

DESCRIPTIVE-ANALYTICAL STUDY OF THE DETERMINANTS OF WASTE MANAGEMENT POLICY IMPLEMENTATION IN KENDARI CITY

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ABSTRACT

Waste has always been a big challenge in public services in urban areas, and hence it has always been a priority for the city government. In Kendari, this handling begins with the formation of policies, but its implementation cannot realize its goals. The discovery of the variables that affect unattainability is the first goal of this study, followed by the formulation of solution options as the second goal. In so doing, this study adopts a qualitative approach, using interviews and documentation as data collection techniques. The findings reveal that only 50.59% of municipal waste was properly managed in 2025, indicating a substantial implementation gap. The main supporting factors include policy design clarity, supervisory mechanisms, institutional arrangements, and public acceptance. Meanwhile, inappropriate policy instruments, limited administrative capacity, and low community participation remain significant barriers. Having such kinds of support and obstacles, solutions to ensure the success of implementation, dealing with improving education, socializing activities related to waste management, and increasing the budget of waste management, along with the fulfillment of public facilities and utilities.

INTRODUCTION

Public policy is a government intervention in solving public problems. A public problem that still occurs in Indonesia, especially in urban areas, is waste (Irmawati et al., 2022). This problem can be seen from the data on the amount of waste generated until 2025, as much as 25.8 million tons per year, and only 35% or 8.9 million tons of managed waste (SIPSN.go.id, 2025). At the city level, Kendari has experienced an increase in waste generation by 403 tons from 2020 to 2025 (SIPSN.go.id, 2025).

This data makes Kendari occupy the first position with the most waste generation in Southeast Sulawesi Province.

Waste management is not just a technical matter of making the city clean and healthy; it also impacts the city's development in general. Conceptually, waste management requires a combination of technological innovation, policy support, and community involvement to manage environmental sustainability and public health improvement (Rautrao et al., 2025; Sharma et al., 2025; Sivasamy et al., 2025). Romero et al. (2021) emphasizing the urgency of a comprehensive and integrated waste management policy.

Any effort to solve the waste problem needs a legal basis. Normatively, there are some regulations concerning waste management. First, Law No. 18 of 2008 on waste management aims to establish a healthy community and environment and to create economic value from waste. Second, Kendari City, by Law No. 4 of 2015 on waste management. This regulation is a derivation of national law on waste management for the local jurisdiction. In fact, all these regulations have not been successfully used as a legal basis in an effort to realize the goals of implementing the waste management policy.

As a formal implementer of waste management policies, Kendari Waste management Agency (2024) has provided waste disposal sites spread across the Kendari City area, including 984 Temporary Disposal Sites (TPS) spread across 11 sub-districts. Meanwhile, the Final Disposal Site (TPA) is one located in the Puuwatu District. Judging from the process, the transportation of waste starts from the TPS, then is transported using a waste truck, and then is brought by officers of the Kendari Waste management Agency to the landfill.

For the sake of achieving policy objectives, the implementation stage is a process that fully determines whether the policy objectives created at the formulation stage can be transformed into outcomes that will be the focus of policy evaluation. This process involves adaptation between policies and implementers, and is often influenced by the local context and institutions involved (Khan & Khandaker, 2016; Leonardi & Staley, 2018; Sager & Gofen, 2022). Policy implementation is a stage in the policy-making process that is determined and enforced by the responsible actors and institutions (Knill & Tosun, 2020). In essence, a good policy is a policy that can be implemented. Knill & Tosun (2020) explain that there are six determinants for the success of a policy, namely the choice of policy instruments, policy design, supervisory structure, institutional design, administrative capabilities, and social acceptance.

Previous research on the determinants of successful implementation of waste management policies has been conducted by Zhang et al. (2025) that alignment of vertical and horizontal policies significantly hampers waste management capacity, especially in cities that do not prioritize waste management as an administrative focus. In addition, cooperation between regions, such as collaboration between cities, is often hampered by weak communication, limited resources, and bureaucratic inefficiencies (Halik et al., 2026). Therefore, it is necessary to strengthen monitoring, evaluation, and resource allocation for effective implementation. Further, economic viability and public support are critical to policy success. Social perception, willingness to pay, and public awareness significantly influence recycling behavior and acceptance of waste management initiatives (Lakioti et al., 2017).

Another view is that bureaucratic structures, executive attitudes, and communication are essential for policy success. Proactive behavior of implementers and transparency in administration increase effectiveness, but challenges such as insufficient funding and public awareness remain (Yudithia et al., 2024). On the other hand, the lack of dissemination of information and the study of citizens' behavior is a significant obstacle. Weak regulatory frameworks, lack of modern technology, and inadequate resources, such as vehicles and land for disposal, hinder implementation (Fernando, 2019).

Although previous research in Semarang City has applied the six determinants proposed by Knill and Tosun (2020) to identify factors influencing waste management policy implementation, the analysis mainly focused on describing supporting and inhibiting factors (Athallah et al., 2024). Limited attention has been given to understanding how these determinants interact within different local governance environments and influence implementation performance. This study fills this gap by examining the dynamic relationships among policy instruments, policy design, supervisory structures, institutional arrangements, administrative capacity, and social acceptance in the context of waste management policy implementation in Kendari City.

Analyzing and describing the determinants of Kendari waste management policy implementation is the first purpose of this study. It is followed by the second purpose, dealing with formulating the efforts to optimize the success of the Kendari waste management policy implementation.

METHOD

This study uses a qualitative approach. Kumar said that qualitative research is based on empirical philosophy, following an unstructured, flexible, and open approach to inquiry (Kumar, 2011:394). The qualitative approach is carried out by processing some information and data to describe problems that occur in society in accordance with the facts. Therefore, the researcher uses a qualitative approach in conducting research related to waste management policy implementation in Kendari City, Southeast Sulawesi Province.

The implementation of the policy in this study was researched based on the theory put forward by Knill & Tosun (2020). This theory states that there are six determinants of policy implementation, namely policy instrument chosen, policy design, the supervisory framework, institutional arrangement, administrative capabilities, and public acceptance.

The use of this theory involves considering that the instrument is in accordance with the problem that the researcher will research. First, the administrative ability factor explains the resources needed, such as technology that is very relevant to the topic of problems related to sustainable waste management. Second, this theory has indicators in the form of formal and informal supervision structures carried out by official institutions or bodies to the community. The existence of supervision by the community is very important in addition to supervision by formal bodies or institutions. These indicators have not been found in other theories. Third, public acceptance is an indicator whose results will determine how the policy can be implemented properly by the community.

In terms of informant selection, the researcher used two techniques, namely Purposive Sampling and Snowball Sampling. Purposive Sampling is a special sampling technique that is widely accepted and requires very specific goals in mind and uses assessment to select cases (Neuman, 2017:73). In this study, the initial informant was selected by purposive sampling based on considerations and criteria that the party concerned knows, masters information and data, and has authority in waste management. Furthermore, the researcher selected informants using the snowball sampling technique. This technique is a sampling technique that starts from one or several cases, then spreads based on direct or indirect connection with the previous case, taking samples of social networks or related organizations (Neuman, 2017:74).

In this study, the two techniques were used to obtain information about the implementation of waste management policies, totaling 9 people, consisting of the Head of Environmental Agency, the Head of Hazardous Waste division, the Head of waste management section, Head of the Municipal Landfill Management Unit, Puuwatu Sub-district, Chairperson of Indonesian Forum for the Environment (WALHI) Southeast Sulawesi, Chairperson of the Ecobrick Community and two Community Leaders.

Finally, this study utilizes the documentation data resulting from secondary data on Laws and Regulations as a form of government policy to solve waste management problems at the central level,

including Law Number 18 of 2008 concerning waste management, Government Regulation Number 81 of 2012 concerning Household waste management and Similar Household waste. At the regional level, in the form of the Kendari City Regional Regulation Number 4 of 2015 concerning waste management. In addition, documentation data was also obtained from the Kendari City RPJMD for 2021-2026, the Kendari City Environment Agency Strategic Plan for 2021-2026, the SOP for waste management, and the Accountability Report of the Kendari Waste management Agency. Data was analyzed using a qualitative technique according to Miles et al. (2014) starting from condensation, presentation, and conclusion, or verification.

RESULT AND DISCUSSION

Determinants of Waste management Policy Implementation

1. Policy instrument chosen

Policy instruments applied by the government are chosen in order to ensure policy implementation effectiveness. Such a determining process requires the implementers to consider two things, namely, the government's capabilities and the nature of the policy ecosystem. The purpose of such considerations is to generate appropriate policies to address policy issues (Knill & Tosun, 2020:223).

The choice of policy instruments chosen by the government includes four types, namely direction instruments, authorized instruments, subsidy instruments, and information instruments. If the government's capacity is high in dealing with a complex policy environment, the instrument used is in the form of direction. Then, in high-capacity governments faced with a simple policy environment, effective implementation can be achieved by using authorized instruments. Conversely, if the government has a low capacity to deal with a complex policy environment, it can rely on subsidies such as certain funding schemes to encourage policyholders to comply with policy provisions. However, when low-capacity governments are faced with a simple policy environment, they can use information instruments, such as campaigns or information disclosure (Knill & Tosun, 2020:223).

The measure of the government's capacity in waste management can be indicated either by the amount of available budget or by the number of actors involved. The data concerning the actors involved is presented in Table 1.

Table 1. Actors involved in the Kendari waste management policy implementation.

Actors Involved	Roles
Mayor of Kendari	Stipulation of the bylaw on waste management and its enforcement as well.
Kendari Waste management Agency	Authorized implementers of waste management, including the decision maker, in determining the reduction of annual waste.
Districts and Villages	Handling waste generated by communal activities.
Southeast Sulawesi WALHI	Participating in monitoring the effectiveness of waste management done by the Kendari city government.
Environmental Care Community (<i>Ecobrick</i>)	Participating in monitoring the appropriate waste management done by the Kendari city government, especially in community daily life.

Source: Kendari Waste management Agency (2024)

Based on Table 1 above, there are several actors involved in the implementation of waste management policies in Kendari City, ranging from the government, the private sector, and community organizations. These stakeholders greatly influence the success of the implementation of

waste management policies in Kendari City by collaborating with each other to achieve the goals of effective and sustainable waste management in Kendari City. At the same time, the complexity of the problem can be seen from the many goals and alternative solutions in the implementation of waste management policies in Kendari City, as listed in Table 2.

Table 2. Objectives and Alternatives to Completion in the Implementation of the Waste management Policy in Kendari City

Policy Objectives	Alternative Options
Reduce the quantity and impact caused by waste.	Use environmentally friendly packaging or reduce the use of single-use materials such as plastic.
Improving public health	Routine health checks for people living around landfills, such as the people of Kampung Energi (a community-based waste-to-energy initiative located near the Puuwatu landfill area).
Improving the quality of the environment	Increasing renewable energy and environmentally friendly technologies in waste management, such as biogas from organic waste.
Turning waste into a resource	Counseling and training the community regarding waste recycling.

Source: Processed from Kendari City Regional Regulation Number 4 of 2015

Table 2 shows the high milieu complexity of the Kendari waste management policy implementation. This is based on the many goals to be achieved by providing several alternative options for solving waste management problems in Kendari City, so that the appropriate policy instrument is in the form of subsidies. There are two attributes of the choice of policy instruments, namely the accuracy of the instrument and the level of ease of implementation of the instrument.

a. Instrument Precision

Implementing a waste management policy is a wicked problem for the Kendari city government. It results from the fact that it has low capacity. Therefore, instruments in the form of subsidies are the right choice. The forms and recipients of subsidies in the Kendari waste management implementation are presented in Table 3.

Table 3. Forms and recipients of subsidies in the Kendari waste management policy implementation

Form of Subsidy	Target
Subsidy of waste management tools	11 Districts
Assistance or incentives for waste pickers in Kampung Energi	15 Family
waste transportation subsidy	Kendari Waste management Agency

Source: Processed by Authors (2024)

Table 3 above shows that there are 3 (three) forms of subsidies received. In 11 (eleven) sub-districts in Kendari City, waste management subsidies were given, such as organic and non-organic waste bins and 2 (two) waste motorcycles. The second subsidy recipient is for energy village families in the form of assistance or incentives. Furthermore, there is a subsidy in the form of waste transportation given to the Kendari Waste management Agency by the local government. The provision of subsidies in waste management is carried out according to the budget every year, so that

the provision of subsidies in the form of vehicles, such as waste cars and waste motorcycles, follows predetermined policies.

b. Ease of Instrument Execution

The feasibility of the Kendari waste management policy implementation exists through the subsidy provision. The ease of implementation of waste management policy instruments has been carried out by the Kendari waste management agency by providing subsidies in the form of funding, which is supported by providing good services, such as providing several facilities to transport waste to landfills. Those subsidies provided from the government budget are specially allocated for waste management programs. Regarding this, the subsidies could be increased annually so as to maximize the success of the Kendari waste management policy implementation.

2. Policy Design

There are two attributes of policy design, namely clarity of managerial arrangement dealing with procedure, time, and resources, as well as the number of policy objective compliance.

a. Clarity of Procedures, Time, and Resources

The availability of clear procedures, time, and resources are attributes of policy design. In this case, those attributes in the Kendari waste management policy implementation have been regulated by the Kendari waste management agency. Such regulations are presented in Table 4.

Table 4. Regulations related to procedures, time, and resources in the Kendari waste management policy implementation

Element	Regulation	About	Explanation
Procedure	Kendari City Regulation No. 4 of 2015, in Article 19	waste management	There are two procedures for waste management at DLHK Kendari City, namely waste transportation procedures and landfill handling procedures.
Time	Kendari Mayor Regulation No. 21 of 2009, in Article 5	Waste Order Area in Kendari City	The schedule for transporting waste to TPA is between 19.00 to 22.00 WITA and 04.30 to 06.30 WITA every day.
Resources	Kendari Mayor Regulation No. 17 of 2022, in Article 21	Organizational Structure and Work Procedures of the Kendari Waste management Agency	The field officer of Kendari Waste management Agency elaborates on technical policies concerning the separate handling of regular waste and waste of hazardous and toxic materials.

Sources: Kendari Waste management Agency (2024)

Table 4 shows the clarity of regulations as regulated in the city of Kendari bylaw Number 4 of 2015 pertaining to waste management. The bylaw arranges a series of waste management starting from sorting to final processing.

Kendari mayor's regulation Number 21 of 2009 on Waste Order Areas in the Kendari City Area specifies the time of transporting waste from TPS to the landfill. Article 5 Paragraph (2) explains that

the schedule for transporting waste from the source of household waste, offices, shops, and business entities to the polling station is set at 17.30 WITA to 22.00 WITA and from 04.30 WITA to 06.00 WITA every day. Then, Article 5 distinguishes two different transportation stages. Waste transportation from waste sources to TPS is conducted between 17:30–22:00 and 04:30–06:00, whereas transportation from TPS to the landfill is conducted between 19:00–22:00 and 04:30–06:30.

Kendari Mayor's Regulation Number 17 of 2022 relating to Kendari waste management agency work procedures arrange in detail the implementation of waste management done by the Kendari Waste management Agency. Its description is presented in Table 5.

Table 5. The Implementers of waste management

Implementers	Number
Waste Car Driver	45
Arm Roll <i>Car Driver</i>	8
Heavy Equipment Operator	3
Waste Truck Officer	245
Assistant Landfill Supervisor	9
TPS 3R Officer	3
Waste Compressor Driver	3
Waste Motorcycle Driver	9
Waste Motorcycle Officer	3
Crane Car Driver	1
Crane Car Attendant	4
Waste Bank Manager	15
Total	348

Sources: Kendari Waste management Agency (2024)

Table 5 shows that the total number of waste management implementers at the Environment and Forestry Service is 348 people. The implementation of waste management includes many skills and activities, such as waste truck drivers, *Arm Roll car* drivers, heavy equipment operators, *crane car* drivers, and crane car officers. There are two things requiring attention for the need to rearrange waste management implementers. First, implementer amount for some activities is not proportional, as can be seen from the composition of the number of waste truck drivers, as many as 45 people, compared to the number of waste truck officers of 245 people. This means that each waste truck is manned by around 5 to 6 officers. Second, what happened with crane cars? On the one hand, the number of *crane cars* is only one, but on the other hand, the number of crane car officers is 4 people, in addition to the *crane driver*, who is one person. This situation, in addition to showing the lack of crane car facilities, can also show the lack of optimal utilization of crane car officers.

b. Number of Changes to Policy Targets or Objectives from the Initial Policy Design

In the implementation of a policy, it is possible to change the target or policy objectives from the initial design of the policy. This condition shows the need for a policy to be adjusted to existing developments but still guiding the goals that have been set previously. The purpose of the Kendari waste management policy has been stated in Kendari bylaw Number 4 of 2015 on Waste management Article 4, explaining that the purposes of waste management are to reduce the quantity of waste and its negative impacts, improve public health, increase environmental sanitation, and make waste a new resource. Furthermore, the documentation of the Kendari Waste management Agency delineates the indicators and performance targets of the Kendari Waste management Agency from 2018 to 2023, presented in Table 6.

Table 6. Performance indicators and targets of the Kendari Waste management Agency

Indikator	Target Achievement (%)	Realization (%)		
		2021	2022	2023
Waste Reduction	20	20,49	18,86	20,30
Waste Processing	70	71,91	74,46	74,49
Managed Waste	100	92,40	93,32	94,79

Sources: Kendari Waste management Agency (2024)

From Table 6, it appears that there are three indicators of waste management, namely waste reduction, waste management, and managed waste from 2021 to 2023. In 2022, waste reduction did not reach the desired target, only reaching 18.86%. Meanwhile, the indicators of waste management and managed waste have reached the target, but the indicators of managed waste over the past three years have not reached the specified target. In 2025, the waste management rate in Kendari City will only reach 50.59.

3. Supervision Structure

Supervision can be carried out informally by the public or formally by official government bodies. Formal supervision is carried out by certain authorized bodies in accordance with laws and regulations. This dimension includes public informal monitoring and supervision, and formal supervision by state/government bodies such as the Financial Audit Agency (BPK), Inspectorate, and Ombudsman of Southeast Sulawesi.

a. Supervision by the Community

In Kendari, waste management policy implementation, public informal monitoring and supervision are carried out by the community or community organizations in each region, be it in the sub-district, sub-district, or RT/RW. Such monitoring and supervision from the community needs to be carried out so that the implementation of waste management policies in Kendari City can run effectively. Monitoring and informal supervision by the community have been regulated in the Mayor's Kendari Regulation Number 21 of 2009. This regulation explains that the participation of the community is to help manage waste up to the minimum level that is disposed of at the polling station, assist in the supervision of the waste orderly area, and provide proposals, considerations, and suggestions to the city government in terms of maintaining cleanliness.

The Kendari Waste management Agency has provided facilities to the public to provide reports or complaints against individuals who do not carry out the regulations properly, and also if the community finds a point or location of a pile of waste that has not been transported by the waste officer, they can report through the official website of the Kendari Waste management Agency, namely <https://silahkandlhk.com/> or through the telephone number of the Kendari Waste management Agency, and through *E-mail* dlh.kendari@gmail.com. The results of the recording of community complaints at the Kendari Waste management Agency are presented in Figure 1.

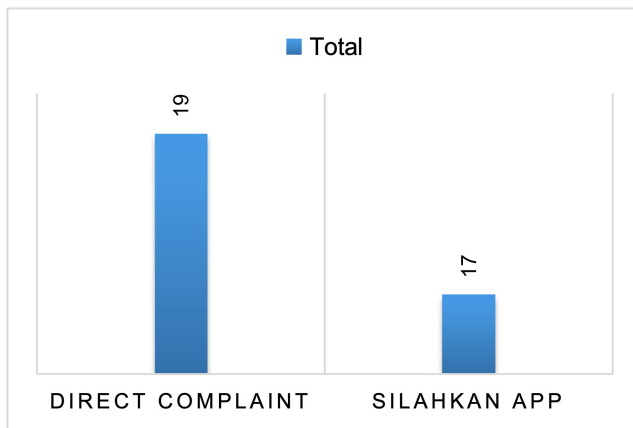


Figure 1. Total Community Complaints

Sources: Kendari Waste management Agency (2024)

Based on Figure 1 regarding public complaints submitted directly (19 complaints) slightly exceeded complaints submitted through the SILAHKAN application (17 complaints), indicating that citizens still prefer face-to-face reporting channels.

b. Supervision by the Supervisory Board

The supervisory body has an important role in ensuring that the waste management policy implementation runs well. The agency is tasked with monitoring activities related to waste management, enforcing rules, and ensuring that all parties involved comply with the regulations that have been set. This supervision covers all aspects, ranging from the budget, service performance, and the achievement of targets that have been carried out, whether they have gone well or otherwise. With effective supervision, it is hoped that it can establish better environmental sanitation in Kendari City.

Supervision activities are carried out by formal supervisory bodies such as BPK, the Kendari City Inspectorate, and the Ombudsman at the Kendari Waste management Agency. The supervision and inspection were carried out to find out that the effective implementation of the waste management program also means the effective use of the budget and the better services at the Kendari Waste management Agency. The formal supervisory bodies carry out annual supervision, except for the Ombudsman, which is carried out once every six months.

4. Institutional Design

Institutional design has two attributes, namely the number of implementing organizations and internal and inter-organizational coordination. In the implementation of a policy, there are several implementing organizations that collaborate with each other to achieve common goals.

a. Number of Implementing Organizations

There are several implementing organizations in the Kendari waste management program, which can vary depending on the complexity of the policy and the scale of its operations. The implementing organizations in waste management in Kendari City include:

- 1) the Kendari Waste management Agency, which is responsible for planning, coordinating, and implementing waste management policies in Kendari City;
- 2) Districts and Villages and their staff are obliged to be responsible for the waste transportation process from households to Temporary Disposal Sites (TPS);
- 3) Non-Governmental or Private Organizations, such as WALHI Southeast Sulawesi, play a role in supervision, observing, and advocating for regulations for better waste management.

The implementing organizations in the Kendari waste management policies consist of the government, ranging from the city to sub-districts and sub-districts, as well as from non-government or private sectors. They can collaborate synergistically to ensure effective Kendari waste management

policy implementation. Regarding the Kendari Waste management Agency structure, this agency has four divisions, namely, the Environmental Management Division, the Capacity Building and Environmental Monitoring Division, the B3 waste and waste Division, and the Hygiene Division.

b. Internal and Inter-Organizational Coordination

Internal and inter-organizational coordination is very important to ensure that activities or programs run smoothly and efficiently in implementing the Kendari waste management policy. For the illustration, the coordination of the adipura assessment carried out by the Kendari Waste management Agency in the year 2023 involved many internal and inter-organizational entities. In general, coordination of internal and inter-organizations relating to waste management is presented in Table 7.

Table 7. Internal and inter-organizational coordination relating to waste management

Coordination		Location	Time
External	BPK, Inspectorate, Ombudsman, and WALHI Southeast Sulawesi	1) Kendari Waste management Agency	Once a year
Internal	Unit waste Bank	1) Kendari Waste management Agency 2) Watu-Watu Village waste Bank 3) Puuwatu Village waste Bank 4) Talia Village waste Bank 5) Petoaha Village waste Bank 6) Bungkutoko Village waste Bank 7) Tondonggeu Village waste Bank	Held as needed
	Main waste Bank	Meohai waste bank	
	Landfill	Puuwatu Final Processing Site	

Sources: Kendari Waste management Agency (2024)

Table 7 shows that there is internal organizational coordination at the Kendari Waste management Agency, coordination carried out such as the coordination of the waste Bank and the Puuwatu Landfill. Meanwhile, external coordination is carried out by the BPK, the Inspectorate, the Ombudsman, and WALHI Sulawesi at least once a year.

5. Administrative Capacity

The determinants of administrative ability consist of the attributes of the availability and adequacy of resources and the ability to implement Standard Operating Procedures (SOPs). The resources required to be available in an adequate amount consist of human resources, finance, technology, and information.

a. Availability of Required Resources

1) Human resources

Kendari Waste management Agency has provided officers in waste management in Kendari City, such as waste management facility operators, waste transport officers, heavy equipment operators, landfill supervision assistants, and so on. The number of officers in the B3 waste and waste Sector in Kendari City is presented in Table 8.

Table 8. Number of Officers in the Field of waste and B3 waste in Kendari City

Officers	Number
Waste Data Manager	1
Heavy Equipment Operator	3
Waste Transportation Manager	3
Waste Car Driver	45
Waste Truck Officer	245
Site Transportation Manager	7
Arm roll Car Driver	8
Waste Compactor Driver	3
Mechanic	9
Waste Motorcycle Driver	10
Assistant Landfill Supervisor	9
Crane Car Driver	3
Waste Bank Manager	15
TPS 3R Officer	3
Total	364

Sources: Kendari Waste management Agency (2024)

Table 8 depicts the human resources available in waste management activities. That table also shows the variation of skills needed by the waste and LB3 Sector in the Kendari Waste management Agency. This can be seen from the number of waste truck members, as many as 245 people. Meanwhile, the number is small, such as waste data managers, heavy operators, and 3R TPS officers, who number only three people.

2) Finance

Kendari Waste management Agency has been provided with adequate budget allocation for waste management operations, including equipment, payment of staff salaries, as well as funding for waste management and socialization programs. The program objectives, and budgets allocation, and realization of waste management operations are presented in Table 9.

Table 9. Program objectives, and budgets allocation, and the realization of waste management operations

Year	Program Objectives	Budget Total	Realization
2021	waste management	Rp17.699.020.260	Rp17.361.501.300
2022		Rp17.310.193.874	Rp17.069.626.012
2023		Rp23.238.744.936	Rp22.954.478.825
2021	Increasing the role of the community in waste management	Rp200.000.000	Rp198.895.400
2022		Rp753.008.137	Rp730.668.000
2023		Rp69.017.685	Rp65.846.028
2021	Provision of waste management facilities and infrastructure	Rp2.151.542.893	Rp1.279.828.500
2022		Rp1.142.279.673	Rp994.975.250
2023		Rp780.205.166	Rp549.511.000

Sources: Kendari Waste management Agency (2024)

Table 9 mentions that the total budget of waste management activities tend to increase from year to year, while the other activities, namely, tend to decrease during the period of 2021 - 2023. The budget for waste management activities from 2021 to 2023 increased by 31.3%. Conversely, the

budget for activities aiming to increase community role in waste management during a similar period decreased by 4.05%. Meanwhile, the budget for providing waste management tools fluctuated; from 2021 to 2022, it decreased by 47%, and from 2022 to 2023, it decreased by 16.67%.

3) Technology

Currently, technology is very much needed to help and facilitate people in doing their activities. Such a need also drives policymakers and implementers as well to use technology in the waste management act administered by the Ministry of Environment and Forestry. This website contains information such as waste generation, the number of polling stations, and the amount of waste handled nationally. The second source of information is the SILAHKAN website managed by Kendari Waste management Agency. This website is used to provide information to the public about matters related to the Kendari Waste management Agency programs and organization. Through this *website*, the public can actively participate by providing suggestions, input, criticism, or even reports. The third source of information is the social media account in the form of Facebook. Unfortunately, of the three sources of information, two of them, namely the SILAHKAN Website and the Facebook account, rarely update information on waste management.

b. Adequacy of Required Resources

Information concerning the adequacy of resources in implementing Kendari waste management policies is provided by conducting interviews and documenting these resources.

1) Adequacy of Human Resources

Regarding the adequacy of human resources, the Kendari Waste management Agency has provided officers in waste management with various skills, such as waste management facility operators, waste transport officers, heavy equipment operators, landfill supervisory assistants, and so on. The number of waste management officers at the Kendari Waste management Agency is presented in Table 10.

Table 10. The number of waste management officers at the Kendari Waste management Agency

Officers	Year (People)		
	2021	2022	2023
Waste Car Driver	50	45	45
Heavy Equipment Operator	2	3	3
Waste Truck Officer	237	237	245
Assistant Landfill Supervisor	9	9	9
TPS 3R Officer	3	3	3
Waste Compactor Driver	2	2	3

Sources: Kendari Waste management Agency (2024)

Table 10 depicts the composition of waste management officers from 2021 to 2023. It can be noted that the number of waste truck drivers in the last two years experienced a reduction of 5 (five) personnel. Meanwhile, the number of waste truck members increased by eight personnel.

2) Budget Adequacy

Kendari Waste management Agency has provided adequate budget allocation for waste management operations, including equipment, payment of staff salaries, as well as funding for waste management and socialization programs. The amount of waste management budget is presented in Figure 2.

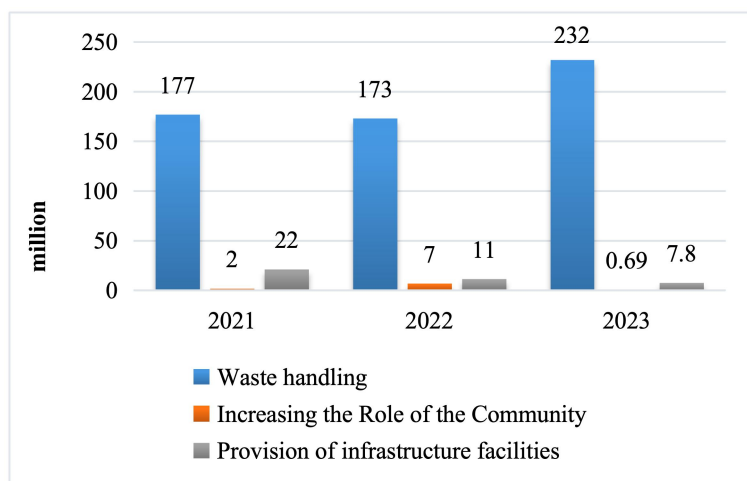


Figure 2. Total waste management Budget

Sources: Kendari Waste management Agency (2024)

Figure 2 indicates that the waste processing activities have a dominant budget during 2021-2023. Even in 2023, the budget for waste management activities is 96,47%, and the rest is for increasing the role of the community and provision of infrastructure facilities. This greatly affects the achievement of program or activity goals in increasing community role and in providing tools and facilities. The number of salaries/wages at the Kendari Waste management Agency is presented in Table 11.

Table 11. Salary/Wages at the Kendari Waste management Agency

Officers	Salary/Wages Per Month (Rp)
Arm roll car driver	2.500.000
Compactor Driver	2.500.000
Operator excavator	1.600.000
Operator Dozer	1.600.000
Car Driver Crane	1.600.000
Crane Car Attendant	1.300.000
TPS 3R Officer	1.300.000
Waste Bank Manager	1.300.000
Waste truck driver	1.200.000
Machine operator	1.200.000
Waste car attendants	900.000
Mechanic	700.000
Waste motorcycle driver	700.000
Waste motorcycle officer	700.000
Assistant Landfill Supervisor	700.000

Sources: Kendari Waste management Agency (2024)

Based on Table 11, the monthly wages of waste management personnel range from Rp700,000 to Rp2,500,000. Compared with the Kendari City Minimum Wage (UMK) of Rp3,314,389.80 in 2025, these wage levels remain below the local minimum wage standard. From an administrative capacity perspective, limited compensation may constrain the ability of the agency to attract and retain qualified personnel required for effective waste management operations.

3) Technology and Information Adequacy

Sufficiency regarding the availability of data, technology, and information at the Kendari Waste management Agency, technology in waste management in Kendari City amounted to 3 units, while information sources about waste management were provided through SIPSN, SILAHKAN, and social media accounts in the form of Facebook.

Regarding the adequacy of the resources needed (Human Resources, Finance, Technology, and Information), Kendari's waste management policy implementation is still lacking and needs to be improved. It can be seen from the number of existing resources that, in terms of quantity, they are indeed available, but not adequate. By carefully evaluating the adequacy of these resources, the Kendari City government can identify what needs to be improved so that the implementation of waste management policies in Kendari City runs effectively.

c. Ability to Implement SOPs

The ability to implement Standard Operating Procedures (SOPs) is very important to ensure consistency, efficiency, and sustainability in every stage of waste management. The existing SOPs arrange the operational schedule for waste management, starting from the time arrangement, followed by a series of steps that must be taken in a proper manner before final processing is done. The current practices in handling waste tend to follow the SOPs that have been set.

6. Social Acceptance

Social or public acceptance is indicated by two attributes, namely, the community perceived benefit level and the involvement between the community and the policy.

a. Perceived Benefit Level

The level of benefit felt by the community in the implementation of the Kendari waste management policy varies depending on the perspective of each individual or community group. The real benefit felt by the community is the establishment of a waste bank. From community perception, waste banks make the waste management process in the community easier, and they can also provide a certain financial benefit for the households. The waste bank operator can reduce waste into new products with economic value, job creation, and community empowerment. The level of benefit felt by the community is presented in Table 12.

Table 12. Benefits of the waste bank felt by the community

Waste Bank	Total waste (Kg/Month)	Selling Price Per Kilo (Rp3,000)
Bungkutoko waste Bank	660	1.980.000
Kodya Watu-Watu waste Bank	2.475,5	7.426.500
Nur Islami Talia waste Bank	475	1.425.000
Petoaha waste Bank	1.324	3.972.000
Tondonggeu waste Bank	234	702.000

Sources: Kendari Waste management Agency (2024)

Table 12 above shows that the community developed a perception of waste. Its handling can result in financial gain. So, the more waste that is processed by the waste bank, the more income is generated for the community from the sale of the waste.

b. Community Engagement

Community involvement is the key to realizing the goals of implementing waste management policies in Kendari City. In so doing, the community can participate in waste management activities, such as waste sorting and recycling activities (3R) as well. The recapitulation of active waste banks in 2023 in Kendari City is presented in Table 13.

Table 13. Active waste Banks in Kendari City in 2023

Bank Sampah	Number of Members (persons)	Weighing Time
Bungkutoko waste Bank	15	Every Saturday and Sunday
Kodya Watu-Watu waste Bank	79	Every Saturday
Nur Islami Talia waste Bank	65	Every day
Petoaha waste Bank	50	Every day
Tondonggeu waste Bank	20	Every day

Sources: Kendari Waste management Agency (2024)

Based on Table 13 above, in order to increase community involvement in the importance of sorting waste according to its type, the waste Bank has been presented to answer these problems. The waste Bank changes people's perception of waste. It is no longer perceived as dirty and messy things, but on the contrary, waste is a commodity that can be a source of income. Currently, the active waste banks in Kendari City have reached 14 units, with the amount of waste produced reaching 1,000 kg per month.

Efforts to Optimize the Waste management Policy implementation.

Since waste management implementation cannot attain its objectives, it is necessary to make some efforts, beginning with the identification of its obstacles. Some efforts can be formulated to optimize the waste management policy implementation, through:

a. Improving Education, Socialization, and Activities related to waste management

Kendari's waste management policy implementation has faced an obstacle in terms of a lack of public awareness on environmental protection and sustainability, especially relating to handling waste at the household level. Therefore, increasing education, training, and disseminating information related to waste management activities could be an important effort. It will be concerned with encouraging people to be more responsible with the waste that they produce in everyday life. Some activities cover public training on the proper way of waste sorting, the benefits of waste management, the regulation on waste management, as well as enhancing community service in environmental sanitation and protection. Subsequently, along with the increasing people's knowledge and awareness, it can maintain the sustainability and cleanliness of the environment.

b. Increasing waste management Budget

The budget is a crucial aspect in ensuring smooth policy implementation. The appropriate budget is also needed for waste management, both for employees and the community. For employees, sufficient budget can mean a feasible reward, while for the community, sufficient budget can mean support for their initiatives in waste management. Therefore, increasing the waste management budget is another effort to ascertain the successful waste management policy implementation.

The management budget for the waste management program from 2021 to 2023 has increased by 0.69%. Then, the program for the provision of waste management facilities and infrastructure from 2021 to 2022 increased by 27.62%. An increase in the waste management budget is expected to provide optimal service because if officers are given salaries/wages in accordance with the UMR, indirectly, their performance will also increase. The budget provided will provide good service in terms of waste management facilities and infrastructure so that they can achieve the desired goals.

c. Providing waste management Facilities and Infrastructure

An important effort to optimize Kendari waste management policy implementation is to provide needed facilities and infrastructure. With appropriate and sufficient tools, it is easier to carry out the

waste management tasks and activities, such as repairing waste transport containers, TPS facilities, and access to the landfill. Along with the other efforts, the provision of waste management facilities and infrastructure can be expected to optimize the result of waste management in the city of Kendari.

CONCLUSION

The findings of this study show that the complexity of the waste problem in Kendari City is caused by certain factors affecting the success of the implementation of waste management policies that have been set by the Kendari City government, both supportive and inhibiting. These supporting factors are the clarity of the policy design in the form of procedures, time and resources, as well as changes in policy targets or objectives from the initial policy design; clarity of the supervisory structure both by the public and the supervisory body; clarity of institutional design dealing with internal and inter-organizational coordination. In contrast, inaccuracy of choice and difficulty in implementing waste management policy implementation instruments; low administrative capacity of waste management implementers; lack of social or public acceptance indicated by community low involvement in waste management hinder implementation effectiveness. To address these challenges, the study recommends increasing education, training, and disseminating information related to waste management activities, increasing budget allocation for waste management programs and activities, and providing sufficient and related waste management facilities and infrastructure.

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