

The Effectiveness of the Village Government Program in Increasing the Production of Micro Enterprises of the Waste Bank Center in Pematang Johar Village

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Abstract. *This study aims to evaluate the effectiveness of village government programs in increasing the production of micro businesses of waste bank centers in Hamlet XV, Pematang Johar Village, Labuhan Deli District, Deli Serdang Regency. The main problems faced by these micro businesses include lack of financial support, low public awareness in sorting waste, limited production infrastructure, and not optimal marketing strategies. This research uses a qualitative descriptive approach with effectiveness theory as an analytical framework, which includes 5 (five) aspects: right policy, right to implement, right target, right environment, and right process. The results of the study show that village government programs such as socialization, waste management training, provision of facilities, and partnerships with external parties have been effective and have a real impact on increasing production and community empowerment. Thus, it can be concluded that the village government's program in the development of micro businesses of waste bank centers has been implemented effectively in accordance with the principles of policy effectiveness.*

Keywords: Program Effectiveness, Village Government, Micro Enterprises, Waste Bank, Recycling Production

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INTRODUCTION

Waste is a significant environmental problem in almost all urban areas in Indonesia (Dethier, 2017; Fatimah et al., 2020; Andriani & Atmaja, 2019; Kristanto & Koven, 2019). The ever-increasing volume of waste poses various management challenges that require innovative and sustainable solutions (Afdhal, 2024). Data from the National Waste Management Information System (<https://Sampahnasional.Kemenlh.Go.Id/>, n.d.) mentioned that the volume of national waste reaches around 19 million tons per year, with most of this amount not handled optimally. Not only is it a source of pollution, waste that is not managed properly contributes to the damage to ecosystems and public health (Abubakar et al., 2022; Siddiqua et al., 2022; Kibria et al., 2023; Yang et al., 2018; Dubey et al., 2024). At the same time, proper and innovative waste management is able to open up new economic opportunities (Subianto et al., 2025). One of these innovations is the Waste Bank, which plays a role in reducing waste while increasing the economic value of the waste produced by the community through the recycling process and community-based management. The program allows communities to sort waste at the household level and manage the results independently, thereby contributing to environmental sustainability and improving the local economy.

In Hamlet XV, Pematang Johar Village, Labuhan Deli District, Deli Serdang Regency, the Suka Mulia Waste Bank Micro Business Center has been established as a form of community empowerment and successful community-based waste management. Recycled products from this waste bank include various handicrafts, eco-friendly bags, and fashion accessories made from recycled plastic and paper.



Figure 1. Waste Bank Recycling Results in Hamlet XV, Pematang Johar Village

These products not only provide economic benefits and environmental sustainability, but are also able to increase public awareness of the importance of good waste management. However, challenges in developing this business remain, such as lack of financial support, limited infrastructure, and low public awareness in sorting waste independently. The success of the management of this waste bank is highly dependent on the effectiveness of village policies in supporting these micro businesses (Kania et al., 2021; Budiarto et al., 2025; Aparcana, 2017). Therefore, it is necessary to evaluate the success of the village government programs that have been implemented, especially in terms of increasing production and business sustainability. This study aims to assess the effectiveness of the village government program in increasing the production of micro waste bank businesses in Dusun XV, based on aspects of policy effectiveness according to Riant Nugroho. Through this evaluation, it is hoped that a complete picture of the existing obstacles and potentials will be obtained, which can be the basis for refining policies and strategies in the future, for the sake of improving community welfare and preserving the environment in a sustainable manner.

Public administration is the main foundation in planning, implementation, and evaluation of policies at the village level (Ismanudin, 2026; Baskoro, 2025; Ardiputra et al., 2025; Junaedi, 2023; Nasution et al., 2025). The effectiveness of the village government program is the main indicator of the success of the administration. In this context, effectiveness is not only measured by the achievement of physical results such as increasing production output or reducing waste, but also by processes such as community participation, transparency, participatory decision-making, and accountability in program implementation. An effective program is one that is able to meet social, economic, and environmental goals in a sustainable manner, as well as gain the trust and active participation of the village community (Jatnika et al., 2024; Dushkova & Ivlieva, 2024; Sabet & Khaksar, 2024; Franco & Tracey, 2019; Dulkiah et al., 2023). The approach adopted, namely the "five right" principle from Nugroho, includes the following aspects: right policy (policies must be in accordance with the needs and characteristics of the village, based on data and analysis of community needs), right implementation (implementation by competent and capable personnel or institutions or institutions), right on target (targets according to community

groups that really need it), right environment (programs pay attention to environmental, sustainability and preservation aspects), and proper process (implementation meets administrative, transparent, and accountability aspects). These aspects provide a framework for systematic analysis in measuring the success of village program implementation steps.

Good public administration supports the creation of program effectiveness (Apaza, 2026; Sari, 2023; Omelchuk et al., 2020). For example, in waste bank management, transparent and participatory administration allows for organized waste collection, accountable financial management, and equitable distribution of results. An administrative system that allows for continuous monitoring and evaluation will increase the efficiency and effectiveness of the program. Thus, the program carried out is not just a formality, but is able to provide real benefits to the community while maintaining environmental sustainability. According to the theory of (Nugroho, 2020), the success of government policies depends on the application of the "five right" principle. This means that the designed policy must be supported by an appropriate implementation process, clear goals, and a supportive environment. If any of these aspects are neglected, then the effectiveness of the policy will be reduced, even leading to failure. In the context of micro business management such as waste banks, this theory emphasizes that the success of the program depends on how the policy is truly able to respond to needs and dynamics at the field level efficiently and on target (Masjhoer, 2025).

The village government has a strategic role as a regulator, facilitator, and supervisor of the waste bank program. They must be able to develop concrete policies and support the implementation of programs oriented towards economic and environmental sustainability (Nazira et al., 2025). These policies include the provision of waste disposal and processing facilities, community assistance in effective waste management, management training, and strengthening market networks and marketing of recycled products. In addition, the village government is also responsible for ensuring that the program runs in accordance with the principles of sustainability and ensuring economic benefits for the community, especially in increasing micro income and fostering environment-based entrepreneurship. The management of MSMEs in villages, including waste banks, reflects an integrative mechanism in the village public administration system (Haryadi & Nurhascaryani, 2025; Reni, D. S., & Prasetyo, 2025; Dharmanu et al., 2026; Wibowo et al., 2026). These MSMEs must be supported through regulations that facilitate access to capital, training, marketing, and institutional strengthening. The waste bank program as part of micro businesses, in addition to contributing to sustainable waste management, is also a source of village income and improving the local economy. Effective management and a strong public administration-based approach are able to drive the overall success of this program (Lendra et al., 2025). Thus, MSME-based waste management not only solves environmental problems, but also strengthens the economic capacity of villages in a sustainable manner.

In practice, the success of the waste bank program is greatly influenced by the level of public awareness, active participation, consistent policy support, competent human resources, and the existence of adequate infrastructure. Obstacles such as lack of understanding, lack of operational funds, and uneven distribution of benefits are often challenges. Therefore, public administrations that are able to carry out effective communication, transparency, and accountability are key in overcoming these barriers and ensuring the effectiveness of programs

METHODS

This study uses a descriptive research method using a qualitative approach. The qualitative descriptive approach is a research approach by collecting data sourced from interviews, field notes, recordings/videos, photos, notes, personal documentation, memos and other data (Waruwu, 2024). Descriptive research aims to make a systematic, factual, and accurate description of the facts, nature, and relationships between the phenomena being investigated. According to (Bogdan & in Moleong, 2001), qualitative research is research that produces analytical procedures that do not use statistical analysis procedures or other means of

quantification. In this study, there are three main methods used for data collection, namely interviews, documentation, and observation, each of which has an important role in obtaining comprehensive information, (1) Interview: The interview method allows researchers to get a direct view from the informant about certain events or phenomena. In this process, the researcher can use structured or semi-structured interviews, where a list of questions is prepared as a guideline, but remains flexible to adapt to the situation as the interview takes place. Interviews can be conducted more than once to delve into the information obtained, as well as to ensure the accuracy and consistency of the data; (2) Documentation: The documentation method involves searching and collecting documents relevant to the research topic. This includes laws and regulations, theoretical books, scientific papers, reports, and archives related to waste management. The secondary data obtained from this document serve to complement and reinforce the primary data obtained from the interviews, providing a solid theoretical foundation for the analysis; and (3) Observation: Observation is carried out to observe objects or phenomena directly, giving researchers the opportunity to collect empirical data. Through observation, researchers can understand contexts and dynamics that may not be revealed in interviews. Observations can also be used in conjunction with interviews to verify the correctness of the information obtained. In this study, the data collected consisted of primary and secondary data. Primary data was obtained directly from the source through interviews and observations, while secondary data was obtained from relevant documents and literature. The data collection process is carried out systematically, starting from the identification of the right data sources to answer the formulation of the problem that has been determined. In addition, to ensure the validity of the data, researchers can triangulate data sources, which is comparing information obtained from various methods and sources (Sugiyono, 2017). With this approach, it is hoped that the results of the research can be closer to the truth and provide a deeper understanding of the topic being researched.

RESULTS AND DISCUSSION

Effectiveness of Village Government Policies

The purpose of this study is to assess the effectiveness of the village government program in increasing the production of micro business waste bank centers in Hamlet XV, Pematang Johar Village, Labuhan Deli District, Deli Serdang Regency, based on 5 (five) aspects of policy effectiveness according to Riant Nugroho. Based on the results of the research, there are 5 policies made by the village government to increase the production of micro business waste bank centers in Pematang Johar Village, namely, the existence of a policy to establish a waste bank as an MSME center for Hamlet XV, the existence of Pematang Johar village regulations related to the environment and village waste, the existence of a partnership policy, the existence of a policy of providing supporting infrastructure, and the existence of a participation policy, evaluation, and village deliberation. These 5 policies that have been made by the village government are then analyzed how their effectiveness is using the theory put forward by (Nugroho, 2020). There are 5 (five) indicators in analyzing the effectiveness of programs or policies that have been made by the Pematang Johar Village government, namely the right policy, the right target, the right time, the achievement of goals, and real changes.

Policy on the Establishment of a Waste Bank as an MSME Center for Hamlet XV

The waste bank of Dusun XV Pematang Johar Village has had official legality as a low-risk micro business, which strengthens its position as a legitimate and environment-based business unit. This legality proves that the village government is serious about supporting the development of MSMEs, especially in the field of waste management, as well as opening access for waste banks to coaching, assistance with production tools, and cooperation with various parties. Policy evaluation based on the five "right five" principles of (Nugroho, 2020) shows that: (1) Right Policy: The legality of the waste bank business is born from the real needs of the community and becomes a strong legal basis in the development of environment-based MSMEs; (2) Proper Implementers: The village government, waste bank administrators, and the

community are directly and actively involved as program implementers; (3) Right Target: The main target is the people of Dusun XV, especially business managers who need economic support; (4) Environmentally Appropriate: Policies are prepared by adjusting the social and geographical conditions of villages that have a high volume of waste; and (5) Proper Process: Implementation is carried out in stages and structured, from legalization to program evaluation.

Pematang Johar Village Regulations Related to the Environment and Village Waste

The Suka Mulia Waste Bank Dusun XV, Pematang Johar Village, has a strong operational legal basis through Decree Number 146 of 2020. This document marks the official establishment of the village waste management agency, establishes the management structure, and regulates the operational mechanism in detail, starting from working hours to the waste savings system. This decree shows the village government's commitment to making the waste bank a strategic instrument that not only targets environmental issues, but also empowers the community's economy in a sustainable manner. The existence of this document provides legitimacy, clear direction, and guarantees the continuity of waste bank operations in an orderly and structured manner.

Evaluation based on five principles of policy implementation according to (Nugroho, 2020) shows (1) Appropriate Policy: This decree is a relevant policy because it answers the needs of waste management as well as improving the economy of residents; (2) Appropriate Implementers: The appointment of administrators from local residents ensures effective and contextual implementation; (3) Right Target: The policy targets the people of Dusun XV as the main actor as well as the direct beneficiary; (4) Environmentally Appropriate: Prepared by considering the culture of mutual cooperation and entrenched environmental awareness; and (5) Proper Process: The implementation process is designed in a systematic and transparent manner, including measurable and evaluable technical procedures.

Partnership Policy

The partnership established by the Suka Mulia Waste Bank Dusun XV Pematang Johar Village is a strategic policy of the village government to increase the production of environment-based micro businesses. This waste bank has partnered with various parties, such as PT Kawasan Industri Medan (PT KIM), ATR/BPN North Sumatra, University of Muhammadiyah North Sumatra (UMSU), as well as local organizations such as PKK and PIK Remaja. The forms of support provided include facilities in the form of plastic shredding machines, training, and technical assistance. This partnership is self-reliant, where village officials and communities actively establish relationships, prepare proposals, and manage cooperation independently. The village government acts as a facilitator through the provision of road documents, legality documents, and partnership charters. Evaluation based on five "five right" principles (Nugroho, 2020) indicates that: (1) Right Policy: Partnerships are built to answer the need to increase production capacity and waste management; (2) Proper Implementation: Carried out by collaboration between the village government, waste bank administrators, and the community in a participatory manner; (3) Right Target: Targeting micro business actors and waste management communities who need technical support and facilities; (4) Right Environment: Adjusted to the spirit of mutual cooperation and the active character of the village community; and (5) Proper Process: The partnership process runs systematically, from partner identification to implementation and evaluation.

Policy on the Provision of Supporting Infrastructure

The Pematang Johar Village Government has shown a real commitment to supporting the sustainability of the Suka Mulia Waste Bank Center micro business through the provision of adequate facilities and infrastructure. The assistance provided includes garbage rickshaws, plastic shredding machines, scales, administrative facilities, storage rooms, and road access to the waste bank location. All of these facilities simplify the waste management process and support increased production of recycling-based products, such as maggot feed, paving blocks, and plastic

bricks. The provision of these facilities is also equipped with training and socialization programs, which allow the community to understand and maximize its utilization. Active community involvement and support from external partners such as universities have strengthened the effectiveness of the implementation of this policy. Evaluation based on principles "*Five Exactly*" (Nugroho, 2020) indicates: (1) Appropriate Policy: Facilities and infrastructure are provided according to local needs to support waste management and strengthen the community's economy; (2) Proper Implementation: Collaboration between village governments, communities, and external partners ensures effective implementation; (3) Right Target: The target is right, namely micro business actors and waste management communities who directly feel the impact; (4) Right Environment: Policies are adjusted to the geographical and social conditions of dense villages and are active in mutual cooperation; and (5) Proper Process: Implementation is carried out gradually, participatory, and accompanied by training so that policies run sustainably.

Village Participation, Evaluation and Deliberation Policy

The mutual cooperation and waste management program in Hamlet XV, Pematang Johar Village, reflects the success of an inclusive, participatory, and sustainable environment-based community empowerment policy. This activity is not just a routine, but has developed into a deeply rooted social culture, supported by the principles of deliberation, equality, and self-help. People of all ages, including children, adolescents, housewives, and community leaders, are actively involved in environmental clean-up activities, processing waste into handicrafts, and producing fertilizer and maggot feed. This community participation shows independence in the provision of tools, consumption, and program initiatives without depending on the village government.

The results of waste management have even made a real contribution to the household economy, for example through waste bank savings that can be used for needs such as UN payments. This collaboration between the community and the village government has transformed environmental management into a driving tool for the local economy. Policy evaluation using the "Five Right" principle (Nugroho, 2020) indicates: (1) Policy Correctness: Responding to the real needs of the community through training, facilitation, and active involvement in environmental and economic management; (2) Appropriate Implementers: The village government and the community as program implementers have the capacity and social support to implement policies effectively; (3) Right Target: The target is all levels of the village community who are directly involved in waste management activities; (4) Appropriate Environment: Policies are in line with local socio-cultural values such as mutual cooperation and deliberation; and (5) Proper Process: The implementation process runs gradually, participatory, and sustainable through training, routine evaluation, and production capacity building. Overall, the program is an example of holistic village development good practices combining environmental, economic, and social aspects in one comprehensive empowerment strategy.

Pematang Johar Village Government Program

There are several government programs in Pematang Johar Village, namely, (1) Environmental Socialization and Education Program; (2) Waste Management Training and Coaching; (3) Product Innovation and Marketing strategy; and (4) Waste Savings Program. Through this program, the Pematang Johar Village government, especially in Dusun XV, has carried out a socialization program to the community regarding various products produced from the Suka Mulia waste bank center. This socialization aims to introduce processed waste products to the surrounding community and related agencies as potential users or product markets. The main products introduced include ecobricks, ecobrick sofa chairs, welcome gates, planting media, paving blocks, chopped plastic waste, and plastic bricks. This effort is an effective strategy to increase the production of micro businesses based on waste management. In addition, the village government also holds training and coaching to the community on how to process organic and non-organic waste. Organic waste such as household waste and foliage is processed into liquid organic fertilizer (POC) through a fermentation process for two to three weeks with the support

of a closed barrel facility equipped with a tap (Ndaru, 2024; Yunita et al., 2019; Sultan, S. M., & Ibrahim, 2026; Ganapathy et al., 2025). The results are used for local agriculture. Meanwhile, non-organic waste such as plastic is processed into various creative products with economic value, such as handicrafts, flower pots, and plastic bricks. The processing process is carried out by washing, chopping using a plastic chopping machine, then melting and printing it. Through this socialization, training, and provision of facilities, the people of Dusun XV are increasingly actively involved in waste management which not only has an impact on environmental cleanliness, but also provides economic benefits for the village

CONCLUSION

Based on the results of the research and analysis that has been carried out, it can be concluded that the program run by the Pematang Johar Village Government has proven to be effective in increasing the production of micro businesses at the Suka Mulia waste bank center in Dusun XV. This effectiveness is reflected in the implementation of various policies that are right on target, such as the provision of supporting facilities and infrastructure, training and coaching, as well as socialization programs of waste processing products to the community and external partners. In addition, partnerships with various parties such as PT Kawasan Industri Medan, ATR/BPN North Sumatra, universities, and community organizations have also strengthened the capacity of waste banks in producing goods of economic value. This success is also inseparable from the high participation and self-reliance of the community in mutual cooperation activities and independent waste management initiatives. The synergy between the village government and the community has formed a sustainable empowerment ecosystem, so that waste management not only has an impact on environmental cleanliness, but also supports household economic growth in Pematang Johar Village.

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