



Plastic Waste Management Model in Yogyakarta City: A Study of Its Regulation and Mas Jos Program Implementation

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Abstract: *This study aims to analyze plastic waste management policies within the framework of the Masyarakat Jogja Olah Sampah (Mas Jos) Program in Yogyakarta City, identify supporting and inhibiting factors in its implementation, and formulate a community-based plastic waste management model. The permanent closure of the Piyungan's Sanitary Landfill since May 1, 2024, triggered a waste emergency in Yogyakarta City, with waste lot reaching 332 tonnes per day (TPD). The Mas Jos Program, launched through Mayor of Yogyakarta City Circular Letter Number 100.3.4/2783 of 2025, became the government's strategic response with five pillars: sorting waste, channeling inorganic waste to waste banks, processing organic waste, finishing food, and using reusable containers. The research employed a mixed-methods approach with data collected through in-depth interviews, Focus Group Discussions (FGD), surveys, and documentation. Results show that: (1) the Mas Jos Program is protected by a regulatory hierarchy from Law Number 18 of 2008 to local regulations; (2) waste bank units serve as the central institution in the plastic waste supply chain; (3) public interest in the program reaches 78.06%; and (4) the plastic waste management model in Mas Jos adopts circular economy principles by integrating regulatory policy, community participation, waste bank institutions, and recycling industries. Key inhibiting factors include fluctuating plastic waste prices, inconsistent sorting habits among some residents, and limited infrastructure.*

Keywords: *Circular Economy; Mas Jos; Plastic Waste; Waste Bank; Yogyakarta.*

Abstrak: Penelitian ini bertujuan menganalisis kebijakan pengelolaan sampah plastik dalam kerangka kerja Program Masyarakat Jogja Olah Sampah (Mas Jos) di Kota Yogyakarta, mengidentifikasi faktor pendukung dan penghambat implementasinya, serta merumuskan model pengelolaan sampah plastik berbasis masyarakat. Ditutupnya Tempat Pembuangan Akhir (TPA) Piyungan sejak 1 Mei 2024 memicu kondisi darurat sampah di Kota Yogyakarta dengan timbulan sampah mencapai 332 ton per hari (TPD). Program Mas Jos yang diluncurkan melalui Surat Edaran Wali Kota Yogyakarta Nomor 100.3.4/2783 Tahun 2025 menjadi respon strategis pemerintah dengan lima pilar: memilah sampah, menyalurkan sampah anorganik ke bank sampah, mengolah sampah organik, menghabiskan makanan, dan menggunakan wadah berulang. Penelitian menggunakan metode campuran (mixed method) dengan pengumpulan data melalui wawancara mendalam, Focus Group Discussion (FGD), survei, dan dokumentasi. Hasil penelitian menunjukkan bahwa: (1) Program Mas Jos dilindungi oleh hierarki regulasi mulai dari UU Nomor 18 Tahun 2008 hingga peraturan daerah setempat; (2) Bank sampah unit menjadi kelembagaan sentral dalam rantai pasok pengelolaan sampah plastik; (3) Tingkat minat masyarakat terhadap program mencapai 78,06%; dan (4) Model pengelolaan sampah plastik dalam Mas Jos mengadopsi prinsip ekonomi sirkular dengan mengintegrasikan kebijakan regulatif, partisipasi masyarakat, kelembagaan bank sampah, dan industri daur ulang. Faktor penghambat utama meliputi harga sampah plastik yang fluktuatif, kebiasaan sebagian masyarakat yang belum konsisten memilah sampah, serta keterbatasan sarana dan prasarana.

Kata kunci: *Ekonomi Sirkular; Mas Jos; Sampah Plastik; Bank Sampah; Yogyakarta.*

Introduction

Yogyakarta City has facing waste emergency that has been caused by Piyungan's Sanitary Landfill Closing. Its closing is from 1st May 2024 and it is ruled in Governor's Letter 658/1189 at 19th October 2023. This Sanitary Landfill closing has made waste surging in garbage depot, reckless waste dumping, degradation of health quality, and city aesthetics. A data from *Sistem Informasi Pengelolaan Sampah Nasional (SIPSN)*, released by The Indonesian Ministry of Environment and

Forestry in 2024/2025 stated that national waste lot in 348 districts/cities raised 38.615.598,96 ton per year, between it, there is 65.75% of waste unmanageable¹.

At year of 2026, this system of SIPSN is not available and change to *Sistem Informasi Kinerja Pengelolaan Sampah Nasional* (SIKPSN). SIKPSN is available at *sampahnasional.kemenlh.go.id*. At this site states that national waste lot of 2025 is about 144.449 ton per day (TPD), with waste manageable is 35.697 TPD and unmanaged is about 108.652 TPD². At that site, researcher uses key word *Yogyakarta* and get a data that states at 2025, especially in Yogyakarta City, waste lot raised in 332 to per day (TPD)³, with plastic waste contributed about 20% or equal to 66,4 ton per day (TPD)⁴.

Plastic waste becomes critical component in waste emergency. In environment, plastic is as waste component that is, naturally, very difficult to be unraveled. Plastic waste pollutes environment and also contributes to global warming⁵. So, plastic waste is needed special management.

Plastic waste management needs integration ways. The strategy is called 3R. 3R is an application of waste management consists reduce, recycle, and reuse technique. This 3R is stated at Article 19 and 20 in Republic of Indonesia's Law Number 18 Year of 2008 about Waste Management⁶.

Waste emergency and sanitary landfill closing become reasons for Yogyakarta's government to release *Mas Jos* Program. *Mas Jos* is

¹ Sistem Informasi Pengelolaan Sampah Nasional SIPSN, "TIMBULAN SAMPAH," Kementerian Lingkungan Hidup dan Kehutanan, 2024.

² Kementerian Lingkungan Hidup Republik Indonesia, "Statistik Pengelolaan Sampah Nasional 2025," Sistem Informasi Kinerja Pengelolaan Sampah Nasional, 2026.

³ Indonesia.

⁴ Portal Berita Pemerintah Kota Yogyakarta, "Wali Kota Yogya Terbitkan SE Pembatasan Plastik Sekali Pakai Dukung Pengurangan Sampah," Portal Berita Pemerintah Kota Yogyakarta, 2025.

⁵ Zazam Aromi, Oktavia Andini Putri, and Rina Rahayu, "Pengelolaan Sampah Plastik Di Kota-Kota Indonesia: Tantangan Lokal Dan Pendekatan Partisipatif Untuk Solusi Berkelanjutan Bagi Masyarakat," *Jurnal Ekologi, Masyarakat Dan Sains* 5, no. 2 (2024): 251–55, <https://doi.org/https://doi.org/10.55448/5f7d0846>.

⁶ Republik Indonesia, "UNDANG-UNDANG REPUBLIK INDONESIA NOMOR 18 TAHUN 2008 TENTANG PENGELOLAAN SAMPAH" (2008).

abbreviation of *Masyarakat Jogja Olah Sampah*. It means Yogyakarta's people manage waste. *Mas Jos* Program is under Circular Letter of Mayor of Yogyakarta City Number 100.3.4/2783 Year of 2025⁷. *Mas Jos* is a program from Yogyakarta government to manage waste from its source, example household. It has five techniques, those are: (1) to sort waste, between organic waste and an organic waste, (2) an organic waste is sent to trash bank, (3) organic waste is managed by household, (4) to eat food until finish, and (5) to reuse packing.

Mas Jos Program becomes a good regulation to manage waste in emergency condition. Until now, the positive application of this program is about collaboration activation between Yogyakarta government and community of neighborhood associations. Because that, researcher wants to explore this collaboration so we know a problem formulation about how plastic waste management regulation in *Mas Jos* Program Frame is.

That problem can be answered by three goals: (1) to analyze regulation of plastic waste management in *Mas Jos* Framework, (2) to analyze supporting and hindering factor, (3) to analyze plastic waste management in *Mas Jos* Framework as a model.

Special position of this research is to fulfill waste management knowledge and regulation implementation related to Sociology in Community Empowerment and Sociology in Corporate Social Responsibility (CSR). This result of research can give a way of knowledge in deep understanding to manage waste and to implement its regulation. Because this result of research becomes an inspiration in waste management for health environment activity done by community, private, and government.

This research continues what other researches have done about plastic waste management, where *Mas Jos* Program is included in it. Also, this research fills what other researches do not study. Junaidi and Utama state that waste management is a way to manage waste from industrial production and technology result for reducing environment

⁷ Walikota Yogyakarta, "Surat Edaran Walikota Yogyakarta Nomor 100.3.4/2783 Tahun 2025 Tentang Masyarakat Jogja Olah Sampah (*Mas Jos*)" (2025).

pollutions, appropriately related to its character. Waste management theory includes a 3R technique, reduce, reuse, and recycle⁸.

Many research results about waste management are available in many articles. Other research studies about waste management in Yogyakarta City such as Pambudi (2024) who writes an article, “*Menuju Transformasi Sampah DI Yogyakarta: Solusi Berkelanjutan Melalui Kolaborasi Multi Stakeholder*”. This research analyzes waste management in D. I. Yogyakarta, also Yogyakarta City. This uses qualitative method research to describe his research. His research results that waste management is needed multi stakeholder to reduce waste lot⁹. Pambudi’s research has same understanding with us about waste management. We together state that waste management needs community or multi stakeholder participation. But, Pambudi’s research is different with us about how to study plastic waste management and its model. So, our research, such as, continues Pambudi research about plastic waste management.

Other article is also about waste management in Yogyakarta. It has title, “*Evaluasi Tata Kelola Sampah Yogyakarta Pasca-Piyungan: Studi Komparatif dengan Model Ekonomi Sirkular Banyumas*”. This article is writed by Faiz Kasyfilham and Nuruddin Al Akbar (2025). This research results that, in Yogyakarta, waste management still uses centralistic management so government has prior decision to manage waste. Other side, in Banyumas, that waste management uses de-centralistic management so people and community have independence decision to manage waste, such as plastic waste becomes block of paving and there is cooperation association to manage waste becomes until infestation¹⁰. This Kasyfilham’s article has same understanding about independence

⁸ Junaidi and Abdul Alimun Utama, “ANALISIS PENGELOLAAN SAMPAH DENGAN PRINSIP 3R (Reduce , Reuse , Recycle) (Studi Kasus Di Desa Mamak Kabupaten Sumbawa),” *Jurnal Ilmu Sosial Dan Pendidikan (JISIP)* 7, no. 1 (2023): 706–13, <https://doi.org/10.58258/jisip.v7i1.4509/http://ejournal.mandalanursa.org/index.php/JISIP/index> ANALISIS.

⁹ Priyaji Agung Pambudi, “Menuju Transformasi Pengelolaan Sampah Di Yogyakarta: Solusi Berkelanjutan Melalui Kolaborasi Multi-Stakeholder,” *Pangripta Sembada : Jurnal Perencanaan Pembangunan* 2, no. 1 (2024): 17–32.

¹⁰ Faiz Kasyfilham and Nuruddin Al Akbar, “Evaluasi Tata Kelola Sampah Yogyakarta Pasca-Piyungan : Studi Komparatif Dengan Model Ekonomi Sirkular Banyumas,” *Jurnal Administrasi Dan Kebijakan Publik (JAKP)* 10, no. 1 (2025): 152–81, <https://doi.org/https://doi.org/10.25077/jakp.10.1.152-181.2025>.

community in Mas Jos Program and Banyumas. Beside that, our research is different about concentration to plastic waste management than Kasyfilham has. So, this study continues Kasyfilham's article and also fills a gap about finding plastic waste management model in Mas Jos Program Framework, related to Mas Jos's plastic waste supply chains from household into waste bank unit.

Method

To explore information about how regulation of plastic waste management in Mas Jos Framework we must use mixed research method. Related to Sugiyono (2016), mixed method research is a research method uses combination on qualitative and quantitative research method. Qualitative research uses when natural and complex phenomenon must be understood in deeper way. So, the construction of the phenomenon can get the truth meaning. The meaning of the phenomenon is grasped as hypothesis (according to Sugiyono in page vi). Then, we must use quantitative method to test the hypothesis so research can get truth meaning of the information and credible respond from the object of the research¹¹. For testing the hypothesis researcher uses questionnaire.

Such as in this research, Mas Jos Program doesn't have fix population and also plastic waste management is not written, specially, in Mas Jos regulation, under Circular Letter of Mayor of Yogyakarta City Number 100.3.4/2783 Year of 2025. Plastic waste management is included in inorganic waste management. So, researcher uses qualitative research method for prior research method. Then, to support qualitative method, researcher uses quantitative research method as secondary technique, to get credible data. So, this research uses mixed research method.

Example, in qualitative method, researcher uses documentation technique to get circular letter of Yogyakarta City's Mayor. Researcher uses observation to get Mas Jos advertisement information. Researcher interviews informants about what they are as participants in Mas Jos Program. Then, in quantitative method, researcher gives questionnaire to informants, who they are as participants, to get their respond about

¹¹ Sugiyono, *Metode Penelitian Kuantitatif Dan Kualitatif Serta R&D*, Alfabeta, CV, 13th ed. (Bandung: CV. Alfabeta. Bandung, 2013).

if they feel happy/enjoyment, feel care, are interested in, and are involved with. Their respond can be as special index in percentage formulation.

The research location is the city of Yogyakarta, with a duration of four months. The research subjects include Yogyakarta City government officials, waste bank unit managers, heads of households, and Micro, Small, and Medium Enterprises (MSMEs) actors. Data collection techniques include: (1) in-depth interviews with key informants; (2) Focus Group Discussions (FGD) with 6–10 informants per session; (3) descriptive surveys using questionnaires with four interest indicators: feelings of enjoyment, careful, interesting in, and involvement; (4) observation, and (5) documentation on regulations, policy documents, and official reports.

Qualitative data analysis is done through data reduction, data presentation, and drawing conclusions. Quantitative data analysis is used to calculate the percentage of public respond, example, interest in the Mas Jos Program. The survey was conducted from April 30 to May 14, 2026, with informants from heads of households (HH), MSMEs, and waste bank unit (WBU) managers. Data triangulation was carried out by comparing the results of interviews, FGDs, and official documents to ensure the validity of the findings.

Theoretical Framework

Concept of Waste Management and the 3R Approach

Waste management is a series of systematic and comprehensive activities to handle waste lot from its source to final processing. According to Junaidi and Utama, waste management involves ways to manage waste from industrial and technological outputs to reduce environmental pollution based on the characteristics of the waste lot¹². The 3R approach (reduce, reuse, recycle) is the most commonly applied operational framework in waste management. Reduce refers to limiting waste generation right from the source; reuse is about making use of products or packaging that can still be used; while recycle involves

¹² Junaidi and Utama, “ANALISIS PENGELOLAAN SAMPAH DENGAN PRINSIP 3R (Reduce , Reuse , Recycle) (Studi Kasus Di Desa Mamak Kabupaten Sumbawa).”

processing waste materials into new products with economic value¹³. This 3R framework is explicitly adopted in Article 20 of Law No. 18 of 2008 and serves as the conceptual foundation for the Mas Jos Program.

Circular Economy Concept

The circular economy is an economic paradigm that aims to maintain the value of materials and products in the economic cycle for as long as possible, thereby minimizing waste and the use of natural resources. In the context of waste management, the circular economy treats waste not as the end of the consumption chain, but as raw material for the next production cycle. Managing plastic waste through mechanical and chemical recycling models, as well as converting it into fuel (pyrolysis), is a concrete manifestation of the circular economy principle¹⁴. This model is relevant to the Mas Jos Program, which directs plastic waste from waste banks to the recycling industry.

Institutional Theory and Community-Based Waste Management

Scott's institutional theory emphasizes three pillars: regulative (formal rules), normative (values and norms), and cognitive (ways of thinking and habits). Community-based waste management positions the community as an active participant in management, not just a policy target. In this model, local institutions like waste bank units act as mediators between the community and the formal management system. Waste bank units are not only collection points for trash but also socio-economic institutions that turn waste into valuable assets through savings and sales mechanisms¹⁵.

Result and Discussion

Plastic Waste Management Policy Related to Mas Jos Program

The Mas Jos Program operates within a solid regulatory hierarchy. At the national level, its main foundation is Law No. 18 of

¹³ Aromi, Putri, and Rahayu, "Pengelolaan Sampah Plastik Di Kota-Kota Indonesia : Tantangan Lokal Dan Pendekatan Partisipatif Untuk Solusi Berkelanjutan Bagi Masyarakat."

¹⁴ Muhammad Nizar Arvila Putra et al., "Sampah Plastik Sebagai Ancaman Terhadap Lingkungan," *Aktivisme : Jurnal Ilmu Pendidikan, Politik Dan Sosial Indonesia* 2, no. 1 (2025): 154–65, <https://doi.org/https://doi.org/10.62383/aktivisme.v2i1.725>.

¹⁵ Kasyfilham and Akbar, "Evaluasi Tata Kelola Sampah Yogyakarta Pasca-Piyungan : Studi Komparatif Dengan Model Ekonomi Sirkular Banyumas."

2008 on Waste Management, which regulates the authority of regency/city governments to make policies and carry out waste management (Article 9), mechanisms for reducing waste through the 3Rs (Article 20), and waste handling from sorting to transportation (Article 22). Its derivatives include Government Regulation No. 81 of 2012 on Household Waste Management and Waste Similar to Household Waste and Government Regulation No. 27 of 2020 on Specific Waste Management, which explicitly define and regulate the existence of waste banks (Articles 1 and 47).

At the regional level, Daerah Istimewa Yogyakarta Regional Regulation Number 3 of 2013 and Daerah Istimewa Yogyakarta Governor Regulation Number 16 of 2021 set quantitative targets for waste reduction and mandate the development of waste bank units. Meanwhile, at the Yogyakarta City level, Regulation Number 10 of 2012 along with its amendments (Regulations No. 1/2022 and No. 9/2024) serve as the basis for the Mayor's Circular Letter Number 100.3.4/2783 of 2025 regarding Mas Jos. Presidential Regulation Number 109 of 2025 on Urban Waste Management through Conversion of Waste into Renewable Energy also supports the downstream direction of turning plastic waste into energy or by-products.

Table 1.

Supporting Regulation Hierarchy for the Mas Jos Program

Level	Regulation	Connection with Mas Jos
National	Law No. 18/2008; Government Regulation No. 81/2012; Government Regulation No. 27/2020; Presidential Regulation No. 109/2025	Basis of authority, 3R, waste bank unit, renewable energy
Regional of Daerah Istimewa Yogyakarta	Daerah Istimewa Yogyakarta Regional Regulation No. 3/2013; Daerah Istimewa Yogyakarta	Management of target and development of the waste bank unit

	Governor Regulation No. 16/2021	
Yogyakarta City	Regional Regulation No. 10/2012; Regional Regulation No. 1/2022; Regional Regulation No. 9/2024; Mayor's Circular Letter No. 100.3.4/2783/2025	Yogyakarta City policy, emergency response, Mas Jos's pillars to manage inorganic waste, especially plastic waste

That regulatory hierarchy ensures legal legitimacy for all activities in managing plastic waste within the Mas Jos framework, from sorting at the household level to distributing plastic waste to recycling industries.

Implementation of Plastic Waste Management in Mas Jos's Five Pillars

Mas Jos's five pillars reflect a comprehensive 3R approach. The pillars of finishing food and using reusable containers, especially plastic waste, represent the reduce and reuse aspects, while sorting organic and inorganic waste and channeling it to the waste bank unit represent the recycle aspect. Plastic waste, which falls under the inorganic category, becomes the main focus in the second pillar, namely the channeling of inorganic waste to the waste bank unit.

In practice, the flow of plastic waste management goes like this: (1) people sort plastic waste at the source—from households and business locations; (2) plastic waste is collected and submitted to the waste bank units scattered across each neighborhood; (3) the waste bank units weigh, record, and save it, then sell the plastic waste to collectors; (4) collectors distribute the plastic waste to recycling industries or processing factories. The end products of plastic waste are economically valuable items like paving blocks, tables and chairs made from recycled plastic, Refuse Derived Fuel (RDF), and even liquid fuel through pyrolysis.

The situation on the city shows dynamic activity. Garbage depots in Yogyakarta City, such as Argolobang Depot, Mandala Krida Depot, and Pengok Depot, experience heavy queues of waste carts

every morning. Pengok Depot has even implemented a policy of accepting only inorganic waste since December 22, 2025, in line with the sorting pillar in Mas Jos. Actively, waste bank units operate in various sub-districts, including Anugerah Waste Bank RW 01 Gondokusuman, which is open every third week of the month.

Supporting and Inhibiting Factors of Implementation

Based on the interviews conducted from April 30 to May 14, 2026 and FGD in July 16, 2026, factors affecting the implementation of plastic waste management at Mas Jos Program were found, as shown in Table 2.

Table 2.

Supporting and Inhibiting Factors in the Implementation of Mas Jos

Dimension	Supporting Factor	Inhibiting Factor
Waste Bank Unit	Improvement of the community's economy; economic incentives from selling plastic waste; availability of adequate places and equipment	The price of plastic waste is fluctuating; the economic system hasn't generated significant income
Social	Awareness of sorting waste; the community's wisdom in accepting socialization; improved plastic waste management behavior	Laziness to sort; the trash is smelly; not all residents are enthusiastic to get involved
Exemplary behavior	Mas Jos's agent sets an example and trains the residents; the government's commitment to implementing the program	Less government intervention and information; cross-sector coordination isn't optimal yet

Government	Having a definite schedule for garbage collection; strong regulatory support	Narrow road access; uncertainty about the program's sustainability; limited transportation facilities
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Public Interest Level in the Mas Jos Program

Specific survey results show that the public interest level in the Mas Jos Program in Yogyakarta City overall reaches 78.06%. This level is measured through four indicators, as presented in Table 3.

Table 3.
The Level of Interest of Yogyakarta Residents in the Mas Jos Program

Interest Indicator	Positive Response (%)	Negative Response (%)
Happy about Mas Jos	96,45%	3,55%
Interested in Mas Jos	86,25%	13,75%
Careful to Mas Jos	85,25%	14,75%
Involved with	44,30%	55,70%
Level of Interest	78,06%	21,94%

The data shows that public interest (happiness, interested in, careful) is very high, but active involvement is still low (44.30%). This gap between attitude and action indicates the need for a more intensive participation mobilization strategy. Factors driving people's happiness about Mas Jos include: a cleaner environment, extra income from the waste bank, and less waste burning. Meanwhile, interested in factors include clear waste sorting procedures, programs integrated with Family Empowerment and Welfare association and children's

education at school, and increasing environmental awareness as a collective lifestyle.

Plastic Waste Management Model within the Mas Jos Framework

Based on research findings, the plastic waste management model within the Mas Jos framework can be described as a community-based waste management model integrated with circular economy principles, priorly, uses Waste Bank Unit. This model operates through four main interconnected components:

Firstly, Upstream – Waste Sources (Households and Business Locations): Sorting plastic waste right from the source, reuse plastic container, and educating behavior change through socializing Mas Jos' pillars. Secondly, Middle – Waste Bank Unit (Management Center): Collecting plastic waste, sorting and categorizing it based on type and quality, weighing and recording it, giving savings/economic incentives to customers, and selling plastic waste to collectors or recycling industries. Thirdly, Downstream – Distribution and Recycling Chain: Collectors consolidate plastic waste from various waste bank units, then distribute it to recycling industries to be processed into new products. Fourthly, Recycled Products (Economically Valuable): plastic paving blocks, recycled tables and chairs, Refuse Derived Fuel (RDF), liquid fuel (pyrolysis), and various industrial products made from recycled plastic.

From Scott's institutional theory perspective, this model has three strong pillars. The regulative pillar is reflected in the hierarchy of regulations, from laws to mayoral circulars. The normative pillar is seen in the formation of a new social norm that sorting plastic waste is a civic duty. The cognitive pillar appears in the shift in public perception of plastic waste—from useless trash to an economically valuable resource.

The characteristics of a circular economy in this model are realized through the cycle: plastic waste is sorted by community from households → plastic waste is collected into waste bank unit as economic engine → recycled into new products → used again by the community. This way, plastic materials don't end up in sanitary landfills but are kept within a productive economic cycle. The waste bank units become critical nodes connecting the community with the recycling

industry ecosystem. These characteristics can be visually represented in the figure below:

Figure 1.

The Flow of Plastic Waste Management in Yogyakarta City



Mas Jos' model has the potential to become a best practice that can be replicated in other areas facing similar issues. The characteristics that make it replicable include: a strong regulatory basis, integration of community cooperation (waste bank units), economic incentives for the community, and a gradual approach starting from the source of plastic waste. Aspects that need to be strengthened for its sustainability include stabilizing plastic waste prices, expanding the unit waste bank network, increasing processing technology capacity, and strengthening multi-stakeholder coordination.

Conclusion

This research produced three main findings. First, the Mas Jos Program has solid legal legitimacy through a regulatory hierarchy from the national to the local level, with Law Number 18 of 2008 as the highest basis. The program operates within the technical framework of 3Rs and plastic waste management (sorting, collection, transportation), with waste bank units serving as the central institution and as the engine of Mas Jos Program in the plastic waste supply chain. Second, the implementation of Mas Jos is supported by three dimensions of supporting factors—waste bank units, social, and exemplary leadership—with public interest level reaching 78.06%. However, the gap between acceptance (attitude) and active involvement (action) is still significant, influenced by economic factors (fluctuating plastic waste prices), psychological factors (sorting habits), and governance (limited facilities). Third, the plastic waste management model in Mas Jos is a community-based model integrated with the principles of the

circular economy. This model connects households as the upstream, waste bank units as the midstream/center, and recycling industries as the downstream in a mutually supportive ecosystem.

This model has the potential to serve as a reference for other regions in developing a participatory, sustainable, and economically oriented plastic waste management system. To improve its effectiveness, it requires: strengthening the community cooperation/institutional capacity of waste bank units, developing more attractive incentive systems, improving facilities and infrastructure, and enhancing multi-stakeholder collaboration between the government, communities, academics, businesses, and environmental communities.

Acknowledgment

We would like to express our heartfelt thanks to the Research and Community Service Institute of Widya Mataram University, Yogyakarta for making this research possible.

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