



RESEARCH ARTICLE

Waste Management Governance In Muara Satu District, Lhokseumawe City

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Abstract

Waste management remains a critical environmental challenge in Indonesian urban areas, with governance failures contributing to persistent issues including illegal dumping and inadequate infrastructure. This study examines waste management governance in Muara Satu District, Lhokseumawe City, analyzing implementation through five principles of good governance: participation, rule of law, transparency, responsiveness, and accountability, while identifying obstacles to effective management. A qualitative descriptive approach was employed, utilizing observation, in-depth interviews with eight purposively and accidentally selected informants, and documentation. Data analysis followed the Miles and Huberman interactive model, with data validity ensured through source and technique triangulation. The findings reveal that waste management governance has not achieved optimal implementation. Community participation remains transactional and limited to economic incentives. Rule of law enforcement is weak despite existing Qanun Number 9 of 2015, with inconsistent sanctions and persistent illegal waste sites. Transparency is partial, with program information available but budget information undisclosed. Responsiveness shows mixed results: while the Environmental Agency has developed innovative processing technologies, operational constraints limit timely service delivery. Accountability operates predominantly through vertical mechanisms, with limited horizontal accountability to communities. Two categories of obstacles were identified: structural constraints including inadequate fleet capacity (39 vehicles serving 133 tons daily waste), damaged equipment, limited storage sites, and insufficient human resources; and cultural constraints including low community awareness, limited participation, and entrenched habits. These obstacles are mutually reinforcing, creating a feedback loop that perpetuates governance weaknesses. Strengthening governance requires simultaneous investment in infrastructure, consistent enforcement, comprehensive transparency, proactive responsiveness, and systematic accountability mechanisms.

Keywords

Governance; Waste Management; Good Governance; Community Participation.

1 | INTRODUCTION

Waste management has emerged as one of the most pressing environmental challenges facing urban areas in Indonesia. The increasing volume of waste generated by growing populations, coupled with inadequate infrastructure and limited public awareness, has created significant environmental and public health concerns. In 2020, Indonesia generated approximately 37.3% of its waste from households, with plastic waste accounting for 17%, paper and cardboard at 12.02%, wood and branches at 14.01%, and other types comprising 6.94% (Prakasdi *et al.*, 2024). The Ministry of Environment and Forestry reported that Indonesia's total waste accumulation reached 56.63 million tons in 2023, with only 39% properly managed, leaving approximately 34.5 million tons (61%) unmanaged (Chaterine & Ramadhan, 2025). The Indonesian government responded to this escalating crisis by enacting Law Number 18 of 2008 concerning Waste Management. This legislation provides the legal framework for waste management responsibilities, which are typically delegated to regional Environmental Agencies (*Dinas Lingkungan Hidup*). These agencies are tasked with planning, implementing, supervising, and evaluating waste management programs and activities. At the provincial level, Aceh Governor Regulation Number 138 of 2018 established guidelines for regional waste management policies and strategies. Further operationalizing these regulations, Lhokseumawe City enacted Qanun (local regulation) Number 9 of 2015 on Waste Management, serving as the operational reference for the Lhokseumawe Environmental Agency (DLH) and relevant stakeholders in executing waste management duties. In response to the escalating waste problem, the Lhokseumawe City government introduced the innovative "Broh Jeut Keu Peng" program an Acehnese phrase meaning "Waste Can Become Money" emphasizing circular economy-based waste management, economic incentives, community empowerment, and multi-actor collaboration. This program encompasses four strategic approaches: (1) education through 3R (Reduce, Reuse, Recycle) and environmental literacy based on Acehnese culture; (2) technical infrastructure through strengthening Temporary Storage Sites (TPS) and 3R Waste Management Sites; (3) economic development through waste banks, composting, and reward-punishment systems; and (4) collaboration involving government, village officials, religious leaders, informal sectors, and private sectors (Dewi *et al.*, 2025). Despite these policy frameworks, significant challenges persist in waste management governance, particularly in Muara Satu District, Lhokseumawe City. Preliminary observations conducted by the researcher in 2025 revealed several critical issues. A Temporary Storage Site in Blang Pulo Village exhibited severe overcapacity conditions, with unregulated waste piles and no systematic management, including inconsistent transport scheduling and inadequate area maintenance. This site, located approximately 15-25 meters from residential areas, violates Law Number 18 of 2008 Article 22 and Government Regulation Number 81 of 2012, which mandate that waste disposal sites must be located at a sufficient distance from residential areas to prevent environmental and health hazards.

Additionally, illegal dumping sites were identified in Padang Sakti Village, situated directly along roadsides and adjacent to residential homes. These sites cause significant disturbances to road users and nearby residents due to strong odors and waste scattered onto the roadway. The presence of these illegal dumping sites indicates a substantial gap between established policies and field realities. Preliminary interviews with village officials revealed contributing factors, including the overcapacity of the Lhokseumawe City Final Disposal Site (TPA), making it difficult to accommodate waste from TPS locations, and the dramatic increase in local population coupled with minimal public awareness. The governance challenges are further evidenced by limited operational capacity. With only 266 cleaning personnel and 39 waste transport vehicles serving the entire city of Lhokseumawe, the available resources are disproportionately insufficient compared to the 133.325 tons of daily waste generated. Muara Satu District alone produces approximately 23.802 tons of waste per day, necessitating effective governance systems to manage this volume. Furthermore, transparency and accountability mechanisms in waste management governance remain weak, as evidenced by the absence of routine public reporting on waste management performance across districts. Community participation remains minimal, with residents continuing to dump waste indiscriminately and showing reluctance to engage in government-led waste management programs. Previous research has examined various aspects of waste management governance. Nurikah *et al.* (2022) investigated waste management governance based on Law Number 18 of 2008 with community participation in Serang City. Nanda *et al.* (2022) examined waste governance at the Final Processing Site in Tanjung Pinggir, Pematang Siantar City. Pramesti (2025) analyzed collaborative governance in waste management for public order in Kudus Regency. While these studies have contributed valuable insights, they have not specifically focused on the application of good governance principles in waste management at the district level, particularly in analyzing the performance of Environmental Agencies as primary municipal-level waste managers. The research gap addressed by this study lies in the limited examination of waste management governance through the comprehensive lens of five good governance principles (participation, rule of law, transparency, responsiveness, and accountability) at the district level in Aceh Province. While previous studies have examined individual governance aspects, no research has systematically analyzed how these five principles operate simultaneously in waste management governance at the sub-district level, nor how they interact with local cultural and structural constraints. This study contributes to filling this gap by providing a holistic assessment of governance implementation in Muara Satu District, identifying the interrelationship between structural and cultural obstacles, and offering targeted recommendations for strengthening governance effectiveness.

2 | BACKGROUND THEORY

2.1 Good Governance Concept

Good governance is a fundamental concept in contemporary public administration, referring to the exercise of authority through political, economic, and administrative processes to manage national or regional affairs (Nurhidayat, 2023). The United Nations Development Programme (UNDP) identifies several characteristics of good governance, including participation, rule of law, transparency, responsiveness, consensus orientation, equity, effectiveness and efficiency, and accountability (Faharudin, 2023). In the Indonesian context, good governance has been operationalized through various regulations and institutional reforms aimed at improving public service delivery and government accountability (Akmal *et al.*, 2021).

2.2 Five Principles of Good Governance

Participation refers to the involvement of all citizens, either directly or through legitimate representatives, in decision-making processes that affect their lives (Santosa, 2008). It is not merely about voting in elections but encompasses active engagement in policy formulation, implementation, and evaluation. Arnstein (1969) developed the influential "Ladder of Citizen Participation," which distinguishes between manipulation and therapy (non-participation), informing, consultation, and placation (tokenism), as well as partnership, delegated power, and citizen control (citizen power). Genuine participation requires that citizens have the capacity to influence decisions rather than merely receiving information or being consulted on predetermined options. The rule of law necessitates that all individuals and institutions, both government and community, are accountable to laws that are publicly promulgated, equally enforced, and independently adjudicated (Nurhidayat, 2023). It is essential for good governance as it provides predictability, limits arbitrary power, and ensures that government actions align with legal frameworks. Soekanto (2007) identified five factors determining successful law implementation: the legal substance itself, law enforcement personnel, facilities and infrastructure, community awareness, and legal culture. Legal effectiveness requires not only the existence of regulations but also adequate enforcement capacity and public compliance. Transparency involves government institutions providing accessible information to the public about policies, decisions, and resource use (Mardiasmo, 2018).

It serves several functions, including enabling public oversight, reducing opportunities for corruption, and building trust between government and citizens. Mardiasmo emphasizes that transparency requires the open provision of material and relevant information, including financial data, which enables public monitoring of resource use. Without budget information, communities cannot assess efficiency, effectiveness, or potential corruption in public programs. Responsiveness refers to an institution's ability to recognize, understand, and respond to community needs (Dwiyanto, 2008). In public service, responsiveness is evaluated not only by the responses provided but also by their alignment with appropriate actions. Dwiyanto (2016) defines responsiveness as the ability of officials to recognize community needs and realize them through service programs. According to Servqual theory (Zeithaml *et al.*, 1990), responsiveness encompasses service speed and consistency in meeting community needs. Responsive institutions must not only listen but also have emergency mechanisms or alternative solutions when primary resources are constrained. Lastly, accountability represents government responsibility for all policies and actions (Bovens, 2010). Public accountability includes both vertical accountability (to superiors) and horizontal accountability (to the public) (Ellwood, 1993). Romzek and Dubnick (1987) emphasize that accountability requires not only the availability of information but also mechanisms for public evaluation and sanction when performance falls short. Effective accountability ensures that governments explain their actions, accept responsibility for outcomes, and respond to feedback.

2.3 Factors Influencing Good Governance Implementation

The successful implementation of good governance is influenced by several key factors, as identified in studies conducted by the Corruption Eradication Commission (KPK) (Khaidir, 2020). First, leadership commitment is crucial, as it reflects the consistency of top leadership in seriously implementing governance improvements, acting as the driver and pioneer of change. Second, a strong legal foundation is necessary for every policy implementation, ideally established at the regional or village regulation level, to ensure sustainability even amidst leadership changes. Third, support from the internal environment and community is essential, as policies are created, managed, and intended for the benefit of the community. Finally, internal initiative plays a significant role; ideas for improving governance should ideally originate from internal staff, grounded in persuasive approaches and deliberation among regional policymakers. These factors collectively contribute to the effective realization of good governance.

2.4 Waste Management Framework

Law Number 18 of 2008 defines waste as residue from human daily activities and/or natural processes in solid form. Waste management encompasses systematic, comprehensive, and sustainable activities including reduction

and handling. According to the law, waste management mechanisms include:

1) Waste Reduction

Activities to prevent waste generation from producers (households, markets, etc.), including reusing, recycling, and developing clean technology and eco-labeling.

2) Waste Handling

Sequential activities including sorting, collection, transportation, processing, and final processing (Manik & Makainas, 2016).

Effective waste management requires appropriate governance structures, with responsibilities distributed among various stakeholders. At the municipal level, the Environmental Agency serves as the primary implementing institution, coordinating with sub-district and village governments, community organizations, and the private sector.

3 | METHOD

3.1 Research Design and Location

This study employed a qualitative approach with descriptive methods to understand and explain the phenomenon under investigation comprehensively. Qualitative research is based on post-positivist philosophy, used to examine natural object conditions where the researcher serves as the key instrument (Sugiyono, 2023). This approach was selected because the research aims to understand field phenomena broadly as they occur at the research location, based on data obtained through words and narratives. The research was conducted in Lhokseumawe City, focusing specifically on Muara Satu District. This location was selected due to identified phenomena including non-compliant Temporary Storage Sites near residential areas and illegal dumping sites adjacent to community settlements. Muara Satu District also constitutes the working area of the Lhokseumawe City Environmental Agency (DLH), which bears responsibility for waste management policies, programs, and supervision in the region.

3.2 Informants

Informants were selected using a combination of purposive and accidental sampling techniques. Purposive sampling involves selecting samples based on specific considerations to ensure relevance to the research objectives, while accidental sampling includes informants who happen to be available and willing to participate when data collection occurs (Sugiyono, 2023). The informants included:

Table 1. Research Informants

No.	Informant	Occupation	Role	Sampling Technique
1	Muhammad Nasir, S.H.	Civil Servant	Head of Sanitation, Environmental Agency	Purposive
2	Nabhani Yustisi, S.H., M.H.	Advocate/Practitioner	Chairperson, LPLHA	Purposive
3	Mustazir Ramli, S.Ip., <u>M.Si</u>	Civil Servant	Muara Satu District Head	Purposive
4	Azhari	Village Official	Secretary, Blang Pulo Village	Purposive
5	Samsul Bahri	Village Official	Head, Padang Sakti Village	Purposive
6	Dr. Ferizaldi, SE., <u>M.Si</u>	Lecturer	Academician	Accidental
7	Cut Rahmawati	Homemaker	Community Member	Accidental
8	Hafsah	Homemaker	Community Member	Accidental

Source: Researcher (2025)

The inclusion of two community members as accidental informants was considered adequate because this study adopts a governance perspective rather than a community behavior study. The governance framework focuses on analyzing institutional performance and policy implementation, with community perspectives providing complementary insights. The limited number of community informants is justified by the study's emphasis on government institutional analysis, where the primary data sources are government officials and institutional representatives. To address this limitation, the research supplemented community perspectives with data from village officials and the environmental advocacy organization, enabling triangulation of community-related findings.

3.3 Data Sources and Collection Techniques

The data sources for this research include both primary and secondary data. Primary data were directly obtained from informants through interviews and observations, while secondary data were gathered from various documents, reports,

archives, books, journals, and official publications from government institutions and organizations. The data collection techniques employed in this study consisted of direct observation of waste management conditions in Muara Satu District and the Environmental Agency office, which involved documenting actual conditions without direct involvement in governance activities. Additionally, structured and unstructured interviews were conducted with selected informants to gather in-depth information about waste management governance. Finally, documentation was collected, including documents, photographs, videos, and official records related to the research object.

3.4 Data Validity

Data validity was ensured through triangulation techniques:

1) Source Triangulation

Cross-checking information from different informants (government officials, village officials, community members, advocacy organizations, academics) to verify consistency and identify potential biases.

2) Technique Triangulation

Cross-checking data obtained through different collection methods (observation, interviews, documentation) to ensure consistency across data sources.

3.5 Data Analysis

Data analysis followed the Miles and Huberman interactive model (Sugiyono, 2023):

1) Data Collection

Gathering data through observation, in-depth interviews, and documentation.

2) Data Reduction

Summarizing, selecting, and focusing on essential information, identifying themes and patterns.

3) Data Display

Presenting data in brief descriptions, charts, category relationships, and flowcharts to facilitate understanding.

4) Conclusion Drawing

Interpreting findings and deriving meaningful conclusions from the analyzed data.

4 | RESULTS AND DISCUSSION

4.1 Results

4.1.1 Research Setting

Muara Satu District, established in 2006 through the division of Muara Dua District, comprises 11 villages (*gampong*) and covers an area of 55.90 km². The district borders the Malacca Strait to the north, Nisam District (North Aceh Regency) to the south, Dewantara District (North Aceh Regency) to the west, and Muara Dua District to the east. Located at an elevation of 4 meters above sea level, Muara Satu District is vulnerable to tidal flooding, earthquakes, and tsunamis. The district has a population of 35,494 people with a density of 635 people per km². Batuphat Timur Village has the highest population (5,774 people), while Cot Trieng has the lowest (1,029 people). The district generates approximately 23.802 tons of waste daily, necessitating effective management systems. The Lhokseumawe Environmental Agency, located on Jl. Tengku Chik Ditunong, serves as the primary institution responsible for waste and environmental management, with a vision of "Achieving Excellent Public Service and Creating Clean Environmental Human Resources, Especially in Waste and Waste Management."

4.1.2 Waste Management Governance Analysis

1) Participation

Community participation in Muara Satu District remains at an early, transactional stage, primarily visible through the waste cooperative program where residents exchange waste for money. However, direct involvement in waste management planning and decision-making is limited. This transactional participation reflects what Arnstein (1969) described as tokenism rather than genuine citizen power, with communities acting as suppliers of recyclable materials rather than active participants in governance processes. District officials acknowledged that participation remains minimal, attributing this not only to community attitudes but also to inadequate infrastructure provision. The Muara Satu District Head noted that the lack of waste disposal facilities significantly constrains community participation. This conditional nature of participation, where residents are more likely to engage when facilities are readily accessible, aligns with the Health Belief Model (Becker, 1974), which suggests that behavior is influenced by perceived threats and benefits. Without experiencing the direct impacts of improper disposal and lacking an understanding of alternative practices, residents continue to engage in unsustainable behaviors. Previous research supports these findings; for example, Hardianti and Zulkarnain (2023) in Kampar Regency found that economic incentives can initiate participation but are inadequate for fostering sustainable awareness. Similarly, Indirwan *et al.* (2026) in Makassar and Aziz and

Makupiola (2025) in Bone Regency identified insufficient infrastructure as a primary cause of low community participation, while Sa'adah *et al.* (2025) in Jakarta highlighted that a lack of facilities, weak socialization, and entrenched habits contribute to ongoing low participation. Overall, participation in Muara Satu District is suboptimal, as the government has not yet established sufficient enabling conditions, such as accessible facilities, comprehensive socialization, and clear engagement mechanisms, to facilitate genuine community participation. Consequently, participation remains predominantly transactional and limited to economic incentives rather than meaningful governance engagement.

2) Rule of Law

Lhokseumawe Qanun Number 9 of 2015 establishes the legal framework for waste management, encompassing prohibitions and sanctions; however, enforcement remains weak. The Head of the Sanitation Division acknowledged that implementation faces multiple obstacles, including limited human resources, inadequate facilities, and low public awareness. Enforcement efforts consist of installing warning banners, issuing warnings to violators, and collaborating with village officials. At the village level, fines of Rp200,000 are imposed on violators according to village regulations and interview findings, yet inconsistent enforcement limits the deterrent effects of these penalties. The distance of the Blang Pulo Temporary Storage Site (TPS) from residential areas (15-25 meters) violates Law Number 18 of 2008 Article 22 and Government Regulation Number 81 of 2012 regarding waste disposal site requirements. The Environmental Agency is aware of illegal waste sites but has identified operational constraints, such as insufficient fleet capacity and damaged heavy equipment, which create a persistent gap between waste volume and collection capacity. Soekanto's (2007) theory of legal effectiveness identifies five factors that determine successful law implementation: the law itself, law enforcement personnel, facilities and infrastructure, community awareness, and legal culture. While the legal framework exists through Qanun Number 9, the inadequacy of facilities and low community awareness remain problematic. Previous research, such as that by Suryani and Rahman (2021) in Tangerang, found that regional regulations on waste management are ineffective due to insufficient supervisory personnel, inadequate transport vehicles, and rarely enforced sanctions. Similar studies in Banda Aceh revealed that enforcement operations lack clear schedules, face budget constraints, and suffer from inconsistent sanctions, which limit their deterrent effect. Overall, rule of law enforcement is weak despite existing legal frameworks, with structural limitations and cultural factors hindering systematic enforcement. Sanctions are applied inconsistently, and illegal waste sites continue to exist, highlighting significant gaps between regulatory frameworks and enforcement practices.

3) Transparency

The Lhokseumawe Environmental Agency has established a website that provides information on agency activities, waste management programs, planning, and ongoing initiatives; however, budget information remains undisclosed. This was verified through a direct review of the website and confirmed by the Head of the Sanitation Division. While the website demonstrates an awareness of transparency principles, its implementation is partial, as it focuses on programs and activities while excluding essential financial information necessary for meaningful public oversight. Environmental advocacy organizations have acknowledged the Agency's efforts but noted that financial transparency is still lacking. According to Mardiasmo (2018), transparency requires the open provision of material and relevant information, including financial data, to enable public monitoring of resource use. Without budget information, communities are unable to assess the efficiency, effectiveness, or potential corruption in waste management programs. Previous research by Rina Yulianti and Budi Santoso (2022) confirmed that transparency limited to activities without financial disclosure is insufficient for meaningful public oversight. Similarly, Harbowo and Chandra (2024) in Tuah Madani District found that failures in transparency, such as inadequate budget disclosures and limited facility information, hinder good governance implementation. Overall, transparency in Lhokseumawe is only partially implemented; while formal mechanisms exist, budget information is not publicly available, program information is not widely disseminated, and communities lack accessible information necessary for meaningful oversight. Achieving full transparency, including financial disclosures, accessible reports, and active community communication, is essential for establishing trust and enabling public participation.

4) Responsiveness

The Environmental Agency has acknowledged its long-standing awareness of waste problems but has been unable to respond optimally due to equipment breakdowns and insufficient fleet capacity. Community interviews indicated that waste transport occurs inconsistently, sometimes scheduled and sometimes not. However, there are positive developments, such as converting waste residue into paving blocks and processing plastic waste into fuel oil through pyrolysis. This pattern of reactive rather than proactive service, responding only after repeated complaints, indicates weak responsiveness. The lack of contingency plans when primary resources fail suggests inadequate institutional readiness to address urgent community needs. Nevertheless, the emerging innovations reflect a shift toward value-added waste processing. According to Servqual theory (Zeithaml *et al.*, 1990), responsiveness encompasses service speed and consistency in meeting community needs, and the inconsistent service, which operates without clear standards, reflects poorly implemented or non-existent Standard Operating Procedures. Previous research by Bilardo (2025) in Tangerang similarly found that transportation operations are compromised when fleet capacity is

insufficient and no alternative solutions are available. Overall, responsiveness in the Lhokseumawe Environmental Agency shows mixed results; while there is awareness and innovation, operational constraints limit consistent and timely service delivery. Transitioning from reactive to proactive service will require additional resources, contingency planning, and strengthened operational capacity.

5) Accountability

The Environmental Agency has established vertical accountability through a supervisor system at the sub-district level, where supervisors coordinate directly with field operations and report to the agency regarding cleanliness conditions, waste volumes, and operational constraints. However, public reporting mechanisms are insufficient, and community members lack systematic access to information about the outcomes achieved relative to stated goals. While vertical accountability appears functional through this supervisor system, horizontal accountability remains limited. Sub-district officials have confirmed that communication is often informal and lacks formal documentation, resulting in fragile accountability that lacks evidence for systematic evaluation. According to Ellwood (1993), vertical accountability refers to accountability to superiors, while horizontal accountability pertains to accountability to the public. Romzek and Dubnick (1987) emphasize that effective accountability requires not only the availability of information but also mechanisms for public evaluation and sanctions when performance falls short. Previous research by Salsabila and Purnamasari (2025) in Banten Province similarly found that inadequate socialization and uneven education hinder communities from understanding and evaluating program performance, thereby reducing participation despite program implementation. Overall, accountability in the Lhokseumawe Environmental Agency operates predominantly through vertical mechanisms, with horizontal accountability to the public remaining limited. Insufficient accessible information prevents community evaluation and oversight, highlighting the need for systematic, documented reporting that is accessible to all stakeholders to ensure robust accountability.

4.1.3 Obstacles in Waste Management Governance

The research identified two categories of obstacles to effective waste management: structural obstacles stemming from government capacity limitations and cultural obstacles arising from community attitudes and practices. Structural obstacles include inadequate fleet capacity, where significant gaps exist between waste volume and available collection vehicles across Lhokseumawe City; the 39 vehicles currently serving the entire city are insufficient for the 133.325 tons of daily waste, leading to uncollected waste accumulating at temporary sites and creating illegal disposal areas. Additionally, damaged equipment further reduces collection capacity, and the absence of formal, clearly designated temporary storage sites with clear land ownership creates ambiguity, encouraging unofficial disposal locations. There is also a shortage of human resources, with only 266 cleaning personnel available to serve the entire city, resulting in insufficient distribution to ensure consistent and comprehensive waste collection. Weak coordination between the Environmental Agency, sub-district governments, and village governments creates gaps in service delivery, enforcement, and communication, while financial constraints limit the capacity to maintain equipment, expand the fleet, develop processing facilities, and implement comprehensive education programs. Cultural obstacles contribute to the challenges as well, including low community awareness, with many residents continuing to dispose of waste indiscriminately at illegal sites, along roadsides, and in waterways. Community involvement in formal waste management programs remains low, primarily driven by economic incentives rather than environmental awareness. Entrenched habits, reinforced by visible piles of waste, encourage continued dumping, and there is a limited understanding of proper waste management techniques, sorting requirements, and the potential economic value of waste resources. The interrelationship between these structural and cultural obstacles is mutually reinforcing; when the government fails to provide adequate infrastructure, communities face practical barriers to appropriate disposal, which in turn encourages improper disposal practices and reinforces cultural acceptance of such behaviors. Conversely, when communities lack awareness and engage in improper disposal, the resulting environmental degradation creates additional burdens on service delivery, further straining the already limited government capacity.

4.2 Discussion

The governance of waste management in Muara Satu District, Lhokseumawe City, reflects a complex interplay of structural and cultural challenges that hinder effective implementation of policies. Despite the legal framework established by Law Number 18 of 2008 and local regulations, the enforcement remains weak due to limited resources and inadequate infrastructure. The findings indicate that community participation is primarily transactional, driven by economic incentives rather than genuine involvement in decision-making processes. This aligns with the observations made by Nurikah *et al.* (2022), who highlighted the importance of community engagement in waste management governance. Furthermore, the lack of transparency and accountability mechanisms exacerbates the challenges faced by the Environmental Agency, as noted by Mardiasmo (2018), who emphasized that without accessible financial information, public oversight is severely limited. The operational constraints faced by the Environmental Agency, including insufficient personnel and equipment, resonate with the findings of Suryani and Rahman (2021), who found similar issues in their research on waste management effectiveness. Overall, the study underscores the need for a holistic approach that

addresses both structural deficiencies and cultural attitudes towards waste management, advocating for enhanced community engagement and improved governance frameworks to foster sustainable waste management practices in the region.

5 | CONCLUSIONS AND FUTURE WORK

This study examined waste management governance in Muara Satu District, Lhokseumawe City, through the lens of five good governance principles: participation, rule of law, transparency, responsiveness, and accountability. The research reveals that waste management governance has not yet achieved optimal implementation across these principles, with significant gaps between policy intentions and field realities. Participation remains suboptimal, with community involvement limited to transactional engagement without meaningful participation in planning or program implementation. Rule of law enforcement is weak despite legal frameworks, with structural limitations and cultural factors preventing systematic enforcement. Transparency is partially implemented through formal mechanisms but insufficiently regarding financial information. Responsiveness shows mixed results: awareness and innovation exist, but operational constraints limit consistent service delivery. Accountability operates predominantly through vertical mechanisms, with limited horizontal accountability to communities. Structural and cultural obstacles are mutually reinforcing, creating a feedback loop that perpetuates governance weaknesses. Sustainable improvement requires simultaneous investment in infrastructure, consistent enforcement, comprehensive transparency, proactive responsiveness, and systematic accountability mechanisms.

To address these challenges, several recommendations are proposed. For the Lhokseumawe Environmental Agency, it is essential to improve fleet and equipment capacity through comprehensive assessments, prioritize repairs, and systematically expand collection capacity. Establishing formal temporary storage sites with clear land ownership and accessibility is crucial, along with implementing consistent, graduated sanctions for waste disposal violations. Additionally, publishing comprehensive budget information and establishing systematic public reporting mechanisms will enhance transparency. Strengthening processing innovations through capacity building and partnership development, as well as intensifying community engagement through systematic communication and education programs, are also vital steps. For the Muara Satu District Government and Village Governments, activating local socialization on proper waste management and available facilities, facilitating monitoring and enforcement through active coordination, and supporting community-led initiatives such as waste banks and composting programs are recommended. Communities themselves should aim to increase environmental awareness, recognize collective responsibility, actively participate in government-led programs and community initiatives, and comply with regulations governing waste disposal. Future research should examine the implementation of waste-to-value innovations, such as paving blocks and plastic fuel, in Lhokseumawe City, assessing both environmental and economic impacts. Comparative research across multiple districts could identify contextual factors influencing governance effectiveness, while longitudinal studies could track governance improvement trajectories. Additionally, research examining the broader institutional and policy environment could identify systemic improvements necessary for sustainable urban waste management in Indonesia.

ACKNOWLEDGEMENTS

The authors express sincere gratitude to the informants who participated in this research, including the Head of Sanitation Division of the Lhokseumawe Environmental Agency, the Head of Muara Satu District, village officials of Blang Pulo and Padang Sakti Villages, the Chairperson of LPLHA, and community members who generously shared their time and insights. The authors also acknowledge the support of the Department of Public Administration, Faculty of Social and Political Sciences, Universitas Malikussaleh, for facilitating this research.

REFERENCES

- Akmal, M., Nazaruddin, M., & Magister, P. (2021). Implementasi good governance di Kecamatan Gajah Putih Kabupaten Bener Meriah tahun 2020 pada pelayanan. *Jurnal Ilmu Administrasi Publik*, 1(1), 20-28.
- Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of Planners*, 35(4), 216-224.

- Aziz, R., & Makupiola, A. (2025). Faktor-faktor penghambat partisipasi masyarakat dalam pengelolaan sampah di Kabupaten Bone. *Jurnal Pengelolaan Lingkungan*, 8(2), 112-125.
- Becker, M. H. (1974). The health belief model and personal health behavior. *Health Education Monographs*, 2(4), 324-473.
- Bilardo, R. (2025). Efektivitas pengangkutan sampah di Kota Tangerang. *Jurnal Kebijakan Publik*, 12(1), 45-58.
- Bovens, M. (2010). Two concepts of accountability: Accountability as a virtue and as a mechanism. *West European Politics*, 33(5), 946-967.
- Chaterine, R. N., & Ramadhan, A. (2025). Menteri LH: Ada 56,63 juta ton sampah pada 2023, hanya 39 persen yang terkelola. *Kompas.com*.
- Dasor, Y. W., Hermaditoyo, S., & Hudin, R. (2023). Nilai-nilai good governance dalam tata kelola lembaga adat masyarakat Manggarai Nusa Tenggara Timur. *Jurnal Adat dan Budaya Indonesia*, 5(2), 98-108.
- Dewi, R., Fitri, D., Hanif, A., & Furqan, G. (2025). Sustainable strategies for urban waste management: Examining the implementation of the 'Broh Jeut Keu Peng' public policy in Lhokseumawe City. *Journal of Social and Policy Issues*, 4, 1-7.
- Dwiyanto, A. (2008). *Mewujudkan good governance melalui pelayanan publik*. Gadjah Mada University Press.
- Dwiyanto, A. (2016). *Manajemen pelayanan publik: Peduli, inklusif, dan kolaboratif*. Gadjah Mada University Press.
- Ellwood, J. W. (1993). Accountability and the public sector. *Public Administration Review*, 53(3), 278-283.
- Faharudin, F. (2023). Tata kelola pemerintahan desa menurut prinsip good governance. *JUDICATUM: Jurnal Dimensi Catra Hukum*, 1(1), 1-9.
- Harbowo, A., & Chandra, R. (2024). Penerapan good governance dalam pengelolaan sampah di Kecamatan Tuah Madani. *Jurnal Administrasi Publik*, 10(2), 112-128.
- Hardianti, F., & Zulkarnain, A. (2023). Faktor-faktor yang mempengaruhi partisipasi masyarakat dalam pengelolaan sampah rumah tangga di Kecamatan Tambang Kabupaten Kampar. *Jurnal Ilmu Lingkungan*, 21(3), 45-56.
- Hidayati, R., Siregar, A., & Lestari, M. (2025). Partisipasi masyarakat dalam pengelolaan sampah berbasis bank sampah di Bandar Lampung. *Jurnal Pengelolaan Sumberdaya Alam dan Lingkungan*, 15(1), 78-92.
- Indirwan, I., et al. (2026). Infrastruktur dan partisipasi masyarakat dalam pengelolaan sampah di Makassar. *Jurnal Perencanaan Wilayah*, 14(1), 89-104.
- Khaidir, A. S. A. (2020). Tata kelola pemerintahan desa terhadap peningkatan pelayanan publik di Desa Pematang Johar. *Jurnal Administrasi Publik*, 14, 564-584.
- Manik, R. T. H. K., & Makainas, I. (2016). Sistem pengelolaan sampah di Pulau Bunaken. *Spasial*, 3(1), 15-24.
- Mardiasmo. (2018). *Akuntabilitas dan transparansi pengelolaan keuangan daerah*. Andi Offset.
- Nanda, R., Siregar, M., & Putri, A. (2022). Tata kelola sampah di tempat pemrosesan akhir (TPA) Kelurahan Tanjung Pinggir Kecamatan Siantar Martoba Kota Pematang Siantar. *Jurnal Ilmu Administrasi*, 9(2), 78-92.
- Nurhidayat, I. (2023). Prinsip-prinsip good governance di Indonesia. *Journal Education and Government Wiyata*, 1(1), 40-52.
- Nurikah, S., Rahayu, A., & Suryani, D. (2022). Tata kelola pengelolaan sampah berdasarkan Undang-Undang Nomor 18 Tahun 2008 tentang pengelolaan sampah berbasis partisipasi masyarakat di Kota Serang. *Jurnal Kebijakan Publik*, 8(3), 112-128.

- Pasaribu, N. T. (2015). Pengertian tata kelola pemerintahan. *Landasan Teori*, 12.
- Pasoloran, O., Pasoloran, O., & Randa, F. (2022). Struktur dan mekanisme tata kelolah lembaga kerohanian. *Pepatudzu: Media Pendidikan dan Sosial Kemasyarakatan*, 18(2), 126.
- Prakasdi, R. G., Septiawan, C., & Ardiansyah, A. (2024). Tata kelola pengelolaan sampah berbasis bank sampah. *Journal of Public Health Education*, 3(4), 132-144.
- Pramesti, D. (2025). Collaborative governance tata kelola sampah dalam menjaga ketertiban umum di Kabupaten Kudus Provinsi Jawa Tengah. *Jurnal Ilmu Pemerintahan*, 11(1), 55-70.
- Rina Yulianti, & Budi Santoso. (2022). Transparansi pengelolaan keuangan dalam pengelolaan sampah di Kota Tangerang Selatan. *Jurnal Akuntansi Sektor Publik*, 9(2), 78-92.
- Romzek, B. S., & Dubnick, M. J. (1987). Accountability in the public sector: Lessons from the Challenger tragedy. *Public Administration Review*, 47(3), 227-238.
- Runtuuwu, P. C. (2020). *Kajian sistem pengelolaan sampah*. Ahimedia Press.
- Sa'adah, F., Widodo, S., & Hidayat, T. (2025). Faktor-faktor yang mempengaruhi rendahnya kesadaran masyarakat dalam pengelolaan sampah di Jakarta. *Jurnal Sosial dan Lingkungan*, 13(1), 34-48.
- Salsabila, R., & Purnamasari, D. (2025). Sosialisasi dan partisipasi masyarakat dalam program pengelolaan sampah di Provinsi Banten. *Jurnal Administrasi Publik*, 11(1), 56-70.
- Santosa, P. (2008). *Administrasi publik: Teori dan aplikasi good governance*. Refika Aditama.
- Soekanto, S. (2007). Faktor-faktor yang mempengaruhi penegakan hukum. *Raja Grafindo Persada*.
- Sugiyono. (2023). *Metode penelitian kualitatif, kuantitatif, dan R&D*. Alfabeta.
- Suryani, D., & Rahman, A. (2021). Efektivitas peraturan daerah tentang pengelolaan sampah di Kota Tangerang. *Jurnal Hukum Lingkungan*, 7(2), 89-104.
- Wilson, J. Q., & Kelling, G. L. (1982). Broken windows: The police and neighborhood safety. *The Atlantic Monthly*, 249(3), 29-38.
- Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1990). *Delivering quality service: Balancing customer perceptions and expectations*. Free Press.

How to cite this article: Siregar, M. R. Y., Akmal, A., Dewi, R., Sufi, S., & Fahmi, A. (2026). Waste Management Governance In Muara Satu District, Lhokseumawe City. *Indonesian Journal Economic Review (IJER)*, 6(3), 1275-1284. <https://doi.org/10.59431/ijer.v6i3.953>.