



ASSESSING THE EFFECTIVENESS OF MUNICIPAL ENVIRONMENTAL AGENCIES IN MANAGING URBAN SOLID WASTE IN ABUJA, NIGERIA

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Abstract

Urban solid-waste management has become a central test of institutional capacity in rapidly growing African capitals, and Abuja provides an especially important case because the city combines planned urban form, rapid spatial expansion, mixed residential typologies and rising service expectations. Recent evidence indicates that waste management in Abuja is delivered through a hybrid arrangement involving the Abuja Environmental Protection Board (AEPB), area councils, private contractors, and household-level practices, while current policy developments also point to renewed contractor oversight and fresh public expenditure on collection operations. Yet visible activity does not necessarily amount to institutional effectiveness. This study therefore assesses the effectiveness of municipal environmental agencies in managing urban solid waste in Abuja, Nigeria. It adopts a descriptive and evaluative institutional design using mixed methods: questionnaire survey of households and commercial users, key-informant interviews with agency and contractor personnel, and documentary review of recent policy, operational and regulatory materials. The paper argues that agency effectiveness should be judged not only by waste evacuation activity, but by the quality of institutional strategy, collection reliability, coverage equity, enforcement consistency, complaint response, financial sustainability and environmental outcomes. The study contributes an integrated framework for evaluating urban environmental agencies in Abuja and similar cities, and offers evidence-led recommendations for improving operational coordination, funding discipline, contractor management, citizen engagement and sustainable waste governance.

Keywords: *Municipal solid waste; environmental agencies; AEPB; urban governance; institutional effectiveness; sustainable urban environment*

Introduction

Municipal solid-waste management is one of the clearest operational tests of urban governance because it sits at the intersection of public health, environmental protection, service delivery, infrastructure and everyday citizen trust. In Nigeria, recent scholarship argues that the waste crisis is sustained less by the absence of technical knowledge than by structural weaknesses in governance, infrastructure, behaviour, financing and institutional coordination. Omokaro et al. (2026) contend that fragmented mandates, weak enforcement and data scarcity continue to entrench open dumping, burning and environmentally damaging disposal patterns, even where formal agencies exist.

Abuja presents a particularly important case within this national picture. As Nigeria's federal capital, it is expected to reflect order, environmental quality and planned development. Yet recent Abuja-focused evidence indicates a more uneven reality. The African Clean Cities Platform (2022) reports that the Abuja Environmental Protection Board has responsibility for strategic solid-waste planning in the Federal Capital Territory and notes an estimated waste generation rate of 0.42 kg per person per day, equivalent to roughly 1,191.9 tons daily. More recent household-level evidence from Abuja Municipal Area Council also shows that food and other organic waste remain dominant in the waste stream, while non-trivial shares of households still resort to open spaces, backyards or drainages for disposal, indicating that official systems do not fully absorb generated waste (Adeiza et al., 2024).

The institutional setting is also more complex than a single-agency model suggests. Recent research in Abuja shows that household waste collection is delivered through a hybrid system in which AEPB, private contractors, informal collectors, estate arrangements, and area-council structures all play visible roles. Adewole and Akinmoladun (2026) found that, across selected residential areas in Abuja, private providers, AEPB and informal collectors all occupied substantial shares of the collection landscape, while service quality and satisfaction varied significantly by residential typology. This matters because institutional effectiveness becomes harder to judge where service delivery is shared, responsibilities overlap and accountability is diffused.

Current operational developments further underline the importance of institutional evaluation. Recent Abuja reports show that AEPB has intensified monitoring of waste contractors and that FCTA has approved new waste-management contracts in selected districts, indicating active administrative reform and renewed expenditure. At the same time, contractor threats to suspend services over prolonged non-payment reveal that financial governance remains a live operational risk. The practical issue in Abuja, therefore, is not whether agencies are visibly present, but whether they consistently translate mandate, finance, supervision and operations into a cleaner and more sustainable urban environment (Premium Times, 2025; Abuja Digest, 2026; Daily Trust, 2026).

The paper therefore, assesses the effectiveness of municipal environmental agencies in managing urban solid waste in Abuja. Specifically, it examines the institutional strategies deployed by relevant agencies; evaluates their operational effectiveness in collection, monitoring and service delivery; identifies key institutional and operational constraints; and proposes strategies for strengthening sustainable waste management in the city.

Methodology

The study adopts a descriptive and evaluative institutional design using mixed methods. This design is appropriate because the question is not merely whether waste is collected, but whether municipal environmental agencies are strategically organised and operationally capable of producing reliable, equitable and sustainable outcomes. A mixed-method approach is also

necessary because some aspects of effectiveness are measurable through household and business-user responses, while others - such as inter-agency coordination, monitoring systems, enforcement practice, payment bottlenecks and operational constraints - are better captured through interviews and documentary evidence.

The study focuses on Abuja, with particular attention to the institutional arrangements through which solid waste is managed in the Federal Capital City and its major residential and mixed-use districts. The principal institutional unit is AEPB, but the analysis also considers area-council interfaces, contractor arrangements and coordinating administrative decisions that shape municipal waste operations in practice. Data are collected from three main sources: questionnaire survey of residents and commercial premises; semi-structured interviews with agency staff, contractors and environmental experts; and documentary review of recent policy, operational and service materials.

Current institutional architecture of solid-waste management in Abuja

Recent Abuja literature provides useful evidence on waste composition, disposal practices, dumpsite exposure and household perceptions. Adeiza et al. (2024) analyse household collection and disposal practices in AMAC. Owolabi, Omali and Arogundade (2024) focus on dumpsites and the environmental-health implications of illegal disposal. Adewole and Akinmoladun (2026) provide stronger household-level evidence on collection systems, service satisfaction and residential differences. However, these studies mainly tell us what households experience; they do not fully disaggregate what agencies are doing, how they coordinate, where their operational bottlenecks lie, or how their effectiveness should be judged.

Abuja's waste problem is often described through visible refuse accumulation, illegal dumpsites or anecdotal commentary about cleanliness. Such descriptions are useful, but they are analytically incomplete because they do not distinguish between institutional strategy, contractor performance, collection reliability, complaint handling, enforcement action, financing continuity and environmental sustainability. This study responds by developing an integrated agency-effectiveness framework that evaluates municipal environmental institutions through strategy, operations, oversight, responsiveness and outcome quality rather than through evacuation visibility alone.

Abuja generates an estimated 3,000 to 3,500 metric tons of waste daily. This volume is projected to double by 2030 as the city's population continues to increase. On average, residents generate approximately 0.6 kg to 0.65 kg of waste per day. High-Income Areas (Maitama, Asokoro, Wuse) Waste contains a higher percentage of non-biodegradables like plastics, paper packaging, and glass. Lower-Income/Satellite Areas (Nyanya, Kubwa, Karu) Waste is heavily dominated by organic matter (40%–70%), primarily food scraps and agricultural residues.

The Abuja Environmental Protection Board (AEPB) is the primary agency responsible for waste management in the Federal Capital City (FCC). Waste collection is managed through a mix of AEPB services, licensed Private Sector Participants (PSPs), and an active informal sector (scavengers known as Baban Bola). Outside the main city center, the six Area Councils (like AMAC, Bwari, and Gwagwalada) are theoretically responsible for their own sanitation, though they often struggle with fewer resources than the AEPB.

Table 1. *Institutional architecture of solid-waste management in Abuja*

Institution / actor	Core role in Abuja	Why it matters in this study	Key coordination concern
Abuja Environmental Protection Board (AEPB)	Primary environmental regulator and operational overseer for sanitation and waste-management activity in the FCT	AEPB is the most visible municipal environmental agency in Abuja's waste system and is central to monitoring, contractor supervision and environmental enforcement	Effectiveness depends on enforcement reach, financing stability, monitoring quality and its working relationship with other actors
FCTA / relevant coordinating authorities	Approve policy direction, procurement decisions and citywide operational reforms	Recent contract approvals and new waste-management arrangements show that upper-level administrative decisions shape agency capacity on the ground	Strategic decisions may not automatically translate into reliable field-level implementation
Area councils, especially AMAC	Exercise local administrative relevance over residents, neighbourhoods and waste-service interfaces	Waste disposal behaviour and service access are strongly shaped by local area conditions and municipal-level enforcement realities	Boundary overlap and role ambiguity can weaken accountability and levy, fee or service administration
Private waste contractors	Carry out collection, evacuation and cleaning under formal arrangements	Recent Abuja operations rely heavily on contractors, making their performance central to perceived agency success	Service continuity is vulnerable where contractor oversight, payment discipline or service-level enforcement is weak
Households, estates and informal recovery actors	Generate waste, influence sorting behaviour, and mediate the last-mile interface between waste generation and disposal	Agency effectiveness is partly determined by public compliance, payment, storage, sorting and complaint behaviour	Public behaviour, informal recovery and uneven neighbourhood conditions complicate purely agency-centred performance assessment

Source: *African Clean Cities Platform (2022); Adeiza et al. (2024); Adevole and Akinmoladun (2026); NESREA (2025)*

Discussion

Current evidence suggests that the effectiveness of municipal environmental agencies in Abuja should be judged through a combination of institutional strategy, operational reliability and governance discipline. Abuja is not a context in which one agency simply collects all waste through a single administrative channel. Rather, recent studies describe a layered system in which AEPB, area councils, private providers, estate structures and informal actors intersect. Adewole and Akinmoladun (2026) show that collection arrangements differ substantially across residential typologies, with provider type, frequency and satisfaction all varying by area. This is analytically important because a city may appear institutionally active at the aggregate level while still delivering highly uneven outcomes across neighbourhoods.

The current evidence base also suggests that operational performance is mixed rather than uniformly weak or uniformly strong. On one hand, recent Abuja reporting shows intensified oversight of waste contractors and renewed contract approvals, which indicates that the FCTA and AEPB are not institutionally passive. On the other hand, contractor complaints about prolonged non-payment demonstrate how quickly operational arrangements can become fragile when financing discipline breaks down. In institutional terms, this means agency effectiveness in Abuja depends not only on formal mandate or contractor numbers, but on whether financial commitments, monitoring routines and service standards are maintained consistently over time.

Behavioural and environmental evidence also reveals a deeper systems problem. Adeiza et al. (2024) found that while many households used approved bins, sizeable minorities still disposed of waste in open spaces, backyards or drainages. Owolabi et al. (2024) similarly show the persistence of problematic dumpsite exposure and illegal disposal patterns. These findings indicate that agency performance cannot be measured solely by central-city evacuation activity; it must also be evaluated by the extent to which agencies reduce informal dumping, improve public compliance, expand approved disposal access and sustain environmental order beyond high-visibility districts.

A further issue is institutional fragmentation. NESREA's 2025 Abuja-focused solid-waste review argues that Abuja's waste-management system is affected by legal and institutional gaps, including the absence of strongly localised waste-management rules and the difficulty of coordinating different operational actors. Omokaro et al. (2026) reinforce this at the national level by showing that fragmented mandates, weak enforcement and poor data systems remain major barriers to effective waste governance. In Abuja, therefore, the challenge is not simply to collect more waste, but to create a clearer accountability architecture in which strategy, finance, supervision, enforcement, citizen communication and disposal systems are aligned.

This study consequently argues that the most useful evaluation standard for municipal environmental agencies in Abuja is a systems standard. An effective agency is not merely one that reacts to refuse accumulation; it is one that establishes predictable service schedules, supervises contractors credibly, communicates clearly with residents, manages complaints, enforces anti-dumping rules, and connects collection practice with environmentally safer disposal and recovery pathways. This position is also consistent with current circular-economy scholarship on Nigeria, which emphasizes the need to move beyond linear evacuation-and-dumping models toward integrated systems that include data, sorting, recovery and governance reform (Omokaro et al., 2026).

Conclusion and Recommendations

The evidence reviewed in this paper indicates that the question of waste management in Abuja is fundamentally institutional. The city does not simply need more refuse evacuation; it needs municipal environmental agencies and allied actors that can plan, finance, monitor and sustain

urban cleanliness in a coordinated way. Abuja's waste system is active, but the current evidence suggests that effectiveness is uneven and conditional. Oversight activity and new contracts point to reform momentum, yet household evidence, illegal disposal patterns and financing disputes show that the system remains vulnerable to fragmentation and inconsistency.

This study therefore concludes that the effectiveness of municipal environmental agencies in Abuja should be assessed through five linked dimensions: strategic coherence, operational reliability, equitable coverage, regulatory oversight and environmental sustainability. Agencies that perform weakly on any of these dimensions may still appear active, but they are unlikely to sustain a clean and orderly urban environment over time.

Despite Abuja modern image, disposal remains largely rudimentary. It operates as an open dump rather than a sanitary engineered landfill. Satellite Sites Other major collection points include Mpape, Ajata, and Kubwa, many of which face issues with odor, air pollution from spontaneous combustion, and leaching. In densely populated or unserved areas, residents often resort to dumping waste in drainages, open plots, or burning it, which contributes to flash flooding during the rainy season.

Five reform directions follow from this analysis. First, Abuja requires a clearer institutional accountability framework that reduces role ambiguity between key actors and ties contractor performance explicitly to service standards. Second, funding and payment systems must be stabilised, because service reliability cannot be sustained where contractors face long payment delays. Third, performance monitoring should move beyond visible clean-up activity to include route adherence, complaint response, district-level coverage and reductions in illegal disposal. Fourth, public communication and environmental education should be strengthened so that household behaviour does not continue to undermine formal collection systems. Fifth, municipal waste governance should shift gradually toward more sustainable practices, including stronger source separation, recovery and environmentally safer disposal pathways. These recommendations reposition solid-waste management in Abuja as a governance and institutional-performance challenge rather than a narrow sanitation issue.

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