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THE ROLE OF LOCAL GOVERNMENT IN PROMOTING ENVIRONMENTAL SUSTAINABILITY THROUGH SANITATION AND WASTE MANAGEMENT IN LAGOS STATE, NIGERIA

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Abstract
This study examines the role of local governments in promoting environmental sustainability through effective sanitation and waste management practices, with specific reference to Eti-Osa Local Government Area of Lagos State, Nigeria. The study adopts a qualitative case study approach to generate in-depth insights into institutional performance and community engagement in environmental governance. Primary data were collected through semi-structured interviews with 28 respondents, comprising residents, Environmental Health Officers, officials of the Lagos Waste Management Authority (LAWMA), and private sector participants involved in waste management service delivery. The findings reveal that ineffective waste management in Eti-Osa is driven by multiple interrelated factors, including irregular waste collection, indiscriminate dumping, inadequate infrastructure, weak enforcement of sanitation regulations, and limited community participation. Although the local government has undertaken several initiatives to address these challenges, its efforts are constrained by inadequate funding, insufficient manpower, weak inter-agency coordination, and poor monitoring and evaluation mechanisms. The study concludes that strengthening institutional capacity, enhancing stakeholder collaboration, and promoting community-based participation are critical to improving waste management outcomes and achieving environmental sustainability at the grassroots level. It therefore recommends increased investment in waste management infrastructure, improved policy enforcement, and the adoption of integrated and participatory approaches to environmental governance.

Keywords: Community participation, Environmental sustainability, Local government, Sanitation, Waste management

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Introduction

The waste problem today constitutes one of the most pressing contemporary crises as rapid industrialization and increasing populations lead to the emergence of various environmental and public health challenges. It is estimated that the world's output of solid waste will increase to more than 3.76 billion tons annually in 2050 (Omoyeni, 2026). The linear economic model used in most modern societies is generally seen as unsustainable. For this reason, today there is a global transition toward circular economy principles that seek to eradicate waste generation and support regeneration processes (Adesua-Lincoln, 2025). The global focus on sustainability is evident in the United Nations' Sustainable Development Goals SDG 11: Sustainable cities and communities) and SDG 12 (responsible consumption and production).

In particular, waste challenges in Africa are particularly severe. Rapid urbanization and economic growth in Africa will result in a tripling of waste volumes in the coming twenty-five years. At the same time, over 90% of all waste produced in Africa is currently disposed of improperly in open landfills, causing considerable environmental harm and health risks (Abadi et al., 2025). Despite such challenges, however, several African countries have managed to adopt revolutionary approaches to waste management. For example, the banning of plastic bags in Rwanda, the prohibition of single-use plastics in Kenya, the development of recycling system in South Africa, and the waste-to-energy power station in Ethiopia show that waste management problems can be effectively resolved (Akpan & Olukanni, 2020).

One of the most pressing cases is that of Nigeria, Africa's most populous country and its largest economy. It is estimated that Nigeria produces approximately 32 million tonnes of waste annually, the largest volume in Africa (Omokaro et al., 2025). In addition, the country's environmental performance index is 37.9 and ranks 140 out of 180 countries, suggesting that there are systematic issues with waste management policies in the country (Tima, 2025). The Nigerian approach to waste management relies on ineffective and polluting practices, including weak mandates and enforcement, open dumping and burning, resulting in pollution and outbreaks of disease, especially in crowded informal settlements. The situation was worsened as recently in 2024 when the federal government introduced an Inter-Ministerial Committee to introduce the ban on single-use plastics (Tima, 2025).

As Nigeria's largest city, Lagos State is at the heart of the country's waste management crisis. Lagos State Waste Management Authority (LAWMA) is the body charged with the responsibility of managing the city's waste since its establishment in 1977 (Olatinwo, et al 2025). Currently, however, existing practices are ineffective and environmentally destructive. Specifically, while Lagos generates around 13,000 tons of solid waste per day, approximately 60% of the waste goes uncollected and only 13% is recycled (Olagunju, 2017). Such numbers result in massive waste dumping and burning, which in turn cause considerable environmental damage and pose a threat to health. The participation of almost 370 private sector participants has been unable to address the issues of unreliable service provision and poor public awareness (Salisu et al., 2022). These global, continental, national, and state-level policies and challenges ultimately translate or fail to translate into action at the local government level. Whether urban settlements achieve environmental sustainability depends directly on the effectiveness of local government administration. This study explores this relationship by investigating how local government can enhance environmental sustainability

through proper sanitation and waste management in Lagos State, with a specific focus on Eti-Osa Local Government Area.

Statement of the Problem

Under flawless environmental sustainability conditions that adhere to goals 11 and 12 of SDGs, the management of municipal solid waste is a practical and efficient process. In a perfect circular approach, waste will not be produced since there will be no pollution, but rather restoration of resources and natural ecosystems (Romero-Hernández, et al 2018). There will be coherent policies, effective enforcement, proper infrastructures for collection, recycling, and proper waste disposal, creating an environment where waste can be a resource, economic opportunity, innovations, green jobs, and population health security with high rates of waste collection and recycling.

Unfortunately, this is not the case in Lagos State. Being one of the most populous cities and large economies in Africa, Lagos experiences serious waste management challenges (Adetola,2023). The system is characterized by poor governance and insufficient infrastructure, whereby about 60% of generated waste goes uncategorized and only 13% is recycled (Prado-Acebo et al., 2024). As a result, waste disposal and burning have been common practices causing environmental pollution and health risks. Despite involving nearly 370 PSPs, the service delivery and public awareness programmes are weak. Hence, it has earned 140th position among 180 countries in terms of environmental performance (Salisu et al., 2022). Under such conditions, the purpose of this research is to determine major sanitation and waste management challenges within Eti-Osa Local Government Area**.**

Research Questions

i. What are the key issues associated with sanitation and waste management practices in the Eti-Osa Local Government Area?
ii. How well is the Eti-Osa Local Government Area performing in terms of its mandate concerning the provision of environmental sanitation and waste management services,
iii. How successful are the current environmental policies, sanctions, and monitoring strategies implemented at the local government level for solving waste management problems?
iv. To what degree is there participation and awareness of the local community in matters of sanitation and waste management, and how does this affect their behavior patterns?
v. What specific interventions are suggested to enhance the effectiveness of the local government in sanitation and waste management?

Objectives of the Study

The objective of this study is to examine the role of local government in promoting environmental sustainability through sanitation and waste management in Lagos State, Nigeria. Specific objectives are:

i. i identify and examine the major challenges affecting sanitation and waste management operations in Eti-Osa Local Government Area.
ii. ii, To assess the performance of Eti-Osa Local Government in fulfilling its environmental sanitation and waste management responsibilities, including its coordination with LAWMA and PSP operators.
iii. To evaluate the effectiveness of existing environmental policies, enforcement mechanisms, and monitoring systems at the local government level.

iv. To determine the level of community participation, awareness, and behavioral patterns regarding sanitation and waste management initiatives in the study area.
v. To propose practical, evidence-based recommendations for improving local government performance in sanitation and waste management, addressing identified systemic and governance failures.

Conceptual Review

Local Government

Nigeria's 1976 local government reform helped to rationalize local government and create a consistent national model. This involved decentralizing administrative functions through the transfer of certain responsibilities from state governments to local councils (Ezeozue,2020). The 1999 Constitution identifies Nigeria as a country with three levels of government (federal, state, and local). There are 774 LGAs in Nigeria with devolved political and administrative authorities to foster grassroots development (Sorkaa,2025). Local government involves the exercise of regulation and enforcement powers, which may be carried out through organizations such as the Lagos State Environmental Protection Agency (LASEPA) to check for compliance and hazardous waste disposal in industries (Ogundele & Gbadebo,2025).

5.2 Environmental Sustainability

Environmental sustainability constitutes a multi-dimensional goal of natural resource management designed to maintain ecological sustainability without prejudicing future generations (Ekins & Zenghelis, 2021). While economic growth (SDG 8) and industrialization (SDG 9) could lead to greater environmental impact, it is particularly difficult for developing countries where development needs have to be weighed against environmental sustainability considerations (Riaz et al, 2025). Recent analyses reveal how economic complexity and innovation can help stimulate growth and minimize carbon dioxide emissions, indicating that goals 8 and 9 of the SDGs do not conflict with environmental sustainability, and rather are the foundation for building sustainable resource efficiency systems (Azimi et al., 2025). In this regard, Lagos requires the establishment of an environment that is sustainable through efficient sanitation and waste disposal.

5.3 Sanitation

Sanitation involves ensuring human health and dignity through the safe disposal of wastewater and human waste products, interrupting the fecal-oral disease transmission cycle (Brookes, J. D., & Carey, C. C., 2015). Through this practice, one can prevent the transmission of cholera, typhoid fever, intestinal worms, and diarrhea infections. Sanitation helps protect people from diseases as well as ensure safety, dignity, and non-contamination of water sources (World Health Organization, 2025). The goal of SDG 6 is to achieve universal access to sanitation and hygiene. As of 2022, over 1.5 billion people lack access to basic sanitation facilities (Azimi et al., 2026; Macpherson et al., 2020).

5.4 Waste Management

The LAWMA has its origin from 1977 when it became the Lagos State Refuse Disposal Board (Edict No. 9), representing the first waste management organization in West Africa. In 1991, the board was reestablished as LAWMA (Edict No. 55). Further obligations are enshrined in the 2007 Law of LAWMA and 2017 Environmental Management and Protection Law, which transitioned LAWMA from being a waste management body to becoming the regulatory agency for Private sector participants operations (LAWMA, 2025). Waste management entails activities aimed at protecting human health and the environment by

systematically managing all phases from the generation of the waste to its ultimate disposal. In Lagos, there are about 13,000 metric tonnes of solid waste generated per day. Collection rate stands at about 33-40% while only 13% is recycled (Adeyemi, 2023; Chidi & Badejo, 2024). It is worth noting that waste management is strongly associated with SDGs 3 (health), 11 (sustainable cities), and 12 (responsible consumption) while contributing to other objectives like SDG 1 and SDG 2 through compost production (Elsheekh et al., 2021; Ram & Bracci, 2024).

6. 0 Empirical Review

The literature is clear in pointing out illegal dumping as one of the symptoms of systemic failures in Lagos State's waste management policy. To this end, Ichipi and Senekane (2023) present an empirical analysis based on a cross-sectional mixed-methods approach applied in Alimosho, Ikeja, Ojo, Ikorodu, and Lekki LGAs to uncover the effects of dumping on society. They conclude that high levels of awareness about the dangers of dumping do not lead to the improvement of attitudes towards the activity and proper waste collection, thus underlining that raising public awareness is not enough to change people's behaviours. In their turn, Seriki-Mosadolorun (2022) argues from the household point of view and emphasizes illegal dumping as a consequence of abnormal waste collection frequency and ineffective waste collection infrastructure. On this note, Arsove et al. (2024) observe that peri-urban LGAs in particular struggle with poor collection and excessive leakage of plastic wastes in drainage systems, thereby making it impossible to promote environmental sustainability. Consequently, there is an indication that inefficient provision of waste collection and dumping services plays a central role in causing illegal dumping.

Secondly, in addition to issues related to waste collection and dumping, the literature indicates institutional fragmentation as a major barrier to achieving sustainable waste management. For instance, in their mixed-methods study conducted via stakeholder interviews and surveys, Etim et al. (2024) found that the inability of local governments and the Lagos State Waste Management Authority (LAWMA) to coordinate with each other undermines waste collection and recycling rates, which cannot be resolved effectively. Similarly, Oladimeji (2024) through a qualitative study of LAWMA activities in the State, emphasizes that although innovations, such as the use of technology and public-private partnerships, have some positive impact, low collaboration, funding, and poor waste law enforcement are still the problems that require solving. Finally, according to Ajulor et al. (2024), despite some positive effects of Lagos's solid waste policy in reducing air pollution and facilitating energy production, improper policy implementation and poor monitoring create barriers to realizing its benefits. Thus, it becomes evident that institutional inefficiencies are preventing sustainable waste management.

Apart from collection issues and institutional barriers, waste mismanagement is also linked to water sanitation and health (WASH) outcomes and hygienic behavior at the individual level. First, Akoteyon and Otusanya (2023) present a quantitative study of the impact of waste mismanagement on the quality of urban sanitation using structured questionnaires and ANOVA technique. As per their findings, low quality and poor maintenance of sanitation amenities hinder hygienic behavior in a household setting. Likewise, Amos et al. (2024) conduct a qualitative study on urban services performance in Lagos metropolis and conclude that poor urban services, including waste collection, negatively affect sanitation infrastructure and hygienic behavior. Hence, it is essential to address issues related to sanitation facilities and their maintenance, as recommended by Akoteyon and Otusanya (2023), as well as improving urban service performance.

Finally, as the waste problem continues to grow, a temporal perspective is vital to understand and diagnose the situation. To this end, Maiha and Yusuf (2025) applied municipal waste audit and statistical techniques to investigate the dynamics of solid waste generation in Nigeria between 2015 and 2023. Most importantly, it is shown that the quantity of waste produced per capita increases rapidly in Lagos, and it is mainly organic and plastic wastes. Also, low landfill capacity emerges as the key infrastructural deficiency, meaning that even improving waste collection will not help much if the infrastructure is not expanded simultaneously. Therefore, the current study adds a dynamic dimension to static literature insights into the problem.

To sum up, in light of the aforementioned findings, the focus shifts to proposing sustainable policy options for managing solid waste in Lagos State in accordance with principles of circular economy. In this regard, Omokaro et al. (2025) undertook systematic review of waste management in Nigeria and revealed several key conditions needed to implement a circular economy agenda, namely the formalization of the informal sector, which serves as an unofficial recycling system, is vital along with a change in the municipal financial structure. Hence, the reviewed studies show that without improving waste collection, enhancing interinstitutional cooperation, resolving sanitation issues, responding to new types of waste, and embracing informal sector's contribution, the waste issue in Lagos will worsen further.

Gap in Literature

Although there exist a considerable number of studies on waste management challenges in Lagos State, there is a need for research into the role played by local government administration in shaping environmental sustainability outcomes. Moreover, few works exist on community-based governance in peri-urban and vulnerable communities with systemic inefficiencies in sanitation services. To fill in this gap, the paper will address waste-related problems experienced by residents in peri-urban Eti-Osa LGA, a highly flood-prone area, focusing specifically on the issues of local government enforcement, systemic inefficiencies, and community participation.

Theoretical Framework

This study is anchored on two complementary theoretical perspectives: Systems Theory and Environmental Governance Theory. These frameworks provide analytical lenses for understanding the complex interplay of actors, institutions, and processes that shape sanitation and waste management outcomes in Eti-Osa Local Government Area**.**

Systems Theory

Systems Theory is an efficient analytical tool for examining the complex web of interactions in the field of waste management and sanitation. As indicated by this theory, a city's sanitation system is not a group of entities but rather a system in which various governmental agencies, households, informal waste pickers, the private sector, and the environment interact (Offorson et al., 2025). Emerging characteristics, such as people's health and the cleanliness of the environment, cannot be predicted by looking separately at each individual entity (Skene, 2021). The Systems Theory approach to Lagos waste management is based on an interconnected system of interactions between government institutions, residents, private operators, informal pickers, and the environment. The theory is visible in Eti-Osa through negative feedback loops, where irregularity in waste collection results in random dumping, which creates blockages in drains, resulting in floods and, hence, the failure of the system. Single solution interventions, such as awareness campaigns and legal enforcement, without improvements in collection infrastructure, fail to address system problems. Minor changes in

the system, such as a delay of two days in waste collection, result in the emergence of several other problems, including blocked drainage and flooding. The efficiency of the system is dependent on cooperation between the components, including LAWMA (regulation), PSPs (collection), local government (enforcement), and households (waste disposal practices). Failure in any of the parts causes the destabilization of the whole system and results in a vicious circle of waste accumulation, causing environmental and health hazards.

7.2 Environmental Governance Theory

This theory focuses on governance arrangements for decision-making processes regarding environmental concerns. The theory is concerned with the regulations and procedures regarding how decisions regarding sustainable development and the environment are managed by state and non-state institutions. Principles guiding Environmental Governance Theory include multilevel governance, accountability and transparency (permitting public participation and prevention of misallocation of funds), stakeholder participation (facilitating legitimacy and responsibility among citizens and informal waste collectors), institutional capability (the ability of local authorities to make plans, implement, and monitor regulations) and policy integration (integrating waste management within larger policies of urbanization and health policies) (Ogunkan, D. V. (2022)).

Institutional approaches within Environmental Governance Theory involve coordination, accountability, participatory process, institutional capacity, and policy integration in order to influence environmental outcomes through institutional arrangements at multiple levels. Evidently, the problems associated with the governance structure of waste management in Eti-Osa include: responsibility ambiguity between different governmental levels; absence of enforcement mechanisms and lack of monitoring systems; lack of community participation in decision-making; low financial, human, and technological capacity; and isolation of waste management from other policies, including flood prevention, urban planning, and public health policy.

In sum, the above theories demonstrate that waste management involves a combination of systems engineering and proper governance structure.

8. Methodology

A qualitative case study design was adopted as the methodology of this study. The sampling area was selected as Lekki Phase 1 (Ward 04), which belongs to Eti-Osa Local Government Area and is recognized as a highly vulnerable flooding area (23.59% of Eti-Osa) due to annual flooding that disrupts economic activity and causes severe traffic problems (Mafimisebi, 2024).

Study Population

The study population consisted of individuals or organizations that were involved in or affected by the issue of waste management and sanitation in Eti-Osa LGA. It included representatives of: Environmental Health, Hygiene and Sanitation Department in Eti-Osa Local Government Secretariat; key employees of LAWMA regulating Private Sector Participants servicing in Eti-Osa; Private sector participants operators (managers/supervisors); community associations, namely Community Development Association (CDA) and Market Sanitation Committee heads.

Sampling Technique

The purposive sampling technique was used to choose 28 participants, including LAWMA employees, Environmental Health Officers, and Private sector participants of Eti-Osa LGA.

The number of participants is appropriate for qualitative research where information richness, rather than statistical representation, should be taken into account (Guest et al., 2006). Diverse opinions were taken from stakeholders of all parts of the waste management system under study. Semi-structured interviews were the main technique that provided the opportunity to conduct a thorough investigation of the experience of the participants (Lopez et al., 2025). Interviews were carried out until the saturation was achieved, when no new themes emerged. Saturation was attained during the 24th interview because the same topics emerged among residents, officials, and operators. The other four interviews verified existing results and guaranteed the participation of all stakeholders.

Discussion of Findings

9.1 Major Challenges Affecting Sanitation and Waste Management

The following major challenges to effective sanitation and waste management in Eti-Osa were mentioned by the respondents. First, irregularity of waste collectors' services often leads to the accumulation of waste. Thus, one of the residents said, "Sometimes the waste collectors do not collect waste for several days. And then when that happens, the people begin throwing the refuse everywhere" (Mr. XX1). Another participant said, "At times, there are delays in collecting waste. And it gets smelly, and flies start appearing all around" (Mrs. Bola Adeyemi, 35 years, Resident). Second, the challenge relates to the inappropriate behaviors of people. As one of the participants admitted, "Some people prefer to dump their refuse inside the gutters or empty land rather than waiting for the PSP operators" (XX4).

Third, the lack of adequate infrastructure and facilities also contributes to the problem. "In some parts, there are no proper waste bins or designated places for people to dump waste. Therefore, people just choose any convenient spot," (XX5). Fourth, the institutional challenges include poor funding and inadequate resources. "Well, the local government is making efforts, but there are resource limitations, including lack of finances, equipment, and even manpower," (XX6). Fifth, the lack of strict enforcement of sanitation laws was considered another critical issue. "The problem is that people know about the laws, but there is nothing serious to stop them from littering everywhere" (XX5). All these challenges are supported by the results of the studies conducted by Chidi and Badejo (2024) and Ichipi and Senekane (2023) who disclosed that poor collection system, institutional coordination and low levels of public awareness as the main barriers to effective waste management.

9.2 Local Government Performance

Opinions of participants regarding the local government's performance in addressing waste management and sanitation issues were quite inconsistent. On the one hand, some interviewees noticed the efforts of the local authority. "The local government does make efforts in some areas. For example, they organize sanitation days and go out on some occasions to check the environment," (Mrs.XX2). On the other hand, the efforts seem to be insufficient since they are not sustained for long enough to bring substantial changes. "You see, it is not the question of whether the local government makes efforts or not. The problem lies in the inconsistency of those actions. Soon after that, everything goes back to the old ways again," (Mr. XX1). Limited presence of the government officers was also considered one of the problems. "In some places, government officers cannot be seen, unless there is something urgent" (Miss Kemi Oladipo, 30 years, Resident). As one PSP operator said that, the local government depends too much on other agencies such as PSP operators and LAWMA. "Local government delegates almost all responsibilities to PSP operators and LAWMA. Our agency collects most of the garbage, while local government monitors our

work" (Mr.XX3, PSP Operator). Also, according to a LAWMA officer, "there is some cooperation between them; it needs improvement" (Mr.XX5).

Environmental Impact

Interviewees generally agreed that poor waste management was the major cause flood . "People usually dump their waste materials in the gutters, and when it rains, the water cannot flow freely due to congestion. It results in flooding" (xx1). "Floods are a common occurrence in this locality, and most of the time, they occur due to waste blocking the gutters." (XX2). Other economic and social impacts of waste management were also captured. "Flood can ruin people's homes and property, especially their valuables like electrical appliances" (XX4). "In times of flooding, movement is restricted since there is no way of accessing certain roads" (XX5). This corroborates Oyebode (2013) and Macpherson et al. (2020) Whom are of the view that the flooding of gutters causes flooding and poor sanitation promotes sanitation diseases.

Conclusion

This study explored the influence of local government in the promotion of environmental sustainability through waste management in Lagos State, particularly within Eti-Osa Local Government Area. From the findings obtained, it is evident that while there are effective sanitation systems and waste management practices within the study area, they are inefficient, inconsistently practised, and incapable of dealing with environmental challenges brought about by urbanization. There are many challenges in the sanitation system such as poor waste collection services, indiscriminate disposal of waste, inadequate facilities, and weak enforcement of environmental policies.

Although the local government collaborates with other agencies such as LAWMA and PSP to promote sanitation and waste management, there is low performance due to the limited availability of funds, manpower shortages, logistical problems, and poor coordination within institutions. These limitations have affected the efficiency of waste management and led to an ineffectively run sanitation system. In addition, the ineffective enforcement of sanitation laws, lack of stringent sanctions for violation of sanitation laws, inadequate monitoring, and residents' attitude towards waste management are significant factors affecting waste management operations

Recommendations

Based on the findings of this study, the following recommendations are made:

i Upgrade waste collection infrastructure. The local government in collaboration with LAWMA and PSP should introduce 100 extra waste bins to be placed within Lekki Phase 1 ward 04, have designated waste dumping points with clear signages, and introduce waste collection twice weekly with global positioning system(GPS) tracking to ensure service delivery.

ii. Build institutional capacity. Increase annual environmental sanitation budget allocation by 25% to at least ₦40 million annually, employ 20 more environmental health officers, and supply required waste collection equipment such as vehicles, protective clothing, and digital gadgets to enhance efficiency.

iii. Strict law enforcement. Unannounced environmental sanitation checks should be done by LASEPA and local government environmental health units once every week, imposition

of sanctions for illegal waste dumping such as ₦10,000, publishing names of persistent offenders, and formation of a special task force in Eti-Osa LGA to enforce sanitation laws.

iv **Initiate sustained public sensitization campaigns**. Conducting yearly environmental awareness campaigns including town hall meetings quarterly, establishing environmental clubs in schools, broadcasting jingles on local radios in vernacular language, carrying out door-to-door sensitization visits, and piloting "Cleanest Street" competition.

V. Facilitate coordination among stakeholders. Establishing monthly Sanitation Coordination Committee meeting between Eti-Osa LGA, Lagos state waste management agency, PSPs, Community Development Associations(CDAs) leaders, and market associations to discuss performance, resolve conflicts, and share data. Creation of a joint digital dashboard to track waste management information, such as service delivery data and enforcement data.

VII. **Integrate informal waste collectors into waste management system**. Registration of informal waste collectors, safety and hygiene trainings, and incorporation of informal waste collectors into the formal waste management system to promote recycling and reduce poverty (SDG 1).

V. Conduct biannual gutter desilting before and after rainy seasons, organize monthly communal dry-season cleanups, and coordinate with PSP operators for proper waste disposal to prevent flooding.

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