COMPARATIVE ANALYSIS OF WASTE MANAGEMENT POLICY IMPLEMENTATION (A CASE STUDY BETWEEN PEKANBARU CITY AND PADANG CITY)

ANALISIS PERBANDINGAN IMPLEMENTASI KEBIJAKAN PENGELOLAAN SAMPAH (STUDI KASUS ANTARA KOTA PEKANBARU DAN KOTA PADANG)

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Abstract

Waste management problems in Indonesia have become a crucial challenge, especially in major cities. This study aims to analyze the comparative implementation of waste management policies in Pekanbaru City and Padang City using the George C. Edward III policy implementation model. This qualitative research with a literature study approach analyzes four variables: communication, resources, bureaucratic structure, and disposition. The results show that Pekanbaru City faces significant constraints in all four variables, with a waste management achievement of 66.49% and even experiencing a waste emergency status in 2025. In contrast, Padang City achieved 94.02% and received various international awards. This difference is caused by more effective policy communication, massive community empowerment through 182 waste banks, strong fiscal commitment with a budget of Rp 70 billion, solid multi-stakeholder coordination, and a high implementer disposition in Padang City.

Keywords : Policy, Implementation, Waste Management, Policy Comparison, Local Government.

Abstrak

Masalah pengelolaan sampah di Indonesia telah menjadi tantangan krusial, terutama di kota-kota besar. Studi ini bertujuan untuk menganalisis implementasi kebijakan pengelolaan sampah secara komparatif di Kota Pekanbaru dan Kota Padang menggunakan model implementasi kebijakan George C. Edward III. Penelitian kualitatif dengan pendekatan studi literatur ini menganalisis empat variabel: komunikasi, sumber daya, struktur birokrasi, dan disposisi. Hasil penelitian menunjukkan bahwa Kota Pekanbaru menghadapi kendala signifikan pada keempat variabel, dengan pencapaian pengelolaan sampah sebesar 66,49% dan bahkan mengalami status darurat sampah pada tahun 2025. Sebaliknya, Kota Padang mencapai 94,02% dan menerima berbagai penghargaan internasional. Perbedaan ini disebabkan oleh komunikasi kebijakan yang lebih efektif, pemberdayaan masyarakat secara masif melalui 182 bank sampah, komitmen fiskal yang kuat dengan anggaran Rp 70 miliar, koordinasi multi-pemangku kepentingan yang solid, dan disposisi pelaksana yang tinggi di Kota Padang.

1. INTRODUCTION

The issue of waste management in Indonesia has become a crucial challenge that requires serious attention from various stakeholders, particularly local governments as the frontline of public service delivery. The 1945 Constitution of the Republic of Indonesia, Article 28H paragraph (1), explicitly states that "Every person has the right to live in physical and spiritual prosperity, to reside, and to obtain a good and healthy living environment, as well as the right to receive health s

ervices." This constitutional provision carries legal consequences that the government, including local governments, has an obligation to administer waste management as part of public services in order to realize a good and healthy environment.

In Indonesia it self, according to data from the Ministry of Environment and Forestry, national waste generation reached around 69.7 million tons in 2023, with an average of 0.7 kg per capita per day, more than 17% of which consists of plastic waste that is difficult to decompose naturally (Aji Primanto, 2025). However, according to the Directorate General of Waste, Hazardous Waste, and Hazardous Substances Management, waste management in Indonesia still faces obstacles, where around 40.26% of waste is not yet properly managed and only 59.74% was managed in 2024 (Taufiqurohim et al., 2025). These phenomena indicate that there are still serious problems and constraints in waste management in Indonesia.

In the context of national regulation, Law Number 18 of 2008 on Waste Management has provided a strong legal foundation for the implementation of waste management based on reduce, reuse, and recycle (3R), as well as encouraging active public participation. This Law is further implemented through Government Regulation Number 81 of 2012 on the Management of Household Waste and Waste Similar to Household Waste, which more technically regulates the implementation of waste management at the regional level. This regulation mandates each local government to establish waste management policies and strategies adapted to the conditions and characteristics of their respective regions.

In the context of national efforts to address waste management problems, it is important to see how these challenges are manifested at the city level, especially in areas with high levels of waste generation. Pekanbaru City and Padang City are two major cities in Sumatra that face similar problems in waste management. As provincial capitals with rapid population growth and economic activity, both cities generate increasing volumes of waste each year. Although local governments in both cities have issued various waste management policies, implementation in the field still encounters various obstacles that need to be studied more deeply.

As a response to the mandate of national regulations, Pekanbaru City established Regional Regulation Number 8 of 2014 on Waste Management, which consists of 13 chapters and 88 articles. This regulation comprehensively governs various aspects of waste

management, ranging from implementation, infrastructure and facilities, cooperation, guidance and supervision, waste banks, to administrative sanctions and criminal provisions. The implementation of the Pekanbaru City Regional Regulation is strengthened by Mayor's Regulation (Perwako) Number 28 of 2023 as an implementing guideline, which provides room for private and community participation in waste management through Waste Management Institutions (Lembaga Pengelola Sampah/LPS).

Meanwhile, Padang City established Regional Regulation Number 21 of 2012 on Waste Management, which was then followed up by Padang Mayor's Regulation Number 109 of 2019 on the Implementation Guidelines for Padang City Regional Regulation Number 21 of 2012 on Waste Management, as amended several times, most recently by Padang Mayor's Regulation Number 3 of 2021. This regulation also comprehensively governs waste management with an approach of waste reduction and handling through the 3R (Reduce, Reuse, Recycle) principle. Although both cities have relatively similar characteristics as provincial capitals with large populations and dynamic economic activity, the implementation of waste management policies in the two cities shows very different outcomes. According to data from the Central Statistics Agency (BPS), the population of Pekanbaru City in 2024 was around 1,167,599 people, generating waste of 1,011.01 tons per day or around 369,019.82 tons per year, making it the region with the highest waste generation in Riau Province (Ministry of Environment and Forestry, 2024). The following is data on waste management performance achievement in Pekanbaru City in 2024:

Figure 1.1 Waste Management Performance Achievement in Pekanbaru City in 2024

Source: National Waste Management Information System (Sistem Informasi Pengelolaan Sampah Nasional/SIPSN) website (accessed on 23 November 2025 at 14.00 WIB)

From the graph above, it can be seen that the waste management performance data of Pekanbaru City in 2024 shows that from a total waste generation of 369,019.82 tons, the city government managed to handle only 233,377.36 tons or around 63.2%, while waste reduction through various programs reached only 11,970.19 tons or around 3.2%. Combined, the total

achievement of waste reduction and handling amounted to 66.49% of the waste generated in Pekanbaru City in 2024. This means that 36.8% of waste remained unhandled, far below the national target set in Presidential Regulation Number 97 of 2017 on National Policies and Strategies for Waste Management in Pekankabru, namely 70% waste handling and 30% waste reduction.

The critical condition of waste management in Pekanbaru City reached its peak in early 2025 when the Acting Mayor of Pekanbaru, Roni Rakhmat, declared a waste emergency status through Decree Number 236 of 2025. The declaration of the emergency status was triggered by the accumulation of waste at various points in the city due to the ineffective performance of third parties in waste transportation, which led to public complaints and attracted national media attention, including coverage by Metro TV that highlighted the waste emergency in Pekanbaru as an example of serious urban waste management problems in Indonesia (Riauonline.co.id, 2023).

From several previous studies, it can be concluded that the fundamental problems faced by Pekanbaru City in waste management include: (1) the increase in waste volume that is not balanced by handling capacity; (2) the emergence of three crucial issues, namely piles of waste, waste scattered along roadsides, and waste obstructing drainage channels; (3) the proliferation of illegal Temporary Disposal Sites (Tempat Pembuangan Sementara/TPS) at various locations; and (4) high dependence on a centralized waste management system that is prone to operational disruptions.

Although the Pekanbaru City Government has taken concrete measures such as deploying "yellow troops" from the Public Works and Spatial Planning Office (PUPR) and "orange troops" from the Environment and Sanitation Office (DLHK), as well as cooperating with third parties for waste transportation, the problems persist and have even worsened. On the other hand, according to data from the Central Statistics Agency of Padang City, in 2024 the city had a population of 919,145 people and generated waste of 650 tons per day. The following is data on waste management performance achievement in Padang City in 2024:

Figure 1.2 Waste Management Performance Achievement in Padang City in 2024

Source: National Waste Management Information System (SIPSN) website (accessed on 23 November 2025 at 14.00 WIB)

From the graph above, it can be seen that Padang City in 2024 had already achieved the 70% target set for waste handling. Based on data presented in the National Waste Management Information System (SIPSN) for Padang City, West Sumatra Province, from a total waste generation of 229,840.56 tons per year, Padang City managed to handle 214,017.73 tons or around 93.1%, and the total achievement of waste reduction and handling reached 94.02% of total waste generation through transportation to the landfill (TPA). Although Padang City's waste reduction figure is still far from the national target of 30%, its waste handling achievement of 93.1% far exceeds the national target of 70% and is close to an ideal condition of urban waste management.

The waste generated can be transported to the Air Dingin Landfill (TPA Air Dingin) as the only landfill in Padang City, with a land area of 33 hectares. However, this landfill is estimated to be able to accommodate waste for only the next 10 years. Despite the challenge of limited landfill capacity, Padang City demonstrates much better achievement in waste management through the Waste Bank program as a strategy for waste reduction at the upstream level. To date, Padang City has 182 operational Waste Bank units that have produced recycled waste products such as reusable shopping bags made from plastic waste and other recycled products (Azzahra et al., 2023).

The Head of the Environment Office (DLH) of Padang City, Fadelan Fitra Masta, stated that although only 20% of the target has been reached (182 waste banks out of 909 neighborhood units/RW), the city government continues to encourage each RW to have one waste bank as an effort to reduce dependence on landfill land and to manage waste at the source level using a 3R approach that actively involves the community. The Waste Bank program is in line with Minister of Environment Regulation Number 14 of 2021 on Waste Management at Waste Banks, which states that Waste Banks are facilities for managing waste based on 3R principles as a means of education, behavior change in waste management, and the implementation of a circular economy.

The success of Padang City in waste management policy implementation has received recognition and appreciation from various stakeholders. Padang City received a certificate of recognition in the circular economy category for large cities by promoting the transformation of waste management into economically valuable resources. Through waste banks, maggot cultivation, as well as Environmentally Friendly Goods/Services Procurement programs, Padang City produces recycled products that are widely marketed. The Integrated Waste Management Facility (Tempat Pengelolaan Sampah Terpadu/TPST) with a capacity of 200 tons/day at the Air Dingin Final Processing Site (TPA) is even able to produce co-firing fuel for the cement industry, and additional TPSTs based on composting, bioconversion, and pyrolysis are being developed.

Furthermore, the Padang City Government received an award at the ASEAN Environmentally Sustainable Cities (ESC) Award 2025 in Langkawi, Malaysia, on Wednesday evening (3/9/2025). At the ESC Award 2025, Padang City obtained a Certificate of Recognition (COR) in the field of Circular Economy for the Large City category at the ASEAN level. This

is in line with Padang City's vision of establishing Waste Management Institutions (LPS) in all urban villages as well as strengthening the Waste Bank network as a community-based circular economy system in Padang City. In 2025, Padang City also became a best practice city for waste management in Sumatra, being designated as a best practice city for waste management in the Sumatra region under the National Integrated Solid Waste Management Program (ISWMP).

These remarkable achievements demonstrate the commitment and seriousness of the Padang City Government in managing cleanliness and waste on a sustainable basis. In addition, various waste management innovations in Padang City, especially the Waste Bank program, have become a model for other regions in West Sumatra. This success cannot be separated from a participatory approach that actively involves the community starting from the neighborhood (RT/RW) level, thereby creating a sense of ownership and shared responsibility in maintaining environmental cleanliness. Furthermore, Padang City's commitment to waste management is also reflected in continuous innovations such as an incentive program for reporters of waste management violations, as stipulated in Padang Mayor's Regulation Number 3 of 2021, whereby any person who reports a violation of waste management prohibitions can receive a reward of Rp 100,000 (one hundred thousand rupiah) for each report that meets the criteria. This policy is a form of community involvement in the monitoring and enforcement of waste management regulations, which ultimately creates an effective social control system.

This, when compared proportionally with Pekanbaru City, even though Padang City has lower waste generation (229,840.56 tons compared to 369,019.82 tons in Pekanbaru), the percentage of waste handling in Padang City (93.1%) is much higher than in Pekanbaru (63.2%). This contrasting condition becomes even clearer when, in January 2025, Pekanbaru City was declared under a waste emergency status due to the failure of the existing waste management system, while Padang City instead received the Adipura Award, indicating success in cleanliness and waste management. Therefore, a study of public policy implementation becomes important because the gap between policy formulation and implementation is often the cause of failure in achieving policy objectives. Public policy is simply defined by Dye (in Alhasni et al., 2024) as any choice of action that the government does or chooses not to do. George C. Edward III's policy implementation model is one of the approaches widely used in analyzing public policy implementation. Edwards (in Pramono, 2020) identifies four key variables that influence the success of policy implementation, namely: communication, resources, disposition, and bureaucratic structure.

Previous studies on urban waste management in Indonesia show various problems in policy implementation. Ginting and Mubarak (2025) identify that weak coordination between the Environment and Sanitation Office and private operators, as well as overlapping authorities, is one of the main obstacles in Pekanbaru City. Meanwhile, the study by Azzahra et al. (2023) shows that Padang City's success is supported by the Waste Bank program that involves active community participation starting from the RT/RW level. Nadhiva and Ismaniar (2025) reveal that although persuasive communication by waste bank managers still needs improvement in

some locations, there are generally consistent efforts from waste bank managers in delivering information to customers in Padang City.

Comparative studies of public policy allow researchers to understand how differences in context, institutional structure, and implementation strategies influence policy outcomes. Feldman (in Florentin, 2020) emphasizes that comparative public policy is a method of studying public policy that includes the policy process, policy outputs, and policy impacts by comparing certain policies in one place with those in another. Through a comparative approach, this study can identify best practices that can serve as lessons for improving the effectiveness of waste management in other regions.

The inequality in waste management policy implementation achievements between Pekanbaru City and Padang City is highly interesting to examine in greater depth, given that both cities share relatively similar characteristics as provincial capitals with large populations, dynamic economic activities, and complex urban waste management challenges. The difference in achievements between the two cities becomes even more interesting because both have relatively comprehensive regulations, namely Regional Regulations on Waste Management that govern various aspects of waste management.

Based on the above description, this study aims to: (1) analyze the implementation of waste management policies in Pekanbaru City and Padang City based on the Edward III model; (2) identify similarities and differences in the implementation of waste management policies between the two cities; and (3) analyze the factors that cause differences in the success of waste management policy implementation between Pekanbaru City and Padang City. This study is expected to contribute to the development of public policy implementation studies in Indonesia and provide policy recommendations to improve the effectiveness of waste management at the regional level, particularly in Pekanbaru City, which is currently facing a serious waste management crisis.

2. RESEARCH METHOD

This study uses a qualitative method with a literature study (literature review) approach to analyze the implementation of waste management policies in Pekanbaru City and Padang City. The qualitative method was chosen because this research aims to gain an in-depth understanding of the phenomenon of policy implementation, to explore the factors that influence success and failure, and to identify patterns that occur in the process of implementing waste management policies in the two cities.

Research data were collected from various relevant and credible secondary sources, including: (1) Regional policy documents related to waste management, including Pekanbaru City Regional Regulation Number 8 of 2014, Pekanbaru Mayor's Regulation Number 28 of 2023, Padang City Regional Regulation Number 21 of 2012, and Padang Mayor's Regulation Number 109 of 2019; (2) National laws and regulations related to waste management; (3) Official reports and statistical data from the Pekanbaru City Environment and Sanitation Office and the Padang City Environment Office; (4) Data from the Central Statistics Agency and the

National Waste Management Information System (SIPSN) of the Ministry of Environment and Forestry for 2024; (5) Scientific journal articles published in national and international journals; (6) Relevant previous research; and (7) Credible news reports and mass media publications.

Data analysis was carried out comparatively using the George C. Edward III policy implementation framework, which consists of four main variables: communication, resources, disposition, and bureaucratic structure. Data collected from various literature sources were then analyzed through the following steps: (1) Data reduction, namely sorting and selecting data relevant to the research focus; (2) Data presentation, namely organizing data based on the four Edward III variables for each city; (3) Comparative analysis, namely comparing policy implementation in the two cities based on each variable, identifying similarities and differences, and explaining the factors that cause these differences; and (4) Drawing conclusions, namely deriving conclusions regarding best practices that can be used as lessons in waste management at the regional level.

The validity of the data in this study was maintained through source triangulation, namely using various different secondary data sources to validate the research findings. Data from policy documents, official government reports, statistical data, previous research, and media publications were compared and critically analyzed to ensure the accuracy and credibility of the research findings.

3. RESULT AND DISCUSSION

a. Implementation of Waste Management Policy in Pekanbaru City

The implementation of waste management policy in Pekanbaru City, regulated through Regional Regulation Number 8 of 2014 and Mayor's Regulation Number 28 of 2023, has not yet shown optimal results. Based on analysis using the Edward III model, significant constraints were found in all four policy implementation variables.

From the communication aspect, the implementation of the policy shows weaknesses in transmission, consistency, and clarity of information. The Pekanbaru City Environment and Sanitation Office (DLHK) received 450 complaints from the public related to a lack of understanding of retribution policies, indicating that socialization has not been conducted intensively and continuously. Coordination between DLHK and urban villages (kelurahan) and neighborhood/community units (RT/RW) in disseminating policy information remains weak, causing fragmented information at the community level. Communication inconsistency occurs in the socialization of waste sorting programs and the 3R system, where most residents still do not understand the concept of sorting organic and inorganic waste.

From the resource aspect, Pekanbaru City faces serious limitations. Only 30 operational trucks are available to serve around 360,000 households, with a ratio of one truck serving 12,000 households, which is highly disproportionate. Budget constraints affect the lack of investment in adequate waste management infrastructure. The existing landfill (TPA) is already overloaded and is not managed using an environmentally friendly sanitary landfill system.

These resource limitations resulted in only 66.49% of waste being successfully managed in 2024, far below the national target of 70% waste handling and 30% waste reduction. From the bureaucratic structure aspect, coordination between DLHK and related agencies is still very weak. Conflicts occur with private transport operators due to overlapping authority and unclear division of roles. Although clear Standard Operating Procedures (SOPs) are in place, their implementation is still inconsistent with the existing SOPs. Organizational fragmentation and weak monitoring mechanisms cause many operational problems to go undetected and unresolved promptly.

From the disposition aspect, implementers' commitment at the field level is still low. Most retribution collectors and sanitation workers are daily contract workers with limited job security and welfare, which weakens their sense of responsibility. Worker discipline in carrying out operational tasks is still weak, as reflected in the inconsistency of waste collection schedules. Implementers' attitude, which is less responsive to public complaints and has minimal public service orientation, creates a gap between the government and the community. This condition culminated in early 2025 with the declaration of a waste emergency status, caused by the accumulation of unresolved problems across the four policy implementation variables.

b. Implementation of Waste Management Policy in Padang City

The implementation of waste management policy in Padang City, regulated through Regional Regulation Number 21 of 2012 and Padang Mayor's Regulation Number 109 of 2019, shows very impressive results, with an achievement of 94.02% in 2024. This success is supported by favorable conditions across all four policy implementation variables.

From the communication aspect, Padang City has conducted very systematic, structured, and continuous socialization. The Padang City Environment Office (DLH) actively conducts education through various media and communication channels, including social media, the official website, and weekly programs such as "Padang Bagoro." Waste Banks carry out ongoing socialization programs to increase public awareness of the importance of 3R-based waste management. Information on waste management mechanisms, sorting procedures, and the economic value of waste is conveyed consistently and clearly to the community. Policy innovation through Padang Mayor's Regulation Number 3 of 2021 regarding an incentive of Rp 100,000 for those who report waste management violations is communicated very clearly and is easy for the public to understand.

From the resource aspect, Padang City demonstrates very adequate availability. Massive community empowerment through 182 Waste Bank units spread across various areas has created a pool of trained and skilled human resources in waste management. Fiscal commitment is very strong, with a budget allocation reaching Rp 70 billion in 2023 to support waste management programs. The Air Dingin Landfill (TPA Air Dingin) covering 33 hectares is equipped with an Integrated Waste Management Facility (TPST) with a capacity of 200 tons/day, capable of producing co-firing fuel for the cement industry PT Semen Padang, demonstrating concrete implementation of the circular economy concept. Each Waste Bank is

equipped with adequate facilities such as storage areas for sorted waste, digital scales, computerized administrative systems, and some are additionally equipped with plastic waste shredding machines.

From the bureaucratic structure aspect, coordination among institutions runs very well. There is strong synergy between the Padang City Environment Office, subdistrict governments, urban villages (kelurahan), Waste Bank managers, the private sector, and the community through coordination forums and regular evaluation meetings. Cooperation between Waste Banks and PT Semen Padang in providing Alternative Fuel and Raw Material (AFR) shows institutional and mutually beneficial coordination. SOPs for waste management through Waste Banks have been implemented consistently. A decentralized bureaucratic structure with empowered Waste Management Institutions (LPS) in each kelurahan creates high responsiveness to community needs and aspirations.

From the disposition aspect, implementers demonstrate very strong commitment. Waste Bank managers show high commitment through the consistent and continuous implementation of programs across three main pillars: socialization, education, and circular economy. The very large budget allocation, TPST infrastructure development, and the establishment of 182 Waste Bank units indicate strong political and administrative commitment from the city government. Manager discipline in serving customers, consistency in operating hours, and accuracy in recordkeeping build trust and certainty. A strong public service orientation is reflected in the positive program impacts felt directly by the community, including increased income, improved environmental cleanliness, and strengthened social solidarity. This success has been recognized through various awards, including a Certificate of Recognition at the ASEAN ESC Award 2025 and the designation of Padang City as a best practice city for waste management in the Sumatra region.

c. Comparative Analysis of Policy Implementation

The comparison of waste management policy implementation between Pekanbaru City and Padang City shows very sharp differences across the four Edward III implementation variables. The fundamental differences lie in the approaches and implementation strategies adopted by the two cities.

In the communication aspect, Padang City shows very clear superiority over Pekanbaru City. The main difference lies in the systematization and consistency of policy communication. Padang City has developed an integrated multi-channel communication strategy that utilizes various platforms, from direct meetings at the RT/RW level, social media, and official websites, to weekly programs that directly involve the community. In contrast, Pekanbaru City still relies on traditional communication through kelurahan that does not effectively reach all residents. The high number of public complaints in Pekanbaru (450 complaints) indicates communication transmission failure, while in Padang, clear and consistent communication through Waste Banks has created good understanding among the community. This difference shows that effective policy communication is not only about conveying information but also about building two-way dialogue and creating responsive feedback mechanisms.

In the resource aspect, the gap between the two cities is very striking. Pekanbaru City faces serious structural limitations with a ratio of 30 trucks for 360,000 households (1:12,000), budget constraints, and an overloaded landfill. On the other hand, Padang City demonstrates an innovative strategy by not only relying on government resources but also massively empowering community resources through 182 Waste Banks. Padang City's fiscal commitment, with a Rp 70 billion budget in 2023, far exceeds investment levels in Pekanbaru. More importantly, Padang has successfully shifted the paradigm of waste management from a centralized approach reliant on government fleets to a decentralized, community-based approach that involves the community from the source level. The TPST infrastructure with a capacity of 200 tons/day that can produce alternative energy in Padang shows a long-term investment in sustainable waste management that Pekanbaru does not have. This difference in resource management philosophy centralistic versus participatory decentralistic has been a key factor in the differing achievements of the two cities.

In the bureaucratic structure aspect, Padang City has successfully built solid and institutionalized multi-stakeholder coordination, while Pekanbaru City suffers from fragmentation and conflict. In Padang, a structured coordination mechanism has been established through regular coordination forums involving the Environment Office, kelurahan, subdistricts, Waste Banks, the private sector, and the community. Cooperation with PT Semen Padang in supplying AFR demonstrates cross-sector coordination that benefits all parties. In contrast, in Pekanbaru, conflicts occur with private operators due to overlapping authority and unclear division of roles. The decentralized bureaucratic structure in Padang, with empowered LPS in every kelurahan, creates flexibility and high responsiveness, while the centralized structure in Pekanbaru creates rigidity and delayed responses to problems. This difference shows that an effective bureaucratic structure in waste management is one that can integrate various actors in harmonious coordination, rather than one that creates rigid hierarchies and fragmentation.

In the disposition aspect, differences in implementer commitment and attitude are highly determinative of implementation outcomes. In Padang City, high commitment is demonstrated not only by the city government through large budget allocations and infrastructure development but also by Waste Bank managers and community members who consistently run empowerment programs. The empowerment process through five systematic stages (awareness, education, protection, support, and maintenance) indicates high dedication and consistency. The discipline of Waste Bank managers in serving customers creates sustained trust and participation. In contrast, in Pekanbaru City, implementer commitment is still low. Most workers are daily contract workers with limited welfare, which affects their motivation and sense of responsibility. The inconsistency of waste collection schedules and low responsiveness to public complaints demonstrate a weak public service orientation.

More in-depth analysis shows that the difference in policy implementation success in the two cities does not lie in one or two variables alone, but in the synergistic interaction among all four implementation variables. In Padang City, effective communication supports the

mobilization of community resources, a coordinative bureaucratic structure strengthens positive implementer disposition, and adequate resources enable optimal communication and coordination. In contrast, in Pekanbaru City, weaknesses in one variable reinforce weaknesses in others.

Another key differentiating factor is the waste management paradigm. Padang City adopts a circular economy paradigm that transforms waste into economically valuable resources, creating economic incentives for the community to participate actively. The Waste Bank program is not only about collecting waste but also about community economic empowerment. TPST facilities that produce fuel for the cement industry demonstrate waste management that is oriented not only toward environmental goals but also economic benefits. In contrast, Pekanbaru City remains trapped in the traditional "collect-transport-dispose" paradigm that positions the community as passive objects rather than active subjects in waste management.

Differences in political will and political commitment are also highly decisive. The Rp 70 billion budget allocation in Padang City shows very strong fiscal commitment from the city government, whereas budget constraints in Pekanbaru indicate that waste management has not yet become a high political priority. Policy innovations in Padang, such as the Rp 100,000 incentive for reporting violations, show creativity in creating social control systems that involve the community, which is not found in Pekanbaru.

In terms of outcomes, the difference in achievements is very significant. Pekanbaru City reached only 66.49% in waste management and even experienced a waste emergency status in 2025, whereas Padang City achieved 94.02% and received various international awards. This difference shows that effective policy implementation requires a holistic approach that integrates the four Edward III variables with community empowerment strategies, strong fiscal commitment, and continuous innovation. Nevertheless, both cities share some similarities in the regulatory context. Both have Regional Regulations on Waste Management that equally regulate 3R-based waste management, waste reduction and handling, and community involvement. Both also face similar challenges as large cities with population growth and dynamic economic activities. However, the difference lies in how these regulations are translated into concrete implementation in the field.

The findings of this study confirm Edward III's theory that the four policy implementation variables must operate synergistically to achieve success. Weakness in one variable will affect the others and ultimately hinder the achievement of policy goals. This study also enriches Edward III's theory by showing that in the context of waste management in Indonesia, community empowerment and the transformation of the paradigm from centralistic to participatory decentralistic are key factors determining successful policy implementation. The practical implication of these findings is that Pekanbaru City needs to undertake comprehensive reforms in waste management policy implementation. First, strengthen policy communication through the development of a multi-channel communication strategy involving various stakeholders. Second, increase resource investment not only by adding government

fleets but especially through massive community empowerment via Waste Bank development. Third, restructure the waste management bureaucracy to create solid coordination and eliminate overlapping authority. Fourth, build positive implementer disposition through improved welfare, continuous training, and a clear reward and punishment system.

4. CONCLUSION

The implementation of waste management policy in Pekanbaru City has not yet shown optimal results, with an achievement of only 66.49% of a total waste generation of 369,019.82 tons per year. Based on analysis using Edward III's theory, there are serious constraints across four aspects, including: (a) weak communication with minimal socialization, as evidenced by 450 public complaints; (b) very limited resources, with only 30 trucks for 360,000 households and overloaded landfill infrastructure; (c) weak bureaucratic structure with poor coordination and conflicts with private operators; and (d) low implementer disposition with weak commitment and minimal service orientation. This condition culminated in the declaration of a waste emergency status in January 2025.

Conversely, Padang City shows impressive success with an achievement of 94.02% of a total waste generation of 229,840.56 tons per year, surpassing the national target of 70%. This success is supported by: (a) effective communication through systematic socialization and the "Padang Bagoro" program; (b) adequate resources with 182 Waste Bank units, a Rp 70 billion budget, and a TPST with a capacity of 200 tons/day; (c) solid bureaucratic structure with multi-stakeholder coordination and consistent SOPs; and (d) high disposition with strong commitment and circular economy-based innovation. This achievement has been recognized through the ASEAN ESC Award 2025 and the designation of Padang City as a best practice city in Sumatra.

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