

BUNIBO AFRICA

Waste Insight Series Brief 01

WASTE IN NAIROBI

Reality on the Ground

April 2026

Table of Contents

1. Executive Summary 2

2. Introduction 3

3. The Everyday Waste Landscape 4

4. Voices On the Ground..... 6

5. What We Observed..... 9

6. What This Means..... 11

7. Looking Ahead 12

8. References..... 12

I. Executive Summary

This brief, developed by Bunibo Africa, forms the first in a series examining waste management systems in Nairobi. It is designed as an observational baseline that documents on the ground realities and system behaviour across different urban contexts. Subsequent briefs will build on these observations to provide quantitative analysis and actionable recommendations.

Findings indicate that current waste collection systems are largely oriented toward disposal, with limited integration of material recovery mechanisms. At the same time, material recovery is actively driven by informal collectors and aggregators, who play a central role within the waste value chain while operating with limited formal recognition or institutional support. Evidence from the field further shows that separation at source occurs effectively where systems are structured to require and support it, suggesting that behaviour is shaped more by system design than by awareness alone.

Organic waste represents a substantial and underutilised share of the waste stream. Although recovery practices are present, they remain largely informal and uncoordinated, which limits their efficiency and potential for

scale. Differences in system performance are also observed across urban contexts. In higher density areas, increased waste volumes, constrained space, and infrastructure pressure collectively reduce the effectiveness of collection and handling processes.

The analysis is based on field observations conducted across selected case study areas in Nairobi, including Embakasi, Kileleshwa, and Lavington. These locations were selected to reflect variation in density, infrastructure, and service delivery conditions. Data collection combined structured observation of waste handling practices, including generation, storage, sorting, collection, and disposal processes, with semi structured interviews involving residents, caretakers, informal collectors, and aggregators. Visual documentation of waste infrastructure, collection points, and disposal sites complemented these methods and supported a grounded assessment of system conditions.

This brief does not seek to provide statistically representative findings. Instead, it identifies recurring patterns, system dynamics, and practical constraints based on observed evidence. Ethical considerations were upheld throughout the study.

2. Introduction

In Embakasi, a man pushes a donkey cart through the streets, having travelled from Umoja to collect organic waste from dense residential and commercial areas. Businesses along Tel Aviv and Pipeline set aside food waste for him, which he uses to feed his animals. He sorts what he collects by hand, separating usable material from contaminated waste. No formal programme directs this activity; it exists because it is functional within the constraints of the system.

This scene illustrates a broader waste management system that processes thousands of tonnes of waste each day across Nairobi, an estimated 2,000 to 2,500 tonnes¹, much of it organic. Population growth and rising consumption have steadily increased this

volume. Formal collection systems have expanded over time, but not always at the same pace or in ways that enable recovery.

The system is shaped not only by infrastructure but also by adaptation. Where formal structures leave gaps, informal actors respond with practices that are practical and often effective, yet remain fragmented and largely uncoordinated.

This brief takes this reality as its starting point. It treats waste as a set of overlapping practices that together move, sort, and transform materials across the city. The sections that follow examine how these practices appear on the ground, why they take their current form, and the patterns that emerge from them.



¹ Nairobi waste generation estimates: Climate-KIC / Wasafiri Circular Economy Baseline Study, Nairobi (2024); UNEP Urban Waste Management assessments.

3. The Everyday Waste Landscape

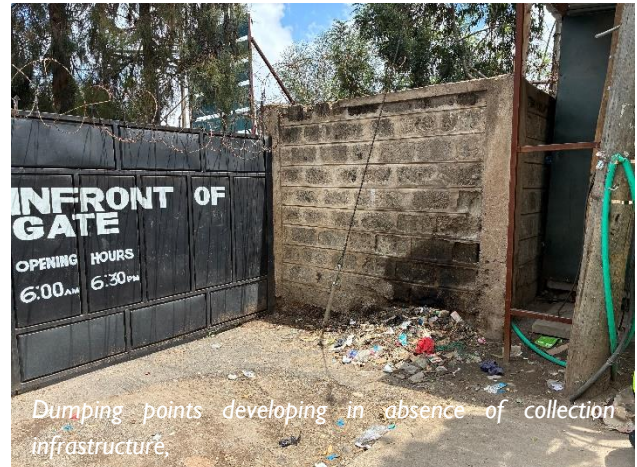
Waste management systems in Nairobi vary in structure, scale, and level of organisation. Observations across selected case study areas show that while systems differ in how they operate, they often produce similar outcomes.

High-density areas

In high-density neighbourhoods such as Embakasi, including Tassia, Pipeline, and Tel Aviv, waste generation is constant therefore larger volumes. Residential buildings, often housing dozens to hundreds of units, rely on centralised collection points such as shared bins or designated dumping areas. Collection services are typically regular, in many cases occurring twice a week.



However, the volume of waste generated places sustained pressure on available infrastructure. Bins often fill within a few days, sometimes before the next collection cycle, resulting in overflow and spillage into surrounding areas. In some cases, this leads to the emergence of informal dumping points. These conditions create persistent hygiene and environmental



concerns, even where collection services are present.

In some locations, formal collection points are limited or absent. Residents rely on shared neighbourhood pits located at a distance from residential buildings. These sites serve multiple functions; acting as disposal points, informal transfer stations, and sorting areas where materials are manually separated. County services periodically clear these sites to manage accumulation.

Alongside these systems, informal recovery is active and visible. Collectors move through neighbourhoods daily, extracting materials such as plastics, metals, and cardboard from households, streets, and bins. At aggregation points, these materials are sorted and sold into recycling value chains.

Lower-density and higher-income areas

In areas such as Kileleshwa and Lavington, waste management systems are generally more structured. Residential estates and apartment complexes often provide designated storage areas, multiple bins, and consistent collection schedules managed by private companies. This

typically results in cleaner surroundings and more controlled waste handling.



Designated staging point before collection. Waste is segregated into mixed waste and organic waste.

Although well structured, service approaches are not uniform. Some estates are served by providers that require separation at source,

commonly between organic and mixed waste, and may provide extra collection bags to support this process. In these cases, participation is often high and systems tend to function effectively. In other estates, waste is still collected as mixed, with no requirement or support for separation.



Organized curbside staging before collection.

4. Voices On the Ground

Numbers describe the scale of Nairobi's waste challenge. People describe its texture. The accounts below are drawn from direct field interviews conducted across the case study areas. Each is presented alongside what it reveals about how the wider system operates.

Informal waste collectors: movement and livelihood

Informal collectors operate across neighbourhoods, recovering recyclable materials from households, streets, and disposal points. Their work is shaped by access to waste, distance covered, and fluctuating market prices. Daily earnings are variable, typically ranging from 300 to 400 shillings, with higher returns dependent on material availability. Increased participation has intensified competition, requiring longer routes and more effort to maintain income levels.

"Some days you can make 300 to 400 shillings. It depends on what you find."

This activity remains a critical income source, but operates without formal recognition, coordination, or support.

Organic waste recovery: informal circular systems

Organic waste is already being diverted through informal arrangements between households, businesses, and collectors. In observed cases, material is reused as livestock feed, reducing disposal volumes. However, these systems depend on consistent separation at source.

Contamination with plastics or other materials reduces usability and introduces risks.

The indication is that circular practices exist, but remain limited by the absence of structured separation. The demand for organic diversion is real. The infrastructure to support it reliably is not yet in place.

"The challenge is when waste is mixed. Plastic or other contents can harm the animals."



Mixed waste at household disposal level.

Waste pickers at disposal sites: high risk, high value recovery

At community pits and informal disposal sites, waste pickers manually sort mixed waste to recover valuable materials. These locations function as key recovery points within the system. Around twenty people work at each pit in shifts; women predominantly in the morning, men from the afternoon into the night. Income can reach up to KSh 1,500 on productive days, but remains unpredictable. Materials must be sold daily because overnight storage is not secure.

"You have to sell what you collect the same day."

Working conditions involve exposure to hazardous materials, lack of protective equipment, and the risk of material loss due to site clearing or burning. Workers at one pit also identified e-waste as an active gap; electronic components accumulate at the site without a reliable buyer. This is a potential recovery opportunity.



Waste pickers sorting mixed waste at a community disposal site.

Aggregators: connecting informal recovery to formal markets

Aggregators link informal recovery to recycling markets by purchasing, sorting, and consolidating materials. Their role enables scale within the recovery process. One aggregator provided the following data on the materials he trades, drawn directly from field interview².

Material	Buy (KSh/kg)	Sell (KSh/kg)	Weekly volume
Cardboard	10	13	Up to 1,500 kg
Plastic	25 to 27	36	Up to 500 kg
Heavy metal	45	55	500 to 700 kg
Light metal	30	38 to 40	100 to 200 kg

Operations are constrained by limited transport, inconsistent supply, and lack of formal recognition, which restricts expansion and introduces operational uncertainty.

"Transport is a challenge. If I had my own, I could collect from much further."



Aggregated recyclable materials prepared for sale

² Material prices, earnings, and volumes reported by informal collectors, sorters, and aggregators are derived from direct interviews conducted during field observation Embakasi (2026)

Residents and caretakers: daily system management

Residents and caretakers manage waste at the building level within existing infrastructure and collection systems. Overflow, inconsistent disposal behaviour, and lack of separation infrastructure are common challenges across both high-density and mid-density buildings. The same question emerged independently from different residents and caretakers across multiple sites and income levels:

"Why separate waste if it all gets mixed during collection?"

This reflects a system-level disconnect between expected behaviour and actual outcomes, and points to where the design of collection systems must change before resident behaviour can be expected to follow.

Businesses: prioritising practicality and reliability

Businesses generate significant waste volumes, in some cases organic waste, and prioritise reliable and simple disposal systems. While some informal diversion occurs, separation is generally limited unless systems are easy to follow and consistently supported.

"We would separate waste if there was an easy way to do it."

Interest in participating in a structured pilot was expressed across multiple business interviews. However, this willingness was consistently conditional on how such a system would be implemented, particularly whether separation at source could be integrated into existing operations without adding complexity.



Dumping in drainage leading to blockages.

5. What We Observed

Across all case study areas, five consistent patterns emerged from the field. These patterns indicate that any workable intervention will need to account for the following:

Collection systems are present but uneven in performance

Waste collection services are operational across both high-density and higher-income areas. In many locations, collection occurs regularly and plays a critical role in removing waste from residential and commercial spaces. However, performance is influenced by local conditions. In high-density areas, infrastructure is often under pressure, with bins filling quickly and limited space constraining how waste is stored between collection cycles. While collection systems are

widely present, their ability to maintain consistent service levels varies considerably across the city.

Recovery activities are active but not systematically integrated

Material recovery is taking place across multiple points in the system. Informal collectors recover recyclables from households, streets, and disposal points, while aggregators consolidate and channel materials into recycling markets. These activities contribute significantly to reducing waste volumes and enabling resource recovery. However, they operate largely outside formal systems and are not coordinated with collection services. This creates inefficiencies in material flow, with recovery depending on access, timing, and individual effort rather than structured processes.



Informal dumping area used in the absence of accessible collection infrastructure.

Separation at source remains limited

Across most observed areas, waste is disposed of as a mixed stream. Organic, recyclable, and residual waste are typically combined at the point of disposal and remain mixed through collection and transport. The images above show the same condition at two different scales: the household bin and the community pit. The mixing is the same at both points. The lost value is the same. Where separation was required by specific service providers, participation improved and systems functioned more effectively, suggesting that separation is achievable when supported by clear system design.

System performance needs both infrastructure and behaviour

Waste management outcomes are influenced not only by infrastructure, but also by how people interact with the system. In areas with clear expectations, accessible infrastructure, and consistent collection, waste is managed more effectively. Where systems are less structured, residents and businesses adapt their behaviour based on convenience and existing practices.

Less Value Optimization

Taken together, these observations point to a system that is active but not fully optimised. Waste is consistently generated, collected, and partially recovered. However, the lack of coordination between collection, separation, and recovery limits overall system performance.



6. What This Means

The consequences of how waste is currently managed in Nairobi are immediate and visible. They appear in blocked drainage systems that contribute to flooding during heavy rainfall, in open burning that affects air quality in residential areas, and in the health risks faced by workers handling mixed waste with limited protection. At the same time, valuable materials are lost daily through disposal practices that do not support recovery.



These outcomes are not isolated. They reflect how the system is structured. Organic waste decomposes in unmanaged conditions, producing methane. Plastics accumulate in drainage channels, increasing flood risk. Mixed waste limits the ability to recover materials efficiently. Together, these patterns indicate a system that is effective at moving waste, but less effective at managing its environmental and economic value.

At the same time, field observations point to an important underlying dynamic. Across different locations, materials are already being recovered, reused, and traded through informal and semi-structured activities. This suggests that value exists within the system and is actively being captured, though in a fragmented and uncoordinated way.



This has two implications. First, the current system creates environmental and public health risks by limiting recovery and allowing waste to accumulate or degrade in unmanaged conditions. Second, it indicates that the foundations of a more resource-efficient system already exist. Rather than building entirely new systems, there is an opportunity to strengthen, connect, and scale what is already working.

7. Looking Ahead

The briefs that follow will build on the observational foundation established in this study, progressing from documentation to analysis and, ultimately, to action. Each subsequent brief deepens the evidence base by examining key dimensions of Nairobi's waste system, including generation patterns, material composition, recovery pathways, and the feasibility of targeted interventions.

This phased approach ensures that recommendations are grounded in observed realities and supported by context-specific data.

8. References

1. Nairobi waste generation estimates: Climate-KIC / Wasafiri Circular Economy Baseline Study, Nairobi (2024); UNEP Urban Waste Management assessments.

The series is structured as follows:

Brief 01: Waste in Nairobi: Reality on the Ground (Observational baseline of current system conditions)

Current Brief

Brief 02: How Nairobi's Growth Shapes Waste Generation (Analysis of population dynamics, urbanisation, and waste volume trends)

Brief 03: What's Inside Nairobi's Waste Stream? (Composition analysis across different urban contexts)

Brief 04: Recycling in Nairobi: Potential vs Reality (Assessment of existing recovery systems and their limitations)

Brief 05: Solutions and Pilot Models (Evidence-based interventions)

2. Material prices, earnings, and volumes reported by informal collectors, sorters, and aggregators are derived from direct interviews conducted during field observation Embakasi (2026).

3. Photography: Bunibo Africa field team, Embakasi, Kileleshwa and Lavington Nairobi (2026).

Acknowledgements

This brief was developed through field research conducted across multiple locations in Nairobi. The authors acknowledge the contributions of business owners, school staff, residents, caretakers, collectors, and aggregators who generously shared their time and insights during interviews and site visits.

We extend particular thanks to Clinton, Peter and Kelvin for their openness and willingness to share their experiences, which added valuable depth to this work. We also recognise the many individuals who contributed to this study but preferred not to be named. Their perspectives and cooperation were equally important in shaping the findings presented in this brief.

Disclaimer

This brief is based on qualitative field observations and is intended to provide an indicative understanding of system conditions. It does not present statistically representative findings. While every effort has been made to ensure accuracy,

Bunibo Africa does not accept responsibility for any errors or omissions, or for any consequences arising from the use of this information.

Author

Sylvia Chemonges

Contact

info@bunibo.com,

Bunibo Africa,

Nairobi, Kenya.

Copyright

© Bunibo Africa 2026. All rights reserved.

This publication may be reproduced or shared for non-commercial purposes with appropriate attribution to Bunibo Africa.