REPUBLIC OF KENYA

COUNTY GOVERNMENT OF KIAMBU

KARURI MUNICIPALITY

DEPARTMENT OF MUNICIPAL ADMINISTRATION AND URBAN DEVELOPMENT

SOLID WASTE MANAGEMENT POLICY

2025

Foreword

Karuri Municipality is undergoing rapid urban transformation, particularly in an area such as Ruaka where high-rise residential developments, and shopping complexes continue to expand. While this growth reflects economic progress and improved livelihoods, it has also led to a significant increase in the generation of solid waste from households, businesses, and construction activities. Effective waste management is therefore critical to safeguarding public health, protecting our environment, and sustaining the municipality's development.

The Karuri Municipality Solid Waste Management Policy provides a framework to guide the sustainable management of waste within the municipality. Of particular concern is the improper disposal of waste, including soil and debris that has contributed to the pollution and siltation of River Ruaka. Addressing such practices requires stronger enforcement of environmental regulations and responsible waste handling by all developers and contractors operating within the municipality.

Karuri Municipality is encouraged by the growing participation of the private sector in waste recovery and recycling. Organizations such as Taka Taka Solutions continue to play an important role in recycling and composting initiatives, demonstrating the potential of partnerships in advancing a circular economy. However, more efforts are needed, particularly in promoting waste segregation at source to enhance recycling and resource recovery.

This policy emphasizes the importance of community participation, stakeholder engagement, and shared responsibility in achieving sustainable waste management. It also reinforces the Polluter Pays Principle, requiring all waste generators to take responsibility for the environmental impacts of their activities and contribute to environmental restoration and conservation.

I am confident that this Solid Waste Management Policy provides a clear framework to guide our municipality toward cleaner neighbourhoods, protected ecosystems, and a thriving circular economy. I call upon all stakeholders to support its implementation and work together in building a municipality that is environmentally responsible, economically vibrant, and socially inclusive.

Together, we can make Karuri Municipality a model for sustainable urban waste management.

Phillip Mubea
Municipal Manager
Karuri Municipality

Executive Summary

The Karuri Municipality Solid Waste Management Policy establishes a comprehensive framework to guide the sustainable management of solid waste within Karuri Municipality. The policy responds to the growing challenges associated with rapid urbanization, population growth, expanding commercial activities, and changing consumption patterns, which have led to increasing volumes of waste within the municipality. Without effective systems for waste reduction, collection, recycling, and environmentally sound disposal, unmanaged waste can contribute to environmental degradation, public health risks, and reduced quality of life. This policy therefore provides strategic direction for improving waste management systems, protecting the environment, and promoting sustainable urban development.

The policy is guided by a vision of a clean, healthy, and environmentally sustainable municipality supported by efficient and inclusive waste management systems. Its mission is to promote integrated and sustainable solid waste management through improved service delivery, responsible waste handling practices, and active participation of residents, businesses, and institutions. The policy seeks to strengthen waste reduction and minimization efforts, encourage segregation of waste at source, expand reliable waste collection services, promote recycling and composting initiatives, and ensure safe and environmentally sound treatment and disposal of waste. It also emphasizes the importance of public awareness, behavioural change, and stakeholder engagement in achieving sustainable waste management outcomes.

Implementation of the policy is anchored within Kenya's national and county legal and policy frameworks, including the Constitution of Kenya, the Environmental Management and Coordination Act, and the Sustainable Waste Management Act, which collectively provide the legal basis for environmental protection and waste management responsibilities at the county and municipal levels. These frameworks emphasize the right to a clean and healthy environment, the obligation to protect natural resources, and the adoption of sustainable waste management practices such as waste minimization, recycling, and extended producer responsibility.

The policy recognizes that Karuri Municipality has diverse settlement patterns, including urban, peri-urban, and agricultural areas, which influence the types and volumes of waste generated as well as the approaches required for effective service delivery. Solid waste generated within the municipality originates primarily from households, commercial establishments, markets, institutions, and construction activities. Organic waste constitutes the largest proportion of the waste stream, while recyclable materials such as plastics, paper, metals, and glass represent significant opportunities for resource recovery. However, current waste management systems face several challenges, including limited waste segregation at source, inadequate infrastructure in some areas, illegal dumping, and financial and operational constraints. At the same time, opportunities exist to strengthen recycling, composting, and private sector participation within the waste management value chain.

To address these challenges, the policy adopts an integrated solid waste management approach that considers the entire waste management cycle from waste generation to final disposal. The approach prioritizes waste prevention, reduction, reuse, recycling, and resource recovery before

disposal, consistent with national policy direction and circular economy principles. It promotes improved waste handling and segregation practices, efficient waste collection and transportation systems, and the development of recycling and composting initiatives that treat waste as a valuable resource rather than a burden. Environmentally sound treatment and disposal practices are also emphasized to minimize pollution and protect public health.

Effective governance and institutional coordination are central to the implementation of this policy. The Karuri Municipal Board, under the oversight of the County Government of Kiambu, will provide leadership in planning, coordinating, regulating, and monitoring solid waste management services within the municipality. The policy promotes collaboration among public institutions, private sector service providers, community organizations, and informal waste collectors to improve service delivery and resource recovery. Engagement with national regulatory bodies such as the National Environment Management Authority will ensure compliance with environmental standards and regulatory requirements.

Sustainable financing is also recognized as essential for improving waste management services. The policy therefore promotes a combination of financing mechanisms including municipal own-source revenues, user fees and service charges, county government allocations, public–private partnerships, grants and donor support, and extended producer responsibility contributions. These financing mechanisms will help support waste collection operations, infrastructure development, recycling initiatives, and environmental education programmes.

Public participation, education, and communication are key pillars of the policy. The municipality will promote public awareness programmes and community engagement initiatives to encourage responsible waste management practices such as waste reduction, segregation at source, and proper disposal. Collaboration with schools, community groups, and civil society organizations will strengthen environmental awareness and foster a culture of environmental responsibility among residents.

The policy also emphasizes the integration of waste management considerations into land use planning and urban development processes to ensure adequate space and infrastructure for waste management services as the municipality continues to grow. Research, innovation, and capacity building will be promoted to improve waste management practices, adopt appropriate technologies, and strengthen institutional capabilities.

Monitoring and evaluation mechanisms will be established to track progress in implementing the policy, using measurable indicators such as waste collection coverage, recycling rates, reduction in illegal dumping, and public awareness initiatives. Regular reporting and periodic policy reviews will ensure that the policy remains responsive to emerging environmental challenges, technological advancements, and evolving legal and institutional frameworks.

Overall, the Karuri Municipality Solid Waste Management Policy provides a strategic roadmap for improving waste management services while promoting environmental sustainability, public health, and economic opportunities within the waste management sector. Through integrated planning, strong governance, sustainable financing, and active participation of all stakeholders, the

policy aims to transform waste management in Karuri Municipality into a more efficient, inclusive, and environmentally responsible system.

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1: Title, Authority and Legal Basis

1.1 Title

Karuri Municipality Solid Waste Management Policy

1.2 Adopting Authority

This Policy is adopted by the Karuri Municipal Board under the County Government of Kiambu, in accordance with the provisions of the Constitution of Kenya, 2010 and relevant national and county legislation governing urban management and environmental protection.

1.3 Date of Adoption

This Policy shall come into effect upon adoption and approval by the Karuri Municipal Board.

1.4 Legal and Policy Framework

This Policy is anchored in and shall be implemented in accordance with the following legal and policy instruments:

1. National Constitutional Framework

• The Constitution of Kenya (Enacted in 2010), in particular:

Article 10 – National Values and Principles of Governance, including sustainable development, public participation, transparency and accountability.

Article 42 – Guarantees every person the right to a clean and healthy environment.

Article 69 (1) (a), (g), (h) – Obligates the State to ensure sustainable exploitation, utilization, management and conservation of the environment and to eliminate processes and activities that are likely to endanger the environment.

Article 70 – Provides for enforcement of environmental rights.

Fourth Schedule, Part 2, Section 2 (g) – Assigns County Governments the function of refuse removal, refuse dumps and solid waste disposal.

2. National Legal Framework

• The Environmental Management and Co-ordination Act (EMCA), Cap 387 – Enacted in 1999 (Revised 2015), provides the overarching legal framework for environmental management in Kenya. Relevant provisions include:

Section 3 – Right to a clean and healthy environment.

Section 9 – Mandates the National Environment Management Authority to exercise general supervision and coordination over environmental matters.

Section 87–90 – Regulation and management of hazardous and non-hazardous wastes.

• The Environmental Management and Coordination (Waste Management) Regulations – Enacted in 2006 under EMCA. Key provisions include:

Regulation 4 & 5 – Responsibility of waste generators and requirement for proper waste segregation and disposal.

Regulation 15–17 – Licensing of waste transporters and disposal facilities.

Regulation 23–24 – Prohibition of illegal dumping and littering.

• The Sustainable Waste Management Act – Enacted in 2022 to promote integrated sustainable waste management and circular economy principles. Relevant provisions include:

Section 6 – Establishment of a national sustainable waste management framework.

Section 13 – Mandatory segregation of waste at source.

Section 28 – Extended Producer Responsibility (EPR).

Section 36 – Roles of county governments in waste management.

• The Urban Areas and Cities Act – Enacted in 2011 (Amended 2019).

Section 36 – Mandates municipalities to ensure provision of services including solid waste management, environmental conservation and urban infrastructure.

• The County Governments Act – Enacted in 2012.

Section 104 – Requires counties to plan for integrated development including environmental management.

Section 115 – Provides for public participation in county planning and policy implementation.

• The Public Health Act – Enacted in 1921 (Revised Laws of Kenya).

Section 115 – Declares accumulation of waste and refuse as a nuisance.

Section 118 – Empowers authorities to prevent conditions that may be injurious to health.

• The Environmental Management and Coordination (Water Quality) Regulations – Regulates discharge of pollutants into water bodies and protects rivers and streams from contamination.

• The Environmental Management and Coordination (Air Quality) Regulations – Provides controls against air pollution including open burning of waste.

3. National Policy Framework

• The National Sustainable Waste Management Policy – Provides policy direction for integrated solid waste management including waste minimization, recycling, circular economy, and private sector participation.

• The National Environment Policy – Promotes sustainable environmental management and pollution control.

• The Kenya National Climate Change Action Plan – Identifies improved waste management as a key climate mitigation action through methane reduction and resource recovery.

4. County and Local Development Framework

• The Kiambu County Integrated Development Plan – Identifies sustainable environmental management and improved solid waste management services as priority development areas within the county.

• Kiambu County spatial plans, municipal development plans, sectoral policies, and county by-laws relating to environmental management and waste services.

The above legal and policy instruments provide a comprehensive framework that guides the management of solid waste and environmental protection in Kenya. They establish the constitutional right to a clean and healthy environment, define the roles and responsibilities of national and county governments, and provide regulatory standards for waste handling, treatment, transportation, and disposal. Together, these frameworks create the legal basis upon which Karuri Municipality can plan, regulate, and implement sustainable solid waste management systems.

The Karuri Municipality Solid Waste Management Policy therefore derives its authority and direction from these national laws, regulations, and county development frameworks. By aligning with these instruments, the policy ensures that municipal waste management practices support national environmental objectives, promote public health, encourage resource recovery and recycling, and strengthen regulatory compliance. Ultimately, the policy provides a locally responsive mechanism through which Karuri Municipality will operationalize national environmental goals while addressing the unique waste management challenges associated with rapid urbanization and development within the municipality.

1.5 Policy Status

The Karuri Municipality Solid Waste Management Policy is an official municipal policy instrument adopted by the Karuri Municipal Board. It provides the strategic, regulatory, and

operational framework for managing solid waste within the municipality and is binding on all residents, businesses, institutions, and service providers. It guides municipal staff in planning, implementing, and enforcing sustainable waste management practices in line with national and county legislation.

This policy is a living document that will be periodically reviewed and updated to address emerging waste management challenges, technological advancements, and best practices in sustainable and circular economy approaches. Its adoption demonstrates the municipality's commitment to integrated, environmentally responsible, and participatory solid waste management, ensuring that waste management contributes to public health, environmental protection, and sustainable urban development

2. Preamble and Policy Rationale

Solid waste management remains one of the most pressing environmental, public health and urban governance challenges facing Karuri Municipality. Rapid urbanization, population growth, changing consumption patterns, and expansion of commercial and institutional activities have resulted in increased volumes and complexity of solid waste generated within the municipality. These trends have exerted pressure on existing waste management systems, infrastructure, and institutional capacity.

This rapid growth has placed considerable pressure on existing waste management systems and municipal infrastructure, necessitating a structured and policy-guided approach to ensure environmentally sound waste management practices.

Improper waste handling and disposal pose serious environmental and public health risks. Within Karuri Municipality, challenges such as inadequate segregation of waste at source, illegal dumping of construction waste (including red soil), and pollution of water bodies such as River Ruaka highlight the need for stronger regulatory enforcement and improved waste management systems. These challenges undermine environmental quality, contribute to ecosystem degradation, and threaten sustainable urban development if not addressed through coordinated policy interventions.

This Solid Waste Management Policy has therefore been developed to provide a clear framework for planning, regulating, and managing solid waste within the municipality in accordance with national legislation and policy frameworks. The policy operationalizes key provisions of the Environmental Management and Co-ordination Act, which establishes the legal framework for environmental management in Kenya and mandates sustainable waste management practices. It also aligns with the Waste Management Regulations developed under EMCA, which provide guidelines on waste segregation, transportation, treatment, and disposal.

In addition, the policy supports the implementation of the Sustainable Waste Management Act, which promotes waste minimization, material recovery, and the transition toward a circular economy through waste reduction, reuse, recycling, and extended producer responsibility. The Act

further emphasizes the importance of waste segregation at source and enhanced participation of private sector actors in waste recovery and recycling.

At the county level, the policy complements the development priorities outlined in the Kiambu County Integrated Development Plan, which identifies sustainable environmental management and improved solid waste management services as key priorities for urban areas within the county. It also supports the objectives of the National Sustainable Waste Management Policy, which aims to establish integrated and environmentally sound waste management systems across the country.

Furthermore, the policy incorporates internationally recognized environmental principles such as the Polluter Pays Principle, which requires those responsible for pollution to bear the costs of managing it in order to prevent environmental damage. This principle is embedded within Kenya's environmental governance framework and is fundamental to promoting accountability among waste generators, including households, businesses, and developers.

The policy also recognizes the importance of stakeholder collaboration in achieving sustainable waste management. Community participation, private sector engagement, and partnerships with recycling enterprises—such as Taka Taka Solutions—are essential in supporting waste recovery, composting, and recycling initiatives within the municipality.

Overall, the Karuri Municipality Solid Waste Management Policy provides a coordinated framework to strengthen waste management systems, improve environmental compliance, promote circular economy practices, and ensure that urban development within the municipality proceeds in a sustainable and environmentally responsible manner.

3. Vision, Mission and Guiding Principles

3.1 Vision

A clean, healthy, and environmentally sustainable Karuri Municipality where solid waste is managed efficiently through waste reduction, segregation at source, recycling, and responsible disposal, supported by strong stakeholder participation and a circular economy approach.

3.2 Mission

To promote integrated and sustainable solid waste management in Karuri Municipality through effective policy implementation, enforcement of environmental regulations, waste segregation at source, stakeholder collaboration, and promotion of waste reduction, recycling, and resource recovery in line with circular economy principles.

3.3 Guiding Principles

The following principles guide the implementation of this Policy:

1. **Polluter Pays Principle**

All waste generators, including households, businesses, institutions, and developers, shall bear responsibility for the waste they produce and the environmental impacts arising from their activities. Polluters will be required to contribute to waste management costs and environmental restoration.

2. **Waste Hierarchy**

Waste management shall prioritize waste prevention, reduction, reuse, recycling, and recovery before considering final disposal, in order to minimize environmental impacts and promote resource efficiency

3. **Circular Economy Principle**

The municipality will promote systems that treat waste as a resource by encouraging recycling, composting, and material recovery, thereby reducing disposal site dependency and supporting sustainable economic activities.

4. **Precautionary Principle**

Where there is a risk of environmental harm from waste-related activities, preventive measures shall be taken even where scientific certainty is not fully established.

5. **Sustainability Principle**

Solid waste management practices shall ensure the protection of environmental resources, public health, and ecosystem integrity while supporting long-term urban development with integration of climate resilience.

6. **Equity and Inclusivity**

Waste management services should be accessible, fair, and responsive to the needs of all residents, including peri-urban and underserved areas within the municipality.

7. **Public Participation and Accountability**

Residents and stakeholders shall be actively engaged in decision-making, implementation, and oversight of solid waste management initiatives, in line with constitutional requirements for public participation.

8. **Shared Responsibility and Partnerships**

Effective solid waste management shall be a shared responsibility among the municipality, residents, businesses, waste service providers, development partners, and national and county institutions.

9. **Partnership and Collaboration**

The municipality will promote partnerships with private sector entities, community organizations, and development partners to enhance innovation, investment, and efficiency in solid waste management**.**

10. **Compliance and Enforcement**

All stakeholders shall comply with applicable environmental laws, regulations, and municipal by-laws governing waste management, with the municipality strengthening enforcement mechanisms.

4. Policy Objectives

The overall objective of this Policy is to establish an integrated and sustainable solid waste management system in Karuri Municipality that promotes waste reduction, segregation at source, recycling and safe disposal, while strengthening regulatory enforcement, stakeholder participation, and environmental protection in line with national waste management laws and guiding principles. The specific objectives of this Policy are to:

1. **Strengthen Waste Segregation at Source –** Promote and enforce segregation of solid waste into appropriate streams to facilitate recycling, composting, and safe disposal.
2. **Promote Recycling, Composting, and Resource Recovery –** Support initiatives that treat waste as a resource, create economic opportunities, and advance circular economy practices.
3. **Increase Public Awareness and Behaviour Change –** Foster responsible waste management practices through education, outreach, and stakeholder participation.
4. **Strengthen Stakeholder Engagement and Partnerships –** Encourage active participation of residents, community organizations, private sector actors, and development partners in planning, implementing, and monitoring waste management initiatives.
5. **Promote Waste Reduction and Minimization –** Encourage waste prevention, sustainable consumption, and reduction of waste generation at source across households, institutions, and businesses.
6. **Improve Waste Collection and Transportation Services –** Enhance efficiency, coverage, and reliability of waste collection and transportation across all areas of the municipality.
7. **Ensure Environmentally Sound Treatment and Disposal –** Establish and maintain systems for waste treatment and final disposal that comply with national standards and environmental best practices.
8. **Promote Climate Change Mitigation and Environmental Protection –** Reduce pollution and greenhouse gas emissions associated with poor waste management while enhancing climate resilience.

9. **Strengthen Institutional Capacity and Governance –** Improve institutional coordination, technical capacity, and regulatory enforcement for effective planning, implementation, and oversight of solid waste management.
10. **Ensure Legal Compliance and Enforcement –** Promote adherence to national and county environmental laws, regulations, and municipal by-laws to ensure accountability among all waste generators and service providers.
11. **Enhance Financial Sustainability –** Promote cost-effective service delivery, appropriate cost recovery mechanisms, and sustainable financing for solid waste management services.
12. **Enhance Monitoring, Evaluation, and Reporting –** Establish systems for regular data collection, performance evaluation, and reporting to guide decision-making and continuous improvement of waste management services.

5. Scope and Applicability

5.1 Geographic Scope

This Policy applies to all areas within the administrative boundaries of Karuri Municipality, encompassing areas with diverse settlement patterns, including densely populated town centres, rapidly developing residential and commercial zones, peri-urban neighbourhoods, and agricultural lands. The policy recognizes the varying population densities, land uses, and development patterns across the municipality, and provides a flexible framework to guide waste management practices in all settings. It covers residential, commercial, industrial, institutional, peri-urban, and agricultural areas, reflecting the municipality's complex socio-economic and environmental landscape.

5.2 Scope of Waste Covered

This Policy governs the management of all categories of solid waste generated within the municipality, including but not limited to:

- Household and domestic waste
- Commercial and market waste
- Institutional waste, including schools, health facilities, and offices
- Non-hazardous industrial waste
- Construction and demolition waste, including soil, debris, and other building materials
- Special and bulky waste

Hazardous waste shall be handled in accordance with national laws and regulations, and only in coordination with licensed service providers and relevant authorities to ensure safety, compliance, and environmental protection. The policy also promotes waste reduction, segregation, recycling, and resource recovery across all types of waste streams.

5.3 Stakeholders Covered

This Policy guides all stakeholders involved in solid waste management within Karuri Municipality and clarifies their respective roles and responsibilities to ensure effective, sustainable, and inclusive waste management practices.

1. Residents and Households

- Segregate waste at source into biodegradable, recyclable, and non-recyclable streams.
- Properly store waste in approved containers until collection.
- Dispose of waste only through licensed service providers.
- Participate in public awareness programs and community clean-up initiatives.

2. Businesses, Markets, and Commercial Establishments

- Implement waste minimization strategies in operations and packaging.
- Segregate waste and ensure safe storage before collection.
- Contain all waste within their premise awaiting collection by the municipal truck for proper disposal.
- Support recycling initiatives and engage in circular economy practices where feasible.

3. Public and Private Institutions (Schools, Health Facilities, Offices)

- Manage institutional waste responsibly, including segregation and proper storage.
- Ensure compliance with environmental, health, and safety regulations.
- Participate in municipal waste management programs, awareness campaigns, and recycling initiatives.
- Maintain records of waste generated and disposed of, especially for medical or hazardous waste.

4. Waste Service Providers and Contractors

- Provide reliable, safe, and timely waste collection and transportation services.
- Ensure compliance with licensing requirements and environmental regulations.
- Promote waste recovery, recycling, and composting where applicable.
- Train staff in occupational health, safety, and environmental standards.

5. Recycling and Resource Recovery Enterprises

- Operate licensed recycling, composting, and material recovery facilities.
- Collaborate with households, businesses, and municipal authority to enhance resource recovery.
- Promote circular economy practices by converting waste into usable products.
- Maintain records of recovered or processed materials and report to municipal authority.

6. Informal Waste Collectors and Recyclers

- Collect recyclable materials responsibly without causing environmental or health hazards.
- Coordinate with municipal authority and licensed service providers to support formal recycling channels.
- Participate in awareness programs and initiatives promoting safe waste handling.

7. Community-Based Organizations and Civil Society Organizations

- Mobilize communities to participate in clean-up drives, awareness campaigns, and waste reduction programs.
- Advocate for environmental protection and compliance with waste management policies.
- Support capacity-building initiatives for residents and informal waste collectors.

8. Municipal Authority

- Plan, regulate, and coordinate solid waste management activities across the municipality.
- Enforce environmental regulations, by-laws, and licensing requirements.
- Facilitate public awareness campaigns, stakeholder engagement, and capacity-building initiatives.
- Monitor, evaluate, and report on solid waste management performance and progress.
- Collaborate with private sector actors and development partners to enhance service delivery and resource recovery.

The policy emphasizes shared responsibility, encouraging active participation and collaboration among all stakeholders to achieve efficient, environmentally sustainable, and socially inclusive waste management outcomes.

5.4 Relationship with Other Laws and Policies

The Policy shall be implemented in a manner consistent with national legislation, county laws, and other relevant policies, including environmental, public health, and urban planning frameworks. It complements existing municipal and county development plans, regulations, and by-laws. In cases of conflict or inconsistency, applicable national and county laws shall prevail, while the policy provides local guidance tailored to the municipality's operational context.

5.5 Exclusions and Limitations

This Policy provides a strategic, overarching framework and does not replace the need for detailed operational regulations, by-laws, standards, or technical guidelines, which shall be developed to support its implementation. It sets the direction for sustainable solid waste management while allowing flexibility to respond to emerging challenges, technological innovations, and changing demographic or land use patterns within the municipality.

6. Situational Analysis

6.1 Waste Generation and Characteristics

Karuri Municipality is experiencing rapid population growth, urban expansion, and increased commercial activity, all of which contribute to rising volumes of solid waste. The municipality encompasses densely populated residential areas, commercial centres, institutional zones, industrial firms, peri-urban settlements, and agricultural lands, resulting in diverse waste generation patterns and characteristics.

Based on municipal estimates and national benchmarks, Karuri Municipality generates approximately 0.5 kg of waste per person per day (World Bank, 2018; KNBS, 2019). With a projected population of around 185,000 residents in 2025 (KNBS, 2019 projections), total daily waste generation is estimated at approximately 92–95 tonnes per day. The waste stream is dominated by organic waste (approximately 60–65%), followed by plastics, paper, metals, and other recyclable materials.

Table 1: Estimated waste generation by source

Waste Generator	**Approx. Daily Waste (Tons)**	**Percentage of Total Waste**
Residential	50	53.8%
Commercial	15	16.1%
Construction & Demolition	15	16.1%
Industrial	8	8.6%
Institutional	5	5.4%
Total	**93**	**100%**

The waste composition highlights significant potential for recycling, composting, and resource recovery, particularly from organic, plastic, and paper fractions. Construction and demolition waste including soil and debris is significant due to ongoing urban development and infrastructure projects, which presents a notable environmental concern, particularly along waterways such as River Ruaka. Residential waste contributes the largest share due to high population density in town centres and high-rise residential developments. Commercial, industrial, and institutional wastes contribute smaller but still notable proportions, highlighting opportunities for segregation and resource recovery.

6.2 Solid Waste Management Flow

The municipal solid waste management system in Karuri follows an integrated waste management approach, comprising the following stages:

1. **Waste Generation** – Occurs across households, commercial centres, institutions, construction sites and industril sites.
2. **Segregation at Source** – Encouraged but not consistently practiced; organic, recyclable, and residual waste streams are partially separated.
3. **Collection and Transportation** – Managed by a combination of municipal staff and licensed private service providers, with varying coverage across the municipality. Service gaps exist in densely populated areas.
4. **Treatment and Resource Recovery** – Recycling and composting activities are emerging, mainly led by private actors such as Taka Taka Solutions, but remain limited relative to the volume of waste generated.
5. **Final Disposal** – Residual waste is deposited in designated municipal dumpsites or landfill sites, with some illegal dumping occurring in open areas and along rivers.

This flow highlights critical points for intervention, particularly in promoting source segregation, enhancing recycling and composting, and improving collection and transportation efficiency.

6.3 Existing Solid Waste Management Systems

Current solid waste management in Karuri Municipality is delivered through a mix of municipal services, private contractors, informal sector actors, and community-based initiatives. Collection coverage is higher in well-serviced town centres and commercial areas, but lower in peri-urban and agricultural zones.

Challenges include:

- Predominantly mixed waste collection with limited segregation at source.
- Constrained transportation and transfer infrastructure.
- Limited formal recycling and composting facilities.
- Informal waste collectors operating without adequate safety measures or integration into formal systems.
- Financial, logistical, and operational constraints affecting service coverage and efficiency.

6.4 Key Challenges and Gaps

Karuri Municipality faces several challenges that hinder effective solid waste management:

- Rapidly increasing waste volumes outpacing collection and disposal capacity.
- Low levels of waste segregation at source.

- Incomplete collection coverage, particularly in peri-urban and agricultural areas.
- Illegal dumping and littering along roadsides, drainage channels, and waterways.
- Limited recycling, composting, and resource recovery infrastructure.
- Weak coordination among municipal authorities, private service providers, and community stakeholders.
- Inadequate financial resources to sustain expanded service delivery.

6.5 Opportunities and Emerging Trends

Despite these challenges, Karuri Municipality presents significant opportunities to improve solid waste management:

- Private sector engagement in waste collection, recycling, and composting is growing.
- High organic waste content provides potential for large-scale composting and biogas production.
- Recyclable materials such as plastics, paper, and metals present economic opportunities for resource recovery enterprises.
- Public awareness and demand for cleaner, healthier neighbourhoods are increasing.
- Alignment with national policy frameworks, including the Sustainable Waste Management Act 2022 and circular economy initiatives, offers opportunities for policy-supported interventions.
- Potential for innovative service delivery models integrating informal waste collectors and community-based organizations to expand coverage.

By addressing these challenges and leveraging emerging opportunities, Karuri Municipality can transition towards a sustainable, integrated, and circular solid waste management system, enhancing environmental protection, public health, and economic value from waste streams.

7. Integrated Solid Waste Management Framework

7.1 Integrated Solid Waste Management Approach

Karuri Municipality shall adopt an Integrated Solid Waste Management (ISWM) approach that addresses the entire waste management chain, from generation to final disposal. This approach emphasizes waste prevention, minimization, reuse, recycling, resource recovery, and environmentally sound disposal as key priorities.

The ISWM framework guides planning, investment, and operational decisions, ensuring that solid waste management is efficient, sustainable, and protective of public health, water sources, and the environment. By adopting ISWM, the Municipality seeks to transform waste from a liability into a resource, promote circular economy practices, and encourage private sector participation in sustainable waste solutions.

Figure 7.1: Integrated Solid Waste Management Framework for Karuri Municipality

Source: Adapted from the Integrated Solid Waste Management framework presented in United Nations Environment Programme (2015) and World Bank (2018).

The ISWM approach in Karuri Municipality will prioritize:

- Waste prevention and reduction at the source
- Segregation and recycling of waste streams
- Recovery of organic waste for composting or biogas production
- Safe, controlled, and environmentally compliant final disposal

7.2 Waste Streams and Sources

The municipal solid waste system shall recognize and manage different waste streams, taking into account the municipality's diverse socio-economic and land-use characteristics. Key waste streams include:

- Household and domestic waste
- Commercial and market waste
- Institutional waste (schools, hospitals, offices)
- Non-hazardous industrial waste
- Construction and demolition waste, including soil and debris
- Special and bulky waste

Hazardous waste, including medical, chemical, and electronic waste, shall be managed separately in compliance with national laws and regulations (EMCA, Cap 387; Sustainable Waste Management Act 2022) and shall not be mixed with municipal solid waste streams.

7.3 Waste Generation, Handling, and Segregation at Source

Karuri Municipality shall promote and progressively enforce segregation at source to enhance the efficiency of collection, recycling, and treatment. Waste generators—residents, businesses, institutions, and construction sites—shall separate waste into organic, recyclable, and residual streams, in accordance with national and county guidelines.

The Municipality will establish standards for on-site handling, storage, and containment to minimize public health risks, prevent environmental pollution, and reduce illegal dumping along streets, drainage channels, and waterways such as River Ruaka. Public awareness and education campaigns will complement enforcement to improve compliance.

7.4 Waste Collection Systems

Efficient, reliable, and equitable waste collection services shall be established across all areas of the municipality. Collection systems will be designed to accommodate segregated waste streams and may include:

- Door-to-door collection in residential and high-density areas
- Communal collection points in peri-urban and agricultural areas
- Scheduled commercial and institutional collection services

Service coverage shall be monitored to ensure no areas are underserved, and private sector contractors will be integrated into municipal service delivery to expand efficiency and coverage.

7.5 Waste Transfer and Transportation

Karuri Municipality shall develop efficient waste transfer and transportation systems to reduce operational costs, improve service reliability, and minimize environmental and public health impacts.

Key measures include:

- Use of appropriate vehicles and equipment for segregated waste streams
- Optimized routing and scheduling to reduce fuel consumption and emissions
- Establishment of transfer stations where necessary to facilitate consolidation of waste before treatment or final disposal

7.6 Waste Processing, Recycling, and Resource Recovery

Waste processing and resource recovery will be central to the ISWM framework. The Municipality shall:

- Promote composting of organic waste from households, markets, and institutions
- Support recycling enterprises and material recovery facilities for plastics, paper, metals, and glass
- Facilitate private sector participation, including partnerships with companies like Taka Taka Solutions, in recycling and waste-to-resource initiatives
- Encourage innovative solutions, such as anaerobic digestion, bioenergy production, and eco-friendly construction materials derived from waste

These interventions aim to reduce the volume of waste sent to landfills, create economic opportunities, and foster a circular economy.

7.7 Waste Treatment and Final Disposal

Final disposal shall be carried out in an environmentally sound manner in compliance with national standards, including EMCA (Cap 387) and the Sustainable Waste Management Act 2022.

Key measures include:

- Progressive reduction of open dumping, particularly in peri-urban and agricultural areas
- Development and maintenance of sanitary landfills with leachate and gas management
- Consideration of treatment technologies such as composting, incineration, and engineered landfills
- Monitoring and mitigation of environmental impacts, including water and soil contamination

7.8 Integration with Climate and Environmental Management

All solid waste management interventions in Karuri Municipality shall be designed to:

- Minimize greenhouse gas emissions and other pollutants
- Promote climate change mitigation through organic waste recovery and energy generation
- Enhance resilience to climate-related risks, such as flooding and stormwater contamination
- Protect natural resources, including rivers, wetlands, and soil fertility

By integrating climate and environmental considerations, Karuri Municipality aims to safeguard ecosystems, improve public health, and support sustainable urban and peri-urban development.

8. Policy Measures and Strategies

8.1 Policy Measures and Strategies for Solid Waste Management

This chapter outlines the policy measures and strategic actions that Karuri Municipality shall adopt to achieve sustainable and integrated solid waste management. The measures address the full waste management value chain—from waste reduction and segregation at source to collection, recycling,

treatment, and final disposal—while promoting environmental protection, public health, and circular economy principles.

8.2 Waste Reduction and Minimization

Karuri Municipality shall promote policies and programs aimed at reducing waste generation at the source. This includes encouraging responsible consumption patterns, reducing unnecessary packaging, and promoting reuse of materials. Public education campaigns shall be implemented to raise awareness among households, businesses, and institutions on waste minimization practices. The municipality shall also encourage businesses to adopt sustainable production and packaging practices and support initiatives that reduce single-use materials.

8.3 Waste Segregation at Source

Segregation of waste at the point of generation shall be progressively implemented and enforced across the municipality. Households, institutions, and businesses shall be required to separate waste into defined categories such as organic waste, recyclables, and residual waste. The municipality shall develop guidelines on waste segregation, provide public awareness programs, and support the provision of appropriate containers and infrastructure to facilitate effective source separation.

8.4 Improvement of Waste Collection Services

Karuri Municipality shall strengthen waste collection systems to ensure efficient and reliable services across all areas of the municipality. This shall include expansion of collection coverage, adoption of scheduled collection systems, and introduction of systems that support segregated waste streams. Partnerships with licensed private waste service providers shall be promoted to improve service efficiency and coverage.

8.5 Waste Transfer and Transportation

Efficient waste transfer and transportation systems shall be developed to improve operational efficiency and reduce environmental impacts. The municipality shall promote the use of appropriate waste collection vehicles, optimize collection routes, and consider the establishment of transfer stations where necessary to facilitate consolidation and efficient transport of waste to treatment or disposal facilities.

8.6 Recycling and Resource Recovery

Karuri Municipality shall promote recycling and resource recovery as key components of sustainable solid waste management. The municipality shall support the establishment and operation of recycling enterprises, material recovery facilities, and composting initiatives for organic waste. Partnerships with private sector actors and community organizations shall be encouraged to enhance recycling activities and create economic opportunities within the waste value chain.

8.7 Management of Organic Waste

Given the high proportion of biodegradable waste generated within the municipality, Karuri Municipality shall promote composting and other organic waste recovery initiatives. Markets, institutions, and households shall be encouraged to adopt composting practices, while the municipality shall facilitate the establishment of centralized composting facilities where feasible. Organic waste recovery shall also support agricultural activities within the municipality.

8.8 Management of Construction and Demolition Waste

Rapid development within Karuri Municipality has resulted in increasing volumes of construction and demolition waste. The municipality shall develop guidelines and enforcement mechanisms to regulate the handling, transportation, and disposal of construction waste. Developers and contractors shall be required to ensure proper disposal of soil, rubble, and other construction materials to prevent illegal dumping and environmental pollution, particularly in sensitive areas such as rivers and drainage systems.

8.9 Environmentally Sound Disposal

Karuri Municipality shall promote environmentally sound waste treatment and final disposal practices in accordance with national environmental standards. The municipality shall progressively reduce reliance on open dumping and promote controlled disposal methods, including sanitary landfills and other appropriate waste treatment technologies. Monitoring systems shall be established to ensure that disposal facilities comply with environmental regulations.

8.10 Institutional Strengthening and Governance

Effective solid waste management requires strong institutional capacity and coordination among stakeholders. Karuri Municipality shall strengthen its technical, administrative, and regulatory capacity to manage waste services effectively. This includes improving planning, monitoring, and enforcement mechanisms, as well as strengthening coordination with county and national agencies responsible for environmental management.

8.11 Public Awareness and Community Participation

Public participation and community engagement are critical for sustainable waste management. The municipality shall implement continuous public education and awareness programs aimed at promoting responsible waste management practices. Community-based organizations, schools, and local groups shall be encouraged to participate in waste reduction, recycling, and environmental conservation initiatives.

8.12 Financing and Cost Recovery

Karuri Municipality shall promote sustainable financing mechanisms to support the delivery of solid waste management services. This may include user fees, service charges, public–private

partnerships, and other innovative financing approaches. The municipality shall also promote the polluter pays principle, ensuring that waste generators contribute to the cost of managing the waste they produce.

8.13 Monitoring, Evaluation, and Continuous Improvement

The municipality shall establish systems for monitoring and evaluating the performance of solid waste management programs. Data collection, performance indicators, and periodic reviews shall guide decision-making and ensure continuous improvement of services. The municipality shall also collaborate with stakeholders to identify emerging challenges and opportunities in waste management.

9. Institutional and Governance Framework

This chapter outlines the institutional arrangements and governance structures that shall guide the implementation, coordination, and oversight of solid waste management within Karuri Municipality. Effective governance is critical to ensuring accountability, regulatory compliance, and coordinated action among the various actors involved in the waste management system.

9.1 Overall Institutional Responsibility

The overall responsibility for solid waste management within Karuri Municipality shall rest with the Karuri Municipal Board, under the policy oversight of the County Government of Kiambu, in accordance with relevant national and county legislation.

The Municipal Board shall provide strategic direction, policy implementation oversight, and coordination of solid waste management services within the municipality. This responsibility shall be exercised in alignment with the provisions of the Urban Areas and Cities Act, the Sustainable Waste Management Act, and other applicable environmental laws and regulations.

9.2 Roles of the Municipality

Karuri Municipality shall serve as the primary implementing authority for solid waste management within its jurisdiction. The municipality shall be responsible for:

- Planning, coordination, and oversight of municipal solid waste management services
- Development and enforcement of municipal by-laws, operational standards, and service guidelines
- Provision of waste collection, transportation, and disposal services either directly or through contracted service providers
- Identification and establishment of waste collection points, transfer facilities, and treatment infrastructure
- Licensing, supervision, and monitoring of waste service providers operating within the municipality
- Promotion of waste segregation at source and resource recovery initiatives
- Public awareness, environmental education, and community engagement programs

- Collection and management of waste management data for planning, monitoring, and reporting purposes
- Enforcement of regulations to address illegal dumping, littering, and environmentally harmful waste disposal practices

The municipality shall also collaborate with county and national agencies to ensure that waste management activities meet environmental and public health standards.

9.3 Role of County Government Departments

Relevant departments of the County Government of Kiambu shall provide policy guidance, regulatory oversight, and technical support to Karuri Municipality in the implementation of this Policy.

Key responsibilities of county departments shall include:

- Development of county-level waste management strategies, policies, and regulations
- Provision of technical support for infrastructure development and service improvement
- Environmental monitoring and compliance enforcement in collaboration with regulatory agencies
- Coordination of waste management planning across municipalities within the county
- Mobilization of financial and technical resources for improved waste management systems

County departments shall also ensure alignment between municipal waste management activities and broader county development plans, including the County Integrated Development Plan (CIDP).

9.4 Private Sector Participation

Private sector entities shall play an important role in the provision of waste management services within Karuri Municipality. The municipality shall promote private sector participation in areas such as:

- Waste collection and transportation services
- Recycling and material recovery activities
- Organic waste processing and composting
- Operation of waste treatment and disposal facilities
- Development of innovative waste-to-resource solutions

Engagement with private sector operators shall be conducted through transparent and competitive processes, including service contracts, public–private partnerships, and licensing arrangements. All private operators shall comply with municipal regulations and environmental standards set by the National Environment Management Authority.

9.5 Informal Sector Integration

Informal waste collectors and recyclers play an important role in waste recovery and recycling within Karuri Municipality. The municipality shall recognize and progressively integrate these actors into the formal waste management system.

This integration may include:

- Registration and organization of informal waste collectors
- Capacity building and training on safe waste handling practices
- Provision of designated sorting and recycling spaces
- Support for formation of cooperatives or self-help groups
- Promotion of occupational health and safety standards

Integrating the informal sector will help improve recycling rates, create employment opportunities, and enhance efficiency in resource recovery.

9.6 Community and Civil Society Participation

Communities, community-based organizations, and civil society groups shall play a key role in promoting responsible waste management practices. Their participation shall include:

- Supporting waste reduction and segregation initiatives at household and community levels
- Participating in public awareness campaigns and environmental education programs
- Reporting illegal dumping and other environmental violations
- Participating in consultative forums related to waste management planning and service delivery

Community participation will strengthen public ownership of waste management programs and contribute to improved environmental stewardship.

9.7 Intergovernmental and Stakeholder Coordination

Effective solid waste management requires coordination among multiple stakeholders. Karuri Municipality shall establish mechanisms to facilitate collaboration between:

- Municipal departments
- County government agencies
- National regulatory institutions such as the National Environment Management Authority
- Development partners and research institutions
- Private sector waste service providers
- Community and civil society organizations

Regular stakeholder consultations, technical working groups, and inter-agency coordination meetings shall be used to improve communication, share information, and avoid duplication of roles.

9.8 Accountability and Transparency

The municipality shall promote accountability and transparency in the management of solid waste services. This shall include:

- Establishing clear reporting and monitoring mechanisms for waste management activities
- Public disclosure of service performance indicators and operational data
- Stakeholder engagement in planning and oversight processes
- Transparent procurement and contracting procedures for waste service providers

These measures will enhance public confidence and ensure that waste management services are delivered efficiently and responsibly.

9.9 Occupational Health and Safety

Karuri Municipality shall ensure that all individuals involved in solid waste management operate under safe and healthy working conditions. This includes municipal workers, private service providers, and informal waste collectors.

Key measures shall include:

- Enforcement of occupational health and safety standards
- Provision and use of appropriate personal protective equipment (PPE)
- Training on safe waste handling, transportation, and processing practices
- Implementation of emergency response procedures for waste-related hazards

These measures will help reduce occupational risks and protect workers who play a critical role in maintaining environmental sanitation within the municipality.

10. Financing and Economic Instruments

10.1 Financing of Solid Waste Management

Financing of solid waste management services in Karuri Municipality shall be derived from a combination of municipal and county budgetary allocations, own-source revenue, user fees, and other legally permissible funding sources. The Municipality shall seek to ensure that financing mechanisms support efficient, reliable, and sustainable service delivery. Key financing instruments applicable to the Municipality are summarised in the table provided below.

Table 10.1: Financing Instruments for Solid Waste Management

Financing Instrument	Description	Potential Use	Applicability to Karuri Municipality

Own Source Revenue	Revenue generated by the Municipality through business permits, licenses, development approvals, and environmental compliance fees.	Supporting routine waste management operations, supervision of services, enforcement activities, and maintenance of municipal equipment.	High
User Fees and Service Charges	Fees paid by households, commercial establishments, institutions, and residential developments for waste collection and disposal services.	Cost recovery for waste collection, transportation, and management of communal waste facilities.	High
County Government Allocations	Budgetary support provided by the County Government of Kiambu to support municipal service delivery and infrastructure development.	Procurement of waste collection vehicles, establishment of transfer stations, development of waste management infrastructure, and institutional strengthening.	Medium
Public–Private Partnerships (PPPs)	Collaborative arrangements between the municipality and private sector actors to deliver waste management services or infrastructure.	Recycling facilities, composting plants, material recovery facilities, clean up campaigns, and improved waste collection services.	Medium
Grants and Donor Support	Financial or technical assistance from development partners, environmental programs, and international organizations.	Capacity building, pilot projects, climate-related waste management initiatives, and innovation in recycling and circular economy practices.	Medium

Extended Producer Responsibility (EPR) Contributions	Contributions from producers and importers of packaging and products in accordance with national EPR regulations.	Financing recycling systems, waste recovery programs, and support for plastic and packaging waste management.	Emerging
Polluter Pays Mechanisms	Charges or penalties imposed on entities that improperly dispose of waste or cause environmental pollution.	Enforcement actions, environmental restoration, and discouraging illegal dumping of waste such as construction debris and soil.	High

10.2 Cost Recovery and User Fees

The Municipality shall promote appropriate cost recovery mechanisms for solid waste management services, including user fees and service charges, in a manner that is equitable, transparent, and affordable. Fee structures shall take into account different waste generators, service levels, and socio-economic conditions.

10.3 Economic Incentives and Disincentives

Economic instruments may be applied to encourage waste reduction, segregation, recycling, and compliance with waste management requirements. These may include incentives for recycling and composting initiatives, as well as penalties for illegal dumping, littering, and non-compliance with waste management regulations.

10.4 Private Sector Investment and Partnerships

The Municipality shall encourage private sector investment in solid waste management through public-private partnerships, service contracts, and other collaborative arrangements aimed at improving efficiency, innovation, and access to financing.

10.5 Resource Mobilization and External Support

The Municipality may seek external financial and technical support from development partners, financial institutions, and other sources to supplement local resources and support infrastructure development, capacity building, and innovation in solid waste management.

11. Public Participation, Education and Communication

11.1 Public Participation

Effective solid waste management in Karuri Municipality requires active participation, awareness, and cooperation from residents, institutions, businesses, and other stakeholders. This chapter outlines the mechanisms through which the municipality shall promote public participation, strengthen environmental education, and improve communication related to waste management services.

11.2 Public Awareness and Education

Sustained public awareness and education programmes shall be implemented to promote responsible waste management practices throughout the municipality. These programmes shall focus on:

- Waste reduction and responsible consumption
- Segregation of waste at source into organic, recyclable, and residual streams
- Proper handling and storage of household and commercial waste
- Environmental and public health risks associated with poor waste management
- Opportunities for recycling, composting, and resource recovery

The Municipality shall collaborate with schools, community organizations, religious institutions, and environmental groups to promote environmental education and behavioural change. Public campaigns, clean-up initiatives, and school-based environmental programmes shall be encouraged to cultivate a culture of environmental responsibility within the municipality.

11.3 Communication and Information Sharing

The Municipality shall establish clear and accessible communication channels to ensure that residents and stakeholders receive timely information regarding waste management services, regulations, and municipal initiatives.

Communication mechanisms may include public notices, municipal websites, social media platforms, community forums, and local media outlets. Information disseminated may include waste collection schedules, designated waste disposal sites, guidelines on waste segregation, and updates on waste management programs.

The Municipality shall also establish feedback mechanisms, including complaint reporting systems and community engagement platforms, to enable residents and businesses to report service gaps, illegal dumping, or environmental concerns.

12. Land Use Planning and Infrastructure Integration

Solid waste management considerations shall be integrated into land use planning, urban development, and infrastructure planning within Karuri Municipality to ensure that adequate waste management services and facilities are provided as the municipality grows.

Municipal and county planning processes shall provide for appropriate land allocation for waste management infrastructure, including collection points, transfer stations, recycling centres, composting facilities, and environmentally sound disposal sites. Waste management planning shall also be integrated into residential, commercial, and institutional developments to ensure adequate space for waste storage and collection systems.

Developers and property owners shall be required to incorporate waste management considerations into building design and site planning, including provision for waste storage areas, segregation facilities, and access for waste collection services. Integrating waste management into urban planning will help prevent illegal dumping, reduce environmental pollution, and improve overall sanitation within the municipality.

13. Research, Innovation and Capacity Building

The Municipality shall promote research, innovation, and institutional capacity development to strengthen the effectiveness and sustainability of solid waste management systems. Continuous improvement of waste management practices shall be supported through the adoption of appropriate technologies, improved data management systems, and evidence-based decision-making.

The Municipality shall collaborate with academic institutions, research organizations, development partners, and private sector actors to explore innovative approaches to waste reduction, recycling, composting, and resource recovery. Emphasis shall be placed on solutions that are technically appropriate, environmentally sustainable, and economically viable within the local context.

Capacity building initiatives shall be implemented to strengthen the technical and managerial skills of municipal staff, waste service providers, and community stakeholders. Training programs shall focus on waste management planning, environmental monitoring, occupational health and safety, and modern waste processing technologies.

14. Monitoring, Evaluation, Accountability and Review

The Municipality shall establish mechanisms for monitoring and evaluating the implementation of this Policy, including performance indicators, reporting systems, and periodic reviews. The Policy shall be reviewed periodically to ensure continued relevance, effectiveness, and alignment with emerging needs and legal requirements.

Indicator	Description	Frequency	Responsible Entity

Waste Collection Coverage	Proportion of households, businesses, and institutions within the municipality receiving regular and reliable waste collection services.	Annual	Karuri Municipality
Waste Segregation at Source	Level of compliance among households, institutions, and businesses in separating waste into organic, recyclable, and residual streams at the point of generation.	Annual	Karuri Municipality
Recycling and Resource Recovery Rate	Percentage of total municipal solid waste diverted from final disposal through recycling, composting, and other resource recovery initiatives.	Annual	Karuri Municipality
Illegal Dumping Incidents	Number of reported cases of illegal dumping or improper waste disposal and the proportion that are investigated and addressed by the municipality.	Annual	Karuri Municipality
Public Awareness and Education Activities	Number of public education campaigns, environmental awareness programs, and community outreach initiatives conducted to promote responsible waste management.	Annual	Karuri Municipality

Occupational Health and Safety Compliance	Level of compliance with occupational health and safety standards among municipal waste workers, contractors, and other actors involved in waste management activities.	Annual	Karuri Municipality
Waste Collection Efficiency	Proportion of scheduled waste collection routes completed on time and according to service standards.	Annual	Karuri Municipality
Stakeholder Participation in Waste Management Programs	Level of participation by community groups, institutions, and private sector actors in waste management initiatives and consultations.	Annual	Karuri Municipality
Reduction in Waste Sent to Disposal Sites	Changes in the volume of waste transported to final disposal facilities as a result of waste reduction and recycling efforts.	Annual	Karuri Municipality

These indicators will guide the monitoring and evaluation of solid waste management performance in Karuri Municipality, supporting evidence-based decision-making, accountability, and continuous improvement of municipal waste management services.

15. Policy Implementation Framework

Implementation of this Policy shall be undertaken through development of action plans, strategies, and programmes aligned with the County Integrated Development Plan, municipal development plans, and available resources. Implementation shall be phased and subject to continuous performance assessment.

16: DEFINITIONS AND INTERPRETATION

16.1 Definitions

For the purposes of this Policy, unless the context otherwise requires, the following terms shall have the meanings assigned to them below:

“Biodegradable Waste”
Waste materials that can be broken down naturally by microorganisms into simpler organic substances. Examples include food waste, garden waste, and other organic materials.

“Bulky Waste”
Large household or commercial items that cannot be accommodated in regular waste containers due to their size or weight, such as furniture, mattresses, and large appliances.

“Circular Economy”
An economic system aimed at eliminating waste and promoting the continual use of resources through reuse, repair, recycling, and recovery.

“Collection”
Means the gathering, loading, and removal of solid waste from designated storage points for transportation to treatment, recovery, or disposal facilities.

“County Government”
Means the County Government of Kiambu established under the Constitution of Kenya, 2010.

“Disposal”
Means the final placement of solid waste in an environmentally sound manner, including at an approved landfill or disposal site.

“Extended Producer Responsibility (EPR)”
Means an environmental policy approach in which producers are given significant responsibility for the management of waste arising from products they place on the market, in accordance with applicable national legislation.

“Hazardous Waste”
Means waste that poses substantial or potential threats to public health or the environment due to its chemical, physical, biological, or toxic characteristics, and which is regulated under national legislation.

“Informal Sector”
Means individuals or groups engaged in waste collection, sorting, recycling, or recovery activities outside formal contractual arrangements with the Municipality.

“Integrated Solid Waste Management (ISWM)”
Means a comprehensive approach to solid waste management that considers waste prevention, minimisation, segregation, collection, recycling, treatment, and environmentally sound disposal in a coordinated manner.

“Municipality”
Means Kiambu Municipality as established under the Urban Areas and Cities Act, 2011.

“Municipal Solid Waste”
Means non-hazardous solid waste generated from households, commercial establishments, institutions, markets, and similar sources within the Municipality.

“Private Service Provider”
Means a legally registered entity contracted or licensed to provide solid waste management services within the Municipality.

“Recycling”
Means the processing of waste materials for the purpose of converting them into new products, materials, or substances.

“Resource Recovery”
Means the extraction of useful materials or energy from waste, including recycling and composting.

“Segregation at Source”
Means the separation of waste materials at the point of generation into designated categories such as organic, recyclable, and residual waste.

“Solid Waste”
Means discarded materials that are solid in form and are generated as a result of human activities.

“Solid Waste Management”
Means the collection, storage, transportation, treatment, recovery, and disposal of solid waste in a manner that protects public health and the environment.

“Waste Generator”
Means any person, household, institution, or entity whose activities produce solid waste.

“Waste Management”
The systematic control of the generation, storage, collection, transportation, recycling, treatment, and disposal of waste.

“Waste Minimization”
Measures aimed at reducing the quantity and harmfulness of waste generated through improved production processes, reuse, and sustainable consumption practices.

17. Annexes

Implementation matrix

Policy Implementation Matrix – Kiambu Municipality Solid Waste Management Policy			
Policy Area	**Key Actions**	**Responsible Entity**	**Timeframe**
Waste Reduction & Minimization	Public awareness campaigns; promotion of sustainable consumption practices	Karuri Municipality; County Departments	Short–Medium Term
Waste Segregation at Source	Development of segregation guidelines; phased enforcement	Karuri Municipality; Service Providers	Short–Medium Term
Waste Collection & Transportation	Expansion of service coverage; efficiency and routing improvements	Karuri Municipality; Private Operators	Short–Medium Term
Recycling & Resource Recovery	Support recycling and composting initiatives; partnerships	Karuri Municipality; Private and Informal Sector	Medium Term
Waste Treatment & Disposal	Improve disposal standards; progressive elimination of open dumping	Karuri Municipality; County Government	Medium–Long Term
Institutional Strengthening	Capacity building; coordination mechanisms	Karuri Municipality; County Departments	Short Term
Financing & Cost Recovery	Review user fees; resource mobilization	Karuri Municipality; County Treasury	Short–Medium Term

Public Awareness & Participation	Community engagement and education programmes	Karuri Municipality; CSOs	Continuous
Monitoring & Evaluation	Establish indicators; reporting and policy review	Karuri Municipality	Continuous

Waste classification table

NO	CATEGORY OF WASTE	SOURCE	TYPE OF WASTE
1.	Organic	Market, hotel industry	Food remains, rotten vegetables and fruits
2.	Recyclables	Institutions, Households, Retail and wholesale outlets,	glass, plastics, metal, rubber, wood
3.	Non-Recyclables	Petrol Stations, Construction sites, Commercial premises	Rubber, E – waste
4.	Hazardous waste	Medical facilities, Industries	paints, used batteries, used oil, solvents, cleaning agents, pesticides, medical waste

REFERENCES

The preparation of this Solid Waste Management Policy was informed by the following legal instruments, policy frameworks, and reference materials:

- Constitution of Kenya, 2010.
- Environmental Management and Coordination Act (EMCA), Cap 387, and subsidiary regulations.
- Urban Areas and Cities Act, 2011.
- County Governments Act, 2012.
- Public Health Act, Cap 242.
- Relevant Kiambu County spatial, sectoral, and environmental plans.
- Kenya National Bureau of Statistics population and urbanisation data.
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