



Implementation of Waste Management by The Environment Agency at The Cikundul Landfill (TPA) Sukabumi City

Andri Sumarna¹; Fifi Kusumajaya²; Jerman Prawijaya³; Lia Mulyani⁴; Neng Yayu Wandira⁵; Darliah Darliah⁶

STISIP Syamsul Ulum

sumarna.andri09@gmail.com

Abstract

This study aims to analyze the implementation of waste management by the Sukabumi City Environmental Agency (DLH) at the Cikundul Final Disposal Site (TPA), identify the inhibiting factors, and describe the efforts made to overcome them. The research uses a descriptive qualitative approach with a case study strategy. Data were collected through observation, structured interviews, documentation, and literature studies. Informants were selected purposively, including management elements (TPA UPTD), administrative staff, coordinators and field officers, and waste transport officers from TPS to TPA. Data analysis is carried out through data reduction, data presentation, and conclusions/verification. The results of the study show that the implementation of waste management at the Cikundul Landfill has been running referring to the Edwards III implementation model, namely communication, resources, disposition, and bureaucratic structure, but it is not optimal. Policy communication and SOPs have been disseminated to implementers and the community, and there are operational practices such as arranging heaps with the terraced method and processing organic waste into compost. The main obstacles to implementation include low participation and awareness of the community (waste sorting and compliance with disposal schedules), limited financial support, limited infrastructure (especially heavy equipment), and pressure on limited land capacity due to the high daily generation of waste. DLH's identified efforts include strengthening socialization/education, optimizing available facilities, as well as processing technology development plans (RDF) and collaboration with the private sector for waste utilization. These findings underscore the need to strengthen resource capacity, improve public compliance, and integrate upstream–downstream strategies so that the burden of landfill can be reduced sustainably.

Keywords: policy implementation; waste management; Cikundul Landfill; the Environment Agency; Edwards III; Sukabumi City.

1 Introduction

The waste problem is an increasingly complex environmental issue as the population grows, consumption patterns change, and economic activity increases. Globally, urban waste generation continues to increase and many are still managed unsafely, for example through open dumping or incineration, which risks causing soil, water, and air pollution and public health problems (World Bank, 2018). This condition shows that waste management cannot be seen as just a cleanliness issue, but part of environmental governance and public services that demand effective policies from upstream to downstream.

In Indonesia, waste management has been regulated through various regulations, including Law Number 18 of 2008 concerning Waste Management which emphasizes the need for comprehensive and

integrated management, as well as the clarity of the division of responsibilities between the central government, local governments, the business world, and the community (Republic of Indonesia, 2008). Derivative regulations such as Government Regulation Number 81 of 2012 also regulate the management of household waste and similar household waste, which emphasizes the importance of systematic and sustainable waste reduction and handling activities (Republic of Indonesia, 2012). In addition, Government Regulation Number 27 of 2020 regulates the management of specific waste that requires special treatment due to its nature, concentration, and/or volume, such as waste containing B3, waste due to disasters, and waste that cannot be processed technologically (Republic of Indonesia, 2020). At the local level, the Sukabumi City Government also has a legal basis through Sukabumi City Regional Regulation Number 2 of 2021 as an amendment to Regional Regulation Number 17 of 2011 concerning Waste Management (Sukabumi City Government, 2021).

Sukabumi City is one of the areas that faces increasing pressure on waste generation, with a large burden on the Cikundul Final Disposal Site (TPA) facility. News data and official statements show that the waste entering the Cikundul Landfill is in the range of 180–200 tons per day, which is dominated by household waste (ANTARA News, 2024). At the same time, the land capacity was declared to have exceeded the capacity: the capacity was about 9.5 hectares, while the area of the backpile had reached around 10.7 hectares (ANTARA News, 2024). Other information states that the land area of the Cikundul Landfill is around 10.7 hectares and has been filled so that the condition of the landfill is considered overloaded (Radar Sukabumi, 2023). This condition indicates the risk of a waste service crisis if there is no intervention to reduce waste from upstream, improve operational systems, and strengthen infrastructure and governance downstream.

Efforts to reduce downstream in Sukabumi City still face challenges. In the commemoration of National Waste Care Day (HPSN) 2025, the Sukabumi City Government said that waste disposal from the community to landfills is still high (around 73%), while new sorting is around 27%, and the Cikundul Landfill is estimated to only be able to last about one year if stronger reduction efforts are not made (Sukabumi City Government, 2025). This statement indicates two key issues: (1) the residual load remains large because sorting and processing upstream is not optimal; and (2) limited capacity/operation of landfills as public service infrastructure.

In the context of policy implementation, the success of waste management is not only determined by the existence of regulations, but also by aspects of implementation in the field: sufficiency of resources, policy communication, coordination between parties, availability of facilities, and the commitment and capacity of implementing organizations. One of the important actors in this implementation chain is the Environment Agency (DLH) as a regional apparatus that carries out technical and coordinating functions of waste management, including the operation/arrangement of landfills, waste reduction coaching, and strengthening community participation.

Departing from these conditions, this research is important to understand how the implementation of waste management is carried out by DLH at the Cikundul Landfill in Sukabumi City, as well as map obstacles that interfere with the achievement of policy goals and formulate a more operational direction for improvement. Practically, this implementation study is expected to help local governments strengthen waste reduction strategies from sources, improve waste handling efficiency, and encourage the transition to safer and more sustainable waste management in accordance with national and regional regulatory frameworks (Republic of Indonesia, 2008; Republic of Indonesia, 2012; Republic of Indonesia, 2020; Sukabumi City Government, 2021).

Thus, the focus of this research is directed to answer the following questions: (1) how is the implementation of waste management by DLH at the Cikundul Landfill in Sukabumi City; (2) what factors are the obstacles to the implementation; and (3) how DLH's efforts are to overcome obstacles to waste management at the Cikundul Landfill. The results of the research are expected to contribute academically to the study of the implementation of environmental policies/public services, and

practically become inputs for strengthening waste management in Sukabumi City, especially in the aspects of reducing waste from upstream, strengthening intermediate facilities (TPS3R/TPST), and more effective landfill management.

2 Literature Review

Public Policy Implementation

Policy implementation is understood as the process of translating policies that have been set into concrete actions through administrative activities, coordination between actors, and the use of resources to achieve policy goals. In this framework, implementation is not just technical implementation, but also includes how policies are communicated, how implementing capacity is prepared, and how organizational procedures ensure policies run consistently. The George C. Edwards III implementation model explains that the success of implementation is influenced by four main variables, namely communication, resources, disposition, and bureaucratic structure; Communication determines the clarity of information and coordination of implementation, resources determine the organization's ability to carry out tasks (human resources, facilities, budget, information, and authority), disposition shows the commitment and attitude of the implementer to policies, while the bureaucratic structure emphasizes the division of authority and the existence of SOPs so that implementation can be directed and controlled (Edwards, 1980). To strengthen the analysis, Van Meter and Van Horn's framework emphasizes that implementation performance is influenced by policy standards/objectives, resources, communication between organizations, implementing characteristics, and socio-economic-political conditions surrounding policy implementation (Van Meter & Van Horn, 1975). Meanwhile, Mazmanian and Sabatier highlight that successful implementation is influenced by problem characteristics, policy characteristics, and environmental variables that can support or hinder implementation (Mazmanian & Sabatier, 1983). Grindle's perspective complements this approach by emphasizing the importance of looking at the content of policy and the context of implementation, because policy implementation is greatly influenced by institutional capacity, stakeholder relations, and field dynamics where policies are implemented (Grindle, 1980).

Waste Management

Waste management is a series of activities that are carried out systematically, comprehensively, and continuously which basically covers two main domains, namely waste reduction and waste handling. Conceptually, reduction is directed at efforts to limit generation from sources, encourage reuse, and recycling, while handling includes sorting, collecting, transporting, processing, and final processing. In the framework of public service implementation, local governments have an important role as the main provider of waste services, including providing facilities and strengthening the role of the community so that the management system does not only rely on downstream (Republic of Indonesia, 2008; Republic of Indonesia, 2012). In addition, specific waste management requires special attention because its characteristics have the potential to pose higher risks so that it requires a safer and more controlled management mechanism, including in terms of sorting education and collection systems (Republic of Indonesia, 2020). In reduction practice, participatory approaches such as waste banks are seen as instruments for strengthening the 3Rs and the circular economy, but the sustainability of the program still requires institutional support, financing, and consistency of coaching (Ministry of Environment and Forestry, 2021).

Final Disposal Site

The Final Disposal Site (TPA) is a downstream component in the waste management system that functions as a final processing location so that waste can be returned to the environment in a safer way. However, the literature shows that over-reliance on landfills without strong reductions from upstream

will increase the risk of overload and magnify potential environmental impacts, such as leachate, gas emissions, odors, and social conflicts around landfill sites. Therefore, landfill operations should ideally be supported by adequate infrastructure, clear work procedures, and sufficient capacity of the implementing organization, so that downstream waste management can run effectively while controlling environmental risks (Mahyudin, 2017). Thus, TPA is not only a technical issue, but also a governance issue because its success is highly dependent on coordination, resources, and compliance with SOPs.

Frame of Mind

The framework of this study places the implementation of waste management by the Environmental Agency at landfills as the main focus analyzed using the Edwards III model, namely communication, resources, disposition, and bureaucratic structure (Edwards, 1980). In this framework, communication is seen as determining the level of clarity and consistency in the delivery of policies/SOPs as well as coordination between the parties involved; resources determine the ability of the implementer to carry out technical-operational functions through the adequacy of human resources, budgets, and infrastructure; the disposition reflects the commitment, compliance, and response of the implementer to field issues; while the bureaucratic structure ensures the division of authority, procedures, and SOPs that support the orderliness of implementation. These four variables conceptually affect the performance of waste management in landfills, which is reflected in operational order, ability to respond to increased generation, and environmental impact control efforts, so implementation analysis is needed to see if downstream management is in line with policy objectives and field needs (Mahyudin, 2017; Republic of Indonesia, 2008).

3 Research Methods

Design and Research Approach

This research uses a qualitative approach with a descriptive type and case study strategy. The qualitative approach was chosen because the research seeks to understand in depth the process, practice, and dynamics of waste management implementation in certain contexts, rather than measuring the cause-and-effect relationship statistically (Moleong, 2018; Creswell, 2016). Case studies are used to examine the phenomenon of policy implementation contextually in a specific location/object, thus allowing the extraction of rich data on actors, procedures, and implementation barriers in the field (Yin, 2018).

Location, Object, and Research Focus

The research was carried out at the Sukabumi City Environmental Agency (DLH) with a focus on the implementation of waste management at the Cikundul Final Disposal Site (TPA). The object of the research is directed at how waste management policies/operations are carried out by the implementing unit (DLH/UPT TPA), including the implementation of procedures, resource support, work coordination, and obstacles that arise in practice. The focus was prepared to answer the formulation of problems related to implementation, inhibiting factors, and efforts to improve waste management at landfills.

Data and Data Sources

The research data consists of primary data and secondary data. Primary data were obtained from interviews with key informants and observations of waste management activities at landfills. Secondary data is obtained from institutional documents, SOPs, reports/archives related to waste, and relevant regulations. The use of these two types of data is intended to strengthen the completeness of the

information and allow cross-examination (triangulation) between field findings and official documents (Creswell, 2016).

Data Collection Techniques

Data collection was carried out through literature studies, participatory observations, structured interviews, and documentation. Literature studies are used to build a theoretical basis and understand the regulatory framework and concepts of policy implementation and waste management. Observations were carried out to see firsthand the condition and operational process of waste management at the landfill. Structured interviews were conducted using question guidelines that were compiled based on research focus so that the data obtained was consistent between informants (Sugiyono, 2022). Documentation is carried out by examining and collecting documents related to organizational structure, work procedures, waste data, and evidence of waste management activities.

Informant Determination Techniques

The determination of informants uses purposive sampling, which is the deliberate selection of informants based on the consideration that they have direct knowledge and experience related to waste management at landfills (Sugiyono, 2022). The research informants include elements of field managers and implementers, such as the leader/person in charge of the TPA UPTD, administrative elements, field officer coordinators, field officers, and waste transport officers from TPS to TPA. The selection of informants aims to capture a variety of perspectives ranging from the level of decision-makers to operational implementers.

Data Analysis Techniques

Data analysis is carried out interactively and continuously from data collection until the research is completed. The analysis stages include data reduction, data presentation, as well as drawing conclusions and verification. Data reduction is carried out by selecting, focusing, and grouping information according to the research theme. Data presentation is carried out in the form of narratives, theme matrices, or summaries of findings so that the relationship patterns and meanings of data are easier to understand. Conclusions are drawn through repeated verification by comparing between data sources and ensuring the consistency of findings (Miles, Huberman, & Saldaña, 2014).

Data Validity Test

The validity of the data is maintained through triangulation of techniques and sources, namely comparing the findings of interviews, observations, and documentation, as well as comparing information between informants with different roles. In addition, research can use limited member checking (reconfirming a summary of key information to informants) to reduce misinterpretations of researchers (Creswell, 2016). These steps are taken so that research findings have credibility and can be accounted for academically.

4 Results and Discussion

Results

This study examines the implementation of waste management by the Sukabumi City Environmental Agency (DLH) at the Cikundul Final Disposal Site (TPA) through a descriptive qualitative approach. Data were obtained from interviews, observations, and documentation, and then categorized based on the dimensions of policy implementation of the Edwards III model: communication, resources, disposition, and bureaucratic structure (Edwards, 1980; Pramono, 2020).

Implementation of Waste Management at Cikundul Landfill

In terms of communication, the informant said that the waste management policy in Sukabumi City was strengthened by the issuance of a Regional Regulation on waste management in response to the increasing volume of waste entering the landfill (Informant 1, personal communication, June 24, 2024). At the operational level, implementation communication is shown through socialization to the community (kelurahan/RT/RW) regarding the sorting of organic and inorganic waste, as well as the submission of appeals for waste disposal behavior. The informant also emphasized the consistency of support for certain services for local residents, such as the provision of anti-fly drugs (Informant 2, personal communication, May 30, 2024). These findings indicate that information transmission and socialization efforts are underway, although their effectiveness is still influenced by community responses on the ground.

In terms of resources, the informant stated that the human resources at DLH/UPT TPA are relatively adequate to carry out operational tasks according to the division of roles (Informant 2, personal communication, May 30, 2024). Institutional documentation shows that the total number of DLH employees is 476 people, consisting of 91 civil servants, 4 day employees, 189 seasonal employees, 13 freelance daily workers, and 179 cleaning operational officers (DLH Sukabumi City, 2024). However, in physical resources, challenges were found in key infrastructure. The field informant stated that the number of excavator heavy equipment decreased from the previous three units to one unit, thus having an impact on optimizing the arrangement and management of the waste pile (Informant 5, personal communication, June 24, 2024). In addition, land limitations are also an important pressure because the capacity of landfill land is close to the utilization limit.

In terms of disposition, the informant emphasized the commitment of the implementer in the implementation of waste services, including the operational hours of transporting waste from the TPS to the landfill which runs every day at a certain time frame (Informant 2, personal communication, May 30, 2024). The commitment of the implementers is also seen in efforts to process organic waste into compost and distribute the results for social benefits (e.g. schools and the agricultural sector) (Informant 4, personal communication, May 30, 2024). These findings show the willingness of implementers to carry out policies actively, although their realization is still influenced by limited facilities and community behavior.

In terms of bureaucratic structure, the informant mentioned that there are SOPs that regulate the flow of waste management, starting from transportation from TPS to landfill, sorting part of waste to waste banks, to handling at landfills through gradual arrangement (terrace) (Informant 2, personal communication, May 30, 2024). The arrangement of the heaps is carried out by the terraced method, namely the formation of multi-storey terraces and soil layering to reduce the risk of landslides and reduce the impact of pollution (Informant 3, personal communication, May 30, 2024). In addition, composting practices are carried out through certain processing stages (conditioning/drying, grinding, and sifting) before being distributed to beneficiaries (Informant 4, personal communication, May 30, 2024). In general, these findings indicate that procedural elements and division of labor have been in place and implemented.

Implementation Inhibiting Factors

Obstacles to implementation arise on three main issues. First, community participation and compliance are still considered low, especially in the sorting of waste from the source and the order of the disposal schedule. The transport officer said that there are still many residents who do not separate waste according to categories, thus hindering the process of handling and reducing the burden of the landfill (Informant 6, personal communication, June 24, 2024). The officer also highlighted the habit of disposing of garbage outside the set hours, so that the polling station is dirty again after the

transportation/cleaning process is completed (Informant 7, personal communication, June 24, 2024). Second, financial and budget support is perceived to be inadequate, limiting the expansion and renewal of facilities (Informant 1, personal communication, June 24, 2024). Third, limited facilities (especially heavy equipment) and limited land pressure reduce the capacity to handle waste piles optimally (Informant 5, personal communication, June 24, 2024).

Efforts to Overcome Obstacles

Efforts that have been and are being planned by DLH/UPT TPA include strengthening socialization and public education regarding waste sorting and disposal behavior, both directly and through the media (Informant 1; Informant 2, personal communication, May–June 2024). In addition, the informant submitted a technology/cooperation development plan aimed at reducing the volume of waste in landfills, including plans to utilize waste through RDF and collaboration with industry for the use of inorganic waste as a specific raw material (Informant 1; Informant 2, personal communication, May–June 2024). This effort is positioned as a strategy to reduce the burden of landfills which increase along with daily generation and limited land remaining.

Discussion

The findings of the study confirm that the implementation of waste management at the Cikundul Landfill has shown the fulfillment of core aspects of the implementation of the Edwards III model policy, but has not fully produced optimal conditions due to structural and social barriers. From the perspective of communication, socialization and information transmission have been carried out through local government channels and community education. However, the success of communication is not only determined by the "delivery" of information, but also by changes in the behavior of the target (Edwards, 1980). In this context, the findings on low waste sorting and the habit of throwing waste outside the schedule indicate that there is a gap between policy communication and citizen practices. This pattern is consistent with the findings of previous studies that assessed socialization/education as important, but its effectiveness is often constrained by community participation and sustainability (Andaryani et al., 2023).

From the aspect of resources, this study shows a relatively "adequate" condition in terms of human resources, but faces significant constraints on facilities and support of strategic facilities (e.g. heavy equipment and limited land). According to Edwards III, resources are an important prerequisite; even a clear policy will be difficult to implement if the support of facilities is inadequate (Edwards, 1980). These findings are in line with studies on the implementation of waste management policies in other regions which emphasize that limited resources (certain human resources, budgets, and facilities) are the dominant factors that hold back the optimization of implementation (Indriati, 2023; Dwijayanti & Arif, 2023). The limitation of heavy equipment in landfills directly has implications for the ability to organize landfills and operational efficiency, while the pressure of land constraints reinforces the urgency of landfill load reduction strategies through waste processing and utilization.

In the aspect of disposition, this study shows the commitment of the implementers as reflected in service hours, composting efforts, and structuring steps at the landfill. A positive disposition is an implementation capital because it shows the willingness of the implementer to implement the policy, although the final success still depends on the adequacy of resources and external support (Edwards, 1980). Thus, the commitment of the implementers at the Cikundul Landfill can be understood as an implementation force that needs to be supported by strengthening facilities, budgets, and cross-party collaboration.

In terms of bureaucratic structure, the existence of SOPs and handling methods (e.g. terraces and composting) shows that procedural aspects have been built to direct operational work. The existence of SOPs generally helps the stability of implementation because it clarifies workflows and responsibilities

(Edwards, 1980; Pramono, 2020). However, a good bureaucratic structure can still be "bumped" if external factors, such as community behavior and resource support, are not supportive. Therefore, the bureaucratic structure needs to be combined with a strategy of strengthening upstream (separation from sources) and reducing residues so that landfills do not become the only focus of the waste system. Overall, the results of the study strengthen the argument that the implementation of waste management at the landfill level as a downstream critical point is not enough to be assessed from the existence of policies and SOPs alone, but must be seen as a combination of organizational capacity, facility readiness, community behavior, and innovation/collaboration to reduce the burden of residue. Waste utilization plans (e.g. RDF and inorganic utilization cooperation) can be understood as relevant policy directions to reduce land pressures, but their effectiveness still requires clear technological readiness, financing, and operational governance so that they do not stop at the plan.

Conclusion

Based on the results of the study, the implementation of waste management by the Sukabumi City Environmental Agency at the Cikundul Landfill has in principle been running referring to four implementation indicators according to Edwards III, namely communication, resources, disposition, and bureaucratic structure. Policy communication and SOPs have been socialized, implementers have shown work commitment, and operational mechanisms such as waste management and processing have been implemented. However, the implementation is not optimal because it is still faced with limited financial resources and supporting facilities that have an impact on the effectiveness of services and operations in the field. The main obstacles found include low compliance and public awareness, especially related to the sorting and discipline of waste disposal time, as well as limited facilities such as shrinking land capacity and lack of availability of heavy equipment that can operate. To respond to these conditions, DLH has made various efforts, especially strengthening education and socialization to the community as well as planning to strengthen processing technology (such as RDF) and cooperation in waste utilization with the private sector, which is expected to reduce the burden of waste volume and extend the service life of the landfill.

This study recommends that DLH Sukabumi City optimize the management of existing resources through more efficient planning and use of budgets, while striving to strengthen priority facilities that directly affect landfill operations. In addition, increasing community participation needs to be strengthened through more sustainable and adaptive socialization (for example, utilizing social media and strengthening education at the RT/RW level), accompanied by the consistent implementation of rules so that public compliance increases. On the other hand, management strategies can also be strengthened through the expansion of collaboration with the private sector and the community, both for the reduction of waste from sources and the utilization of residues, so that the waste management system does not only rely on landfills but moves more integrated from upstream to downstream.

References

- Language Development and Development Agency. (n.d.). *Kamus Besar Indonesian (KBBI) Online*. Retrieved January 22, 2026, from <https://kbbi.kemdikbud.go.id>
- Creswell, J. W. (2016). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.
- Sukabumi City Environmental Agency. (2024). *Data on the number of employees* (Internal documents).
- Sukabumi City Environmental Agency. (2024). *Data on waste management facilities and infrastructure* (Internal documents).
- Dwijayanti, K., & Arif, L. (2023). [Update: Title of the article as per publication]. [Complete: journal name], [volume]([number]), [page].
- Edwards, G. C., III. (1980). *Implementing public policy*. Congressional Quarterly Press.
- Esterberg, K. G. (2002). *Qualitative methods in social research*. McGraw-Hill.

- Grindle, M. S. (1980). *Politics and policy implementation in the Third World*. Princeton University Press.
- Indriati, K. (2023). *Implementation of waste management policy by the Banjarbaru City Environment Agency* (Thesis/thesis). [Complete: name of institution/repository].
- Kaza, S., Yao, L., Bhada-Tata, P., & Van Woerden, F. (2018). *What a waste 2.0: A global snapshot of solid waste management to 2050*. World Bank.
- Ministry of Environment and Forestry of the Republic of Indonesia. (n.d.). *National Waste Management Information System (SIPSN)*. Retrieved January 22, 2026, from <https://sipsn.menlhk.go.id>
- Ministry of Environment and Forestry of the Republic of Indonesia. (2021). *Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 14 of 2021 concerning Waste Management in Waste Banks*.
- Mahyudin, R. P. (2017). Study of waste management problems and environmental impacts at landfills (Final Processing Sites). *Journal of Environmental Engineering*, 3(1), 66–74.
- Mazmanian, D. A., & Sabatier, P. A. (1983). *Implementation and public policy*. Scott, Foresman.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). SAGE Publications.
- Moleong, L. J. (2018). *Qualitative research methodology* (Revised edition). PT Remaja Rosdakarya.
- Sukabumi City Government. (2016). *Regulation of the Mayor of Sukabumi Number 35 of 2016 concerning the Position, Organization, Main Duties, Functions and Work Procedures of the Environmental Service*.
- Sukabumi City Government. (2021). *Sukabumi City Regional Regulation Number 2 of 2021 concerning Waste Management*.
- Pramono, J. (2020). *Implementation and evaluation of public policies*. [Complete: publisher].
- Sukabumi Radar. (n.d.). [Complete: article title used for Figure 1.1]. Accessed [date access], from [article link].
- Republic of Indonesia. (2008). *Law of the Republic of Indonesia Number 18 of 2008 concerning Waste Management*.
- Republic of Indonesia. (2012). *Government Regulation of the Republic of Indonesia Number 81 of 2012 concerning the Management of Household Waste and Similar Household Waste*.
- Republic of Indonesia. (2020). *Government Regulation of the Republic of Indonesia Number 27 of 2020 concerning Specific Waste Management*.
- Sugiyono. (2022). *Quantitative, qualitative, and R&D research methods*. Alfabet.
- Van Meter, D. S., & Van Horn, C. E. (1975). The policy implementation process: A conceptual framework. *Administration & Society*, 6(4), 445–488.
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.