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Development of a Waqf-Based Waste Bank through Participatory Action Research: An Innovative Strategy for Achieving the SDGs

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Abstract

Waste issue in Indonesia, especially in urban areas, is exacerbated by population growth and urbanization. Waste banks have been introduced as a solution to manage waste by recycling it and providing economic value to the community. However, challenges such as limited funding and insufficient human resources often hinder the sustainability of waste bank operations. Waqf, as an Islamic social finance tool, has the potential to offer sustainable funding solutions for waste banks. This study, using the Participatory Action Research (PAR) method, developed and simulated a waqf based waste bank model at Mugi Lestari waste bank in Surabaya, Indonesia. The findings indicate that the model improved waste management efficiency and had positive impacts on environmental, social, and economic aspects. It not only reduced waste but also generated job opportunities and increased community income through waste management activities. Waqf served as a stable, sustainable funding source, ensuring the continuity of the waste banks and contributing to the achievement of the SDGs, such as poverty alleviation, responsible consumption, and environmental preservation. In conclusion, the integration of waqf and waste banks presents an innovative model for supporting sustainable development at the village level, offering long-term solutions for more effective and sustainable waste management.

Keywords: *Indonesia, SDGs, waste bank, waqf, PAR.*

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INTRODUCTION

Waste is the residue of daily activities produced from human daily activities and/or natural processes (Suyoto, 2008). According to data from the Indonesian Ministry of Environment and Forestry (KLHK), Indonesia generated 31,021,410.02 million tons of waste in 2023. The composition of waste based on the source of waste generated from households is 44.38%, offices 7.2%, markets 13.65%, commerce 17.86%, public facilities 5.83%, areas 7.92%, and other sources 3.14% (Ministry of Environment and Forestry, 2023). The waste generated by households amounts to 13,767,301 tons per year. The second largest source of waste is commercial centers, producing 5,540,423 tons per year. Traditional markets are in third place, generating 4,234,422.4 tons per year, followed by residential areas with 2,456,895.6 tons per year, industrial areas with 2,233,541.5 tons per year, public facilities with 1,808,548.2 tons per year, and other sources with 974,072.2 tons per year. Households, as the largest waste producers, require special attention and solutions. Household waste has several impacts, including causing water pollution, leading to several potentially dangerous diseases, and marine environmental pollution (Abubakar et al., 2022; Babbitt et al., 2021; Hasibuan, 2016; Hidalgo-Crespo et al., 2022; Zhao et al., 2022).

Waste is solid debris. Environmental factors such as water, air, and soil pollution degrade air quality, causing diseases due to the accumulation and buildup of waste that produces disease-causing bacteria (Axmalia & Mulasari, 2020). One of the major problems faced by cities in Indonesia is the abundance of waste (Dollan & Ramadhan, 2023; Qonitan et al., 2021; Sari et al., 2021; Wikurendra et al., 2024). Factors such as population size, socioeconomic conditions, and technological advancements are expected to increase significantly, and waste will become a major problem in the future (Abubakar et al., 2022; Kumari & Raghubanshi, 2023; Lu et al., 2024). This problem arises because humans are unaware that there are other supporting components that must be considered when they work in the economy, especially the environment. If the environment is not taken care of, it is very likely that damage, even natural disasters, will occur, hindering human economic operations (Chaudhary & Piracha, 2021; Shentika, 2016). As explained in Surah Ar-Rum, verse 41: "Corruption has appeared on land and sea because of what the hands of people have done, so that Allah may make them taste some of what they have done, that they may return (to the right path)" (Q.S Ar-Ruum :41). This verse explains that the damage on earth is nothing but human action, such as the accumulation of waste. Therefore, it is very important to maintain the mobility of natural beauty (Syafitri, 2020). To address the waste problem, it can start with optimal waste management.

The Indonesian Council of Ulama (MUI) Fatwa Number 41 of 2014 concerning waste management to prevent environmental damage regulates waste management, stating that every Muslim is obliged to maintain environmental cleanliness, utilize used items for the common good, and avoid various diseases as well as wasteful and excessive behavior. Waste sorting is one of the efforts we can make beside reducing the amount of waste generated. In accordance with Law No. 18 of 2008 concerning waste management, everyone who manages household waste and similar waste is required to reduce and handle waste in an environmentally sound manner. In waste management, there are three approaches known as the 3Rs: Reuse, Reduce, and Recycle (Bandh et al., 2023; Chiang et al., 2024; Pandiyarajan et al., 2022; Subekti, 2010; Ugwu et al., 2021). There are several programs to maximize waste management, such as community-based waste management (Istiqomah & Corsita, 2024; Leknoi et al., 2024; Mulasari et al., 2024; Yandri et al., 2023) and independent waste management programs through the Waste Bank (Asteria &

Herdiansyah, 2022; Fatmawati et al., 2022; Ismiraj et al., 2023; Miftahorrozi et al., 2022; Purwendah & Wahyono, 2022; Unroj et al., 2026a). These programs offer alternative solutions for the government and the community in addressing the waste problem (Suryani, 2014).

Based on data from the National Waste Management Information System (SIPSN), East Java shows significant waste generation figures, reaching 4,727,704.84 tons per year. Data for 2023 shows that this province remains one of the largest waste producers in Indonesia. In this context, factors such as population growth, urbanization, and consumption patterns can be major determinants in the increase of waste generated. This increase in waste generation underscores the need for more effective and sustainable waste management strategies in East Java. Steps such as reduction, recycling, and better waste management are crucial in efforts to reduce the negative environmental impact caused by this increase in waste. Besides, this data also reflects the significant challenges faced by local governments in managing the infrastructure and resources needed for efficient waste management. The sustainability of the waste management system is a major focus in efforts to protect the environment and public health in East Java. The city with the highest waste generation value is Surabaya. Surabaya is the city with the highest waste generation, totaling 657,016.64 tons in 2023. Surabaya has the highest waste generation compared to other cities. One of the main contributing factors to this is the large number of people living in the city of Surabaya. As the second-largest city in Indonesia, Surabaya is one of the cities experiencing a waste crisis. The volume of waste in 2023 increased compared to 2022 (Muallifa, 2023). Efforts to overcome the accumulation of waste can be done by processing waste through waste banks.

Based on data from the Ministry of Environment and Forestry (KLHK) in November 2023, there were 917 main waste bank and 42,277 unit waste banks distributed throughout Indonesia. In East Java, particularly in Surabaya, there were 655 unit waste banks and 1 main waste bank in 2023, which was the Surabaya-Yayasan Bina Bhakti Lingkungan main waste bank. Waste bank is one of the waste management businesses that plays a role in optimizing waste management. According to the Regulation of the Minister of Environment of the Republic of Indonesia Number 13 of 2012 concerning Guidelines for Implementation of Reduce, Reuse, and Recycle through Waste Banks, Article 1 states that a Waste Bank is a place for sorting and collecting waste that can be recycled and/or reused and has economic value (Juwita, 2019). The main goal of establishing a Waste Bank is to help manage waste processing in Indonesia. The next goal is to raise public awareness about a healthy, tidy, and clean environment. The waste bank was also established to transform waste into something more useful in society, such as for crafts and fertilizer that have economic value. A waste bank is a place to collect various types of waste that have been sorted according to their type, to be submitted to the environmental work bank. The proceeds from the waste submission will be saved and can be withdrawn or cashed out within a certain period by adopting the principle of banking. Therefore, waste depositors will receive a savings book (Suryani, 2014). Waste bank contribute to the improvement of Purwanto's household economy. Purwanto stated that waste can be a savings account just like regular savings, but from garbage that can be used later (Purwanto, 2019). Dona and Herru stated that waste banks have economic value, where the money earned from waste banks can be used to pay electricity bills and buy basic necessities, and environmental health is realized with a cleaner, greener, more comfortable, and healthier community (Asteria & Heruman, 2016). This waste saving is one of the programs of the waste bank.

Waste bank provides various benefits for the surrounding community, but there are several obstacles and challenges in its implementation. The challenges faced by the waste bank are the lack of contributing human resources and funding for operational execution (Debrah et al., 2022; Irfana et al., 2023; Unroj et al., 2026b; Zahrah et al., 2024). For example, in the Keputih drainage area of Sukolilo district in Surabaya, there is a waste savings named Srikandi. However, the waste bank is currently inactive (Surabaya main waste bank interview, 2022). According to information obtained from the manager of the main Surabaya waste bank, the existence of this waste bank is not permanent. In a certain area, there are waste banks that do not operate every year, then disappear, and there are also new waste banks (interview with the main Surabaya waste bank, 2022 After further investigation, it turns out that the root cause of the existence of this blank space is constrained by cost and human resources in a particular area. In this case, waqf has the potential to help the existence of waste bank so that it can survive.

Waqf in Islam that has two dimensions, the dimension of worship (Eldersevi et al., 2021; Supriatna et al., 2024) and the social dimension (Bakr et al., 2021; Lita, 2021). Because the principal of a waqf asset must be preserved while its benefits are distributed continuously, waqf can function as a long-term financing source rather than one-off assistance. Existing studies have largely explored this potential in the economic and social sectors, demonstrating the role of waqf in overcoming economic challenges and improving community welfare

Existing studies indicate that waqf contributes to sustainable development through several interrelated dimensions. First, waqf supports economic sustainability by providing productive resources that generate income, create livelihoods, and reduce poverty among vulnerable households (Darajatun, 2025; Johari et al., 2024; Qurrata et al., 2021; Zafar & Ali, 2026). Second, waqf strengthens social sustainability through community empowerment, education, skills development, and the inclusion of women and other disadvantaged groups, thereby building the collective capacity required for community-based development (Ali et al., 2023; Darajatun, 2025; Ramadhan & Hayatullah, 2025; Wagay & Nabi, 2025; Zafar & Ali, 2026). Third, waqf enhances institutional sustainability (Qurrata et al., 2021; Zafar & Ali, 2026), as its perpetual nature allows waqf to serve as a long-term financing source for community institutions, social enterprises, and Islamic microfinance institutions that would otherwise depend on unstable revenues or short-term assistance (Ascarya & Masrifah, 2023; Fauziah & Kassim, 2022). This institutional dimension is particularly relevant to waste banks, whose discontinuity is largely caused by limited and unstable funding. Fourth, waqf has begun to be associated with environmental sustainability (Akhtar, 2025; Mohamed & Akande, 2026; A. S. Rusydiana et al., 2023; Saputra, 2025), as Islamic social finance is increasingly positioned to support environmental cleanliness, sustainable resource management, and the broader SDG. However, compared with the economic and social dimensions, this environmental dimension remains underdeveloped, particularly in relation to waste management.

The few studies linking waqf and waste management have mainly proposed conceptual financing models, such as integrating waqf land and sukuk to finance plastic waste reduction (Thaker et al., 2022), using cash waqf to fund waste management training for beneficiaries within a circular economy framework (Mahardika & Tanweer, 2025), and applying waqf-based financing to support waste sorting and recycling technologies (Muhammad et al., 2026). These studies demonstrate the potential of waqf to address the funding needs of waste management; nevertheless, they remain largely conceptual and have not examined how waqf can be operationalized within community waste banks. They do not specify how waqf funds are collected from the community

or how they are allocated to waste bank assets, operations, and community empowerment. Nor do they develop such a model with the participation of waste bank managers, customers, and relevant stakeholders, or examine its feasibility within an existing community waste bank. Consequently, the integration of waqf into waste bank management remains at the conceptual level rather than an operational model, which this study seeks to address. Specifically, this study aims to transform this concept into an operational Waqf-Based Waste Bank model in which waqf serves as a sustainable financing source for waste bank assets, operations, and community empowerment. In doing so, the study positions waqf not merely as a funding source but as an institutional mechanism for sustaining community-based waste management.

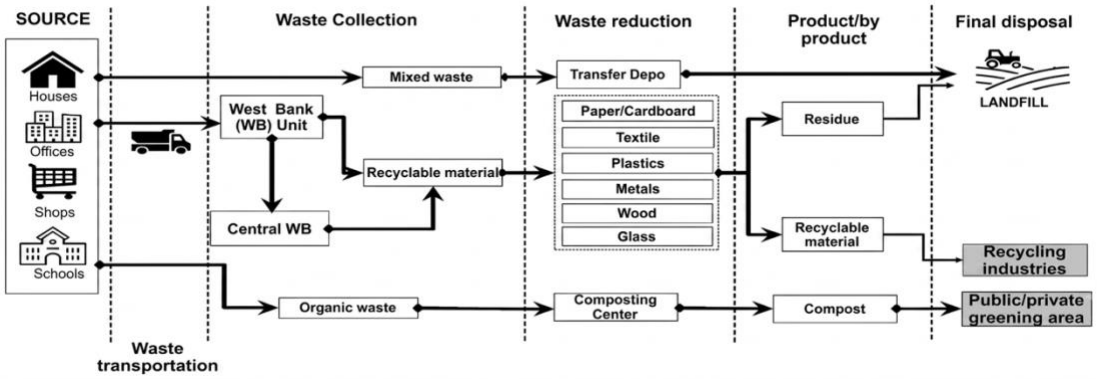
LITERATURE REVIEW

Waste Bank

Waste bank is one of the waste management businesses that plays a role in optimizing waste management. According to the Regulation of the Minister of Environment of the Republic of Indonesia Number 13 of 2012 concerning Guidelines for Implementing Reduce, Reuse, and Recycle through Waste Banks, Article 1 states that a Waste Bank is a place for sorting and collecting recyclable and/or reusable waste that has economic value (Juwita, 2019). The implementation of waste banks is, in principle, a form of social engineering aimed at encouraging people to sort their waste. Through waste banks, an innovative solution was ultimately found to "force" people to sort their waste (Saputro et al., 2015). The main goal of establishing a Waste Bank is to help manage waste processing in Indonesia. The next goal is to raise public awareness about a healthy, tidy, and clean environment. The Waste bank was also established to transform waste into something more useful in society, such as for crafts and fertilizer that have economic value. A waste bank is a place to collect various types of waste that have been sorted according to their type, to be submitted to the environmental work bank. The proceeds from the waste submission will be saved and can be withdrawn or cashed out within a certain period by adopting the principle of banking. Therefore, waste submitters will receive a savings book (Suryani, 2014).

Waste banks are regulated in the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 14 of 2021 concerning waste management at waste banks, and stating that: A waste bank is a community-based waste management facility that applies the 3R principles (reduce, reuse, and recycle), serves as an educational platform, encourages behavioral change in waste management, and supports the implementation of a circular economy. Waste banks can be established and managed by communities, business entities, and/or local governments. Based on their service coverage, waste banks can be categorized into Unit Waste Banks (BSU) and Main Waste Banks (BSI). A Unit Waste Bank (BSU) generally serves a limited administrative area, such as a neighborhood unit, community unit, village, or other equivalent area, while a Main Waste Bank (BSI) operates across a broader administrative area, such as a district or city. This classification reflects differences in the scale and scope of waste bank services while maintaining the same fundamental objectives of community-based waste management, environmental awareness, and circular economy development. The waste bank processing scheme is illustrated in Figure 1 .

Figure 1. waste bank processing scheme



Source: (Kurniawan et al., 2023).

Details the waste processing flow from waste generation to processing by the waste bank and finally to disposal. Waste bank in its implementation can reduce the high amount of waste in society and at the final disposal site (TPA). As a result, the volume of waste in society and TPA can decrease. The management of the Waste bank also follows the rules contained in Law Number 18 of 2008 concerning Waste Management, which is based on the 3R principle.

Previous studies generally demonstrate that waste banks provide interconnected environmental, social, and economic benefits, although their findings differ in terms of the outcomes emphasized. Khaira et al. (2020) highlighted the environmental and health dimensions, showing that well-organized waste management can help maintain environmental cleanliness and public health, which in turn supports community economic activities (Khaira et al., 2020). In a similar vein, Puspitasari et al. (2022)found that household waste sorting contributes to environmental cleanliness while also providing additional household income (Puspitasari et al., 2022). These findings are consistent with Fajriya (2020), who emphasized that community participation in waste management strengthens environmental awareness and collective initiatives to maintain environmental quality. Thus, a common pattern across these studies is that waste banks can encourage behavioral change and community participation while simultaneously generating environmental benefits (Fajriya, 2020). Safitri (2021) provides more specific evidence of economic empowerment. The study of the 'Aisyiyah waste bank found that members received additional income of approximately Rp150,000–Rp450,000, particularly benefiting female heads of households who previously had no income or were unemployed. This indicates that the economic contribution of waste banks may vary depending on the characteristics of participants, the management model, and the extent to which recyclable waste is converted into economic value.(Safitri, 2021).

Overall, the existing literature suggests that waste banks should not be viewed solely as waste collection facilities but as community-based institutions that integrate environmental management, social participation, and economic benefits. Nevertheless, previous studies have tended to examine these dimensions separately, with limited attention to how they can collectively contribute to sustainable community development. Building on these findings, the present study examines waste banks from a more integrated perspective by considering their contribution to environmental sustainability, community participation, and economic empowerment. In this way, the existing literature provides the empirical foundation for understanding waste banks as an

instrument for sustainable community development, while the present study extends the discussion by examining these interconnected dimensions within the context of waste bank practices in Indonesia.

Cash Waqf and Waqf Through Money

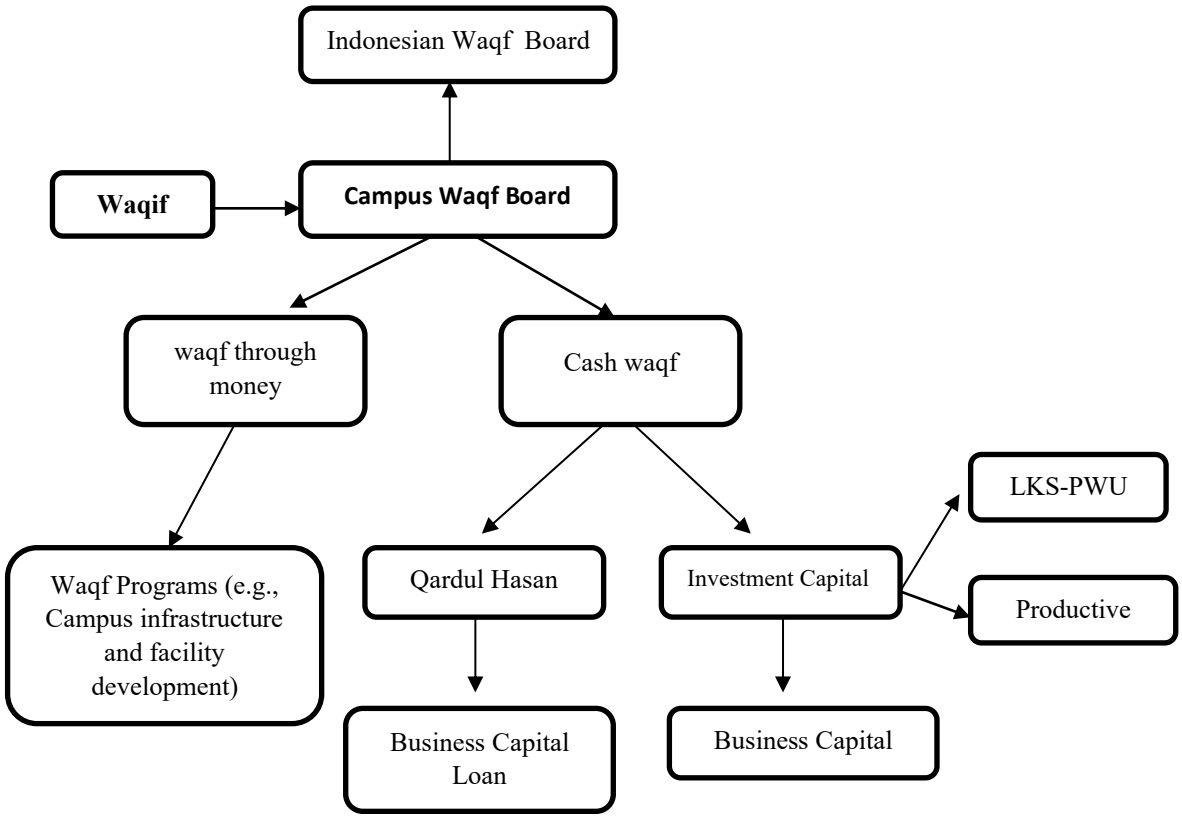
Waqf is a word derived from Arabic, namely waqf, which means to hold back, stop, or restrain. Meanwhile, according to terminology, it means suspending the transfer of ownership of a beneficial and durable property so that the benefits of that property can be used to seek the pleasure of Allah SWT. Waqf can also be defined as the donation of property that is permanent for social and religious purposes, such as someone who waqfs a piece of land to build a mosque or to be used as a public cemetery (Uyun, 2015).

According to the 2002 MUI fatwa on cash waqf, cash waqf (waqf al-nuqud) is waqf performed by an individual, a group of people, an institution, or a legal entity in the form of cash. Cash waqf can only be distributed and used for things that are permissible according to Islamic law, where the principal value of the cash waqf must be guaranteed to remain intact and cannot be sold, donated, and/or inherited. According to the Indonesian Waqf Agency (BWI) Regulation Number 01 of 2020 concerning the Management and Development of Waqf Property, money waqf is defined as waqf in the form of money that is managed productively, with the proceeds used for the benefit of the waqf beneficiaries. Mauquf alaih is the party designated to benefit from the allocation of waqf property in accordance with the waqif's statement of intent as stated in the waqf declaration deed. Cash waqf is also regulated in Law No. 41 of 2004 concerning waqf, which states that waqf can be in the form of movable property, including cash. Cash waqf is waqf in the form of money that must be managed productively and its proceeds distributed to the Mauquf Alaih. Cash waqf must maintain its original principal value, with the proceeds from investment in retail businesses or other investment returns being utilized(Firdaus et al., 2022)

According to the Indonesian Waqf Board (BWI) Regulation Number 01 of 2020 concerning the Management and Development of Waqf Property, waqf through money is waqf by donating money to purchase or provide immovable or movable waqf property as desired by the waqif to be managed productively or socially. Waqf through money is waqf by donating money to purchase or provide immovable or movable waqf property according to the waqif's wishes to be managed productively or socially (Firdaus et al., 2022). The model of cash waqf and waqf through money for waqf within the campus environment is one example of the mechanism of cash waqf and waqf through money in Indonesia (Qolbi, 2021). In the context of the proposed Waqf-Based Waste Bank model, *waqf through money* is conceptually and operationally more appropriate than cash waqf. The main distinction lies in the function of the donated money and the form of the waqf asset. In cash waqf, the donated money remains the principal waqf asset and is generally managed through productive investment, with the returns subsequently allocated to the *mauquf alaih*. In contrast, under *waqf through money*, donated money is used to procure or provide specific waqf assets in accordance with the *waqif's* intended purpose. This distinction is particularly relevant to the proposed Waqf-Based Waste Bank because the model requires tangible assets and supporting facilities to carry out its waste-management activities. The donated funds can therefore be directed toward the provision of waste-sorting equipment, collection facilities, storage infrastructure, recycling equipment, or other productive assets required to establish and operate the waste bank. These assets then function as the waqf property and generate social and/or economic benefits through their utilization. An example of how cash waqf and waqf through money are managed in

practice is the campus waqf model, which distinguishes between the two mechanisms in terms of how donated funds are used (figure 2).

Figure 2. Management Scheme Cash Waqf and Waqf Through Money



source: Qolbi (2021)

The Contribution of Waqf to the SDGs

Waqf is an Islamic social finance instrument that has historically contributed to social welfare and socioeconomic development. Its role has extended beyond poverty alleviation to include education, healthcare, infrastructure, and other public services. This broad scope indicates that waqf can support sustainable development by mobilizing social resources for long-term economic, social, and environmental benefits. Previous research suggests that Islamic social finance instruments, including waqf, have the potential to complement the achievement of the Sustainable Development Goals (SDGs) by supporting community welfare and sustainable development initiatives (Dirie et al., 2023). The contribution of waqf to sustainable development can be viewed through interconnected economic, social, and environmental dimensions. From an economic perspective, waqf can support SDG 1 (No Poverty) and SDG 8 (Decent Work and Economic Growth) by providing productive assets, financing, and economic opportunities for disadvantaged communities. For example, productive livestock waqf has been identified as a mechanism that can generate income, support livelihoods, and contribute to poverty reduction and decent work (Abiba & Suprayitno, 2023). Similarly, cash waqf can provide alternative financing for social enterprises and support productive economic activities, thereby strengthening the

capacity of communities to address socioeconomic problems (Najim Nur Fauziah & Salina Kassim, 2022). These findings indicate that waqf can function not merely as charitable assistance but as a productive resource that promotes economic empowerment and greater inclusion.

The social dimension of waqf is also relevant to poverty reduction, social inclusion, and community empowerment. Waqf-based welfare programs can provide resources and opportunities for vulnerable groups, while the integration of waqf with zakat, infaq, and sadaqah can strengthen empowerment programs in education, entrepreneurship, and life skills, particularly for women (A. Rusydiana et al., 2022). This demonstrates that the effectiveness of waqf in achieving the SDGs depends not only on the value of the assets mobilized but also on how these assets are managed and directed toward the productive empowerment of beneficiaries. The experience of the Sinergi Foundation further illustrates how the management and distribution of cash waqf can be adapted through digital mechanisms to support poverty alleviation and community welfare (Sekolah et al., 2021). Beyond its economic and social functions, waqf also has potential relevance to environmental sustainability. Its flexibility in supporting public infrastructure and community-based services creates opportunities for integration with environmental initiatives, particularly SDG 11 (Sustainable Cities and Communities) and SDG 12 (Responsible Consumption and Production). These goals are directly relevant to sustainable community development, efficient resource use, waste reduction, reuse, and recycling. Waqf can therefore provide a long-term institutional and financial foundation for community-based environmental programs rather than functioning solely as a mechanism for direct social assistance. The broader alignment between Islamic social finance and sustainable development has also been recognized through its potential contribution to environmental cleanliness and sustainable resource management(Khanifa, 2018). These economic, social, and environmental dimensions are interconnected. Economic empowerment can improve household welfare, social empowerment can strengthen community participation, and environmental management can create healthier and more sustainable communities. Therefore, the contribution of waqf to the SDGs can be understood through its capacity to transform Islamic social finance resources into productive and sustainable community-based activities. This perspective provides a relevant foundation for connecting waqf with community-based waste management.

Within this framework, the proposed Waqf-Based Waste Bank model is particularly relevant to SDG 11 and SDG 12, with potential contributions to SDG 1 and SDG 8. SDG 11 is relevant because waste banks operate at the community level and seek to improve environmental quality and the sustainability of local communities. SDG 12 has a more direct connection with the model because waste banks promote waste sorting, recycling, reuse, and the productive utilization of waste resources. At the same time, the economic value generated from recyclable materials and related productive activities can contribute to SDG 1 through additional income and poverty reduction, and to SDG 8 through community-based economic activities and livelihood opportunities. Accordingly, the proposed Waqf-Based Waste Bank extends the conventional role of waqf by connecting its social and productive functions with environmental sustainability. Rather than using waqf solely to finance conventional welfare programs, the model positions waqf as a long-term institutional and financial resource for waste management, community participation, and economic empowerment. The existing literature establishes the potential of waqf to support poverty reduction, economic empowerment, social inclusion, and sustainable development However, limited attention has been given to integrating these functions with community-based

waste management. This gap provides the foundation for the present study to propose a Waqf-Based Waste Bank model that simultaneously addresses environmental sustainability, community empowerment, and economic value creation in support of the SDGs.

At the local level, the proposed model is also relevant to the Sustainable Development Goals for Villages (SDGs Desa), which provide an integrated framework for improving village welfare, economic development, environmental sustainability, and community empowerment. Rural development seeks to improve the quality of life and living conditions of rural communities (Boekoesoe & Septian Maksum, 2022). The objectives of village development are regulated in Law Number 6 of 2014 concerning Villages, namely, to improve the welfare of village communities and the quality of human life, as well as to alleviate poverty through meeting basic needs, developing village infrastructure and facilities, developing local economic potential, and sustainably utilizing natural resources and the environment. The SDGs for Villages represent an integrated effort to achieve villages free from poverty and hunger, with equitable economic growth, improved health and education, environmental awareness, gender inclusivity, connectivity, and cultural responsiveness, thereby accelerating the achievement of the Sustainable Development Goals (Nawir et al., 2022). In line with Law Number 6 of 2014 concerning Villages, village development is directed toward improving community welfare and quality of life, reducing poverty, developing village infrastructure and local economic potential, and sustainably utilizing natural resources and the environment. The SDGs for Villages translate these broader development objectives into a village-level framework that emphasizes poverty reduction, equitable economic growth, environmental protection, and community empowerment. This framework is particularly relevant to the Waqf-Based Waste Bank because the model combines environmental management with productive community activities. The emphasis of the SDGs for Villages on environmental sustainability and equitable economic development provides a complementary framework for utilizing waqf resources to support village-based waste management. The implementation of sustainable village development also requires active community empowerment and participation (Sutrisna, 2021). The SDGs for Villages are intended to ensure that the benefits of rural development are experienced by the wider village community (Husain et al., 2022) In this context, the Waqf-Based Waste Bank can serve as a community-based mechanism that links waqf financing with waste management, environmental awareness, and productive economic activities. Through the provision of waqf-supported assets and facilities, the model can strengthen local capacity to manage waste while creating opportunities for community participation and economic value creation. Thus, the proposed model is aligned with the relevant objectives of both the global SDGs and the SDGs for Villages, particularly those concerning sustainable communities, responsible resource management, poverty reduction, and inclusive local economic development.

METHOD

This study employed a qualitative approach using Participatory Action Research (PAR) to collaboratively develop a Waqf-Based Waste Bank model with local communities and relevant stakeholders. The research was conducted at Mugi Lestari Waste Bank, a community-based waste bank in Surabaya, which was purposively selected based on its established waste management activities, community involvement, and potential for waqf-based financing. The study involved five purposively selected informants representing different perspectives relevant to the development of the proposed model. The informants consisted of waste bank expert, the head of Mugi Lestari Waste Bank, the representative of environmental Agency (*Dinas Lingkungan Hidup*);

waste bank customers. The informants were selected purposively to ensure that the participants could provide relevant information and actively contribute to the PAR process. Data were collected through semi-structured interviews, participatory observations, focus group discussions (FGDs), documentation, and field notes. Interviews explored waste management practices, financing mechanisms, operational constraints, community participation, and the potential role of waqf. Observations documented waste collection, sorting, weighing, and other operational activities. FGDs facilitated collective identification of problems, discussion of needs, and formulation of potential solutions. Documents and field notes were used to complement and verify the primary data. The PAR process followed five stages: to know, to understand, to plan, to act, and to change (Afandi et al., 2022). The data were coded and grouped into themes related to financial sustainability, operational capacity, environmental management, community participation, and waqf utilization. Findings from different data sources and participant groups were compared through triangulation.

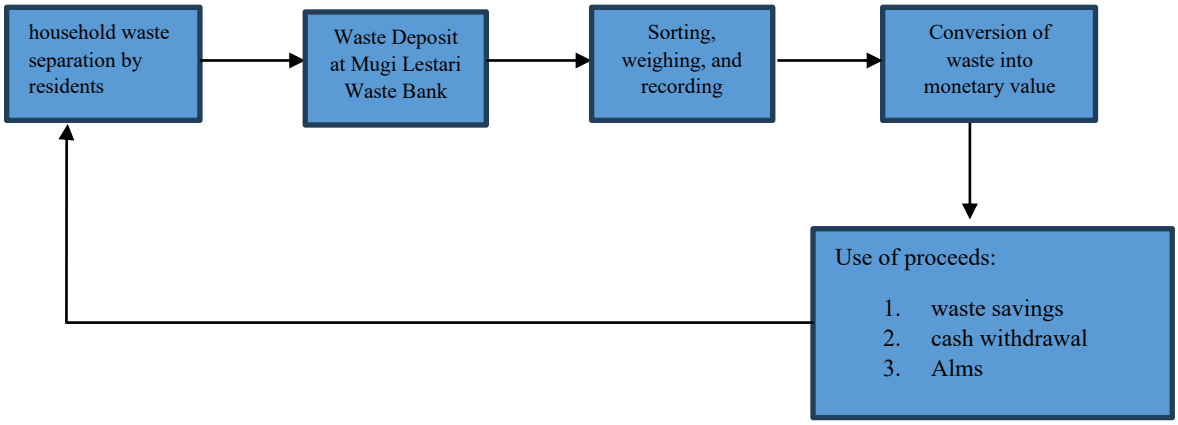
RESULT AND DISCUSSION

Result

Mugi Lestari waste bank was established on January 2, 2016, in Jemur Village, Wonosari, Wonocolo District, Surabaya City, as an initiative by residents of RT 06 RW 05 to address the serious problem of waste accumulation in their environment. This waste bank aims not only to reduce waste accumulation, but also to empower the community by transforming waste into a valuable source of economic resources. in addition, it serves as a medium for educating the public about the importance of wise and sustainable waste management. The existing waste management flow at mugi lestari waste bank is presented in figure 3.

Before the development of the Waqf-Based Waste Bank model, the waste management process at Mugi Lestari Waste Bank had already involved community participation through household-level waste separation and waste deposits. Households collected and separated waste into organic and non-organic materials, which was subsequently delivered to the waste bank by residents or designated waste collection officers. At the waste bank, the deposited waste was identified, further sorted, weighed, and recorded. The weight and corresponding value of the waste were then communicated to the depositor. Depositors could either save the proceeds in their waste savings account, receive the proceeds in cash, or donate the value of their waste through the “waste alms” mechanism. This system demonstrates that the waste bank had established an initial mechanism for integrating waste management with economic and social participation. However, the baseline assessment identified several constraints that limited the sustainability and development of the existing waste bank.

Figure 3. Existing Waste Management Flow at Mugi Lestari Waste Bank

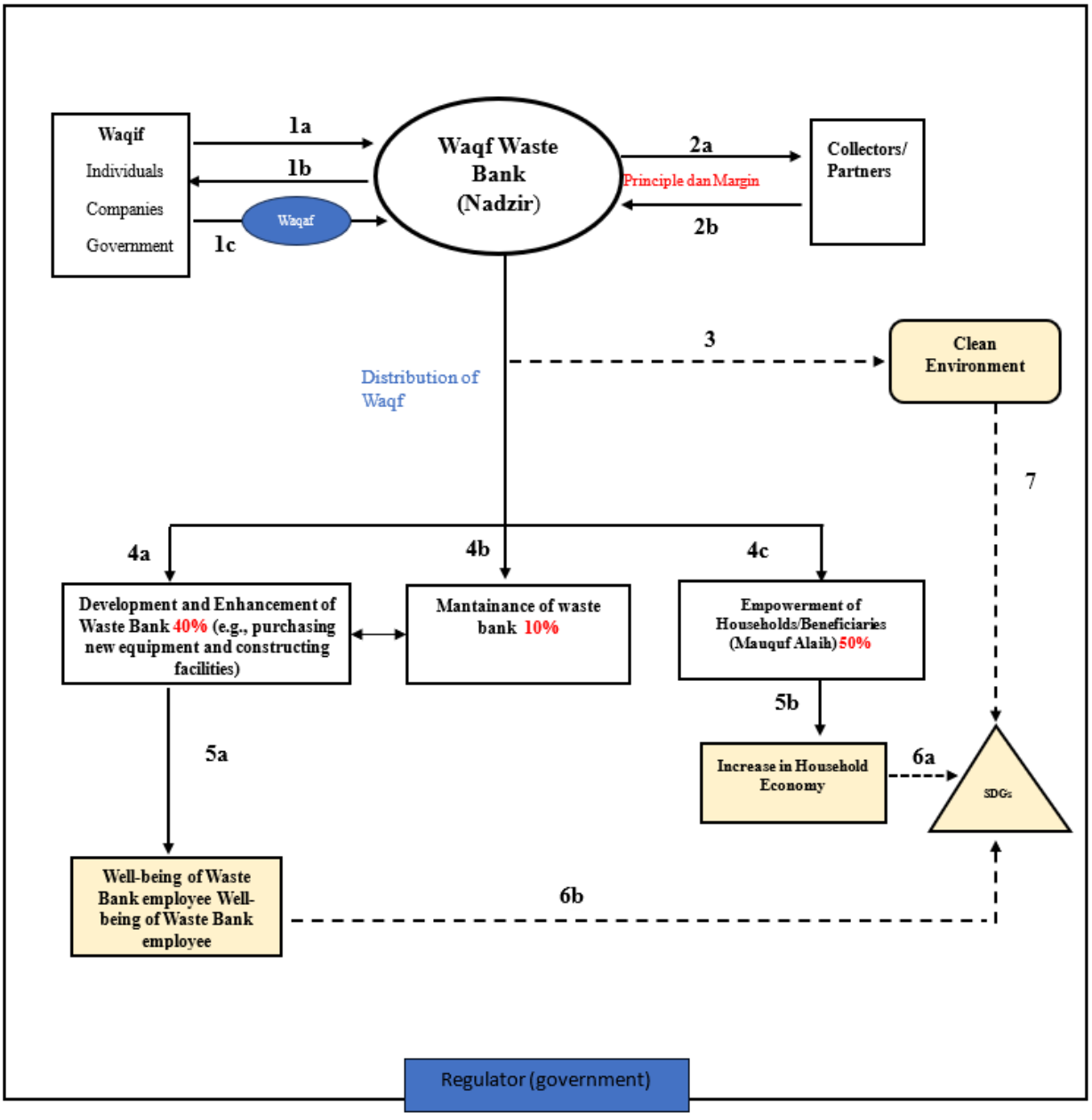


First, from a financial perspective, the revenue generated from waste sales was insufficient to cover operational requirements and finance further development. The income obtained from deposited waste was relatively limited, while the waste bank continued to incur costs related to collection, sorting, weighing, transportation, equipment, and other operational activities. Consequently, the waste bank remained dependent on limited internal revenues and had insufficient financial resources for expansion. Second, from an operational perspective, the limited financial capacity constrained the improvement of facilities, equipment, and waste management activities. Although the waste bank had established procedures for collecting, sorting, weighing, and recording waste, its operational capacity had not yet been supported by adequate and sustainable resources. This condition restricted the ability of the waste bank to increase the volume of waste managed and to develop more productive waste-processing activities. Third, from an environmental perspective, the existing system had not fully transformed waste management into a sustainable circular-economy activity. Waste separation and collection had been implemented, but the economic utilization of waste remained limited, particularly in terms of increasing the value generated from collected materials. Thus, the environmental potential of the waste bank to reduce unmanaged waste and promote resource recovery had not yet been fully realized. Fourth, from a community perspective, the existing system provided opportunities for residents to participate through waste deposits and "waste alms," but the economic incentives generated from waste remained limited. As a result, the existing mechanism had not yet provided a sufficiently strong and sustainable incentive to expand community participation and strengthen the long-term engagement of households in waste management activities.

These baseline conditions indicate that the main challenge was not the absence of a waste management mechanism, but rather the lack of a sustainable financial and institutional mechanism capable of strengthening the operational capacity, environmental impact, and community benefits of the waste bank. Therefore, an alternative model was required to complement the existing waste bank system. The Waqf-Based Waste Bank model was subsequently developed by integrating waqf resources with community-based waste management, with the aim of addressing the financial constraints while simultaneously strengthening operational sustainability, environmental outcomes, and community empowerment.

Proposed Waste Bank Model Adopted from Waqf

Figure 4. Proposed Waqf Based Waste Bank Model



Source: Authors' Analysis (2026)

A stable and sustainable source of funding is crucial for maintaining the operations of the waste bank and ensuring its positive impact on the surrounding environment. To address this need, the proposed Waqf Waste Bank model applies the waqf through money mechanism described in the literature review (Figure 2), in which money pledged by community members as waqf is used

to provide and maintain productive waste bank assets and to finance community empowerment programs in accordance with the waqif's intention. The overall structure of the proposed model is presented in Figure 4. By adopting this scheme, the waste bank is expected to reduce its dependence on waste-sales revenue and to sustain its operations in the long term, while fulfilling the social objectives of waqf and generating benefits for the community and the environment.

To examine its feasibility, the model was simulated at Mugi Lestari Waste Bank in Surabaya. The simulation aimed to assess the potential of waqf as a sustainable financing source by identifying the waqf that could be mobilized from the local community, primarily in the form of money pledged for the procurement of waste management equipment and supporting facilities. Based on this potential, the simulation outlined the mechanisms for collecting, managing, and allocating waqf resources to support equipment procurement, facility maintenance, and community empowerment programs. The simulation also considered the capacity of the waste bank managers and the involvement of residents in waste bank activities, and its results were assessed from financial, environmental, and social perspectives, including the volume of waste managed and the economic benefits generated for the community. The mechanism of the proposed model, as illustrated in Figure 4, consists of five interconnected stages, each identified by the numbered points in the figure.

In the first stage, Waste Exchange by the Community, residents submit the waste they have collected to the Waste Bank for weighing (point 1a). This land acquisition process is the initial step in determining the compensation value that will be received by the community. After the weighing, the community was given compensation in the form of cash in rupiah, with the Waste Bank using the principal funds from the waste savings that had been collected previously to provide such funds (point 1b). The community then had two options regarding such compensation: they could choose to receive immediate cash or store the proceeds from the sorting as a balance in the Waste Bank. Additionally, the community could donate the money received from the sorting proceeds to the Waste Bank through a waqf pledge (point 1c). This waqf fund is then managed according to the established scheme, which includes the development and improvement of the Waste Bank, facility maintenance, and community empowerment, as outlined in allocations 4a, 4b, and 4c.

In the second stage, the sale of waste by the Waste Bank, the Waste Bank collects waste from the community and sells it to collectors or partners who are competent in waste processing or recycling (point 2a). From these sales, the Waste Bank generates revenue from the principal sale of waste as well as additional margin (point 2b). This additional margin is the profit earned from the waste sales transaction and is used to support the Waste Bank's operational costs, including facility management and maintenance expenses.

The Waqf Waste Bank Model involves several strategically integrated stages to achieve environmental sustainability and community empowerment. After the waste exchange and sale stage, the third stage focuses on participation in waste reduction. The waste bank actively participates in efforts to reduce waste in the surrounding environment by applying the 3R principles: Reduce, Reuse, and Recycle. This activity contributes to creating a clean and well-maintained environment while reducing the amount of waste that ends up in landfills (point 3).

The fourth stage involves the allocation of waqf funds collected from the community. Forty percent of the waqf funds are allocated for the development and enhancement of the Waste Bank,

including the procurement of new equipment and the construction or improvement of facilities to strengthen operational capacity (point 4a). Ten percent is allocated for the maintenance and upkeep of Waste Bank facilities to ensure their continued functionality and safety (point 4b). Meanwhile, 50% of the waqf funds are allocated for the empowerment of households and beneficiaries (mauquf ‘alaih), with the aim of improving community welfare and strengthening the economic capacity of local households (point 4c). Thus, the total allocation of waqf funds is 100%, consisting of 40% for Waste Bank development, 10% for maintenance, and 50% for community empowerment.

The welfare stage focuses on the welfare of Waste bank managers. The welfare of Waste bank managers is achieved when the operational activities of Waste bank run smoothly, including operational sustainability and the satisfaction of the involved community (point 5a). Beside that, through the waqf-based empowerment program, there is an improvement in the economy and welfare for the assisted community, which in turn increases the economic potential of that region (point 5b). These outcomes, together with a cleaner environment, are expected to contribute to the relevant SDGs (points 6a, 6b, and 7 in Figure 4).

Results of the Waqf Waste Bank Model at Mugi Lestari Waste Bank

The simulation model evaluates the feasibility and financial projection of the Waqf Waste Bank model at the Mugi Lestari Waste Bank. The results are systematically categorized into four key operational dimensions: waste collection potential, community participation mechanisms, projected revenue generation, and the allocation strategy for waqf-derived funds. Waste Collection

In this simulation scenario, the model projected a potential collection of 166.7 kilograms of recyclable waste, primarily consisting of polyethylene terephthalate (PET) collected through dedicated waste bins placed across the designated waste-free area of Mugi Lestari. The model incorporates active community participation by simulating accessible disposal points where residents can donate recyclable materials as waqf. To ensure methodological rigor and baseline accuracy, the researchers simulated the monitoring, measurement, and data collection process alongside local participants. These initial findings suggest that the structured placement of collection bins combined with a waqf framework holds strong potential for fostering community engagement in sustainable waste management. Revenue Generation Analysis

The financial simulation models the income generated from the commercial sale of accumulated waste to collectors. Based on the baseline model, the Waste Bank generates a gross revenue of Rp 500,000 from the sale of recyclable materials to collectors. Using a base purchase price of Rp 2,000 per kg for clean PET, the corresponding waste volume is calculated as 166.7 kg × Rp 2,000 = Rp 333,400. After deducting the base waste purchase value from the gross revenue, the resulting net margin is Rp 166,600 (Rp 500,000 − Rp 333,400). This calculation indicates the potential margin generated from the Waste Bank's recyclable material trading activities before considering other operational costs.

This simulated net margin represents the waqf surplus available for reinvestment and community development without compromising the core operational liquidity of the waste bank.

The simulated surplus generated from the margin is allocated according to a structured distribution framework designed to support operational sustainability and social empowerment. The allocation model distributes the net margin through the following ratios:

Waste Bank Operations (10%): Dedicated to administrative and daily operational costs.

Facility Maintenance (40%): Allocated for equipment upkeep, bin infrastructure, and storage maintenance. Customer and Community Empowerment (50%): Channeled into social finance initiatives, specifically targeting micro-enterprises, local tailors, and farmer groups within the Mugi Lestari ecosystem.

Discussion

The baseline findings show that the main constraint of Mugi Lestari Waste Bank was limited and unstable funding, which restricted the improvement of facilities and operational capacity. This finding is consistent with Debrah et al. (Debrah et al., 2022), who identified the lack of funding and weak political and policy support as major barriers to waste management in developing countries, and with Zahrah et al. (Zahrah et al., 2024), who found that financial, technical, and institutional barriers constrain plastic waste management in Indonesian cities. However, the present study also reveals a condition not emphasized in those studies: Mugi Lestari Waste Bank already had established procedures for sorting, weighing, recording, and saving waste, as well as a "waste alms" scheme. This suggests that at the community level, the problem is not the absence of procedures or willingness to participate, but the absence of a mechanism to retain the economic value generated by waste within the institution, since that value was largely withdrawn as cash, held as individual savings, or donated and spent.

This finding partly differs from Ismiraj et al. (Ismiraj et al., 2023), who concluded that the operational sustainability of waste banks requires support from municipal authorities, non-profit organizations, and corporations. While the present study agrees that external support remains important, as reflected in the inclusion of the government as a regulator in the model (Figure 5), it suggests that waste banks can also strengthen their sustainability internally by converting part of the value already circulating among their members into waqf assets. The difference likely arises because Ismiraj et al. (2023) assessed the conventional waste bank model, in which revenues are distributed to members, whereas the present model introduces a mechanism for accumulating those revenues as institutional capital.

The design of the waqf pledge mechanism (point 1c) shows that the model builds on the existing "waste alms" practice rather than introducing an entirely new behavior. This is in line with Yandri et al. (Yandri et al., 2023), who found that waste *sadaqah* functions as a community-based movement for economic empowerment through social action in Java. Nevertheless, the present model differs in the nature of the contribution: whereas *sadaqah* proceeds are generally distributed and consumed, waqf converts the contribution into a perpetual asset whose benefits continue over time. Because the waste bank acts as the *nazir* in this model (Figure 5), this shift also places greater managerial responsibility on its managers. This implication is consistent with Ascarya and Masrifah (Ascarya & Masrifah, 2023), who found that the successful implementation of cash waqf in Islamic microfinance institutions depends primarily on trustworthy and professional *nazir*, standard operating procedures, and adequate administrative systems. Accordingly, the managerial capacity of the waste bank becomes a key prerequisite for the model, which has not yet been examined in this simulation.

The simulation results show that the sale of 166.7 kg of PET generated a gross revenue of Rp500,000 and a net margin of Rp166,600, or about one-third of the gross revenue, before other operational costs. This supports the baseline finding that waste trading alone generates limited revenue. It also contrasts with previous waqf-based waste management proposals, which rely on

relatively large external financing, such as waqf land combined with sukuk (Thaker et al., 2022), cash waqf for waste management training centers(Mahardika & Tanweer, 2025), or waqf investment in waste sorting and recycling technologies (Muhammad et al., 2026). The present findings indicate that a small-scale, community-financed model is operationally feasible, but its economic impact is highly dependent on scale. At the simulated level, the Rp83,300 allocated to community empowerment is unlikely to materially affect household income, suggesting that meaningful welfare effects require a larger volume of waste and participants or additional waqf contributions from individuals, companies, and the government, who are identified as potential *waqif* in the model (Figure 5).

The allocation structure further reveals a trade-off between strengthening the institution and providing direct benefits to members. The finding that half of the surplus is returned to the community through empowerment programs is consistent with Miftahorrozi et al.(Miftahorrozi et al., 2022), who found that waste banks support members' socioeconomic well-being through incentives earned from recyclable waste, and with Ismiraj et al.(Ismiraj et al., 2023), who showed that recycling income encourages continued participation. However, the present model differs from these studies because part of the members' individual proceeds is pledged as waqf, so that the benefits returned to the community are collective rather than individual. This may weaken participation if members perceive a reduction in their personal income, but it may also strengthen participation if the empowerment programs and improved facilities are visible to the community. The allocation ratio should therefore be treated as an adjustable parameter to be refined with the community.

The PAR process, which involved the waste bank manager, customers, an expert, and a government representative, is consistent with Mulasari et al.(Mulasari et al., 2024), who found that action research involving community members and environmental and health agencies improved community waste management and produced solutions adapted to local conditions. In the present study, each component of the model was derived from a constraint identified in the baseline assessment, namely limited revenue, inadequate facilities, limited waste utilization, and weak participation incentives. Taken together, these findings suggest that waqf contributes to community-based waste management through two interrelated mechanisms: asset continuity, by retaining waste-generated value as durable institutional assets, and participation incentives, by returning part of that value to the community. These mechanisms also indicate the model's potential contribution to SDG 12 through waste sorting and recycling, SDG 11 through improved environmental quality, and SDG 1 and SDG 8 through support for households and micro-enterprises. Because these contributions are derived from a small-scale simulation, they should be regarded as potential outcomes requiring empirical validation through long-term implementation.

CONCLUSION

This study developed an operational Waqf-Based Waste Bank model through Participatory Action Research at Mugi Lestari Waste Bank, Surabaya. The findings reveal that the main constraint of the waste bank was not the absence of operational procedures or community participation, but the lack of a mechanism to retain the economic value generated by waste within the institution. The proposed model addresses this constraint by enabling depositors to pledge part of their proceeds as waqf through money, with the waste bank acting as the *nazir* that allocates the funds to institutional development, facility maintenance, and community empowerment. The simulation indicates that the model is operationally feasible at a small scale, although its economic

impact depends on the volume of waste, the number of participants, and additional waqf contributions. Accordingly, waqf supports the sustainability of community-based waste management through two mechanisms: asset continuity and participation incentives.

Theoretically, this study extends Islamic social finance to community-based environmental management by positioning waqf as an institutional mechanism rather than merely a funding source. Practically, the findings underscore the need to strengthen the capacity of waste bank managers as *nazir* and to secure regulatory support from local governments and waqf institutions, while indicating potential contributions to SDG 11, SDG 12, SDG 1, and SDG 8. However, the study is limited to a single waste bank and a small-scale simulation, and it has not examined the managerial capacity of the waste bank as *nazir* or the long-term effects of the model. Future research should therefore implement the model over a longer period across different communities, test alternative allocation ratios, evaluate *nazir* governance, and measure its financial, environmental, and social outcomes.

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CONFLICT OF INTEREST
The authors declare no conflict of interest.

REFERENCES

Abdullah, M. (2018). Waqf, Sustainable Development Goals (SDGs) and maqasid al-shariah. *International Journal of Social Economics*, *45*(1), 158–172. https://doi.org/10.1108/IJSE-10-2016-0295

Abiba, R. W., & Suprayitno, E. (2023). Optimalisasi Wakaf Produktif dalam Mendukung Upaya Pencapaian Sdgs Melalui Pemberdayaan Peternakan. *Al-Intaj* , *Vol. IX No. 1*.

Abubakar, I. R., Maniruzzaman, K. M., Dano, U. L., AlShihri, F. S., AlShammari, M. S., Ahmed, S. M. S., Al-Gehlani, W. A. G., & Alrawaf, T. I. (2022). Environmental sustainability impacts of solid waste management practices in the global South. *International Journal of Environmental Research and Public Health*, *19*(19), 12717.

Afandi, A., Laily, N., Wahyudi, N., & et al. (2022). *Metodologi Pengabdian Masyarakat* (S. Abd Basir & J. Wahyudi, Eds.; 1st ed.). Direktorat Pendidikan Tinggi Keagamaan Islam Direktorat Jenderal Pendidikan Islam Kementerian Agama RI.

Akhtar, J. (2025). Waqf-based environmental initiatives: Collaborative partnerships with government for sustainable development. In *Government influences on eco-friendly practices in business* (pp. 177–206). IGI Global Scientific Publishing. https://www.igi-global.com/chapter/waqf-based-environmental-initiatives/357919

Ali, S. N. M., Arshad, H., Fauzi, N. S., & Ghonim, S. M. A. A. (2023). Synergizing community empowerment: Unveiling the holistic framework of waqf zakat and Infaq-Funded agricultural mosque projects. *Environment-Behaviour Proceedings Journal*, *8*(26), 131–136.

Apriliani, R., & et al. (2022). Wakaf Pembangunan Bank Sampah di Pondok Pesantren. *WaCIDS Research Bulletin No. 1 Wakaf*, 1–23.

Ascarya, A., & Masrifah, A. R. (2023). Strategies implementing cash waqf system for Baitul Maal wat Tamwil to improve its commercial and social activities. *International Journal of Islamic and Middle Eastern Finance and Management*, *16*(1), 130–153. https://doi.org/10.1108/IMEFM-10-2020-0504

Asteria, D., & Herdiansyah, H. (2022). The role of women in managing waste banks and supporting waste management in local communities. *Community Development Journal*, *57*(1), 74–92.

Asteria, D., & Heruman, H. (2016). Bank Sampah Sebagai Alternatif Strategi Pengelolaan Sampah Berbasis Masyarakat di Tasikmalaya. *Jurnal Manusia Dan Lingkungan*, *23*(1), 8.

Axmalia, A., & Mulasari, S. A. (2020). Dampak Tempat Pembuangan Akhir Sampah (TPA) Terhadap Gangguan Kesehatan Masyarakat. *Jurnal Kesehatan Komunitas*, *6*(2), 171–176. https://doi.org/10.25311/keskom.vol6.iss2.536

Babbitt, C. W., Babbitt, G. A., & Oehman, J. M. (2021). Behavioral impacts on residential food provisioning, use, and waste during the COVID-19 pandemic. *Sustainable Production and Consumption*, *28*, 315–325.

Bakr, A., El Amri, M. C., & Mohammed, M. O. (2021). The Worldview of Islamic Ethical Wealth and Its Implications for SDGs: The Case of Waqf. In M. M. Billah (Ed.), *Islamic Wealth and the SDGs* (pp. 29–52). Springer International Publishing. https://doi.org/10.1007/978-3-030-65313-2_2

Bandh, S. A., Malla, F. A., Wani, S. A., & Hoang, A. T. (2023). Waste Management and Circular Economy. In S. A. Bandh & F. A. Malla (Eds.), *Waste Management in the Circular Economy* (pp. 1–17). Springer International Publishing. https://doi.org/10.1007/978-3-031-42426-7_1

Boekoesoe, L., & Septian Maksum, T. (2022). Optimalisasi Pembangunan Desa dalam Mewujudkan SDGs Desa. *Jurnal Sibermas (Sinergi Pemberdayaan Masyarakat)* . https://doi.org/10.37905/sibermas.v11i1.12103

Chaudhary, M. T., & Piracha, A. (2021). Natural disasters—Origins, impacts, management. *Encyclopedia*, *1*(4), 1101–1131.

Chiang, P.-C., Ma, H., Wen, L., & Lin, C. (2024). Reduction, Reuse, Recycling, Recovery, Redesign. In P.-C. Chiang, H. Ma, L. Wen, & C. Lin, *Introduction to Green Science and Technology for Green Economy* (pp. 255–285). Springer Nature Singapore. https://doi.org/10.1007/978-981-99-9676-6_11

Darajatun, S. (2025). Waqf and microfinance integration strategy in improving welfare through community economic empowerment. *Jurnal Ilmu Ekonomi Dan Bisnis Islam*, *7*(1), 75–90.

Debrah, J. K., Teye, G. K., & Dinis, M. A. P. (2022). Barriers and challenges to waste management hindering the circular economy in Sub-Saharan Africa. *Urban Science*, *6*(3), 57.

Dirie, K. A., Alam, M. M., & Maamor, S. (2023). Islamic social finance for achieving sustainable development goals: A systematic literature review and future research agenda. In *International Journal of Ethics and Systems*. Emerald Publishing. https://doi.org/10.1108/IJOES-12-2022-0317

Dollan, E., & Ramadhan, B. D. K. (2023). Assessing the outcomes of circular economy and waste management partnerships between indonesia and denmark. *IAIC Transactions on Sustainable Digital Innovation (ITSDI)*, *5*(1), 76–83.

Eldersevi, S., Mohammed, M. O., & El Amri, M. C. (2021). Analysis of Global Ethical Wealth Based on Maqasid al-Shari'ah: The Case of Waqf. In M. M. Billah (Ed.), *Islamic Wealth and the SDGs* (pp. 469–484). Springer International Publishing. https://doi.org/10.1007/978-3-030-65313-2_24

Fatmawati, F., Mustari, N., Haerana, H., Niswaty, R., & Abdillah, A. (2022). Waste bank policy implementation through collaborative approach: Comparative study—Makassar and Bantaeng, Indonesia. *Sustainability*, *14*(13), 7974.

Fauziah, N. N., & Kassim, S. (2022). Cash waqf model for social enterprise to achieve sustainable development goals in Indonesia. *Al-Muzara'Ah*, *2022*, 95–105.

Firdaus, S. N. A., Wulani, T. S., Azizah, E. N., & Roziah, D. Q. (2022). Analisis Perbandingan Wakaf Uang Dan Wakaf Melalui Uang Di Indonesia. *Tahkim (Jurnal Peradaban Dan Hukum Islam)*, *5*(1), 101–120. https://doi.org/10.29313/tahkim.v5i1.9123

Hasibuan, R. (2016). Analisis Dampak Limbah/Sampah Rumah Tangga terhadap Pencemaran Lingkungan Hidup. *Jurnal Ilmiah Advokasi*, *04*(01).

Hidalgo-Crespo, J., Moreira, C. M., Jervis, F. X., Soto, M., Amaya, J. L., & Banguera, L. (2022). Circular economy of expanded polystyrene container production: Environmental benefits of household waste recycling considering renewable energies. *Energy Reports*, *8*, 306–311.

Husain, N., Rohandi, M., Latief, M., Mulyanto, A., Azis, B. A., & Kadim, A. A. (2022). Pendampingan Masyarakat Desa Lakeya Dalam Pencapaian SDGs Desa. *DEVOTION: Jurnal Pengabdian Pada Masyarakat*, *1*(2), 31–37.

Irfana, T., Harjono, R., & Diana, T. (2023). Evaluation of waste bank program: Transformative impact on community welfare, environment, and economy. *Research Horizon*, *3*(5), 585–594.

Ismiraj, M. R., Wulansari, A., Setiadi, Y., Pratama, A., & Mayasari, N. (2023). Perceptions of community-based waste bank operators and customers on its establishment and operationalization: Cases in Pangandaran, Indonesia. *Sustainability*, *15*(14), 11052.

Istiqomah, T., & Corsita, L. (2024). Implementation of community-based waste management to improve environmental health in villages. *Sustainable Applied Modification Evidence Community*, *1*(2), 1–8.

Johari, W., Maghfirah, Z., & Mawardi, A. M. (2024). The role of temporary waqf in improving the social welfare of the Muslim community. *Journal of Ecohumanism*, *3*(8), 2578–2587.

Juwita, D. R. (2019). *Pemberdayaan Masyarakat dalam Perspektif Maqashid Al- Syari ' Ah : Studi Kasus d i Bank Sampah Srikandi Dolopo Madiun*. *1*(2), 177–196.

Khaira, M., Hayati, U., & Isra, H. (2020). Peran Bank Sampah Dalam Meningkatkan Pendapatan Ibu Rumah Tangga di Desa Sait Buttu Kec. Pematang Sidamanik Mutiah. *IHSAN: Jurnal Pengabdian Masyarakat*, *2*(2).

Khanifa, N. K. (2018). Penguatan Peran Ziswaf dalam Menyongsong Era SDGs Kajian Filantropi BMT Tamzis Wonosobo. *CAKRAWALA: Jurnal Studi Islam* , *Vol. 13 No. 2 (*.

Kumari, T., & Raghubanshi, A. S. (2023). Waste management practices in the developing nations: Challenges and opportunities. *Waste Management and Resource Recycling in the Developing World*, 773–797.

Kurniawan, T. A., Meidiana, C., Dzarfan Othman, M. H., Goh, H. H., & Chew, K. W. (2023). Strengthening waste recycling industry in Malang (Indonesia): Lessons from waste

management in the era of Industry 4.0. *Journal of Cleaner Production*, *382*. https://doi.org/10.1016/j.jclepro.2022.135296

Leknoi, U., Painmanakul, P., Chawaloesphonsiya, N., Wimolsakcharoen, W., Samritthinanta, C., & Yiengthaisong, A. (2024). Building sustainable community: Insight from successful waste management initiative. *Resources, Conservation & Recycling Advances*, *24*, 200238.

Lita, H. N. (2021). Waqf and economic distribution justice: Sustainable poverty alleviation efforts. *J. Legal Ethical & Regul. Isses*, *24*, 1.

Lu, M., Zhou, C., Wang, C., Jackson, R. B., & Kempes, C. P. (2024). Worldwide scaling of waste generation in urban systems. *Nature Cities*, *1*(2), 126–135.

Mahardika, S. G., & Tanweer, A. (2025). Environmentally friendly Waqf model: A response to sustainable economic development and the presence of a circular economy. *Journal of Lslamic Economics and Bussines Ethics*, *2*(1), 68–93.

Miftahorrozi, M., Khan, S., & Bhatti, M. I. (2022). Waste bank-socio-economic empowerment nexus in Indonesia: The stance of Maqasid al-Shari'ah. *Journal of Risk and Financial Management*, *15*(7), 294.

Mohamed, A., & Akande, A. E. (2026). Waqf-led buildings and green infrastructure role in environmental sustainability: Understanding critical gaps in current research landscape. *Management & Sustainability: An Arab Review*, *5*(4), 725–762.

Muallifa, R. N. L. (2023). 6 Fakta Surabaya Darurat Sampah, Bikin Lingkungan Kotor dan Bau Tak Sedap. *Merdeka.Com*.

Muhammad, A. A., Aliyu, S. A., Dalhatu, R. S., Khan, H., & Abdullahi, K. (2026). Islamic Social Finance and Environmental Sustainability: A Study of Waqf-Driven Smart Waste Sorting and Recycling Solutions. *Civilization Research: Journal of Islamic Studies*, *5*(1), 230–253.

Mulasari, S. A., Husodo, A. H., Sulistyawati, S., Sukesi, T. W., & Tentama, F. (2024). Community-driven waste management: Insights from an action research trial in Yogyakarta, Indonesia. *The Open Public Health Journal*, *17*(1). https://openpublichealthjournal.com/VOLUME/17/ELOCATOR/e18749445334410/

Najim Nur Fauziah, & Salina Kassim. (2022). Cash Waqf Model for Social Enterprise to Achieve Sustainable Development Goals in Indonesia. *AL-MUZARA'AH*, 95–105. https://doi.org/10.29244/jam.specialissue2022.95-105

Nawir, A., Syamsuddin, S., & Jusniaty, J. (2022). Penerapan Program Sustainable Development Goals (Sdgs) Desa Polewali dalam Mengurangi Kemiskinan. *Demokrasi*, *1*(3), 1–18. https://doi.org/10.36269/dmkr.v1i3.784

Pandiyarajan, V., Neelakantan, T. R., Sridharan, S. A., & Ramrao, N. (2022). Three "R" concept in waste management for sustainable environment. *Journal of Sustainability Perspectives*, *2*(3), 255–262.

Purwanto, P. (2019). Pengelolaan "Bank Sampah" Berbasis Masyarakat sebagai Alternatif Meningkatkan Ekonomi Warga RT 004/RW 09, Cikarang Utara–Bekasi. *ACADEMICS IN ACTION Journal of Community Empowerment*, *1*(1), 27. https://doi.org/10.33021/aia.v1i1.740

Purwendah, E. K., & Wahyono, D. J. (2022). Waste bank as an alternative to community-based waste management. *Jurnal Komunikasi Hukum (JKH)*, *8*(2), 10–17.

Puspitasari, N., Hidayat, N., & Setyawati, I. K. (2022). *Ecopreneurship Berbasis Pengelolaan Sampah Dan Penciptaan Nilai Tambah Ekonomi*. *1*(1), 1–8.

Qolbi, R. N. (2021). Gerakan Wakaf Kampus: Optimalisasi Gerakan Nasional Wakaf Uang (GNWU) Di Lingkungan Kampus Menuju SDGs. *Al-Awqaf: Jurnal Wakaf Dan Ekonomi Islam*, *14*(1), 65–86.

Qonitan, F. D., Wayan Koko Suryawan, I., & Rahman, A. (2021). Overview of municipal solid waste generation and energy utilization potential in major cities of Indonesia. *Journal of Physics: Conference Series*, *1858*(1), 012064. https://iopscience.iop.org/article/10.1088/1742-6596/1858/1/012064/meta

Qurrata, V. A., Yusida, E., Hussain, N. E., Merlinda, S., Purnamasari, V., & Seprillina, L. (2021). Effectiveness of cash waqf management in improving community welfare: Challenges and opportunities. *Review of Integrative Business and Economics Research*, *10*, 342–359.

Ramadhan, J., & Hayatullah, I. K. (2025). Zakat and Waqf synergies to accelerating sustainable development. *Journal of Sustainable Development and Regulatory Issues (JSDERI)*, *3*(1), 29–54.

Rusydiana, A., Raditya Sukmana, Nisful Laila, & Sherrindra Avedta. (2022). Waqf, Maqasid al-Sharia, and SDG-5: A Model for Women's Empowerment. *AL-IHKAM: Jurnal Hukum & Pranata Sosial*, *17*(2), 325–335. https://doi.org/10.19105/al-lhkam.v17i2.6572

Rusydiana, A. S., Sukmana, R., & Laila, N. (2023). Developing green waqf model for environmental issues. *Islamic Economics Methodology*, *2*(2). https://pdfs.semanticscholar.org/4a86/9a6e9e29345c2d0937237ef32c6c5b2b5cbb.pdf

Safitri, V. (2021). *Akad Syariah pada Usaha Bank Sampah Aisyiyah di Desa Sejegi Kabupaten Mempawah*. *1*(April), 32–38.

Saputra, W. (2025). Digital green waqf: A systematic literature review on sustainable Islamic philanthropy in the digital era. *Sujud: Jurnal Agama, Sosial Dan Budaya*, *1*(3), 302–316.

Saputro, Y. E., Kismartini, & Syafrudin. (2015). Pengelolaan Sampah Berbasis Masyarakat melalui Bank Sampah. *Indonesian Journal of Conservation*, *04*.

Sari, R. M., Torres, F. G., Troncoso, O. P., De-la-Torre, G. E., & Gea, S. (2021). Analysis and availability of lignocellulosic wastes: Assessments for Indonesia and Peru. *Environmental Quality Management*, *30*(4), 71–82. https://doi.org/10.1002/tqem.21737

Sekolah, T., Agama, T., Miftahul, I., Tarate, U., & Sumenep, P. (2021). Model Pengelolaan Wakaf Uang di Lembaga Sinergi Foundation dalam Mencapai SDGs (sustainable development goals). In *Jurnal Manajemen Zakat dan Wakaf* (Vol. 2, Issue 1).

Shentika, P. A. (2016). Pengelolaan Bank Sampah di Kota Probolinggo. *JESP*, *8*(1), 92–100.

Subekti, S. (2010). *Pengelolaan Sampah Rumah Tangga 3R Berbasis Masyarakat*. 24–30.

Supriatna, E., Syarif, D., Afrilia, A., Sundari, A., & Setia, P. (2024). A waqf empowerment model based on benefit analysis. *Journal of Islamic Thought and Civilization*, *14*(1), 303–319.

Suryani, A. S. (2014). Peran Bank Sampah dalam Efektivitas Pengelolaan Sampah (Studi Kasus Bank Sampah Malang), *Aspirasi*, *5*, 71–84.

Sutrisna, I. W. (2021). Implementasi Fungsi Badan Permusyawaratan Desa (BPD) Dalam Mewujudkan Sustainable Development Goals (SDGs) Desa. *Jurnal Ilmiah Cakrawarti*, *4*(1), 1–10. https://doi.org/10.47532/jic.v4i1.239

Syafitri, A. P. (2020). Strategi Promosi Untuk Meningkatkan Investor Saham Bermodal Sampah (Studi di Galeri Investasi Syariah Fakultas Ekonomi Dan Bisnis Islam UIN Sunan Ampel Surabaya). *Al-Musthofa: Journal Of Sharia Economics*, *3*, 1–95.

Thaker, M. A. M. T., Amin, M. F. B., Thaker, H. M. T., Khaliq, A., Pitchay, A. A., Fauziyyah, N. E., & Imon, R. A. (2022). Waqf land and Sukuk framework for waste disposal management–a conceptual study. *Labuan E-Journal of Muamalat and Society (LJMS)*, *16*, 1–12.

Ugwu, C. O., Ozoegwu, C. G., Ozor, P. A., Agwu, N., & Mbohwa, C. (2021). Waste reduction and utilization strategies to improve municipal solid waste management on Nigerian campuses. *Fuel Communications*, *9*, 100025.

Unroj, P., Manomaivibool, P., & Dokmaingam, P. (2026). Reducing energy consumption in waste management: A study on the recyclable waste bank approach. *International Journal of Energy Sector Management*, 1–27.

Uyun, Q. (2015). Zakat, Infaq, Shadaqah And Wakaf As Configuration Of Islamic Pillantrophy. *Journal of Islamic Studies*, *2*(2), 218.

Wagay, A. H., & Nabi, G. (2025). Empowering Communities: The Impact of Waqf on Social and Economic Development. *Religion and Development*, *1*(aop), 1–18.

Wikurendra, E. A., Csonka, A., Nagy, I., & Nurika, G. (2024). Urbanization and Benefit of Integration Circular Economy into Waste Management in Indonesia: A Review. *Circular Economy and Sustainability*, *4*(2), 1219–1248. https://doi.org/10.1007/s43615-024-00346-w

Yandri, P., Budi, S., & Putri, I. A. P. (2023). Waste *sadaqah*: A new community-based waste-management practice in Java, Indonesia. *Sustainability: Science, Practice and Policy*, *19*(1), 2212510. https://doi.org/10.1080/15487733.2023.2212510

Zafar, M. B., & Ali, H. (2026). Waqf as a socioeconomic institution and its governance and development for welfare and sustainability. *Discover Global Society*, *4*(1), 58. https://doi.org/10.1007/s44282-026-00412-8

Zahrah, Y., Yu, J., & Liu, X. (2024). How Indonesia's cities are grappling with plastic waste: An integrated approach towards sustainable plastic waste management. *Sustainability*, *16*(10), 3921.

Zhao, Y., Chang, H., Liu, X., Bisinella, V., & Christensen, T. H. (2022). Climate Change Impact of the Development in Household Waste Management in China. *Environmental Science & Technology*, *56*(12), 8993–9002. https://doi.org/10.1021/acs.est.1c07921