properly (Imban, *et al.*, 2025). Humans are the main factor in the waste problem because environmental cleanliness depends on their management behavior (Saputra, *et al.*, 2025).

Based on data from the National Waste Management System (SPSN), recorded since April 17, 2025, from the Ministry of Environment, there are 33,621 million tons of waste generated per year due to human activities. Unmanaged waste accounts for 39.91% or around 13.417 million tons of waste on average per year. Indonesia experienced a decline in waste production in 2023, initially producing 43,231,282.78 tons of waste, while in 2024, waste production decreased to 33,345,125.83 tons. Despite the decline, there is still a lot of waste that is not managed properly and correctly. In 2024, there was 39.98 percent of unmanaged

waste (Deputy for Waste & Waste Management, Directorate of Handling, 2024). So it can be said that nationally, more than a third of waste is not managed and causes environmental pollution such as rivers and seas (Putra & Antrari . 2025).

Based on its characteristics, waste is divided into organic waste and inorganic waste. Organic waste comes from the remains of living things that are easily decomposed naturally, such as food scraps, vegetables, and fruits. In contrast, inorganic waste, such as plastic, metal, and glass, is a type of waste that takes a very long time to decompose in nature (Putra & Antrati , 2025). Inorganic waste, especially plastic, is a serious environmental problem, especially in urban areas with high population density and economic activity . The high production of plastic waste in Indonesia, which reaches more than tens of millions of tons per year, mostly comes from urban areas, including plastic waste generated from school environments (Ministry of Environment and Forestry, 2023). This problem is increasingly complex due to the low awareness of the community, especially students, in sorting and managing plastic waste independently (Huda, *et al.* , 2025). *The importance of environmental awareness programs is a duty for every citizen.* This is as stated in the Regulation of the Minister of Health of the Republic of Indonesia Number 2 of 2023 concerning the Implementation Regulations of Government Regulation Number 66 of 2014 concerning Environmental Health (Santoso & Triono, 2024) .

Therefore, instilling environmentally conscious behavior needs to be done from an early age through environmental education in schools. Schools have a strategic role in shaping students' environmentally conscious character through learning activities and direct practice, one of which is through a plastic waste recycling program (Maskun , *et al. al.* , 2022; Huda, *et et al.* , 2025). Given these challenges, one way to instill environmentally conscious behavior is through early environmental education in schools. Environmental education coupled with hands-on practical activities is considered more effective in shaping students' understanding and habits than purely theoretical learning (Ningrum *et al.*, 2025) . During school age, children are at a very effective developmental stage in learning about the world around them. Children 's drive to learn about and interact with their environment is very strong (Eriawandi & Firdaus , 2025) . Based on this situation, training on making trash bins from used gallon jugs was held at Kanzul Ulum Middle School as an educational solution to support waste management in the school environment.

METHOD

The community service activities carried out by the teaching assistance team were carried out in several stages which were systematically arranged. using a Participatory Action Research *approach Action Research (PAR)* combined with training and mentoring methods. In the context of education and the environment, this approach is relevant because students and teachers, as part of the school community, play an active role as agents of change in waste management efforts and the formation of environmental awareness (Felani , *et al. al.* , 2024) which focused on training activities and making trash bins from used gallons. This community service activity was carried out at Kanzul Ulum Middle School starting from October 6-October 8, 2025. The implementation methods of the community service activities carried out at Kanzul Ulum Middle School, Burneh Bangkalan included:

1. Socialization of Community Service Activities for Making Garbage Bins from Gallons

This outreach activity was carried out as an initial stage given to all students in grades VII, VIII, and IX of Kanzul Ulum Middle School, Burneh Bangkalan. This outreach contained material on waste management, the benefits of using trash cans, types of waste,

and how to properly sort waste types. The purpose of this outreach is to raise students' awareness of the importance of disposing of and sorting waste, while also fostering a caring attitude towards cleanliness and the sustainability of the school environment. With this outreach, it is hoped that the activity can have a real impact on the school, so that students not only gain the concept of knowledge about trash cans, but can also apply it sustainably both at school and at home.

2. Trash Can Making Training

The next stage was training on how to make trash bins from used gallon jugs, conducted by the teaching assistance team for all students at Kanzul Ulum Middle School as a form of direct mentoring following the initial outreach activities. At this stage, the teaching assistance team was responsible for: responsible for guiding students in the process of making trash bins starting from the design of the trash bin frame, the design of used gallons, preparation of tools and materials and the arrangement of the trash bin container shape according to school needs. This mentoring is carried out for 1 day for the manufacture of trash bins with organic and inorganic waste categories carried out in the school yard. After the trash bin facilities are completed, each teacher and student are directed to start collecting organic and inorganic waste and put them into the trash bins that have been made.

3. Evaluation of the Success of Training/ Implementation of Bank for Learning

The final stage is the evaluation stage, which is integrated with the learning process through the use of interactive *word walls* . The purpose of this training evaluation is to measure students' understanding after participating in a series of outreach activities and making trash bins from used gallon jugs. The evaluation results will then be used as a reference for future community service activities. At the end of this activity, it is hoped that the school community will continue their independent waste management efforts at Kanzul Ulum Middle School.

RESULTS AND DISCUSSION

The waste bank socialization activities are carried out in the following stages:

1. Preparation Stage

The first step before starting a community service activity is to apply for permission from the school as a form of initial procedure for program implementation. Once the permission has been obtained, the school will conduct initial observations through interviews with teachers to identify obstacles faced by the school regarding waste management. The results of the observations indicate a lack of waste management at the school, especially trash cans in each classroom, trash cans are only found in a few points in the school yard. This results in waste not being managed optimally and education about waste sorting for students is also less than optimal. Based on these results, the assessment team created a community service proposal to be submitted to the school and field supervisors. Furthermore, the assessment team also created socialization materials in the form of posters and *powerpoints*. *points* which contain information about the urgency of waste management, the division of organic and inorganic waste, and the benefits of waste management for the school environment.



Figure 1. Socialization of waste management materials

In Figure 1, the teaching assistance team presents material on waste management and waste sorting, all of which must start from small things, namely disposing of waste in the correct place. Trash cans should not be combined, so schools are required to have separate trash cans for organic and inorganic waste to facilitate the waste sorting process. In addition, the teaching assistance team also created a Student Worksheet (LKPD) as an instrument to test students' understanding of the definition of waste, the types of organic and inorganic waste, and the importance of waste sorting. The preparation of this LKPD was requested by the school so that students would be more active and understand the activities they would undertake later during the program. Then the teaching assistance team prepared the tools and materials needed to make this trash can from used gallons. The tools and materials included used gallons, bamboo, scissors, paint, nails, and a hammer. All of these preparations were carried out so that the socialization and construction of this trash can could run smoothly and the desired results could be achieved and sustained.

2. Implementation Stage

After gaining an understanding of the theory, the students then carried out direct practice in making trash cans from used gallon jugs. At this stage, all students in all classes at Kanzul Ulum Middle School, starting from grades VII, VIII and IX, carried out this stage. The first step in the implementation stage that needs to be done is to divide the group, so 1 class is divided into 2 large groups. Each group discusses to think about the design they will draw to increase their creativity. The manufacturing process is very simple and easy for students to do. First, it starts by cutting the used gallon into two parts using a *cutter*, then the cut parts are tidied up using scissors so that they are safe to use. Next, the mouth of the gallon is removed, while the body of the gallon is used as a trash can container. The next stage, painting the body of the gallon, which is done according to the creativity of each student per group. Through this activity, it is hoped that students and teachers at Kanzul Ulum Middle School can foster a creative attitude so that they can later support the waste management program in the school environment. This can be seen in figures 2 and 3.



Figure 2. Practice of making a trash bin



Figure 3. Painting used gallons according to your creativity

Based on Figures 2 and 3, it can be seen that the school community is enthusiastic about making trash bins from used gallon jugs. This activity can foster students' creative ideas while providing direct experience in utilizing used goods to create valuable products. In addition to functioning as a waste management site, the resulting trash bins can also be used as decorations in front of the classroom, thus enhancing its aesthetic appeal. This is in line with the opinion of (Nurhalizah & Nirawati, 2023) , who stated that one form of waste reduction is by developing creativity and innovation from the school community itself in waste management. The results of making trash bins from used gallon jugs for grades VII, VIII, and IX can be seen in the figure below.



Figure 4. Class VII trash can



Figure 5. Class VIII trash can



Figure 6. Class IX trash can

The community service activity concluded with a documentation session between the teaching assistance team and the students. Additionally, *rewards were awarded* to students who demonstrated the most creativity in making trash bins.



Figure 7 photo together with class VII



Figure 8 photo together with class VIII



Figure 9 photo together with class IX

3. Evaluation Stage

The final stage of this activity is evaluation, which integrates the results of the community service into *a word wall learning medium*. After all the activities of making trash bins from used gallon jugs were completed, the Teaching Assistance team conducted a comprehension test with students using the *word wall* as an interactive evaluation tool. The purpose of using this media is to measure students' level of understanding of the material presented and of making trash bins, as well as the benefits of trash bins made from used gallon jugs. The evaluation is based on *a word wall*. This is used because it can create a fun learning atmosphere and can encourage students to be more active. In this case, students can also directly answer questions while reviewing the concepts of how to manage waste that have been studied and that have been created previously. This evaluation resulted in most students being able to understand the material well, which is shown through student participation in answering questions and the activeness and accuracy of the answers given by students when using *the word wall media*. Thus, the integration of *word wall learning media* in this evaluation stage, it not only functions to measure students' understanding but also to strengthen the concept of waste management which can later be applied by students sustainably in the Kanzul Ulum Middle School environment.

4. Impact of training on student behavior

Training in making trash bins from used gallon jugs has a positive impact on changing student behavior at Kanzul Ulum Middle School, especially in managing and sorting waste. This impact is seen in the increased awareness of students to dispose of waste according to its type, both organic and inorganic, after the provision of self-made trash bins. Furthermore, this activity also encourages the emergence of environmentally conscious attitudes and positive habits that can be sustained. Students become more disciplined about waste problems around them and take the initiative to remind their friends to dispose of waste in the right place. This is in accordance with the opinion (Ningrum *et al.*, 2025) who stated that environmental education based on direct practice is more effective in developing environmentally conscious behavior than learning only theory. Thus, training in making trash bins from used gallon jugs not only produces a physical product in the form of a waste management tool, but also helps shape students' positive behavior towards the environment.

CONCLUSION

The community service training activity of making trash bins from used gallon jugs at Kanzul Ulum Middle School has been carried out well and produced positive results. The high participation and enthusiasm of students from grades VII, VIII, and IX shows the need for direct education and training in waste management at the school. The entire series of events from socialization, training on making trash bins from used gallon jugs, to the implementation of interactive learning media based on *the world wall* can be carried out well and according to the initial plan. Overall, this activity can be a very important initial foundation for students in fostering an attitude of caring for the environment, having a creative attitude and getting used to sorting waste, both organic and inorganic waste. In addition, this activity is expected to encourage all school residents to continue independent waste management at Kanzul Ulum Middle School.

ACKNOWLEDGEMENTS

The author would like to express his deepest gratitude to all parties at SMP Kanzul Ulum who have provided the opportunity and full support as a venue for this service activity . Thank you for the cooperation, facilities, and active participation of students and teachers so that the process of data collection and implementation of training on making waste from gallons to encourage waste sorting habits can run smoothly and according to the objectives. The support provided is very important for the success of this activity and provides valuable experience for the author in implementing environmental education based on real practice. Thank you to SMP Kanzul Ulum for being a forum for data collection.

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