



IMPLEMENTATION OF THE WASTE BANK PROGRAM IN AN ECONOMIC EMPOWERMENT EFFORTS AT THE ZAINUL HASAN GENGONG CENTRAL GIRLS' ISLAMIC BOARDING SCHOOL

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Abstract:

This community service activity aims to improve the waste bank program at the Zainul Hasan Genggong Central Islamic Boarding School for Girls to achieve sustainable waste management, strengthen economic empowerment, and develop environmentally conscious student character. The main challenges are the lack of waste sorting and the lack of a system to utilize the economic value of non-organic waste. This program is a Community Service Program (PKM) activity implemented using an Asset-Based Community Development (ABCD) approach, emphasizing the utilization of local assets and potential. Optimized assets include human resources (students and administrators), a culture of discipline and compliance, and a room-based management system within the Islamic boarding school. The participants are female students, who serve as the primary program implementers. Activities included asset identification, local potential-based program planning, waste bank implementation, participatory mentoring, and joint reflection and evaluation. Data collection was conducted through observations of waste sorting and collection activities, interviews with sanitation staff, discussions with room heads, and documentation of activities. Data analysis used a descriptive qualitative approach through data reduction, presentation, and drawing conclusions. Results show increased awareness and participation of students in waste sorting, improved management systems at the community level, and the emergence of economic benefits from the sale of non-organic waste. This program contributes to environmental cleanliness as well as sustainable social and economic well-being.

Keywords: Waste Bank, Economic Empowerment, Islamic Boarding School, ABCD.

INTRODUCTION

The waste problem remains a serious issue in Indonesia, as the population increases and people's lifestyles increasingly shift towards wasteful consumption, resulting in an annual increase in waste volume. This problem has been described in several journals, highlighting the challenges of large waste volumes, yet lack of effective management, including low public participation in waste management (Silahudin & Lestari, 2017). If waste is not managed properly, it will have negative impacts. Furthermore, waste accumulation can also trigger social and economic problems, such as declining environmental quality and increasing waste management costs. In Indonesia, waste management still faces many challenges because most people are not accustomed to sorting their waste from the start (Choirunnisa et al., 2025). As a result, waste that should be recycled or reused ends up mixed and ultimately piled up in landfills. This situation demonstrates the need for more integrated and sustainable waste management with active community involvement (S. A. Widodo & Setiawan, 2025).

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A similar situation occurs in the Zainul Hasan Genggong Central Islamic Boarding School for Girls. The students' daily activities indirectly produce significant amounts of waste, both organic and inorganic (Windi et al., 2023). To date, waste management within the boarding school environment remains rudimentary and focuses solely on collection and disposal, without any sorting or further processing system (Madaniya, 2024). The resulting waste is usually mixed and immediately disposed of, potentially causing environmental problems such as unpleasant odors, pollution, and reduced environmental cleanliness. Furthermore, the lack of utilization of the economic value of waste has led to the neglect of existing resource potential (Munif & Mauludin, 2024). Yet, as community-based educational institutions, Islamic boarding schools possess various important assets such as a large human resource base, strong values of togetherness, and an organized institutional structure. These assets can be optimally utilized to create a waste management system that is more beneficial, sustainable, and educationally valuable for the students (Azizah & Anhar, 2025).

One way to address this problem is to implement a waste bank program. A waste bank is a community-based waste management system that focuses on sorting, collecting, and storing waste for sale. This system actively engages the community in waste management from the outset, reducing the amount of waste transported to landfills (Devi et al., 2024). Furthermore, the waste bank program helps increase economic value, as the collected inorganic waste can be reprocessed or sold. With this mechanism, waste is no longer considered mere waste but becomes a valuable asset (Nurfadillah et al., 2023). The waste bank concept aligns with the Asset-Based Community Development (ABCD) approach, which emphasizes the utilization of community-owned potential and assets. By maximizing human resource assets and fostering a spirit of mutual cooperation within Islamic boarding schools (*pesantren*), the waste bank program can be a sustainable solution for waste management and a platform for community empowerment (Wahida & Ansori, 2025).

Various articles and real-life experiences in implementing waste bank programs in various regions demonstrate that they can increase public awareness of the importance of sorting and managing waste more responsibly (Rusdiyana et al., 2024). By directly participating in the waste sorting and management process, communities become not only beneficiaries but also key actors in the process of change (Sarry & Utama, 2023). Several practical insights also demonstrate that waste banks can have a significant economic impact because waste with market value can be managed sustainably (Rahardian et al., 2025). The proceeds from this waste management can be used for shared needs or to improve the well-being of community members.

On the other hand, the concept of community-based economic empowerment emphasizes the importance of active citizen participation in managing local potential. In managing community-based programs, such as waste banks, active citizen participation is crucial for their success. Communities not only participate in daily activities but also directly participate in decision-making and program management, thereby creating tangible economic benefits for their communities (Winarti & Mursyidah, 2025). This approach aims to increase economic independence, strengthen a sense of ownership of the program, and maintain the sustainability of activities over

the long term. As seen from research, waste banks can be a tool to strengthen community capacity while opening up economic opportunities at the local level (Rinwantin et al., 2025). Thus, the implementation of waste banks not only focuses on the environment, but also becomes a strategic tool to encourage community-based economic and social empowerment through active citizen participation, and local capacity development (Saputra, 2025).

Based on the above situation, this community service activity aims to optimize the waste bank program at the Zainul Hasan Genggong Central Islamic Boarding School for Girls as an effort to improve sustainable waste management and strengthen economic empowerment and the formation of environmentally conscious character among students. This program uses an Asset-Based Community Development (ABCD) approach that emphasizes the utilization of human resource potential, institutions, and the spirit of togetherness within the boarding school environment. In community service using the ABCD approach, this method focuses on recognizing and utilizing local assets as the primary resource in every step of the activity. Thus, the community, including students and boarding school administrators, are considered the main active parties in the empowerment process (Prayoga et al., 2025). In community service using the ABCD approach, this method focuses on recognizing and utilizing local assets as the primary resource in every step of the activity (Yuwana, 2022). Thus, the community, including students and boarding school administrators, are considered the main active parties in the empowerment process.

RESEARCH METHODS

This community service activity was carried out at the Zainul Hasan Genggong Central Girls' Islamic Boarding School using the Asset-Based Community Development (ABCD) approach, which focuses on utilizing the assets and potential possessed by the community itself. This approach views the Islamic boarding school not as a problematic community, but as a group with internal strengths that can be developed. These assets include human resources, as well as the values of togetherness and mutual cooperation that have grown strong within the Islamic boarding school environment. The ABCD approach was chosen so that the waste bank program would not depend on external parties, but rather develop naturally from within the community. This is expected to make the program more easily accepted, able to be managed independently, and continue continuously for a long time.

The subjects of this community service activity were female students from the Zainul Hasan Genggong Central Islamic Boarding School for Girls, who are the main actors in implementing the waste bank program. The community service team and the cleaning staff served as guides, directors, and supervisors in carrying out these activities. Activities were carried out in the internal areas of the Islamic boarding school, especially in the dormitory environment. All activities were carried out collaboratively, involving the students in every stage, from planning to implementation. The community service activities were carried out through several stages in accordance with the ABCD principles, namely:

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1. Asset Identification

In the initial phase, the activity began by identifying and mapping the assets owned by the Zainul Hasan Genggong Central Islamic Boarding School for Girls. These assets include the students as potential human resources, the boarding school administrators as organizational leaders, and the culture of togetherness and discipline that has been established within the boarding school environment. The purpose of this asset identification process was to identify potential areas that could be utilized in implementing the waste bank program. Identification was conducted through direct interaction with the students and administrators. Informal communication was also used to better understand the conditions and customs within the boarding school environment.

2. Asset-Based Program Planning

Based on the results of the asset mapping, the community service team will optimize the waste bank program, tailoring it to the conditions and needs of the Islamic boarding school. This planning aims to ensure the program can be implemented effectively and easily by the boarding school residents. The planning includes determining the type of waste to be collected, namely used beverage bottles with a resale value. Furthermore, a mechanism for waste collection, sorting, and storage is designed.

3. Implementation of the Waste Bank Program

The implementation phase of the waste bank program includes outreach activities on how to properly and sustainably manage waste within the Islamic boarding school environment. This is followed by mentoring in waste sorting to ensure the students understand the difference between organic and inorganic waste. A waste bank system is then implemented as a way to manage and store waste that has a market value. Students actively participate as key actors in the waste collection, sorting, and management process. Meanwhile, the Islamic boarding school administrators act as guides and directors to ensure activities are aligned with the program's objectives.

4. Mentoring and Strengthening Participation

Continuous mentoring is provided to ensure the waste bank program runs smoothly within the Islamic boarding school environment. This mentoring activity aims to increase the students' active involvement in every stage of waste management. Furthermore, the mentoring also aims to foster the habit of routinely sorting waste in their daily lives. Through this process, it is hoped that the students will understand and recognize the importance of proper waste management. This will foster a sense of shared responsibility for the sustainability of the waste bank program.

5. Reflection and Evaluation of Activities

In the final phase of the activity, the community service team conducted a joint reflection with the Islamic boarding school's cleaning staff to evaluate the overall program implementation. The purpose of this evaluation was to determine the extent

to which the waste bank program had been implemented according to the initial plan. The evaluation focused primarily on the level of involvement of students and administrators in the activity. Furthermore, the evaluation also examined the sustainability of the program and the benefits experienced by the Islamic boarding school. These benefits included environmental aspects, such as improved cleanliness, as well as the economic aspects arising from waste management.

The data collection methods used in this community service activity are intended to support the implementation and evaluation of the activity, not for scientific research purposes. The data collection methods used include direct observation, interviews, informal discussions, and the creation of activity documentation. Direct observation involves observing the students' involvement in the waste bank program. Interviews and informal discussions are used to determine the responses and perceived benefits of the Islamic boarding school community. Meanwhile, activity documentation serves as evidence that the program is running and as material for compiling the community service report.

With the ABCD approach, the waste bank program is expected to achieve several outcomes. First, it increases students' awareness and participation in waste management. Second, it establishes a community-based, self-sustaining waste management system. Third, it improves the Islamic boarding school environment. Fourth, it generates economic benefits from waste management, as the waste can be sold. In this way, the waste bank program is expected to continue and become a part of Islamic boarding school life.

RESULTS&DISCUSSION

The waste bank program at the Zainul Hasan Genggong Central Girls' Islamic Boarding School began with an observation of the surrounding environment. The observations revealed that waste management within the boarding school environment was not yet systematic and organized. Waste generated by the students' activities, particularly inorganic waste such as plastic beverage bottles, was often found mixed with other types of waste. This waste was typically disposed of directly into trash bins in the students' rooms or in public areas without any sorting process. This situation indicates that the students were not yet accustomed to sorting their waste. As a result, waste that could have economic value was not utilized optimally and tended to be discarded, risking exacerbating environmental problems at the boarding school.

The initial stage of this program involved interviews, specifically with the sanitation department administrators. The purpose of these interviews was to identify assets and potential development opportunities. Afterward, the community service team coordinated with the regional head. This coordination aimed to convey the waste bank program plan and to align perceptions regarding the activity's objectives. After obtaining approval, a meeting was held with the room heads (kepka) representing the

students in each room. The room heads were chosen as the primary liaisons because they play a strategic role in coordinating their respective room members.

The community service team then explained in a simple and easy-to-understand manner how the waste bank program works. The explanation covered the types of waste to be collected, how to store it, the collection schedule, and the program's benefits. The team also explained the existence of a reward system as a token of appreciation for dormitories that are active and consistent in collecting waste. The purpose of this reward is to increase student enthusiasm and participation in implementing the waste bank program. This outreach activity received a positive response from dormitory heads, who then helped disseminate the information to students in their respective dormitories so that the program can be implemented evenly throughout the dormitory.

The next step in implementing the program was to provide each room with a trash sack as a special container for plastic bottles. This sack serves as the primary means of waste sorting in the students' rooms. With the sack, students are guided and accustomed to separating plastic bottles from other types of waste. Furthermore, the waste collection program is scheduled regularly, with a system of being called and collecting waste every Friday. This schedule is determined based on activities at the Islamic boarding school to ensure that the program implementation does not interfere with the students' main activities.

During the waste bank program, the community service team inspected each student's room. The inspections were conducted in two ways: by directly asking the students about any obstacles they encountered when sorting their waste, and by inspecting the trash cans for any plastic bottles mixed in with other waste. These inspections served as guidance and oversight of the program's implementation.

During the first week of the program, several issues were identified that hindered its effectiveness. Some students still struggled to properly collect plastic bottles due to limited room space. Furthermore, the provided trash bags were not strong enough to hold the remaining water from used plastic bottles, resulting in water leaks and discomfort for the students. This situation contributed to low student participation during the first week of the program.



Figure 1.1
Waste Bank Socialization

In response to the existing problems, in the second week, the community service team conducted further outreach with the aim of exploring the issues directly with the students in each room by convening room heads. The discussion revealed that the existing trash sacks were not waterproof and caused discomfort. Therefore, the community service team proposed a solution by replacing the trash sacks with more waterproof plastic trash bags. Furthermore, to address the limited space for waste storage, it was proposed that the trash collection schedule be changed to twice a week. This proposal was unanimously approved and proven to increase the comfort and participation of students in collecting waste.



Figure 1.2
Sales Results Garbage Bank

From the waste collection results, initial income was generated from the sale of plastic bottles in the second week of the program. This income was obtained after adjusting the waste collection mechanism. Total revenue earned in the second week was Rp. 42,000. As a form of appreciation, the room with the most waste deposits was awarded. This award aims to encourage good competition between rooms and also increase the enthusiasm of students to participate in the waste bank program. Although the program was effective only in the second week, these results demonstrate the economic potential of waste management when supported by an appropriate system.

Within the Islamic boarding school, daily waste sorting at the room level, with regular monitoring and checks, helps raise students' awareness of their individual responsibilities in maintaining a clean environment. The waste bank program is accompanied by regular inspections by the community service team. In the first week of implementation, waste collection was conducted once. Then, in the second week, waste collection was conducted twice a week. This implementation pattern aims to maintain consistency and improve students' discipline in sorting and collecting waste. Obstacles encountered during the first week of the program were part of a collaborative learning process between the KKN participants and the students. Issues such as limited storage space and the use of non-waterproof sacks demonstrated the importance of adapting the program to real-world conditions. By using a participatory

approach, these issues were not seen as permanent obstacles, but as evaluation materials for program improvement. Therefore, the waste bank program could be more precisely tailored to the needs and characteristics of the target community. The implementation of waste banks demonstrates the gradual and systematic development of environmental awareness. This success aligns with the views of (A. S. Widodo & Haryanto, 2021). which emphasizes that the effectiveness of a waste bank program depends heavily on consistent education and the instilling of habits of waste management from the source. Furthermore, this finding aligns with Suhada's (2017) opinion, which states that waste banks are a means of strengthening communities and a medium for environmental learning, whose success is supported by active participation, a sense of community, and ongoing environmental education.

From an economic perspective, the suitability of this program is evident from the findings (Aryani & Sadikin, 2022) which confirm that community-based waste management not only increases environmental awareness but also provides economic benefits to the community. The results of this program implementation are also in line with the community service activities carried out by (Hilda et al., 2024), who emphasized that waste banks function as educational tools to instill the 3R principles (reduce, reuse, recycle). This alignment is also evident from the community service experience discussed by (Yusuf et al., 2025), who emphasized the importance of shifting waste management patterns from "collect-transport-dispose" to "sort-collect-sell" so that the community can have awareness and an active role in sustainable waste management.

This program demonstrates a connection to the experience of community empowerment through waste banks, as described by (Wahida & Ansori, 2025). They emphasize that waste banks function as spaces for social empowerment that strengthen connections among community members and foster a sense of solidarity through routine activities such as collecting, sorting, and managing inorganic waste. The waste management program implemented at the Zainul Hasan Genggong Central Girls' Islamic Boarding School shows that a community-based waste management system can be implemented well in the Islamic boarding school environment.

Follow-up socialization in the second week was crucial for enhancing the program's success. This activity provided an opportunity for students to express their challenges and provide input on program implementation. The students' active involvement reflects the core of the ABCD approach, which fosters awareness, participation, and a sense of ownership within the community. This program is closely aligned with that described by (Hidayah et al., 2025). Community-based waste management involves the community actively. This aligns with findings within the Islamic boarding school, where students are routinely involved in every stage of the program. The discussions led to several agreed-upon changes, such as replacing sacks with plastic bags and extending the waste collection schedule. These collaborative solutions were well-received by the students and are considered to support the sustainability of the waste bank program.

Increasing the waste collection schedule from once to twice a week not only addresses the issue of limited space but also strengthens the students' habit of sorting waste regularly. By frequently interacting with and handling waste, students

gradually develop a character that is more concerned about environmental cleanliness and more responsible for the waste they produce. This change in behavior is a significant indicator in evaluating the success of the community service program. This is consistent with journals showing that the waste bank program has a significant influence on changing the way people care for the environment, such as improving the habit of sorting and disposing of waste properly after they are involved in the program (Muhibbah et al., 2025).

From an economic perspective, the existence of a waste bank provides tangible benefits through the income generated from the sale of inorganic waste. While the revenue generated is not significant, it demonstrates that waste has economic value when managed collectively. Transparent revenue management, coupled with the provision of rewards to students, provides a simple means of economic education while strengthening their motivation to implement the program. This finding aligns with community service, which demonstrated that establishing a waste bank in Bontos Hamlet, Cintaratu Village, successfully increased the economic value of waste. This provided an opportunity for the community to increase their income by utilizing their skills and creativity in managing inorganic waste (Sitio et al., 2024).

Awarding the group that produces the most waste has proven successful in fostering a sense of togetherness and healthy competition among students. This approach not only increases the volume of waste collected but also strengthens solidarity and cooperation among group members. The awards serve as a sign of recognition for the students' active involvement in the waste bank program, resulting in a positive spirit oriented toward participation and environmental concern, rather than simply material incentives. This aligns with the results of community service programs, which demonstrate that providing rewards and recognition for waste bank management can increase enthusiasm, foster active participation, and strengthen cooperation among community members in maintaining the program's sustainability (Ariescy et al., 2025).

Socially, the waste bank initiative also creates a new culture within the Islamic boarding school community. Students become more familiar with the practice of sorting waste before disposing of it and become more aware of the impact of plastic waste on the environment. This habit not only improves daily discipline but also instills a sense of environmental responsibility. Furthermore, this habit can be sustained in the students' lives after they leave the Islamic boarding school, so the benefits of this program are not only temporary but also have a lasting impact on the environment and the surrounding community. This finding aligns with the results of community service activities, which indicate that the waste bank program not only helps to create a cleaner environment but also fosters environmental awareness and changes in the community's lifestyle to become more sustainable (Kurniawan et al., 2023).

The results of this program's implementation align with various previous experiences and literature, which confirm that waste banks not only raise environmental awareness but also provide a community-focused economic impact. The strength of this PKM article lies in the context of its implementation and mentoring

strategies, which are specifically tailored to the characteristics of Islamic boarding schools and their disciplinary systems, room structures, and the role of room leaders as key drivers. By utilizing a community service approach and the principles of Asset-Based Community Development (ABCD), the waste bank program at the Zainul Hasan Genggong Central Girls' Islamic Boarding School successfully demonstrated that economic empowerment and behavioral change can occur simultaneously.

Through participatory and sustainable waste management, students not only learn to sort waste but also experience the economic benefits of such management, thus providing a positive social, environmental, and economic impact.

The success of this program is closely linked to the ABCD approach, which serves as the primary foundation for its implementation. The ABCD approach emphasizes the utilization of existing resources and potential within the community, such as the active participation of students, support from the boarding school administrators, and the discipline already established in Islamic boarding school life. By leveraging these resources, the waste management program serves not only as a way to address waste issues but also as a tool to raise environmental awareness and responsibility among students. Furthermore, this approach fosters a sense of ownership of the program, ensuring its sustainability.

CONCLUSION

The waste management program at the Zainul Hasan Genggong Central Girls' Islamic Boarding School has successfully improved waste management with a streamlined system, from waste collection and regular transportation to monitoring the sorting process. Adjusting the waste collection schedule to twice a week has also increased student participation and helped maintain the cleanliness of the boarding school environment.

From a social perspective, this program helps foster discipline, responsibility, and cooperation through waste sorting and rewards. Economically, the waste bank also provides benefits and serves as a learning tool for increasing independence. Therefore, this program not only helps address waste issues but also enhances character education and economic empowerment, and can be implemented in other Islamic boarding schools with similar characteristics.

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