



The Implementation of Community-Based Waste Management Policy in Palangka Raya City

Muhamad Yusuf^{1*}

Syamsuri²

¹Universitas Muhammadiyah
Palangkaraya, Kalimantan Tengah,
Indonesia

²Universitas Palangkaraya,
Kalimantan Tengah, Indonesia

email: yusuf.quratayun@gmail.com

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Abstract

Community-based waste management is a strategic approach that positions citizens as key actors in reducing, sorting, and processing waste. This study aims to analyze the implementation of waste management policies in Palangka Raya City, with a focus on community participation. The research method used is qualitative descriptive, with data collected through in-depth interviews, observations, and document studies. The results show that the policy implementation has been fairly effective through waste bank programs, organic waste processing training, and environmental education campaigns. Supporting factors include clear regulations, local government budget (APBD) support, and cross-sector partnerships. However, challenges such as low public awareness, limited infrastructure, and manual reporting still hinder optimal target achievement. The recommendations proposed include strengthening education, innovating incentives, digitizing reporting systems, and enhancing multi-stakeholder collaboration for program sustainability.



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INTRODUCTION

Waste management has become one of the urgent environmental issues in various cities across Indonesia, including Palangka Raya City. Population growth, urbanization, and changes in consumption patterns have significantly increased the amount of waste generated each year. Based on data from the Ministry of Environment and Forestry (KLHK, 2023), the national waste volume has reached over 68 million tons per year, with the largest proportion coming from urban areas. The inability of conventional systems to manage the surge in waste generation has resulted in complex environmental problems, ranging from soil and water pollution to public health issues (Pratama et al., 2022). In this context, a strategy that can sustainably address the waste issue is needed, one of which is community-based waste management.

The community-based waste management approach places residents as the main subjects in the processes of reducing, sorting, collecting, and processing waste at the household and community levels. This participation can take various forms, such as managing waste banks, composting activities, recycling inorganic waste, and conducting environmental awareness campaigns in schools and among the general public. Wulandari & Susanto (2021) affirm that active citizen involvement in waste management not only helps reduce the volume of waste disposed of at Final Processing Sites (TPA) but also fosters sustainable pro-environmental behavior. Thus, this strategy has both ecological and socio-economic dimensions.

Palangka Raya City has implemented the concept of community participation in waste management through programs initiated by the local government in collaboration with NGOs and the private sector. One of the main innovations is the

establishment of waste banks in various urban villages (kelurahan). Waste banks allow residents to exchange sorted waste for incentives, either in cash, staple goods, or certain services. Lestari & Nugroho (2023) note that the success of such programs is highly dependent on the level of public awareness, the availability of facilities, and sustained policy support. The legal foundation for implementing this program refers to Law No. 18 of 2008 on Waste Management, which mandates waste reduction through the 3Rs (Reduce, Reuse, Recycle). At the local level, Palangka Raya City has enacted Regional Regulations that explicitly govern the mechanisms and targets of community-based waste management. One prominent strategy is the integration of waste bank programs with community empowerment activities, such as compost-making training, handicrafts from used materials, and managing plastic waste into economically valuable products (Putri et al., 2020).

However, implementation on the ground still faces challenges. Low environmental literacy, limited supporting infrastructure, and the lack of active facilitators in some areas remain major obstacles. Rahman et al. (2022) revealed that without effective communication and education strategies, waste management programs often lose community participation momentum after a few months. Therefore, interventions focusing on long-term behavioral change are crucial. Multi-stakeholder involvement is key to the success of community-based waste management. The government plays a role as policy-maker, facility provider, and implementation supervisor, while the community becomes the main executor on the ground. The private sector and NGOs can provide support through funding, technology, and corporate social responsibility (CSR) programs. Kurniawan et al. (2023) emphasize that this collaboration model strengthens local capacity and fosters a sense of ownership toward the program.

International experiences show that countries such as Japan and South Korea have successfully built efficient waste management systems through strict household-level waste sorting and the implementation of measurable incentives. Kim & Lee (2021) noted that this success is supported by strong regulations, continuous education campaigns, and active participation across all societal layers.

Palangka Raya City has unique geographical characteristics with relatively low population density and scattered residential areas. This condition presents challenges in distributing waste management facilities and fostering community engagement in suburban areas. Sutanto et al. (2020) stress that waste management strategies must be adapted to the region's characteristics to be effective and efficient.

An initial evaluation by the Palangka Raya Environmental Agency (2023) showed that the waste bank program has reduced around 15% of the waste volume entering the TPA. However, this figure is still far from the 30% reduction target set by the Regional Policy and Strategy (Jakstrada). This achievement indicates the need for additional, more innovative, and participatory strategies. This study was conducted to analyze the implementation of community-based waste management policies in Palangka Raya City. The study focuses on identifying supporting and inhibiting factors, as well as formulating policy recommendations to strengthen the program's effectiveness. It is expected that the findings of this study will serve as a reference for other regions in developing similar policies based on active community engagement.

METHOD

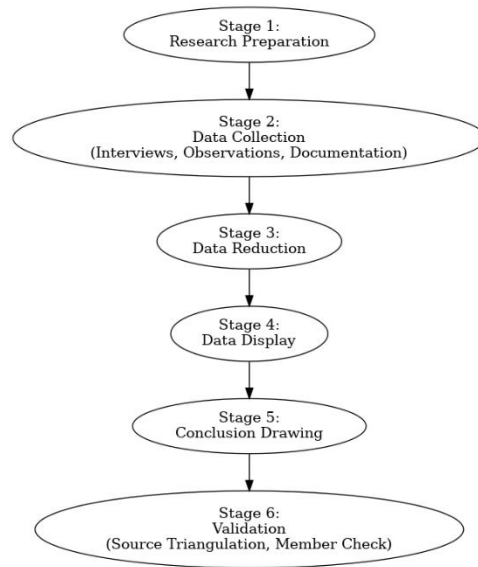


Figure 1. Stages of Qualitative Descriptive Research

This study employed a descriptive qualitative method, with the research conducted in several urban villages (*kelurahan*) in Palangka Raya City that have implemented the waste bank program. Data were collected using three main techniques: (1) in-depth interviews with officials from the Environmental Agency, waste bank managers, community leaders, and active residents; (2) participatory observation of waste sorting, collection, and processing activities; and (3) documentation studies involving regional regulations, activity reports, and waste management statistical data. Data analysis was carried out through the stages of data reduction, data display, and conclusion drawing (Miles et al., 2020). Data validity was strengthened through source triangulation and member checks to ensure that the interpretations aligned with field conditions.

RESULTS AND DISCUSSION

The research findings indicate that the implementation of waste management policy based on community participation in Palangka Raya City has taken place in several sub-districts with varying levels of success. The waste bank program has become one of the main instruments used to encourage community participation. Through this program, residents exchange sorted inorganic waste for economic incentives, such as cash or basic necessities. This incentive system has proven effective in attracting public interest, although participation levels are still uneven across all sub-districts. Field data show that the level of participation is influenced by factors such as local leadership, facility support, and the consistency of socialization conducted by the waste bank management (DLH Kota Palangka Raya, 2023).

Areas with high participation generally benefit from active support from community leaders, neighborhood associations (RT), and environmental NGOs. For example, Bukit Tunggal Sub-District successfully reduced waste volume by up to 20% per month due to routine coordination between waste bank administrators, RT, and women's community groups (PKK). This coordination includes organizing waste collection schedules, monitoring resident participation, and regularly reporting

waste processing outcomes. In contrast, areas lacking active facilitators show low engagement, where the waste bank program is sporadic and has not become a community habit (Lestari & Nugroho, 2023).

Table 1. The level of community participation in the five sub-districts included in the study

Sub-District	Number of Members	Waste Collected (Kg/Month)	Waste Reduction (%)
Bukit Tunggal	250	1,200	20%
Pahandut	180	950	15%
Panarung	150	800	12%
Menteng	120	600	10%
Langkai	100	450	8%

Source: Field Data, 2025

Data analysis reveals that the success of the programs in Bukit Tunggal and Pahandut Sub-Districts is influenced by the availability of adequate facilities, including storage warehouses, sorted waste transportation teams, and well-organized administrative tools. Moreover, school involvement in educating students about waste sorting has helped expand awareness at the family level. These educational activities are reinforced through training on organic waste composting and handicrafts from recycled materials, adding economic value (Putri et al., 2020).

Another supporting factor is the existence of clear regulations and policies, such as the Regional Regulation on Waste Management and the Local Strategy Policy (Jakstrada), which targets a 30% waste reduction by 2025. These regulations provide a legal foundation and clear direction for program implementation. The Palangka Raya City Government also allocates supporting funds from the regional budget (APBD) to assist the operation of waste banks, including purchasing digital scales, storage sacks, and transportation equipment.

However, this study finds that low public awareness remains a significant obstacle. Some residents perceive waste sorting as time-consuming and lacking immediate benefits. This view makes the program difficult to sustain without persuasive communication strategies and more attractive incentives (Rahman et al., 2022). These obstacles are also evident in Menteng and Langkai, where participation rates remain below 10% of total households.

In addition to awareness, limitations in technological infrastructure also pose challenges. Most waste banks still rely on manual recording, which is prone to errors and delays in reporting. This affects data accuracy, especially in measuring waste reduction achievements and tracking performance. The use of mobile-based digital applications or simple information systems can be a solution to improve transparency and reporting efficiency. Figure 1 shows an example of a waste bank facility in Pahandut Sub-District, which is independently managed by local residents with CSR funding support from private companies.



Figure 1. Waste Bank Facility in Pahandut Sub-District, Palangka Raya City

Source: Researcher's Documentation, 2023

A positive impact of this policy implementation is also observed in the reduced burden on the Bukit Tunggul Final Processing Site (TPA). According to DLH (2023), there has been a 12% decrease in the volume of waste entering the TPA compared to the previous year. Although this figure has not yet met the Jakstrada target, the achievement shows a positive direction and forms a foundation for future program improvements.

The study also finds that cross-sector collaboration is a key success factor. The involvement of private parties through CSR programs, environmental NGOs, and universities in providing training, mentoring, and facilities accelerates the adoption of waste management behavior in the community. This approach aligns with Kurniawan et al. (2023), who emphasize the importance of multi-stakeholder synergy in environmental policy.

Improving environmental literacy among younger generations has become one of the most significant long-term impacts. Several schools in the study areas have integrated waste sorting materials into their extracurricular curricula, enabling students not only to understand the concept of waste management but also to practice it at home (Wulandari & Susanto, 2021). However, program sustainability heavily relies on consistent monitoring and evaluation. Without a structured evaluation system, initial successes may decline over time. The Palangka Raya City Government needs to develop clear performance indicators and conduct evaluations at least every six months to identify areas needing improvement.

Innovation in the incentive system is also a key recommendation. Some residents have proposed offering waste fee discounts to households that consistently sort their waste. This scheme has been successfully implemented in other cities and has the potential to increase motivation among residents in Palangka Raya. The integration of digital technology in waste management, such as the use of online waste bank applications, can facilitate transaction recording, waste volume reporting, and transparent incentive distribution. This use of technology also supports the involvement of younger generations who are more familiar with digital tools.

Overall, the research findings indicate that the implementation of community-based waste management policy in Palangka Raya City is on a positive path. Despite various challenges, there are substantial opportunities for improvement through

increased public awareness, infrastructure strengthening, technological innovation, and broader cross-sector cooperation. These efforts, if carried out consistently, can help achieve the waste reduction targets outlined in the 2025 Jakstrada.

CONCLUSION

Based on the findings and discussion presented above, it can be concluded that the success of farmer group management largely depends on the active participation of its members in organizational activities, such as annual member meetings, regular group gatherings, and agricultural development programs. Low member participation may stem from a lack of transparency in managing government assistance, as well as the perceived absence of tangible benefits from the provided facilities and production resources. In some cases, farmer groups tend to become inactive after receiving government aid, thereby failing to fulfill the intended objectives of their establishment.

The role of agricultural extension workers is also critical in empowering farmer groups, encompassing functions as facilitators, innovators, motivators, and educators. However, the role of extension workers has not yet been fully optimized in guiding farmer group management, as extension approaches still lack focus on strengthening internal group management. This study highlights key managerial elements—planning, leadership development, organizing, implementation, and reporting control—as crucial factors determining the effectiveness of farmer group management.

Among these five criteria, implementation was found to have the most significant impact on the success of farmer group management, particularly in the execution of farming operations. Therefore, increasing member participation, optimizing the role of extension workers, and strengthening key managerial components—especially implementation—are essential to ensuring the success of farmer groups in achieving sustainable productivity and improved welfare outcomes.

REFERENCES

- Amelia, R. R., & Yuwono, D. T. (2024). Supporting learning information system through knowledge management optimization using long short-term memory method. *KnE Social Sciences*, 2024, 361–371.
- DLH Kota Palangka Raya. (2023). Laporan tahunan pengelolaan sampah Kota Palangka Raya. Dinas Lingkungan Hidup Kota Palangka Raya.
- Kim, Y., & Lee, S. (2021). Community-based waste management practices in East Asia: Lessons for sustainable cities. *Journal of Environmental Management*, 290, 112572. <https://doi.org/10.1016/j.jenvman.2021.112572>

- Kurniawan, A., Prasetyo, B., & Dewi, L. (2023). Kolaborasi multipihak dalam pengelolaan sampah perkotaan. *Jurnal Tata Kelola Lingkungan*, 15(2), 155–168. <https://doi.org/10.32528/jtl.v15i2.8652>
- Lestari, S., & Nugroho, T. (2023). Partisipasi masyarakat dalam pengelolaan bank sampah di perkotaan. *Jurnal Pemberdayaan Lingkungan*, 9(1), 45–60. <https://doi.org/10.31284/j.jpl.2023.9.1.1559>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). SAGE Publications.
- Nuraini, D., & Fahmi, M. (2021). Faktor-faktor yang mempengaruhi keberhasilan pengelolaan sampah berbasis masyarakat. *Jurnal Kebijakan Publik*, 13(3), 230–245. <https://doi.org/10.22219/jkp.v13i3.15783>
- Pratama, R., Suryani, D., & Hasanah, N. (2022). Analisis kebijakan pengelolaan sampah perkotaan. *Jurnal Kebijakan dan Manajemen Publik*, 10(2), 145–162. <https://doi.org/10.22146/jkmp.25678>
- Putri, M., Andini, R., & Purnomo, A. (2020). Bank sampah sebagai strategi pengurangan sampah di perkotaan. *Jurnal Pengelolaan Lingkungan Berkelanjutan*, 4(2), 123–134. <https://doi.org/10.32734/jplb.v4i2.3156>
- Rahman, A., Syahrani, F., & Yusuf, M. (2022). Tantangan dan peluang dalam implementasi kebijakan pengelolaan sampah berbasis masyarakat. *Jurnal Lingkungan dan Pembangunan*, 12(1), 55–68. <https://doi.org/10.31284/j.jlp.2022.12.1.1301>
- Susilawati, R., & Ananda, D. (2024). Efektivitas program bank sampah dalam meningkatkan kesadaran lingkungan. *Jurnal Pemberdayaan Komunitas*, 8(1), 78–92. <https://doi.org/10.22437/jpk.v8i1.18952>
- Wulandari, E., & Susanto, H. (2021). Pendidikan lingkungan berbasis partisipasi masyarakat. *Jurnal Pendidikan dan Kebudayaan*, 26(3), 299–312. <https://doi.org/10.24832/jpnk.v26i3.1731>
- Yuwono, D. T., & Hariyanti, A. (2024). Applying clustering and recommendation system for effective supervision in Central Kalimantan Inspectorate. *Jurnal Informatika Teknologi dan Sains (JINTEKS)*, 6(2), 367–374.