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Implementation of the "SIMPAN" Program Through the Establishment of a Bottle Waste Bank as an Effort Toward Sustainable Waste Management at SDN Kumitir 02

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ABSTRACT

Objective: *This community service activity aimed to implement the SIMPAN Program (Waste Management and Utilization System) through the establishment of a Bottle Waste Bank at SDN Kumitir 02.* ***Method:*** *The activity employed educational, participatory, and mentoring approaches consisting of preparation, implementation, and sustainability stages.* ***Results:*** *The results showed that waste-sorting socialization and simulation were highly effective, as demonstrated by 95% of the participants, or 38 out of 40 students, who were able to correctly distinguish between organic and inorganic waste. The program also resulted in the establishment of a physical Bottle Waste Bank facility, a management structure involving school personnel, and an operational record-keeping system. Plastic bottles were collected routinely every Friday and subsequently delivered to waste collectors.* ***Novelty:*** *The implementation of the SIMPAN Program not only increased students' environmental awareness and waste-management habits but also provided economic benefits that support the sustainability of waste-management practices within the school environment.*

INTRODUCTION

Waste is an environmental issue that is inseparable from everyday human activities. The volume of waste continues to increase along with various consumption activities, while inappropriate management can create further environmental problems. Waste that is allowed to accumulate or is discarded without sorting can cause pollution and reduce environmental quality. This condition shows that waste problems concern not only how waste is disposed of but also how it is managed from its source. Therefore, sorting is an important stage of waste management because it allows waste to be handled according to its characteristics and potential for further utilization.

One issue that requires particular attention is inorganic waste, especially plastic waste. Inorganic waste has different characteristics from organic waste because it is relatively difficult to decompose naturally [1]. Plastic bottles generated from everyday consumption are a common form of inorganic waste and, if not properly managed, can become part of the accumulated waste in the environment. Nevertheless, certain types of inorganic waste, including plastic bottles, still have use value and economic value and therefore do not always have to end up as discarded waste. Management through sorting,

collection, reuse, or distribution to parties capable of utilizing the material is one way to reduce waste while optimizing its remaining value [2], [3].

Waste management is also an important concern within the school environment. Schools are strategic settings for cultivating environmentally responsible habits because students' daily activities bring them into direct contact with different types of waste. Habits formed during school age can become part of behavior carried into daily life. Therefore, students need to be introduced to waste types and sorting methods not only as knowledge but also as routine practice [4]. Educational environments play a role in developing students' awareness of cleanliness and in building environmentally responsible character through repeated actions in school life.

Environmental awareness is one component of the environmental attitude and behavior model developed by Grob. In this model, environmental awareness includes factual knowledge about the environment as well as an individual's ability to recognize environmental problems. Such awareness reflects the extent to which individuals understand surrounding environmental conditions and recognize problems that may affect the environment. Better environmental knowledge and a stronger ability to identify environmental problems may support a greater tendency to demonstrate appropriate environmental behavior. Thus, environmental awareness can be understood as an individual's capacity to know and recognize environmental conditions and problems that can provide a basis for more environmentally responsible behavior [5].

However, providing knowledge about waste sorting alone is not sufficient to establish a sustainable management system. Students need opportunities to practice that knowledge, while schools require mechanisms that ensure sorted waste is not remixed and eventually disposed of without further utilization [6]. Community service experience in school settings indicates that waste-sorting education should be accompanied by practical activities and mentoring so that students become accustomed to disposing of and separating waste according to its type. Continuous mentoring can also help strengthen students' environmental awareness and environmentally responsible character [7], [8].

This need becomes increasingly important when waste management is directed toward materials that retain economic value. Sorted plastic bottles can be collected and transferred to waste collectors, thereby generating economic value for those managing them. Consequently, school waste management can be developed not only as an effort to maintain environmental cleanliness but also as a form of resource utilization. This approach is consistent with the 3R concept—reduce, reuse, and recycle—as part of efforts to reduce waste generation [2], [9]. Structured waste-management activities also provide students with opportunities to understand that simple actions such as sorting and collecting waste can benefit the environment while also having economic value [10], [11].

Based on these conditions, an initiative is needed that does not stop at socialization but instead integrates knowledge, habits, facilities, and waste-management mechanisms into a system that can be implemented in the school environment. In response to this

need, the SIMPAN Program (Waste Management and Utilization System) was implemented at SDN Kumitir 02 with a focus on plastic-bottle waste management through the establishment of a Bottle Waste Bank. The program was developed to provide students with an understanding of waste sorting while simultaneously building the habit of collecting plastic-bottle waste regularly. The presence of the waste bank is expected to serve as a facility that connects students' sorting and collection habits with a more structured waste-management system at the school level.

The implementation of the SIMPAN Program was motivated by the need to establish a system that could continue to be operated by the school so that waste management would not end when the community service activity was completed. Therefore, the establishment of the Bottle Waste Bank was directed not only toward the provision of collection facilities but also toward coordination with the school regarding system sustainability, including the formation of a waste-bank management structure. The existence of designated managers is important to ensure that specific personnel are responsible for managing the waste collected by students and maintaining the continuity of the mechanism that has been established.

In addition to establishing the management system, the SIMPAN Program was designed to build student habits through the routine collection of plastic bottles every Friday. Habit formation is important because the success of school waste management is determined not only by the availability of facilities but also by the participation and consistency of the school community in using them. With a regular collection schedule, students are encouraged to make plastic-bottle sorting and collection part of their school activities. This pattern of habituation is consistent with previous community-service findings indicating that repeated sorting practices can help students not only understand different waste types but also become accustomed to applying waste-management practices in daily activities.

The Bottle Waste Bank at SDN Kumitir 02 was designed so that collected bottles would not simply become a new pile of waste within the school. The plastic bottles collected were subsequently distributed to waste collectors through a mechanism coordinated with the school. In this process, KKN-P Group 54 also assisted in transferring the waste from the school to the collectors so that the collection activity had a clear final destination. The proceeds from this distribution generated income for the school. Thus, the waste-management activity provided not only environmental and cleanliness benefits but also economic benefits that could support the sustainability of the Bottle Waste Bank system.

The SIMPAN Program, implemented through the establishment of a Bottle Waste Bank at SDN Kumitir 02, was designed to address the need for waste management that focuses not only on waste reduction but also on habit formation and a management system that can be continued by the school. The activities—from waste-sorting socialization, reinforcement of student understanding, establishment of the waste bank, formation of its management structure, routine Friday collection, to distribution of the

waste to collectors—form an integrated process for building school-community participation in waste management. Through the implementation of this program, plastic-bottle waste management is expected to become more structured, generate environmental and economic benefits, and be maintained as part of everyday practice at SDN Kumitir 02.

The objective of this community service activity was to implement the SIMPAN Program (Waste Management and Utilization System) by educating students about waste sorting and establishing a routine among SDN Kumitir 02 students to dispose of waste in the appropriate place according to its type through the formation of a Bottle Waste Bank, thereby supporting a more structured and sustainable waste-management system at SDN Kumitir 02.

RESEARCH METHOD

The SIMPAN Program (Waste Management and Utilization System), implemented through the establishment of a Bottle Waste Bank at SDN Kumitir 02, used educational, participatory, and mentoring approaches. The activities involved students and school personnel in the sorting, collection, and management of plastic-bottle waste. The program aimed to establish students' waste-sorting habits while creating a sustainable waste-management system.

1. Preparation Stage

The preparation stage was conducted through coordination with SDN Kumitir 02 to identify existing waste-management conditions and develop the program implementation mechanism. Activities included discussions on socialization, provision of collection facilities, formation of the management structure, collection schedules, and the sustainability of the Bottle Waste Bank.

2. Implementation Stage

The SIMPAN Program was implemented through several main activities:

a. Waste-Sorting Socialization and Education. Students were provided with an understanding of waste types, especially organic and inorganic waste, the importance of disposing of waste in the appropriate place, and the benefits of sorting plastic-bottle waste.
b. Waste-Sorting Practice. Students practiced waste sorting through a game-based simulation involving different types of waste. Various images of waste items and images of waste bins categorized by waste type were provided. Students were then asked to group each waste image and place it on the corresponding waste-bin image. This activity was designed to help students recognize waste categories and understand how to sort and dispose of waste appropriately through direct experience.
c. Establishment of the Bottle Waste Bank. The Bottle Waste Bank was established as a collection facility for sorted plastic-bottle waste. Its establishment was

accompanied by the formation of a management structure with the school to support program sustainability.

d. Collection and Distribution of Plastic-Bottle Waste. Plastic-bottle waste was collected routinely every Friday and then distributed to waste collectors in coordination with the school. The proceeds from the distribution provided income for the school and supported economically valuable waste management.

3. Sustainability Stage

Program sustainability was supported by involving school personnel in the management of the Bottle Waste Bank. The management structure, collection schedule, collection facilities, and mechanism for transferring the bottles to waste collectors were maintained so that the activities could continue after the community service program ended.

The implementation stages of the SIMPAN Program described above were expected to increase students' awareness of waste sorting and establish a more structured and sustainable waste-management system at SDN Kumitir 02.

RESULT AND DISCUSSION

Results

The implementation of the SIMPAN Program (Waste Management and Utilization System) at SDN Kumitir 02 produced a series of activities designed to establish students' habits in sorting and managing waste, particularly plastic-bottle waste. The program was not limited to socialization; it continued with the establishment of a Bottle Waste Bank, the development of a management mechanism with the school, the habituation of routine waste collection, and the distribution of plastic-bottle waste to collectors. These activities were conducted in stages so that the knowledge provided to students could be applied in daily activities and sustained after the community service program was completed.

1. Socialization of Waste Sorting and Management

The activity began with waste-sorting socialization for students at SDN Kumitir 02. This socialization served as an initial step in building students' understanding of waste categories and the importance of disposing of and sorting waste according to its type.

Figure 1. Waste-Sorting Socialization

During the activity, students were introduced to the differences between organic and inorganic waste and were given an understanding of plastic-bottle waste as one type of inorganic waste that can be collected and managed further. The material was delivered not only through explanation but also through a game-based simulation of different waste types.

Figure 2. Simulation of Waste Classification by Type

In this activity, students were given images of different types of waste along with images of waste bins corresponding to each category. The students were then asked to classify the waste images and place them on the appropriate waste-bin images. This simulation gave students an opportunity to directly apply the knowledge they had received so that their understanding of waste sorting did not stop at the delivery of material. The socialization and simulation activities demonstrated that waste-sorting education should be accompanied by practice so that students can connect knowledge with actions that can be performed in daily life. This is consistent with [12], which indicates that education and simulation through educational games can improve

elementary-school students' understanding and ability to practice waste sorting. Through this activity, students were encouraged not only to identify waste categories but also to understand that each category needs to be placed and managed appropriately. This understanding became the basis for the next activity, namely the establishment of the Bottle Waste Bank in the school environment. Student enthusiasm and the observed behavioral changes were important outcomes of the socialization activity because students not only gained knowledge about waste categories but also began to apply sorting practices in daily activities. Therefore, educational activities accompanied by simulation can help students connect the material provided with concrete actions to maintain school cleanliness. This initial understanding then became the basis for directing students toward plastic-bottle collection through the Bottle Waste Bank established under the SIMPAN Program.

Table 1. Student Understanding Achievement After Socialization

Evaluation Indicator	Result
Number of participants	40 students
Students able to distinguish organic and inorganic waste	38 students (95%)
Students not yet able to distinguish organic and inorganic waste	2 students (5%)

Based on the socialization activity attended by 40 students—consisting of 16 fourth-grade students, 14 fifth-grade students, and 10 sixth-grade students—the evaluation showed that 95% of participants (38 students) were able to correctly distinguish between organic and inorganic waste through question-and-answer activities and practical waste-sorting exercises. Meanwhile, 5% of participants (2 students) still required further assistance in accurately identifying waste types.

These results indicate that the socialization activity was effective in improving students' knowledge of waste sorting. The high percentage of successful participants suggests that material delivery supported by concrete examples and direct practice helped students understand the concept of waste sorting. This achievement also serves as an initial indicator that the establishment of a simple Waste Bank at SDN Kumitir 02 has the potential to be implemented sustainably with support from the school.

2. Establishment of the Bottle Waste Bank

After students developed an understanding of waste sorting, the activity continued with the establishment of a Bottle Waste Bank at SDN Kumitir 02. The Bottle Waste Bank was created as a facility for directing sorted plastic-bottle waste so that it would not be mixed again with other types of waste. The collection facility provides a dedicated place for students to gather plastic bottles generated from daily activities in the school environment.

Figure 3. Bottle Waste Bank Construction Process

The establishment of the Bottle Waste Bank was an important part of the SIMPAN Program because waste-management activities should not stop at understanding how waste is sorted. Sorted waste requires a follow-up management mechanism so that it can continue to be utilized and does not return to becoming unmanaged waste. Through the Bottle Waste Bank, the processes of sorting, collecting, and distributing waste can be connected within a more structured mechanism. This is consistent with research on school waste-bank implementation showing that dedicated collection facilities for plastic cups and bottles can make it easier for students to separate plastic waste from other waste before depositing it in a school waste bank. Such a mechanism not only supports more structured waste management but also contributes to a cleaner school environment [13].

3. Coordination and Formation of the Waste Bank Management Structure

To ensure that the Bottle Waste Bank could continue operating after the community service activity ended, coordination was carried out with the school regarding the sustainability of the established system. The coordination focused on the plastic-bottle waste-management mechanism and the formation of the Bottle Waste Bank management structure. The management structure was established to ensure that specific personnel would be responsible for managing waste collected by students.

Figure 4. Coordination with the Principal of SDN Kumitir 02 Regarding the Continuation of the Waste Bank System

The school's involvement at this stage was important for maintaining program sustainability. The Bottle Waste Bank was positioned not merely as a facility used during the community service activity but as a system that could continue to be operated by the school. With a management structure in place, waste collection and management activities have designated personnel who coordinate their implementation, thereby helping prevent the system from ending after the mentoring activity is completed. To ensure a structured division of responsibilities in Bottle Waste Bank operations, the community service team and the school jointly formulated the management structure and corresponding job descriptions. This is consistent with [14], which indicates that the sustainability of a school waste bank should be supported by school leadership, environmental-activity supervisors, and managers with clearly defined roles. Management restructuring and regeneration are also necessary to ensure that waste-bank management continues after external mentoring has ended.

Table 2. Management Structure of the SDN Kumitir 02 Waste Bank

Name	Position	Job Description
Hadi Prayitno, S.Pd	Person in Charge	Provides guidance and policy direction and is responsible for supervising and ensuring the sustainability of the school-level Waste Bank program.
Jihad Muadtiono, S.Pd	Chairperson	Coordinates all operational and managerial activities of the Bottle Waste Bank and ensures that the collection-to-distribution cycle runs properly.
Darmawan, S.Pd	Secretary	Manages the administrative system, including recording student participation data and preparing operational recapitulation reports at the end of each month.
Vidya Kharisma, S.Pd	Treasurer	Responsible for recording financial circulation, particularly managing revenue generated from the economic conversion of plastic-bottle waste sales.
Edi Setiawan, S.Pd	Weighing Section	Technically responsible for checking, weighing, and initially recording the

Name	Position	Job Description
		physical quantity of waste deposited by students every Friday.
M. Asyrofi	Marketing Section	Acts as the liaison between the school and waste collectors to arrange pickup schedules and plastic-bottle waste transactions.

4. Development of the Waste Bank Administrative System with the School

To ensure that the Bottle Waste Bank would not operate only during the community service period, the team recognized the need for a clear administrative system. Therefore, the community service team initiated a simple record-keeping format that could later be managed independently by the school. Technically, every Friday the management team would weigh and record the amount of plastic-bottle waste collected by students. The weekly data would then be recapitulated at the end of each month. The monthly report was designed to cover two components: the physical weight of the collected waste and the monetary value obtained from sales to waste collectors. Through this structured recording system, the school is expected to be able to monitor student participation, maintain financial transparency, and ensure the continuity of the program.

5. Habituation of Plastic-Bottle Waste Collection Every Friday

After the Bottle Waste Bank was established, the next activity focused on building students' habit of collecting plastic-bottle waste routinely once a week, every Friday. This routine represented the direct application of the understanding provided during the socialization activity. Students were encouraged not only to dispose of waste properly but also to develop the habit of collecting plastic bottles that could be managed through the Bottle Waste Bank.

Designating Friday as the collection day provided a clear schedule for students and school personnel. Routine collection also supports habit formation because the activity is repeated. Thus, waste sorting and collection are not intended to be temporary activities limited to the implementation period of the program but are directed toward becoming part of ongoing school activities.

This habituation also shows that successful waste management in the school environment depends not only on the availability of facilities but also on students' consistency in using them. The Bottle Waste Bank can function effectively when students actively collect sorted waste and the school has a mechanism to manage it. Routine collection therefore serves as a link between the education provided and the implementation of the school waste-management system. This is consistent with [15], which indicates that waste-management habits among elementary-school students need to be developed through repeated activities accompanied by role modeling, mentoring, motivational reinforcement, and support from the school environment. Such habituation

can help students apply waste management as part of everyday behavior rather than as an activity conducted only at certain times.

Discussion

The findings demonstrate that the implementation of the SIMPAN Program at SDN Kumitir 02 successfully integrated environmental education with practical and structured waste-management activities. The high level of student understanding, in which 95% of participants were able to correctly distinguish between organic and inorganic waste, indicates that socialization combined with direct simulation can effectively support students' comprehension of waste-sorting practices. This finding is consistent with previous studies showing that educational activities supported by simulations and practical exercises can improve students' knowledge and ability to classify waste appropriately [12]. Beyond increasing understanding, the establishment of the Bottle Waste Bank provided a practical mechanism that connected students' knowledge with routine environmental behavior. The availability of a dedicated collection facility, accompanied by a clear management structure and administrative recording system, strengthened the institutional sustainability of the program and reduced the possibility that sorted waste would be mixed again with other waste. Similar findings have shown that school-based waste banks can facilitate the separation and management of recyclable plastic materials while contributing to a cleaner school environment [13]. Furthermore, the involvement of school personnel in management and the assignment of specific responsibilities supported program continuity after the community service activities were completed, which is consistent with the importance of clear organizational roles in maintaining sustainable school waste-bank programs [14]. The routine collection of plastic bottles every Friday also functioned as a habituation strategy that encouraged students to incorporate waste sorting and collection into their regular school activities. Repeated environmental practices supported by mentoring and the school environment have been identified as important factors in developing sustainable waste-management behavior among elementary-school students [15]. In addition, the distribution of collected plastic bottles to waste collectors generated economic value for the school, demonstrating that school-based waste management can provide both environmental and economic benefits. Therefore, the SIMPAN Program represents an integrated approach in which education, facilities, student participation, institutional management, routine habituation, and economic utilization collectively support more sustainable waste-management practices within the school environment.

CONCLUSION

Fundamental Finding: The results showed that waste-sorting socialization and simulation were highly effective, as demonstrated by 95% of the participants, or 38 out of 40 students, who were able to correctly distinguish between organic and inorganic waste. The program also resulted in the establishment of a physical Bottle Waste Bank facility, a management structure involving school personnel, and an operational record-

keeping system. Plastic bottles were collected routinely every Friday and subsequently delivered to waste collectors. **Implication:** The implementation of the SIMPAN Program not only increased students' environmental awareness and waste-management habits but also provided economic benefits that support the sustainability of waste-management practices within the school environment. **Limitation:** The implementation was limited to one school and involved a relatively small number of student participants, which may restrict the broader applicability of the program outcomes. **Future Research:** Future studies are recommended to implement and evaluate the SIMPAN Program in a wider range of schools with larger participant groups and longer observation periods to assess its sustainability and broader environmental and economic impacts.

REFERENCES

[1] S. Suharno, S. Wardoyo, and T. Anwar, "Differences in the use of anaerobic and aerobic composters on the rate of the organic-waste composting process," Poltekita: Jurnal Ilmu Kesehatan, vol. 15, no. 3, pp. 251–255, 2021, doi: 10.33860/jik.v15i3.527.

[2] R. Mete, M. L. Hendrik, and S. N. I. Neonufa, "Design of a reduce-reuse-recycle waste-processing facility (TPS 3R) in Ende City using a sustainable architecture approach," GEWANG: Gerbang Wacana dan Rancang Arsitektur, vol. 8, no. 1, pp. 55–63, 2026, doi: 10.35508/gewang.v8i1.27289.

[3] S. Maryam and A. Kusnawan, "Social and economic synergy: A community-empowerment model based on integrated MSME waste management in Gempol," vol. 5, no. 2, pp. 115–124, 2025, doi: 10.24090/sjp.v5i2.15297.

[4] E. Febriyanti, A. Suriansyah, and A. M. B. Harsono, "The Friday Clean-Up Program and students' character of care and responsibility in elementary school," MARAS: Jurnal Penelitian Multidisiplin, vol. 3, no. 4, pp. 1442–1457, 2025, doi: 10.60126/maras.v3i4.1321.

[5] A. Grob, "A structural model of environmental attitudes and behaviour," Journal of Environmental Psychology, vol. 15, no. 3, pp. 209–220, 1995, doi: 10.1016/0272-4944(95)90004-7.

[6] R. Mulyadi, A. Siregar, Y. Ramadika, and A. Bakar, "Socialization of student awareness in the management of organic and inorganic waste at SMA IT Fadillah," Jurnal Pengabdian Masyarakat 360 Derajat, vol. 2, no. 1, pp. 1–6, 2025, doi: 10.35328/tbq99d04.

[7] V. O. Azzahra, I. R. Saragi, S. Mardiana, and D. S. Ramadhan, "Education on organic and inorganic waste sorting to support the 2025 Clean Indonesia Movement," vol. 9, no. 3, pp. 2025–2598, 2025.

[8] S. R. K. Pertiwi, M. Angeline, A. N. Kalengkongan, B. Burnama, and N. J. Perdana, "Sort the waste: Socialization to improve waste-care attitudes among students of SDN Ciherang 01," Jurnal Bakti Masyarakat Indonesia, vol. 8, no. 2, pp. 481–491, 2025.

[9] F. T. Zulfayanti and Supriyanto, "Exploration of environmental-care character education on 3R waste management in elementary-school science and social studies learning," Penelitian Pendidikan Guru Sekolah Dasar, no. 1, pp. 2727–2741, 2024.

[10] P. A. Wibowo, R. E. Budiati, and A. Syahriar, "Strengthening school waste banks at SDUT Bumi Kartini and SD Semai, Jepara: Implementation of environmental education," Jurnal Abdimas Ilmiah Citra Bakti, vol. 6, no. 3, pp. 892–906, 2025, doi: 10.38048/jailcb.v6i3.5461.

[11] T. N. Kilay and Y. H. Wenno, "Efforts to foster waste-management awareness to achieve a circular economy through inorganic-waste recycling," Jurnal Pembelajaran Pemberdayaan Masyarakat (JP2M), vol. 6, no. 4, pp. 1186–1198, 2025, doi: 10.33474/jp2m.v6i4.24146.

[12] P. D. Novitasari, D. Ambarwati, P. Utami, R. M. Pulungan, and M. Y. Lewinsca, "BISA: Waste-sorting and environmental-care education," vol. 9, no. 5, pp. 3–10, 2025.

[13] A. Yuniati, "KEMAH BOLASTIK: Creating a clean environment at SMP Negeri 10 Pekalongan," Dwijaloka Jurnal Pendidikan Dasar & Menengah, vol. 2, no. 3, pp. 314–321, 2021.

[14] Budiaman, A. A. Jumhur, A. Kholil, and A. Susanti, "Designing a sustainable environmental-education model based on appropriate technology for Bekasi City waste volume," vol. 19, no. 1, pp. 147–156, 2022.

[15] A. Purnaningtyas and E. Fauziati, "Application of Albert Bandura's social theory to waste-management habituation among elementary-school students," Edukatif: Jurnal Ilmu Pendidikan, vol. 4, no. 2, pp. 2418–2425, 2022, doi: 10.31004/edukatif.v4i2.2275.

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