

A Critical Appraisal of Institutional Structures for Environmental Sanitation and Waste Management in Akwa Ibom State Markets

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Abstract

This research work assessed the institutional arrangements for environmental sanitation and waste management in major markets in Akwa Ibom State, Nigeria. The study was descriptive in nature while stratified random sampling method was adopted to select three major daily markets in each of the senatorial districts using daily market check list. The study covered nine major daily markets selected from the three senatorial districts of Akwa Ibom State. A sample of 396 respondents comprising traders, market leaders and other relevant stakeholders participated in the study. Data were collected using structured questionnaires, interview schedules, observation checklists. Descriptive statistics was used for data analysis. The study concludes that institutional arrangements for environmental sanitation exist across the selected markets but are constrained by inadequate funding, weak stakeholder coordination, poor policy awareness and limited involvement of traders in sanitation decision-making. The study recommends that institutional coordination among the Ministry of Environment, AKSEPWMA, Local Government Councils, Market Management Committees and private waste management companies should be strengthening. Regular review of sanitation policies and greater involvement of traders in policy formulation should also be encouraged.

Keywords: Institutional Arrangement, Environmental Sanitation, Waste Management, Market

Introduction

The process of ensuring the protection of lives and properties of citizens as well as the distribution of resources cannot be attained without the creation of a safe, healthy, and sustainable environment which would not only be beneficial to individual citizens but also, to the government, while working to ensure socio-economic stability within its clime (Amadi, 2020). This could be achieved through environmental sanitation and waste management practice which is aimed at reducing the number of unusable materials by destroying, discarding, processing, recycling, reusing or controlling wastes to avert possible and potential health and environmental hazards (Tuyahabwe, *et al.*, 2022; Udobia and Akpan, 2023) in public places such as the market. Waste management is a global challenge of the twenty-first century plaguing both developed and developing societies (Ezeudu *et al.*, 2021) and Africa is not an exemption. Udobia and Akpan (2023) posited that an object becomes a waste once it is intentionally discarded by the holder or generator after such is identified as unusable. Waste management is the multidisciplinary

approach that involves set of practices and policies that addresses waste from its creation to final disposal, with the primary aim of minimizing environmental harm and maximizing resource recovery (Green, 2018; Jones, 2019; Brown, 2021). In the other hand, Olatunji (2023) defined environmental Sanitation as the principles and practice of effecting healthful and hygienic conditions in the environment to promote public health such as human excreta control, managing solid waste and wastewater, and pest and vector control. However, this practices lies on its institutional arrangement to be functional and effective. The quality of waste management institutions is strongly linked to the overall governance environment and it is cited as one of the most visible indicators of the state of governance. In countries and state with strong governance environment, waste management institutions tend to be more effective. Benneh (2017) and Olukanni and Nwafor (2019) argued that the successful management of environmental resources in any country depends to a large extent on the effectiveness of the institutional arrangements put in place by government for their management. These institutional arrangements refer to the organizational structure, policies, procedures and relationships that govern the management of waste in the market. Therefore, governance structure, policy and regulatory framework, institutional capacity, financial management and stakeholder's engagement are the key component of institutional arrangement for environmental sanitation and waste management. Rapid urbanization and economic growth have led to rising waste generation, outpacing available disposal infrastructure and practices; this is particularly true in public spaces that see high visitor numbers daily, such as markets. In Akwa Ibom State, Nigeria, market fulfils a central economic role but faces environmental sanitation and waste management issues common to similar settings. Solid waste is haphazardly collected and openly dumped without proper treatment. Open urination and defecation are widespread and the resultant contamination of the environment contributes to environmental degradation. These could be due to gross inadequacy of environmental sanitation amenities such as water supply, toilets, bathrooms and refuse disposal facilities. Furthermore, poor supervision of markets by ill-trained, ill-equipped and corrupt officials has led to overcrowding, as well as trading on access roads within and outside the markets. These could lead to unnecessary loss of lives and properties in event of emergency evacuation during fire accidents. More so, the behavior and attitude of the inhabitants and market users towards sanitation do not augment this effort. Heap of refuse and waste have remained common sights in and around major market places with little or no concern about their proper disposal. Many scholars (Adejumo 2014, Daramola 2015, Daramola and Olowoporoku 2016, Olowoporoku 2017) emphasized on sanitation and waste management in urban areas neglecting the market which form a significant portion of commercial land use. To properly address these challenges requires strong and accountable institutions that are able to mediate between competing interests of users, including the poor. Achieving waste management and environmental sanitation goals can only be successful if there is adequate institutional capacity at national, regional, and local levels (Olowoporoku 2017). Therefore, the study aim to assess the institutional arrangements for environmental sanitation and waste management in markets in Akwa Ibom state

Review of Related Literature

The potential for establishing effective institutional arrangements for environmental sanitation and waste management depends largely on the existing systems of urban planning and administration. In a pilot survey, Kyere, Addaney and Akudugu (2019) employed descriptive statistical method to examine decentralized solid waste management in the Berekum and Dormaa

Municipalities in the Brong Ahafo Region of Ghana. Specifically, the study analyzed the performance improvement, regulatory policy, and sustainable service delivery of solid waste management in the municipalities. The study found that there were no mechanisms for full cost recovery to include majority of the residents, who patronize communal collection service. The study therefore recommends the adherence to normative standards and agreed rules, adoption, and use of appropriate cost recovery strategies for low-income groups as well as the restructuring of institutional arrangements to ensure user involvement and enforcement of legislation to improve municipal waste management in Ghana. This entails the involvement and participation of community members in environmental sanitation and waste management practices. However, in market settings, market users and management, the waste management agencies, operational companies and officers must be involved as well as adherence to environmental regulations and by-laws for a smooth and sustainable environmental sanitation and waste management practices. Similarly, Winter and Ujoh (2020) adopted a descriptive approach to analyzed municipal waste management governance and institutional frameworks, and financing arrangements in two major cities in Nigeria - Kano and Enugu cities with Key Informant Interviews (KIIs) using a number of structured questions checklist. The findings reveal institutional and policy inadequacies, financing limitations, technical incapacity, infrastructural inadequacies, and socio-economic and attitudinal barriers, that collectively impede effective and efficient waste management service delivery in both cities. Although, Fagariba and Song (2016) argued that human factors or local people's attitude towards solid waste management remains the core problem, Oteng-Ababio (2012) emphasized privatization of waste collection and disposal as one of the promising solutions to the mounting institutional constraints to waste management. This implies that insufficient funding, inadequate policies, laws and regulations are the banes to effective environmental sanitation and waste management in any institutional arrangements and as such, should be integrated. Several municipalities and larger cities contract out picking and transport services to private firm with public utility departments running dumpsites and incineration firms due to the technology that entails defined expert and considerable initial funding (Nishimwe, 2016). According to Oladeji *et al.* (2024) privatization postulated that the involvement of refuse generators by the payment of service charges cause the service effective. In Oyo, Nigeria Omolawal and Shittu (2016) adopted qualitative research techniques on the challenges affecting management of solid waste in Ibadan North Local Government Area of Oyo State, Nigeria using In-Depth Interviews and Key Informant Interviews among stakeholders including officials of the Oyo State Ministry of Environment, Waste Management Authority, private contractors and residents. The study revealed that financial incapability, inadequate manpower and welfare, poor provision of health services, negative attitudes, poor equipment maintenance, crude waste disposal and unplanned city structures among others were factors affecting solid waste management and environmental sanitation in the study area. Therefore, there should be increased patronage and effective management of the private contractors, prompt collection of solid wastes in the city, financial back up, and implementation of the waste-to-wealth scheme. Weak regulatory framework and enforcement; insufficient attention to public education and stakeholder engagement; inadequate service coverage, particularly in low income (high density) neighbourhoods; lack of attention to health and safety standards; all cumulatively worsen the quality of environmental sanitation and waste management services in Nigerian cities (Nabegu, 2010; Abila and Kantola, 2013; Butu and Mshelia, 2014; Nabegu and Mustapha, 2015; NIAF, 2016; Onuegbu, 2024). The growing population, increase urbanization and economic growth and its attendant consumption patterns have combined to worsen the weak waste management

systems at the local level. Notwithstanding, the Nigerian government is conscious of the essentiality of the environment and the necessity to preserve it. Thus, Section 20 of Chapter II of the 1999 Constitution of the Federal Republic of Nigeria (As Amended) that prescribes the fundamental objectives and directive principles of State policy states that “the State shall protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria”. A critique of the above statement shows the importance the nation attached to environmental conservation and preservation. The government sees the environment as a directive policy which the State cannot afford to ignore (Okoli *et al.*, 2020). Furthermore, part II of the Fourth Schedule to the same Constitution dealt with how waste is to be treated and managed. Waste management is domiciled in the concurrent legislative list. The implication is that all the tiers of government - the Federal Government, the State as well as the Local Government Councils is bestowed with the power to legislate on’ the waste/environmental related issues. Akande and Olorunnisola (2018) argued that the management of municipal solid waste poses various challenges to many countries of the world at varying intensities. For instance, in Akwa Ibom State, the case is even shoddier in the major markets where there seem to be an overflow of wastes due to demographic realities. In recent time, multiple institutions are involved in environmental sanitation and waste management leading to fragmented responsibilities and lack of coordination. There is no doubt that every responsive government ensures public health policy implementation of her citizens. This is based on the fact that a nation with healthy labour force will be productive and increase its gross national product. Regardless of whether the responsibility for environmental sanitation and waste management falls under one or more agencies, and whether functions are carried out at the municipal, state, or national level, it is essential that roles and responsibilities are clearly defined, supported by a sound legal and regulatory framework that promotes better accountability in service delivery.

In Akwa Ibom state, the main institutions responsible for environmental sanitation and waste management are the Ministry of Environment and Mineral Resources who oversees the protection and management of the state’s environment, including waste management and sanitation; the Akwa Ibom State Environmental Protection and Waste Management Agency (AKSEPWMA) who is responsible for implementing waste management and environmental protection initiative in the state; the Environmental Sanitation Court with the power to enforce environmental regulations and prosecute offenders and the Local Government Council that oversees waste management and sanitation at the local level. According to Kyere, Addaney and Akudugu (2019) the policies and regulations and the contractual agreement that connect the assemblies with the companies are important factors that contribute to effective solid waste collection, treatment and disposal. These regulations include the Local Government Act, National Procurement Act, Local Governments By-law, Environmental Sanitation Policy, and other state conventions that provide rules for environmental sanitation and waste management.

Methodology

The study was descriptive in nature and incorporated both qualitative and quantitative statistical methods of data collection and analysis from primary and secondary sources. Systematic random sampling method was used to select three (3) major daily markets in each of the senatorial districts through market check list for the purpose of this study making a total of nine markets as sampled size. Forty-four (44) questionnaire forms were distributed to market users in the selected major markets making a total number of three hundred and ninety-six (396) questionnaire forms and same were all returned. Simple random sampling method was used to administer the

questionnaire forms to the respondents. However, Personal observation, interview and policy review were also employed. Descriptive analytical technique was used for the analysis based on questionnaire responses. However, content analysis was used to analyze the environmental sanitation and waste management policies, regulations and guidelines.

Results

On the proposition if there are formal rules or policies on sanitation and waste management in the market. Two hundred and seventy-nine (279) respondents representing 70.5% of the total respondents accepted the proposition; fifteen (15) respondents representing 3.8% of the total respondents rejected the claim while one hundred and two (102) respondents representing 25.7% of the total respondents had no idea. This indicated that some of the market people are not aware of the laid down rules on market sanitation and waste management in their markets.

Table 4.1 Formal Rules or Policies on Sanitation and Waste Management

S/n	Availability of Rules/Policies	Frequency	Percentage (%)
1.	Yes	279	70.5
2.	No	15	3.8
3.	No idea	102	25.7
	Total	396	100.0

Source: Researcher Field Survey, 2026

In response to those responsible for waste management in the market, one hundred and ninety-six (196) respondents representing 49.5% of the total respondents revealed that the market association are the ones responsible for waste management in the market. One hundred and eighty-three (183) respondents representing 46.2% of the respondents revealed that the local government authorities are responsible for the waste management in their market. However, seventeen (17) respondents representing 4.3% of the total respondents revealed that private waste collectors are the responsible waste management in their market while none of them accepted that NGO is responsible for waste management in their market.

Table 4.2 Those Responsible for Waste Management in the Market

S/n	Variables	Frequency	Percentage (%)
1.	Market Association	196	49.5
2.	Local Government	183	46.2
3.	Private waste Collectors	17	4.3
4.	NGOs	0	0.0
	Total	396	100.0

Source: Researcher Field Survey, 2026

On rating of the environmental sanitation and waste management coordination among stakeholders (government, market leaders, private sector), one hundred and seventy-seven (177) respondents representing 44.7% of the total respondents indicated good as their option, one hundred (100) respondents representing 25.3% responded the coordination is excellent, fifty-one (51) respondents representing 12.9% attested it is fair. Fifty-six (56) respondents representing 14.1% of the total respondents attested poor coordination among stakeholders while twelve (12) respondents representing 3.0% of the respondents attested very poor coordination among the stakeholders in sanitation issue.

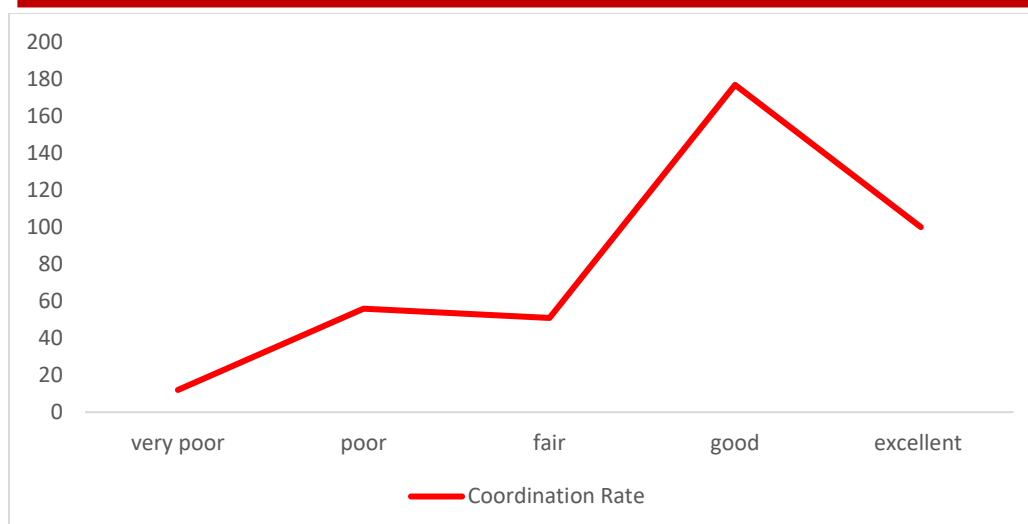


Figure 4.1 Coordination Rate among Stakeholders

Source: Researcher Field Survey, 2026

The research study showed that two hundred and seventy-four (274) respondents representing 69.2% of the total respondents disagreed on regular allocation of fund for sanitation and waste management in the market. Twenty-six (26) respondents representing 6.6% of respondents accepted the proposition while ninety-six (96) respondents representing 24.2% of the total respondents had no idea if funds are regularly allocated for sanitation and waste management. This shows that governments do allocate funds for sanitation and waste management, although limited number of respondents attested to it.

Table 4.3 Regular Allocation of Fund for Sanitation and Waste Management

S/n	Fund allocation	Frequency	Percentage (%)
1.	Yes	26	6.6
2.	No	274	69.2
3.	No Idea	96	24.2
	Total	396	100.0

Source: Researcher Field Survey, 2026

On the assertion on traders and vendors in decision making about sanitation policies, seventy (70) respondents representing 17.7% of the total respondents asserted the involvement of traders and vendors involvement in decision making on sanitation policies, two hundred and twenty-one (221) respondents representing 55.8% of the total respondents disagreed with the assertion while one hundred and five (105) respondents representing 26.5% of the total respondents had no idea of the assertion.

Table 4.4 Traders and Vendors Involvement in Decision Making

S/n	Involvement	Frequency	Percentage (%)
1.	Yes	70	17.7
2.	No	221	55.8
3.	No Idea	105	26.5
	Total	396	100.0

Source: Researcher Field Survey, 2026

On the assertion on how often sanitation policies are reviewed, the research study showed that thirty-eight (38) respondents representing 9.6% of the total respondents asserted yearly review of the sanitation policy. One hundred and eighty-nine (189) respondents representing 47.7% of the total respondents agreed on every 2-4 years review while one hundred and sixty-nine (169) respondents representing 42.7% of the total respondents had no idea on how often sanitation policies are reviewed.

Table 4.5 How often are Sanitation Policies Reviewed?

S/n	How Often	Frequency	Percentage (%)
1.	Never	0	0.0
2.	Every Year	38	9.6
3.	Every 2-4 Years	189	47.7
4.	No Idea	169	42.7
	Total	396	100.0

Source: Researcher Field Survey, 2026

Discussion of Findings

The findings of this study revealed that institutional arrangements for environmental sanitation and waste management are present in the selected major markets in Akwa Ibom State, although their level of implementation and effectiveness differ from one market to another. This suggests that sanitation policies have been established across the markets; however, awareness and dissemination of these policies remain inadequate among a sizeable proportion of market users. The inability of nearly one-quarter of the respondents to identify existing sanitation regulations indicates that policy implementation has not been complemented with sufficient sensitization and public enlightenment. Policies are only effective when those expected to comply with them understand their contents and appreciate their importance. The findings further revealed that the responsibility for environmental sanitation and waste management is shared mainly between Market Associations and Local Government Authorities, while only a few respondents identified Private Waste Collectors as being responsible, and none identified Non-Governmental Organizations. This demonstrates that sanitation administration in the selected markets is still dominated by public institutions and market management structures. Although the aggregate data did not dis-aggregate responsibility by market, evidence from other market-specific findings indicates that this institutional arrangement varies across the markets. For instance, Akpan Andem Market and Oduk Market exhibited stronger government involvement in sanitation administration, while Ikot Ekpene Main Market, Nung Udofe Market, Eket Market and Ibeno Market showed greater reliance on private waste collectors in collaboration with market authorities. Similarly, Itam Market demonstrated a mixed institutional arrangement involving the Local Government, Market Association and Private Waste Collectors, reflecting a more integrated governance structure than was observed in several other markets. Finding also suggests that although institutional collaboration exists, its effectiveness is uneven across the selected markets. Markets such as Akpan Andem, Ikot Ekpene Main Market and Itam Market, where sanitation practices and waste collection systems were generally rated more positively appear to benefit from stronger institutional coordination than Oduk, Nung Udofe and Abak Main Markets, where respondents consistently reported more sanitation-related challenges. These variations indicate that the quality of institutional coordination significantly influences environmental sanitation outcomes. Inadequate funding constitutes one of the major institutional

constraints to effective environmental sanitation across the selected markets. The limited financial allocation may partly explain why some markets continue to experience inadequate sanitation facilities, irregular waste collection and overflowing waste bins despite the existence of sanitation policies. Markets such as Abak Main Market, Oduk Market and Nung Udoe Market, which later recorded higher levels of dissatisfaction with waste handling and greater complaints regarding sanitation facilities, may be particularly affected by inadequate financial support. The findings also showed that traders and vendors are largely excluded from sanitation policy formulation. More than half of the respondents indicated that traders are not involved in sanitation-related decision-making. This finding reflects a predominantly top-down approach to sanitation governance. Yet, traders constitute the primary generators of market waste and are directly affected by sanitation policies. Their exclusion from decision-making may reduce their sense of ownership and willingness to comply fully with sanitation regulations. Markets such as Oduk, Abak, and Nung Udoe, where sanitation challenges were found to be relatively more pronounced, could particularly benefit from greater participation of traders in sanitation planning and implementation. Furthermore, the study established that sanitation policies are reviewed periodically. This lack of awareness suggests that policy reviews are often conducted without adequate stakeholder engagement or public dissemination. Consequently, many traders remain unaware of policy revisions that directly affect their sanitation responsibilities.

The market-level findings obtained in other sections of the study further reinforce these institutional observations. For example, Akpan Andem Market consistently recorded better sanitation performance, including high satisfaction with waste handling, reduction in overflowing waste bins, stronger stakeholder collaboration and greater awareness of sanitation guidelines. Similarly, Ikot Ekpene Main Market and Itam Market demonstrated relatively stronger institutional performance through effective waste collection, greater awareness of sanitation policies and higher levels of user satisfaction. In contrast, Oduk Market, Nung Udoe Market and Abak Main Market consistently recorded lower performance across several sanitation indicators, including inadequate sanitation facilities, lower awareness levels, dissatisfaction with waste management services and continued waste disposal challenges. These differences strongly suggest that institutional effectiveness varies considerably across the selected markets. These findings are consistent with Olukanni and Nwafor (2019), who observed that effective institutional arrangements involving local governments, market authorities and private waste operators significantly improve environmental sanitation performance in Nigerian urban markets. Their study emphasized that clearly defined institutional responsibilities enhance operational efficiency and reduce environmental health risks. Similarly, Onuegbu (2024) reported that inadequate funding, weak institutional coordination and limited stakeholder participation remain major obstacles to sustainable waste management in Nigerian markets. The report stressed that strengthening institutional collaboration, improving governance structures and increasing financial investment are necessary for environmental sanitation and sustainable waste management. The present findings therefore reinforce existing empirical evidence that institutional effectiveness is a critical determinant of environmental sanitation outcomes.

Conclusion and Recommendation

The study concludes that institutional arrangements for environmental sanitation exist across the selected markets but are constrained by inadequate funding, weak stakeholder coordination, poor policy awareness and limited involvement of traders in sanitation decision-making. The implication of these findings is that improving environmental sanitation in the major markets of

Akwa Ibom State requires more than the formulation of sanitation policies. Therefore, institutional coordination among the Ministry of Environment, AKSEPWMA, Local Government Councils, Market Management Committees and private waste management companies should be strengthening. Regular review of sanitation policies and greater involvement of traders in policy formulation should also be encouraged.

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