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| RESEARCH ARTICLE

Solid Waste Management and Urban Sustainability in Jos Metropolis: An Empirical Assessment

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| ABSTRACT

Rapid urbanization in Nigerian cities has intensified the challenge of solid waste management, posing significant threats to environmental quality, public health, and urban sustainability. This study empirically examines solid waste management practices and their implications for urban sustainability in selected areas in Jos metropolis. A cross-sectional survey research design was adopted, and primary data were collected from 398 respondents using structured questionnaires complemented by field observations. Descriptive and inferential statistical techniques were employed to analyze waste generation patterns, disposal methods, service performance, institutional roles, and perceived environmental and socio-economic impacts. The findings reveal a predominance of unsustainable waste disposal practices, with open dumping identified as the most common method, while formal waste collection services remain inadequate in coverage, frequency, and efficiency. Performance assessments indicate poor service delivery, particularly in high-density and low-income areas. The study further demonstrates that ineffective solid waste management contributes to environmental pollution, urban flooding, disease outbreaks, declining urban aesthetics, and economic losses. Institutional analysis shows that government agencies are primarily responsible for waste management but are constrained by weak enforcement, limited funding, and poor coordination with private contractors. Community participation in waste management is generally low, reflecting gaps in environmental awareness and incentive structures. The study concludes that solid waste management remains a critical barrier to achieving urban sustainability in Nigerian cities. It recommends strengthening institutional capacity, improving service delivery, promoting waste reduction and recycling initiatives, and enhancing community participation through public awareness and stakeholder collaboration. These measures are essential for improving environmental quality, safeguarding public health, and fostering sustainable urban development in Nigeria.

| KEYWORDS

Solid waste management, urban sustainability, environmental pollution, recycling initiatives

| ARTICLE INFORMATION

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1. Introduction

Urbanization in Nigeria has accelerated rapidly over the past few decades, transforming cities into major centers of population concentration, economic activity, and social interaction. While urban growth has contributed to economic development and improved access to services, it has also intensified environmental pressures, particularly in the area of solid waste management. Nigerian cities generate large volumes of solid waste daily as a result of

population growth, changing consumption patterns, and expanding commercial activities. Nabegu (2019) opined that the inability of urban authorities to effectively manage this growing waste stream has become a major sustainability challenge, with visible implications for environmental quality and public health. Solid waste management is a critical component of urban environmental management and a key determinant of urban sustainability. Effective waste management systems reduce pollution, conserve natural resources, and enhance the overall livability of cities. Conversely, poorly managed solid waste contributes to air and water pollution, greenhouse gas emissions, flooding, and the spread of communicable diseases. Ogundele *et.al.,* (2018) explained that in many Nigerian cities, waste collection services are irregular and insufficient, leading residents to resort to open dumping, burning, and indiscriminate disposal in drains and open spaces. The challenge of solid waste management in Nigerian cities is compounded by rapid urban expansion that often outpaces planning and infrastructure development. Municipal authorities frequently operate with limited financial resources, inadequate equipment, and weak institutional capacity. Although environmental regulations and waste management policies exist, their implementation and enforcement remain largely ineffective. As a result, informal waste disposal practices continue to dominate, undermining efforts toward sustainable urban development. Beyond environmental degradation, poor solid waste management poses significant socio-economic and public health risks. Accumulated waste provides breeding grounds for disease vectors, contaminates water sources, and increases the vulnerability of urban residents to flooding and environmental hazards. These impacts disproportionately affect low-income communities, thereby reinforcing urban inequality and compromising social sustainability. Afon and Okewole (2021) have emphasized that sustainable urban development cannot be achieved without addressing the systemic failures in urban waste management. Despite growing scholarly and policy interest in urban sustainability, empirical studies that systematically examine the relationship between solid waste management practices and urban sustainability outcomes in Nigerian cities remain limited. Many existing studies focus on descriptive assessments without adequately linking waste management performance to broader sustainability indicators. This study therefore provides an empirical assessment of solid waste management and its implications for urban sustainability in Jos Metropolis , with the aim of generating evidence-based insights to inform policy, planning, and sustainable urban governance.

1.1 Statement of the Problem

Rapid urbanization in Nigerian cities has led to an unprecedented increase in the generation of solid waste, posing serious challenges to environmental management and urban sustainability. Municipal authorities struggle to cope with the growing waste streams due to inadequate infrastructure, irregular waste collection services, and insufficient funding. As a result, open dumping, uncontrolled burning, and indiscriminate disposal in drains and vacant lots have become common practices, contributing to environmental pollution, flooding, and public health hazards such as malaria, cholera, and respiratory diseases (Ogundele, Omotoso, & Akinyemi, 2018; Nabegu, 2019). The lack of effective waste segregation and recycling further exacerbates the problem, leading to resource wastage and increasing pressure on limited landfill sites. In addition to infrastructural and environmental challenges, institutional weaknesses and limited community participation undermine the effectiveness of solid waste management in Jos mertropolis. While regulatory frameworks exist, enforcement is often inconsistent, and coordination between federal, state, and local agencies remains weak. Public awareness and engagement in sustainable waste practices are low, particularly in densely populated low-income neighborhoods, where improper disposal is most prevalent. These challenges according to Nwankwo and Igboanugo (2020) collectively hinder the achievement of sustainable urban development, highlighting the urgent need for empirical research to assess the relationship between solid waste management practices and urban sustainability outcomes.

1.2 Aim and Objective of the Study

The aim of this study is to empirically examine solid waste management practices and their implications for urban sustainability in Nigerian cities, with a focus on understanding how current disposal methods, institutional arrangements, and community behaviors influence environmental, public health, and socio-economic outcomes. To achieve this aim, the study has several specific objectives: first, to investigate the patterns of solid waste generation and disposal practices across different residential areas; second, to assess the effectiveness and coverage of existing waste collection and management systems; third, to evaluate the environmental and socio-economic impacts of

poor waste management on urban sustainability; fourth, to examine the roles of government agencies, private actors, and communities in promoting effective waste management; and finally, to propose practical and sustainable strategies that can enhance solid waste management and contribute to the overall sustainability of Nigerian cities. These objectives collectively provide a comprehensive framework for understanding and improving urban waste management in the context of rapid urbanization and environmental challenges.

1.3 Research Questions

This study seeks to answer the following research questions: What are the prevailing patterns of solid waste generation and disposal practices in Nigerian cities, and how do these practices vary across different residential areas? How effective are the existing waste collection and management systems in addressing urban waste challenges, including coverage, frequency, and service quality? What are the environmental, public health, and socio-economic impacts of poor solid waste management on urban sustainability? What roles do government agencies, private contractors, and communities play in promoting effective waste management, and how do institutional and behavioral factors influence outcomes? Finally, what strategies and interventions can be implemented to improve solid waste management and enhance the sustainability of Nigerian cities? By addressing these questions, the study aims to generate empirical insights that inform sustainable urban planning and governance.

2. Literature Review

2.1 Concept and Scope of Solid Waste Management

Solid waste management (SWM) refers to the systematic process of handling waste from generation to final disposal in ways that minimize environmental and public health risks. According to Tchobanoglous and Kreith (2019), effective SWM encompasses waste reduction, segregation, collection, transportation, treatment, recycling, and environmentally sound disposal. In urban contexts, waste management systems are expected to align with sustainability principles by promoting resource efficiency and minimizing ecological footprints. In developing countries such as Nigeria, the scope of SWM is often constrained by rapid population growth, unplanned urban expansion, and limited infrastructural capacity. Studies by Afon and Okewole (2021) showed that municipal authorities struggle to cope with increasing waste volumes due to inadequate funding, obsolete equipment, and weak institutional frameworks. As a result, waste management practices are frequently reactive rather than preventive, leading to environmental degradation. Furthermore, the composition of urban solid waste in Nigerian cities; largely organic waste mixed with plastics, metals, and hazardous materials poses additional management challenges. Ogbonna *et.al.,* (2017) believed that the absence of effective waste segregation at source limits recycling and recovery opportunities, thereby undermining sustainability goals. This highlights the need for integrated and sustainable waste management approaches tailored to urban realities.

2.2 Urban Sustainability and Environmental Management

Urban sustainability is a multidimensional concept that emphasizes the ability of cities to meet present needs without compromising the ability of future generations to meet theirs. It integrates environmental protection, economic vitality, and social equity within urban systems (UN-Habitat, 2020). Environmental management, particularly waste management, is central to this framework because it directly affects urban health, aesthetics, and ecological balance. Poor environmental management in cities has been linked to air and water pollution, flooding, climate change impacts, and declining quality of life. In Nigerian cities, improper waste disposal blocks drainage channels, contributes to urban flooding, and contaminates surface and groundwater resources. These outcomes according to Adewale (2020) contradict the objectives of sustainable urban development and expose urban residents to health and safety risks. Mensah (2019) argude that achieving urban sustainability requires proactive environmental governance, integrated planning, and stakeholder participation . Solid waste management, when effectively implemented, enhances urban resilience by reducing environmental stress and improving public health outcomes. Thus, SWM is not merely a technical service but a strategic component of sustainable urban development.

2.3 Challenges of Solid Waste Management in Nigerian Cities

Solid waste management in Nigerian cities is confronted by numerous structural and operational challenges. One major issue is the inadequacy of waste collection services, particularly in low-income and peri-urban areas. Nabegu (2019) indicates that less than half of generated waste is formally collected in many Nigerian cities, leaving the rest to be disposed of through open dumping or burning. Another critical challenge is weak institutional capacity and governance. Although environmental agencies exist at federal, state, and local government levels, their effectiveness is limited by poor coordination, insufficient manpower, and weak enforcement of environmental regulations. Nwankwo and Igboanugo (2020) advocated that political interference and lack of accountability further undermine service delivery. In addition, public attitudes and behavioral factors significantly affect waste management outcomes. Afon (2020) corroborates that low levels of environmental awareness, resistance to user charges, and limited community participation discourage sustainable waste practices such as sorting and recycling. These challenges collectively hinder the attainment of sustainable urban environments in Nigeria.

2.4 Institutional and Policy Framework for Solid Waste Management in Nigeria

Nigeria's solid waste management framework operates within a decentralized governance structure involving multiple tiers of government. The Federal Ministry of Environment provides policy direction, while state environmental protection agencies and local governments are responsible for implementation. Key policies include the National Environmental (Sanitation and Waste Control) Regulations and the National Environmental Standards and Regulations Enforcement Agency (NESREA) Act. Despite the existence of these frameworks, policy implementation remains weak. Ogundele *et al*., (2018) revealed that enforcement mechanisms are inadequate, monitoring is inconsistent, and compliance levels are low, especially among households and informal waste handlers. The gap between policy formulation and actual practice continues to undermine urban sustainability efforts. Moreover, limited private sector involvement and inadequate public–private partnerships reduce efficiency in waste management delivery. While some cities have introduced private waste contractors, Afon and Okewole (2021) believed that regulatory oversight and performance monitoring remain weak. Strengthening institutional coordination and policy enforcement is therefore essential for sustainable waste management.

2.5 Solid Waste Management and Urban Sustainability Nexus

The relationship between solid waste management and urban sustainability has been widely acknowledged in environmental and urban studies literature. Effective waste management reduces pollution, conserves resources, mitigates climate change impacts, and enhances urban livability Hoornweg and Bhada-Tata (2018) opined that cities with efficient waste systems are better positioned to achieve sustainable development outcomes. Ogbonna *et al.,* (2017) demonstrate a strong link between poor waste management and negative sustainability indicators, including increased disease incidence, flooding, and environmental degradation. These impacts disproportionately affect vulnerable urban populations, thereby reinforcing social and environmental inequalities. Conversely, sustainable waste management practices such as recycling, composting, and waste-to-energy initiatives contribute to job creation, energy recovery, and environmental protection. Scholars argue that integrating SWM into broader urban sustainability planning is crucial for achieving resilient and inclusive cities in Nigeria (UN-Habitat, 2020). This study builds on this perspective by empirically examining how waste management practices influence urban sustainability outcomes.

3. Materials and Methods

3.1 Study Area

Jos Metropolis is located between latitudes 9^{O} 54′ 20″ N and 9^{O} 58′ 10″ N and longitudes 8^{O} 49′ 20″ E and 8^{O} 52′ 40″ E (Fig. 3.1). The city has a population of about 900,000 residents based on the 2006 census. The current metro area population of Jos in 2022 is 957,540 according to a National Population Commission and National Bureau of Statistics Estimates report of 2022. Though located in the tropics, its higher altitude as part of the Jos Plateau gives Jos a much cooler climate that qualifies it to be a climate anomaly or island with an average temperature of 24 degrees Celsius which is among the lowest in the country. According to Amba (2020) monthly rainfall ranges from 0 mm -330 mm with the annual rainfall as high as 1642 mm. About 90% of the rain falls in six months, between April and September, usually in thunderstorms of high intensity particularly at the advent and the end of the raining

season. The Jos Plateau is the source of many rivers in northern Nigeria including Kaduna, Gongola, Hadejia and Yobe Rivers. Soil erosion is a major environmental problem on the Jos Plateau. Tin mining, in its heyday, rendered some localities around Jos, including the Kabong area, unfit for residential development and agriculture. Originally, the Jos Plateau by Amba (2020) had savannah woodland vegetation as a result of man's activity; the Plateau has mainly become treeless as a result of the intensity of resources use or overexploitation. Tin is still mined and processed on the Plateau.

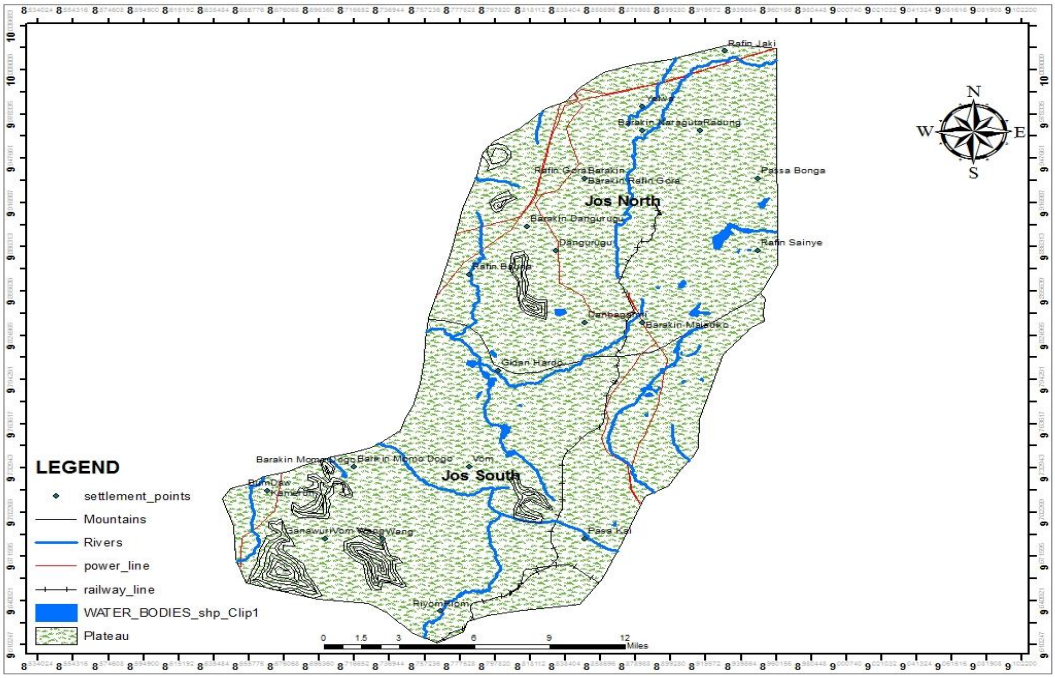

Figure1: Map of the study

3.2 Methodology

This study adopted a cross-sectional survey research design to empirically examine solid waste management practices and their implications for urban sustainability in Nigerian cities. The design was considered appropriate because it enables the collection of data from a large population at a single point in time and allows for the analysis of relationships between waste management practices and sustainability indicators. Primary data were obtained through the administration of structured questionnaires to urban households, complemented by key informant interviews with officials of state environmental protection agencies and municipal waste management authorities. The questionnaires captured information on waste generation, disposal methods, collection efficiency, and perceived environmental and health impacts. Secondary data were sourced from official reports of environmental agencies, peer-reviewed journal articles, and national urban development publications to support and validate the primary data. A multi-stage sampling technique was employed to select respondents across different residential zones, ensuring representation of high-, medium-, and low-density areas within selected areras of Jos metropolis. Household heads or adult representatives were purposively selected due to their direct involvement in waste disposal decisions. A total of 420 questionnaires were administered, of which 398 were found suitable for analysis. Quantitative data were analyzed using descriptive statistics such as frequencies, percentages, and mean scores, while Pearson Product Moment Correlation was used to examine the relationship between solid waste management practices and urban sustainability indicators. Qualitative data from interviews were analyzed thematically to provide contextual explanations for the quantitative findings and to enrich the empirical discussion.

4. Findings and Discussion

4.1: Socio-Demographic Characteristics of Respondents

Table 1: Socio-Demographic Characteristics of Respondents (n=398)

Characteristics	Category	Frequency (n)	Percentage (%
Sex	Male	224	56.3
	Female	174	43.7
Age (Years)	18-25	68	17.1
	26-50	244	61.4
	51 and above	86	21.5
Educational Level			
	Primary	29	7.3
	Secondary	97	24.5
	Tertiary	272	68.2
Occupation			
	Civil Servant	154	38.7
	Traders	139	34.9
	Private-Sector	64	16.1
	Unemployed	41	10.3
Residential Density			
	High density	142	35.7
	Medium -density	136	34.2
	Low-density	120	30.2

A total of 398 valid questionnaires were analyzed. The respondents comprised 56.3% males and 43.7% females, with the majority (61.4%) aged between 26 and 50 years. About 68.2% had tertiary education, 24.5% had secondary education, and 7.3% had primary education. Occupationally, 38.7% were civil servants, 34.9% were traders or self-employed, 16.1% worked in private sectors, and 10.3% were students or unemployed. These demographics suggest that the respondents were economically active and educated enough to provide informed perspectives on solid waste management practices and urban sustainability issues. The relatively high educational attainment among respondents implies potential awareness of environmental issues and sustainable practices. However, the persistence of improper disposal methods much as open dumping and burning indicates that knowledge does not automatically translate into responsible behavior. This supports findings by Afon (2020), who emphasized that environmental awareness alone does not ensure compliance with sustainable waste management practices in Nigerian urban contexts.

4.2 Patterns of Solid Waste Generation and Disposal Practices

Table 2: Solid Waste Disposal Methods

Disposal Method	Frequency (n=398)	Percentage (%)
Open dumping	184	46.2
Government/Private collection	127	31.8
Burning	49	12.4
Recycling/Reuse	38	9.6

The results reveal that open dumping is the most common disposal method, accounting for nearly half of all responses. Formal waste collection services, whether government or private, cover less than one-third of households, while recycling and burning remain minimal. This indicates that urban solid waste management in

Nigerian cities is heavily reliant on informal, environmentally unsound practices. Open dumping contributes to soil and water contamination, blocked drainage, urban flooding, and degraded aesthetics, posing significant environmental and health risks. The low adoption of recycling and waste recovery reflects the absence of structured recycling systems, limited public awareness, and insufficient policy enforcement, consistent with findings by Nabegu (2019) and Ogbonna et al. (2017). The data underscore the need for interventions that encourage source segregation and recycling to improve sustainability outcomes.

4.3 Effectiveness of Waste Collection Systems

Table 3: Waste Management Service Performance

Service Indicator	Mean Score (1–5 Likert Scale)	Interpretation
Collection frequency	2.41	Poor
Coverage of services	2.18	Poor
Availability of bins	2.06	Poor
Responsiveness to complaints	2.23	Poor
Overall satisfaction	2.35	Poor

All indicators scored below 3.0, reflecting poor performance of municipal waste management services. Respondents highlighted irregular waste collection schedules, incomplete coverage of residential zones, and inadequate provision of waste bins, especially in high-density and low-income areas. These inefficiencies point to infrastructural deficits and inadequate institutional capacity, corroborating Afon and Okewole (2021), who documented similar limitations in Nigerian cities. The uneven provision of services raises equity concerns, as low-income communities often bear the brunt of poor waste management. Inequitable service delivery not only compromises environmental quality but also exacerbates socio-economic vulnerabilities, highlighting the intersection between waste management and urban sustainability.

4.4 Environmental and Socio-Economic Impacts of Poor Waste Management

Table 4: Perceived Impacts of Improper Waste Disposal

Impact Indicator	Frequency (n)	Percentage(%)
Environmental pollution	313	78.6
Flooding due to blocked drains	356	64.3
Spread of diseases (malaria, cholera)	383	71.2
Decline in urban aesthetics	278	69.8
Economic productivity loss	209	52.4

The majority of respondents reported significant environmental, health, and socio-economic impacts resulting from poor waste management. Open dumping and irregular collection contribute to environmental pollution, blocked drainage systems, and urban flooding. The study also revealed public health concerns, with 71.2% associating waste accumulation with increased disease incidence. Economic impacts, reported by 52.4% of respondents, include reduced productivity in commercial areas and increased costs for property maintenance. These findings confirm that inadequate waste management is not merely an environmental issue but a critical factor affecting urban livability and social equity. Ogundele et al. (2018) similarly emphasized that poor waste management in Nigerian cities directly influences public health, environmental quality, and socio-economic outcomes. The study highlights the urgent need for policies and interventions that simultaneously address environmental, health, and economic dimensions of urban waste.

4.5 Roles of Institutions and Community in Waste Management

Table 5: Perceived Roles of Institutions and Community in Waste Management (n = 398)

Actor / Role	Frequency (n)	Percentage (%)	Observations / Issues Highlighted
Government agencies	273	68.5	Primary responsibility; weak enforcement, irregular monitoring
Private contractors	86	21.7	Supplementary role; oversight issues reported
Community-based organizations	39	9.8	Minimal involvement; limited resources and capacity
Active community participation	93	23.4	Participation mostly in organized clean-up campaigns
Passive community / reliance on govt	305	76.6	Majority rely on formal Collection or informal dumping

Respondents identified government agencies (68.5%) as the primary actors responsible for waste management, followed by private contractors (21.7%) and community-based organizations (9.8%). However, many respondents expressed dissatisfaction with government performance, citing inadequate supervision of private contractors and weak enforcement of environmental regulations. Community participation in waste management was found to be limited, with only 23.4% of respondents indicating involvement in community sanitation activities. This low level of participation suggests a gap in public engagement strategies and environmental education. Scholars such as Mensah (2019) emphasize that sustainable urban development requires active stakeholder participation, including households, communities, and private sector actors**.**

4.6 Correlation between Waste Management Efficiency and Urban Sustainability Indicators

Table 5: Correlation between Waste Management Efficiency and Urban Sustainability Indicators

Variable Pair	Correlation Coefficient (r)	Significance (p)
Waste management efficiency & Environmental cleanliness	0.62	0.000
Waste management efficiency & Public health outcomes	0.58	0.000
Waste management efficiency & Flood reduction	0.55	0.001

The Pearson correlation analysis revealed a strong and statistically significant positive relationship between effective solid waste management and urban sustainability indicators. The correlation coefficient (r = 0.62) between waste management efficiency and environmental cleanliness indicates that improvements in waste management directly enhance urban environmental quality. Similarly, significant correlations were observed with public health outcomes and flood reduction. These findings empirically confirm the central role of waste management in sustainable urban development. They align with Hoornweg and Bhada-Tata (2018), who emphasized that effective waste systems are critical for achieving sustainable cities globally. The results also support the theoretical premise that environmental management is a key pillar of urban sustainability.

4.7 Discussion

The findings from Tables 2–5 collectively reveal that solid waste management in Nigerian cities is characterized by inefficiency, inadequate infrastructure, and limited community participation. Open dumping remains dominant, while formal collection services are insufficient, contributing to environmental pollution, flooding, disease risks, and socio-economic losses. Waste management services are poorly performing due to infrastructural deficits, weak enforcement, and limited funding. Institutional weaknesses and low community involvement compound these challenges. Effective urban waste management requires integrated approaches, combining government oversight, private sector efficiency, and active community participation. The significant environmental, public health, and socio-economic impacts identified in this study underscore that solid waste management is not merely an environmental issue, but a critical determinant of urban sustainability. Improvements in collection efficiency, public engagement, recycling initiatives, and regulatory enforcement are essential to enhance the sustainability of Nigerian cities.

The findings underscore the importance of integrated approaches to solid waste management that combine strong institutional oversight with active community engagement. Effective collaboration among government agencies, private contractors, and community-based organizations is essential to ensure coverage, efficiency, and compliance. Programs aimed at improving environmental awareness, incentivizing responsible disposal, and building community ownership of waste management processes could significantly enhance urban sustainability outcomes. Scholars such as Mensah (2019) argue that stakeholder participation, alongside robust institutional frameworks, is critical for reducing environmental pollution, improving public health, and achieving resilient and livable cities. In the context of Nigerian urban centers, addressing both institutional and community roles is therefore key to achieving effective, sustainable, and equitable waste management systems.

5. Conclusion and Recommendation

5.1 Conclusion

This study empirically examined solid waste management practices and their implications for urban sustainability in Nigerian cities. Using a cross-sectional survey design complemented by key informant interviews and secondary data, the study assessed waste generation patterns, disposal methods, collection efficiency, and institutional capacity. The findings revealed that solid waste management systems in Nigerian cities are largely inefficient, with a high reliance on open dumping and irregular waste collection services. These practices have contributed to environmental pollution, public health risks, and declining urban environmental quality, thereby undermining the goals of sustainable urban development. The analysis further established a significant relationship between effective solid waste management and key indicators of urban sustainability, including environmental cleanliness, flood reduction, and improved public health. Weak institutional frameworks, inadequate funding, limited technical capacity, and low levels of public participation were identified as major constraints to effective waste management. The persistence of these challenges highlights the gap between existing waste management policies and their actual implementation at the urban level. The study underscores the importance of integrated and well-coordinated waste management systems in achieving sustainable and resilient cities. In conclusion, solid waste management remains a critical but underperforming component of urban sustainability in Nigerian cities. Addressing this challenge requires strengthening institutional capacity, enforcing environmental regulations, promoting community participation, and investing in sustainable waste management technologies such as recycling and waste-to-energy initiatives. By prioritizing effective solid waste management within urban planning and governance frameworks, Nigerian cities can significantly enhance environmental quality, public health, and overall urban sustainability.

5.2 Recommendations

In line with the study's objectives and empirical findings, there is a need to strengthen institutional and operational capacity for solid waste management in Nigerian cities. Urban waste management authorities should be adequately funded and equipped with modern waste collection vehicles, transfer stations, and environmentally sound disposal facilities. Regular and reliable waste collection services should be expanded to cover all residential areas, particularly low-income and peri-urban neighborhoods where waste accumulation is most severe. In addition, institutional coordination among federal, state, and local government agencies should be improved to ensure effective policy

implementation, monitoring, and enforcement. Given the dominance of open dumping and limited recycling observed in the study, sustainable waste reduction and resource recovery strategies should be prioritized. Households should be encouraged to practice waste segregation at source through the provision of color-coded bins and public education campaigns. Government and private sector actors should invest in recycling, composting, and waste-to-energy initiatives to reduce the volume of waste disposed in open dumps and landfills. These measures would not only improve environmental quality but also create employment opportunities and contribute to economic sustainability in urban areas. Furthermore, the findings highlight the importance of community participation and behavioral change in achieving sustainable urban waste management. Public awareness programs should be intensified to educate residents on the environmental and health implications of improper waste disposal and to promote responsible waste management practices. Community-based waste management initiatives and public–private partnerships should be encouraged to enhance service delivery and accountability. Strict enforcement of environmental regulations, combined with incentives for compliance, will help reduce illegal dumping and support the long-term sustainability of Nigerian cities.

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