



DRAFT INTEGRATED WASTE MANAGEMENT PLAN 2027-2032

DEVELOPMENT OF AN INTEGRATED WASTE MANAGEMENT PLAN
FOR LEKWA LOCAL MUNICIPALITY

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CHAPTER 1

INTRODUCTION AND METHODOLOGY

DRAFT

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1 INTRODUCTION

The National Environmental Management: Waste Act (Act No 59 of 2008) (hereafter referred to as the Waste Act) states in Section 11 that each municipality must develop an IWMP. An IWMP provides a framework within which local municipalities can deliver a waste management service to all residents and businesses. According to Section 12 of the Waste Act, the following should be included in the contents of an IWMP:

- Demographic information.
- Assessment of waste generation, quantities, and types.
- Status quo of services for collection, minimisation, re-use, recovery, treatment, and disposal of waste.
- Determination of people not receiving waste collection services.
- Identification of poor waste management and its negative health and environmental impacts.
- Establishment and implementation of targets and initiatives for waste minimisation, re-use, recycling and recovery.
- Incorporation of best environmental practices.
- Identification of implementation measures.
- Planning of new facilities for disposal and decommissioning of existing waste disposal facilities.
- Indication of financial resources required to implement projects.

Implementation requires that municipalities move away from traditional “end of pipe” solutions that focus on waste after it has been generated (i.e. collection, transport, processing, recycling or disposal of waste material), to a service which focuses on the prevention of waste, as well as the minimisation of waste as a by-product of production (DEAT, 2009, p.1). This approach is in recognition of the widely adopted waste hierarchy, which includes the three Rs of waste management, i.e. recovery, reuse and recycle (see Figure 1) as well as energy recovery. Only after these efforts should the residual waste be disposed of at a landfill. Section 16.1c & d of the Waste Act states that the holder of waste must take all reasonable measures within the holder’s power to ensure that, where waste must be disposed of, the waste is treated and disposed of in an environmentally sound manner, such that it does not endanger health or the environment or cause nuisance through noise, odour or visual impacts. The delivered service must maximise efficiency and minimise environmental impacts and financial costs, with the ultimate aim of improving quality of life. Any IWMP must suggest measures that are practical, achievable, implementable and sustainable.



Figure 1: The waste hierarchy as per the 2020 National Waste Management Strategy (DFFE, 2021)

Integrated waste management is a multi-pronged approach that requires the co-operative effort of government and waste generators. Local Government, as a service provider, must ensure that there is a waste management service delivery system providing a network of collection and disposal options, so that generators can effectively exercise their responsibilities. This would include separating their waste at source (the point of generation), and then properly recycling, storing, and disposing of the different parts of the waste. Local Government, as a regulator, must ensure compliance with relevant waste related legislation. Local Government therefore has a dual role as both service provider and regulator

1.1 Project Background

In terms of the Constitution of South Africa Act 108 of 1996 environment and waste management are areas of shared responsibility between provincial and the local government. In terms of Chapter 7 of the Constitution, provincial government is required to support local government with respect to matters listed in Schedule 5 of the Constitution, which includes waste management¹. The promulgation of the National Environmental Management: Waste Act 59 of 2008 requires integrated waste management planning at both provincial and local level. South

¹ South Africa Constitution 1996.

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Africa's first National Waste Management Strategy (NWMS), published in 1998, highlighted the need for integrated waste management at the local level as a high priority.

South African Constitution Schedule 5-Functional Areas of Exclusive Provincial Legislative Competence. The following local government matters to the extent set out for provinces in section 155(6)(a) and (7): Refuse removal, refuse dumps and solid waste disposal

Section 11 (4) of the National Environmental Management: Waste Act requires that municipalities submit IWMP's to the MEC for endorsement and to include the approved IWMP in its Integrated Development Plan (IDP) as contemplated in Chapter 5 of the Municipal Systems Act. A municipal IWMP must comply with the aspects outlined in section 12 of the National Environmental Management: Waste Act (Act 59 of 2008), which includes consultative processes and public participation that must be followed during and before the finalization of the IWMP, as prescribed in section 29 of the Municipal Systems Act.

1.2 Need For Integrated Waste Management Plan

The IWMP addresses several key objectives by:

- Discussing the current situation in respect to the description of the population development profile of the area.
- Reviewing the quantities and types of waste generated in the area.
- Describing the services provided (or that are available) for the collection, minimisation, re-use, recycling and recovery, treatment, and disposal of waste.
- Commenting on the number of people in the area who are not receiving waste collection.
- Identifying and planning for future waste management needs and requirements of Lekwa Local Municipality (LLM).
- Ensuring that the plan identifies strategies for provision of adequate and equitable waste services to all residents within LLM.
- Incorporating the principles of the internationally accepted waste management hierarchy into daily as well as short to long-term, waste activities and planning.
- Building on the waste management foundations currently established and improving all aspects of waste management within LLM.
- Promoting the reduction of the quantity of waste disposed of at landfill by the continual support of private and community waste minimisation and the development of recycling projects, initiatives, and municipal projects.

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- Recommending that LLM establish systems to have critical waste information at hand for optimization of waste management services.
- Ensuring that all recommendations minimise adverse social and environmental impacts related to waste management and thereby improving the quality of life for the communities of LLM.
- Assessing the institutional arrangements of LLM and recommending measures for optimising the efficiency of the waste management system in terms of infrastructure, equipment, human resources, the development of skills and capacity.



Figure 2: Need for IWMP

1.3 Project Methodology

The methodology for the IWMP is based on the guideline for the development of IWMPs which was developed by the National Department of Environmental Affairs.



Figure 3: IWMP Process (Source: <http://iwmp.environment.gov.za/guideline/1/1.4>)

- (a) Establish the existing status (Status Quo) with regard to waste management in the local municipality
- (b) Determine management objectives and needs with regard to waste management through obtaining and integrating input from key stakeholders
- (c) Determine any gaps, backlogs, shortfalls, risks or impacts between the existing status and the desired end state that is relevant to waste management practices and systems.
- (d) Identify and evaluate waste management alternatives and options that could be taken to address these identified gaps, backlogs, shortfalls, risks and impacts that will achieve the management objectives. This evaluation is conducted against a pre-determined set of evaluation criteria and includes an assessment from the perspective of Multi Criteria Decision Analysis (MCDA), which includes, but is more than just a Cost- Benefit Analysis (CBA), in order to determine and select the (BPEO).
- (e) Summarise the actions for implementation of the BPEO for waste management into a draft IWMP. Such an IWMP should be specific and concise, and should clearly indicate actions, responsibilities and timeframes.
- (f) Discuss the draft IWMP with key stakeholders to determine acceptability and implementability.
- (g) Finalise the draft IWMP, which would contain a framework for an implementation schedule, performance evaluation and monitoring measures, and timeframes for review

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1.4 Situation Analysis

The main aim of this phase of the project was to quantify and qualify all aspects related to the existing waste management services and practices. It included the current status with regards to the delivery of waste services, number of residents in that municipality, demographic profile, and socio-economic composition. This information was then used as a point of departure for determining future needs, establishment of priorities, optimisation, and budget requirements. The major tasks that were carried out during the status quo analysis was Review; Information Analysis; Assessment and Report Generation. The specifics of these four tasks included the following aspects:

- Review of: -
 - ✓ All relevant existing municipal, provincial and national documentation relating to waste management including existing IWMP for the Local Municipality;
 - ✓ All applicable national and provincial legislative arrangements, as well as the situation with regard to Municipal Waste Management Bylaws, their effectiveness, and current levels of implementation, and determining any international arrangements or agreements that may be applicable.
 - ✓ All available information on the current population demographics of the local municipality, growth estimates and development patterns, densities and the population's socio-economic categories and income levels.
- Investigation and Research through literature review and individual interviews into all aspects relating to waste management in the local municipality including:
 - ✓ All aspects of waste collection and street cleansing, including collection methods, vehicle routing, transport conditions, record keeping, complaints, etc;
 - ✓ Current status of equipment and machinery;
 - ✓ Current status of personnel, including level of skills and training needs;
 - ✓ Waste generation rates, patterns, and trends, including a summary of domestic, industrial and business producers, volumes of general waste, primary waste storage systems (bins, bags etc), levels of service, etc;

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- ✓ Current status of waste management awareness and control, including implementation of waste related bylaws, aspects relating to littering, waste prevention and minimisation, buy-back and recycling centres, health concerns, and enforcement capabilities, and;
- ✓ Capture data collected during review of documentation and investigation and research into intelligent and interactive database.
- Analysis and Assessment of: -
 - ✓ Available and collected information to determine statistics with regard to current and projected demographics and waste generation patterns in the municipality, the types and amounts of general waste generated, the composition thereof, and projected future waste generation trends;
 - ✓ The services that are currently provided, or that are available, for the collection, minimisation, re-use, recycling and recovery, treatment, and disposal of waste, and technical and operational aspects there-of;
 - ✓ The existing waste management systems and practices, defining distinctive waste management patterns, and evaluating waste minimisation and cleaner production initiatives, as well as waste management education and awareness;
 - ✓ The current waste management services in terms of organisational structure and institutional arrangements, quality of service, legislative and regulatory issues, social and environmental impacts, including impacts from contaminated land, and public acceptance;
- Generation of Situation Analysis Report that addresses: -
 - Applicable legislative requirements and regulatory status quo;
 - Demographics and socio-economic status quo;
 - Waste quantities and characteristics;
 - Existing waste management systems and practices;
 - Technical and operational issues;
 - Waste information issues; and
 - Waste education and awareness.

The results of the situational analysis will therefore be documented in a comprehensive Status Quo Report that clearly describes the current status of waste management in the Local Municipality, and that will be used during the needs assessment.

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1.5 Needs Assessment And Gap Analysis

1.5.1 Needs Assessment

To identify needs regarding the IWMP's and set waste management objectives for the plan, extensive public participation will be conducted.

During the meeting, needs are to be determined and management objectives agreed upon for the following waste management aspects:

- Applicable legislative requirements and regulatory status quo;
- Demographics and socio-economic status quo;
- Waste quantities and characteristics;
- Existing waste management systems and practices;
- Technical and operational issues;
- Waste information issues; and
- Waste education and awareness.

Following the finalisation of the meeting, a needs assessment report will be prepared.

1.5.2 Gap Analysis

Once the expectations, needs, and objectives of key stakeholders with regard to the management of waste have been determined, the gaps between the current status quo and the desired end state (or needs) can be established. An analysis of these gaps is therefore conducted on the following aspects:

- Applicable legislative requirements and regulatory status quo;
- Demographics and socio-economic status quo;
- Waste quantities and characteristics;
- Existing waste management systems and practices;
- Technical and operational issues;
- Waste information issues; and
- Waste education and awareness.

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The outcome of the gap analysis will therefore identify the shortcomings and gaps between existing waste management systems and practices, and the needs, expectations, and objectives of stakeholders, which will be summarised in a gap analysis report.

1.6 Development And Evaluation Of Alternative Scenarios

Based on the status quo assessment, the objectives and needs expressed by stakeholders, as well as the gap analysis that identified shortfalls between the existing status and the desired outcomes, management options to address these gaps can be identified and/or developed and evaluated.

1.7 Implementation Instruments

The partnerships, legislative instruments, economic instruments, and a financial plan appropriate for the IWMP will be established in consultation with municipality.

1.7.1 Partnerships

The development of partnerships as a mechanism for providing the services and facilities required for IWMP will be considered. The categories of partnerships that will be considered include:

- Public partnerships
- Public Private Partnership (PPP)
- NGO/Community Based Organizations (CBO's)

1.8 Implementation Plan

A municipality in conjunction with the appointed consultant will develop an implementation plan which will detail how targets set in the goals will be attained as well as what resources will be required to attain the targets in the next five years. In this instance the implementation plan will be developed in a manner that summarises the entire IWMP planning process to demonstrate how each of the steps fit into each other.

1.9 Draft And Final IWMP

During this phase the IWMP for the Local Municipality is drafted, discussed with stakeholders, and following the consideration of comments received, finalised as a final Draft IWMP for submission to the municipality.

1.10 Approval Process

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Chapter 3, Section 11 4a (ii) of the Waste Act states that each municipality must include the approved IWMP in its Integrated Development Plan (IDP) as contemplated in Chapter 5 of the Municipal System Act for approval by council. This is to ensure that the approved IWMP is included in the municipal IDP, the goals and targets contained in the IWMP are prioritised and that council will implement the IWMP.

1.11 Public Participation Approach

Under the Waste Act, Chapter 3, Section 11 (7b) states that, “a municipality must, before finalising its IWMP, follow a consultative process contemplated in section 29 of the Municipal Systems Act, either as a separate process or as part of the consultative process relating to its IDP contemplated in that section.

Apart from the Municipal Systems Act; the Waste Act requires the development of an IWMP to follow a public participation and consultation process (Section 72 and 73). Awareness programs should be developed in order to keep stakeholders abreast on issues pertaining to the development and implementation of the IWMP. Engagement with stakeholders will be done in various platforms such as:

- Ward committee meetings
- Waste management forum meetings
- Workshops with interested and affected parties (could include youth environmental group, taxi associations, religious groups etc)

The issues raised during the stakeholder participation process should be captured and dealt with under the implementation plan and stakeholders should be informed of progress made with regards to attaining the goals in the five years of implementing the IWMP.

1.11.1 Development Of I&AP Database

A database of interested and affected parties (I&APs) involved in waste management in the Local Municipality will be compiled. A database including all the chiefs, community leaders, and interested parties will be developed in categories of those to ensure that information is communicated strategically at all levels. A complete list of key stakeholders and I&APs will be drawn up in consultation with the local municipality.

1.11.2 Advert And Bid

An advert will be placed in local newspaper to be agreed upon with the local municipality. This will be to announce the project and its objectives and invite Interested Affected parties to register.

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Background information Documents (BID) of the project will be made available to all interested and Affected Parties (I&APs). Newsletters to inform the public will be distributed to each community to inform them of the project.

1.11.3 Public Meeting

Based on the structural power sharing within the councillors and chiefs, will ensure that proper communication structures are in place to ensure proper flow of information. A number of meetings will be held in the area. These meetings will have the following function:

- Obtain additional data on producers, transportations, disposers etc. of waste;
- Identification of existing processes and alternative technologies for waste management;
- Education of the public with regards waste management; and
- Prioritization of any issues at identified above.

Meetings will be held in strategic places that will cover large numbers of communities. Community leaders will be made to take leadership in communication with the community since they know their people.

1.12 Alignment With National Strategic Plans

There are several strategic plans on a national, provincial, and local level which have been taken into consideration during the development of this IWMP. A summary of these is provided in the section below.

1.12.1 Alignment With National Strategic Plans

a) National Environmental Management: Waste Act 59 of 2008 (hereafter referred to as the Waste Act), as amended

South Africa's primary waste legislation is the Waste Act, which was implemented on July 1, 2009. The Act encompasses a broad range of topics, such as the definition of priority wastes, waste minimisation, treatment and disposal of waste, Industry Waste Management Plans, licensing of activities, waste information management, and the resolution of contaminated land. Additionally, it addresses the requirements for a National Waste Management Strategy. Under the Waste Act, numerous regulations have been implemented. In 2014, the waste legislation was amended. The 'Needs Analysis' section of this report has taken into account the implications of relevant waste management legislation.

b) National Waste Management Strategy

In 1999, the initial National Waste Management Strategy (NWMS) was released. It was the initial approach to confronting South Africa's refuse management challenges. The strategy effectively articulates South Africa's vision for waste management, emphasising themes such as the "cradle to grave" management of waste products and the waste management hierarchy, which promotes waste disposal as a last resort. The NWMS was revised in 2011 and again in 2020 (DFFE, 2021). The 'Waste Objectives and Targets' section of this report evaluates the objectives of the 2020 NWMS.

The 2020 NWMS is organised around a framework of three pillars, each of which has its own objectives. The NWMS specifies the timeframes (years) by which the objectives and their corresponding targets must be accomplished. The table below delineates these and will serve as a guide for the implementation of the objective projects, as outlined in the IWMP's implementation plan. In order to enhance waste management in South Africa, the 2020 NWMS was established with three strategic pillars:

- Waste minimisation
- Effective and sustainable waste service
- Compliance, enforcement, and awareness.

These are unpacked further in the table below.

Table 1: Summary of NWMS 2020 Goals

GOAL	IMPLEMENTATION MECHANISM
Prevent waste, and where waste cannot be prevented, divert 40% of waste from landfill within 5 years; 55% within 10 years; and at least 70% of waste within 15 years leading to Zero-Waste going to landfill through reuse, recycling, and recovery and alternative waste treatment.	Waste Prevention: Prevent waste through cleaner production, industrial symbiosis, and extended producer responsibility Prevent food waste by: • Working with agricultural producers, food producers and transporters, retailers, the hospitality sector, and consumers, • Improving consumer awareness • Developing guidelines, norms, and standards for redistributing surplus foods and composting of spoilt foods. Waste as a Resource: • Divert organic waste from landfill through composting

GOAL	IMPLEMENTATION MECHANISM
	and the recovery of energy • Divert construction and demolition waste from landfill through beneficiation • Increase re-use, recycling, and recovery rates • Increase technical capacity and innovation for the beneficiation of waste
All South Africans live in clean communities with waste services that are well managed and financially sustainable.	Waste Collection: • Separation of waste at source by integrating waste pickers into municipal collection services, develop an online training tool for municipal managers and develop a national awareness campaign on recycling and waste management • Safe and environmentally sustainable disposal of hazardous household wastes. Effective Integrated Waste Management Plan: • Development and implementation of 5-year provincial and municipal IWMPs • Improve collection, reporting and dissemination of information on SAWIS • Build capacity in IWMP planning and provide guidelines for revision of IWMP • All local authorities (municipalities) to include provisions for recycling drop-off/buy-back/storage centres in their IWMPs by 2023.
Mainstreaming of waste and awareness and a culture of compliance resulting in zero tolerance of pollution, litter, and illegal dumping	• Reduction of pollution, littering and illegal dumping through a national awareness campaign and greater public awareness • Enhanced capacity to monitor compliance and enforce the Waste Act and International Agreements • Municipal landfill sites and waste management facilities comply with licensing standards.

c) Operation Phakisa: Chemicals and Waste Economy

Operation Phakisa, an initiative which looks to unlock South Africa's economic potential, sets several waste-related national targets. These targets include:

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- Reduce industrial waste to landfill by 75%
- Reduce municipal waste to landfill site 50%
- Move towards zero sewage sludge to landfill by 2023
- Move toward zero meat production waste to landfill by 2023
- Increase e-waste recycling from 7% to 30%
- Create 1,000 jobs through recycling and re-use of government computers
- 50% of households in metropolitan municipalities separating at source by 2023
- 8,000 direct and indirect jobs through plastic recycling
- Produce building aggregates and construction inputs from rubble and glass

d) National Development Plan

The National Development Plan (NDP) of South Africa (National Planning Commission, 2012) was published in 2012 and delineated the necessary steps to eradicate poverty and diminish inequality by 2030. The following objectives are established by the NDP in relation to waste management:

- A national recycling strategy is implemented to achieve an absolute reduction in the total volume of waste disposed to landfill sites annually.
- Municipal regulations, building standards, vehicle emission standards, and the carbon price are used to achieve scale in the promotion of renewable energy, waste recycling, and building retrofitting.
- The implementation of a waste management system through the rapid expansion of recycling infrastructure and the encouragement of composting of organic domestic waste to bolster economic activity in impoverished urban communities should result in South Africa becoming a zero-waste society, as a result of consumer awareness initiatives and adequate recycling infrastructure.

The NDP also acknowledges the potential for the manufacturing sector to repurpose refuse..

e) Back To Basics

At the Presidential Local Government Summit in 2014, the National Department of Cooperative Governance and Traditional Affairs (COGTA) introduced a novel strategy. The strategy was entitled "Back to Basics: Serving our Communities Better" (DCGTA, 2014). The strategy recognised that, despite the progress that has been made in the field of service delivery since 1994, additional measures are necessary to reinforce, educate, and, when necessary, enforce the government's service delivery mandate. The Five Pillars of the Back-to-Basics initiative involved:

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- a) Prioritise the well-being of individuals and their concerns, and maintain consistent communication with communities by implementing effective public participation platforms.
- b) Ensure that municipal services are consistently provided to the appropriate quality and standard, thereby establishing a quality of life. This encompasses the financing and planning for the delivery and maintenance of infrastructure and amenities, as well as the upkeep and maintenance. Guarantee that services are not interrupted, and in the event that they are, promptly restore them.
- c) Demonstrate excellent governance and administration by being well-governed, hiring competent staff, spending public funds prudently, and ensuring transparency and accountability.
- d) Ensure that financial management and accounting are sound, and that resources are prudently managed to ensure the sustainable delivery of services and the development of communities.
- e) Develop and maintain strong institutional and administrative capabilities, which are administered and managed by dedicated, skilled personnel at all levels.

Waste management within the municipality is subject to all of the Back-to-Basics pillars.

1.12.2 Alignment With Provincial Strategic Plans

This section outlines the alignment between the LLM IWMP and the Mpumalanga Provincial Strategic Frameworks, including:

- Mpumalanga Vision 2030 Strategic Implementation Framework (MV2030);
- Mpumalanga Provincial Strategic Plan (PSP) 2020–2025; and
- Provincial Programme of Action and annual Provincial Priorities (2023/2024 onwards).

Through this alignment, LLM aims to contribute to the realization of provincial outcomes on sustainable development, environmental protection, service delivery improvement, and inclusive economic growth.

a) Mpumalanga Vision 2030

Mpumalanga Vision 2030 sets out the province's long-term development path aligned to the National Development Plan (NDP). Its vision is:

"A prosperous, sustainable, and inclusive Mpumalanga, where all citizens enjoy a high quality of life within an environmentally secure and equitable society."

The Vision identifies seven development outcomes, of which the following are directly relevant to waste management:

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- Sustainable economic growth and environmental resilience;
- Decent employment through inclusive growth;
- Improved quality of life and social wellbeing;
- Capable and developmental state.

b) Mpumalanga Provincial Strategic Plan (2020–2025)

The PSP 2020–2025 operationalizes the Vision 2030 priorities and focuses on:

- Accelerated economic transformation and job creation;
- Infrastructure development and maintenance;
- Environmental sustainability and climate resilience;
- Improved governance, accountability, and service delivery efficiency.

The plan underscores the green economy and waste management as cross-cutting enablers for job creation, local enterprise development, and sustainable urban management.

c) Provincial Programme of Action (2023/2024)

Recent provincial priorities highlight the following clusters:

- Economic Sector, Investment, Employment and Infrastructure Development;
- Social Protection, Community and Human Development;
- Governance, State Capacity and Institutional Building.

Waste management aligns strongly with these clusters through initiatives that promote recycling, environmental protection, and small business opportunities within the circular economy.

1.12.2.1 Alignment of the LLM IWMP with Provincial Strategic Themes

The table below illustrates how the objectives and programmes of the LLM IWMP support the Mpumalanga Provincial Strategic Frameworks:

Table 2: LLM IWMP Alignment with Provincial Strategic Themes

PROVINCIAL STRATEGIC THEME	RELEVANT PROVINCIAL OBJECTIVE	LLM IWMP OBJECTIVE / PROGRAMME	ALIGNMENT / CONTRIBUTION
Environmental Sustainability and Green Economy	Promote sustainable natural resource management and expand the provincial green economy.	Waste minimisation, recycling, and beneficiation programmes; landfill rehabilitation.	LLM's initiatives to promote recycling cooperatives, composting, and material recovery facilities directly support the provincial green economy drive and circular economy principles.
Infrastructure and Service Delivery	Maintain and expand infrastructure to	Waste collection expansion, fleet	The IWMP's focus on improving collection coverage and landfill

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PROVINCIAL STRATEGIC THEME	RELEVANT PROVINCIAL OBJECTIVE	LLM IWMP OBJECTIVE / PROGRAMME	ALIGNMENT / CONTRIBUTION
	improve access to basic services.	replacement, landfill upgrading, and waste transfer stations.	compliance supports the provincial goal of improved infrastructure and service reliability.
Economic Transformation and Job Creation	Stimulate local economic development and employment opportunities.	Promotion of SMMEs and cooperatives in recycling, waste collection, and composting.	The IWMP contributes to employment creation, particularly for youth and women in the waste economy, aligning with provincial LED and job creation programmes.
Health, Safety, and Community Wellbeing	Improve community health through environmental protection and clean living environments.	Integrated waste management awareness, illegal dumping prevention, and community education campaigns.	Cleaner communities and reduced illegal dumping improve public health outcomes in line with the province's social wellbeing objectives.
Institutional Capacity and Governance	Strengthen governance systems and improve municipal performance.	Designation of Waste Management Officer (WMO), by-law enforcement, and performance monitoring.	LLM's institutional reforms ensure regulatory compliance and effective governance, supporting the provincial outcome of a capable developmental state.
Climate Change and Resilience	Enhance environmental resilience and adaptive capacity.	Waste-to-energy feasibility studies and landfill gas management.	Waste-to-energy initiatives align with the provincial climate resilience and mitigation agenda.

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CHAPTER 2

BACKGROUND INFORMATION & LEGISLATIVE FRAMEWORK

DRAFT

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2 BACKGROUND INFORMATION AND LEGISLATIVE FRAMEWORK

2.1 Lekwa Local Municipality Historical Background

The Lekwa Local Municipality is Category B municipality situated within the Gert Sibande District in the Mpumalanga Province. The municipality was established on the 5th of December 2000 after the amalgamation of 3 former Transitional Local Councils namely Standerton, Sakhile and Morgenzon. Standerton was founded in 1876 on a farm called Grootverlangen and named after its owner Commandant Adriaan Henrik Stander. The South African Republic's Volksraad approved the formation of a town at the drift in 1876 and proclaimed it two years later. It was granted municipal status in 1903.

Standerton played a role in South African history when, during the Second Boer War, a British garrison was besieged in the town for three months by Boer forces. The town also has a political history as in 1950, Robert Sobukwe was appointed as a teacher at Jandrell Secondary School, where he taught History, English, and Geography. In 1952 he lost his teaching position after speaking out in favour of the Defiance Campaign. His dismissal, however, did not last long and he was soon reinstated.

The position of Standerton was significant during the height of the wool trade in that it was halfway between Heidelberg and Marthinus Wesselstroom (Wakkerstroom today). Following the discovery of gold on the Witwatersrand, Standerton became a hive of activity with transport wagons loaded with mining equipment destined for Johannesburg traversing through town. Morgenzon, which formed part of the amalgamation, was laid out in 1912 on the farm Morgenzon and was administered by a village council from 1920. It was established around the Marnico Hotel which was built in 1912 on a wagon stopover between Standerton and Ermelo. During the early 1990s, Morgenzon was the site of a failed attempt to set up a homeland for white South Africans. The idea originated in the early 1980s, when Hendrik Verwoerd Jr, son of the former prime minister Hendrik Verwoerd, moved to Morgenzon along with a group known as Oranjewerkers. Ultimately only 20 families followed him, as his plans required them to give up their black servants and labourers, and most of Morgenzon's whites were reluctant to perform the menial tasks that were otherwise reserved for blacks.

2.2 Geographic Area

Lekwa Local Municipality is situated within Mpumalanga province, and is one of seven municipalities in the Gert Sibande District. Lekwa Local Municipality is regarded as a category

B municipality as it shares municipal executive and legislative authority with a category C municipality which is the Gert Sibande district. Lekwa Local Municipality was established on the 5th of December 2000 after the amalgamation of three former transitional local councils namely, Standerton, Sakhile and Morgenzon. It covers a total area of 4585km² and is rural in character

Lekwa Local municipality lies in the large open plains of the highveld region, characterised by tall grass and the Vaal River which transverses the municipality in a western direction. The municipality is named after the Vaal River which is commonly known as Lekwa (The Sesotho name for Vaal River). It is in the south west of the district, and serve as the immediate entrance to KwaZulu-Natal (Newcastle), Gauteng (Heidelberg), and Free State (Vrede). Lekwa Local Municipality is bounded by Govan Mbeki Local Municipality to the north, Pixley Ka Isaka Seme and Msukaligwa Local Municipalities to the east and Dipaleseng Local Municipality to the west. Standerton serves as the major urban node, whilst Morgenzon located 45km north east of Standerton, serves as a satellite node. It covers a total area of 4585km² and is rural in character.

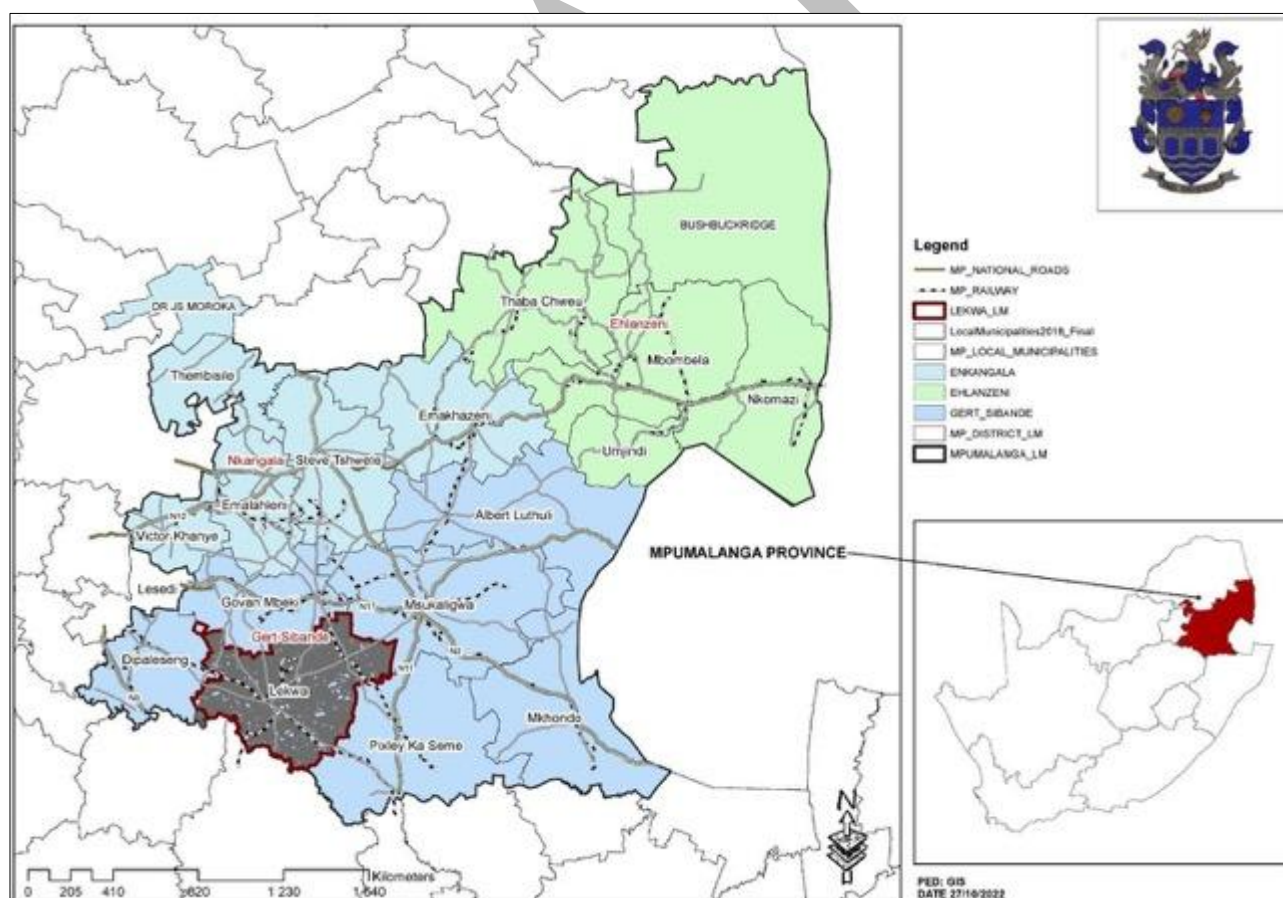


Figure 4: Lekwa Local Municipality Contextual Map (IDP 2025/2026)

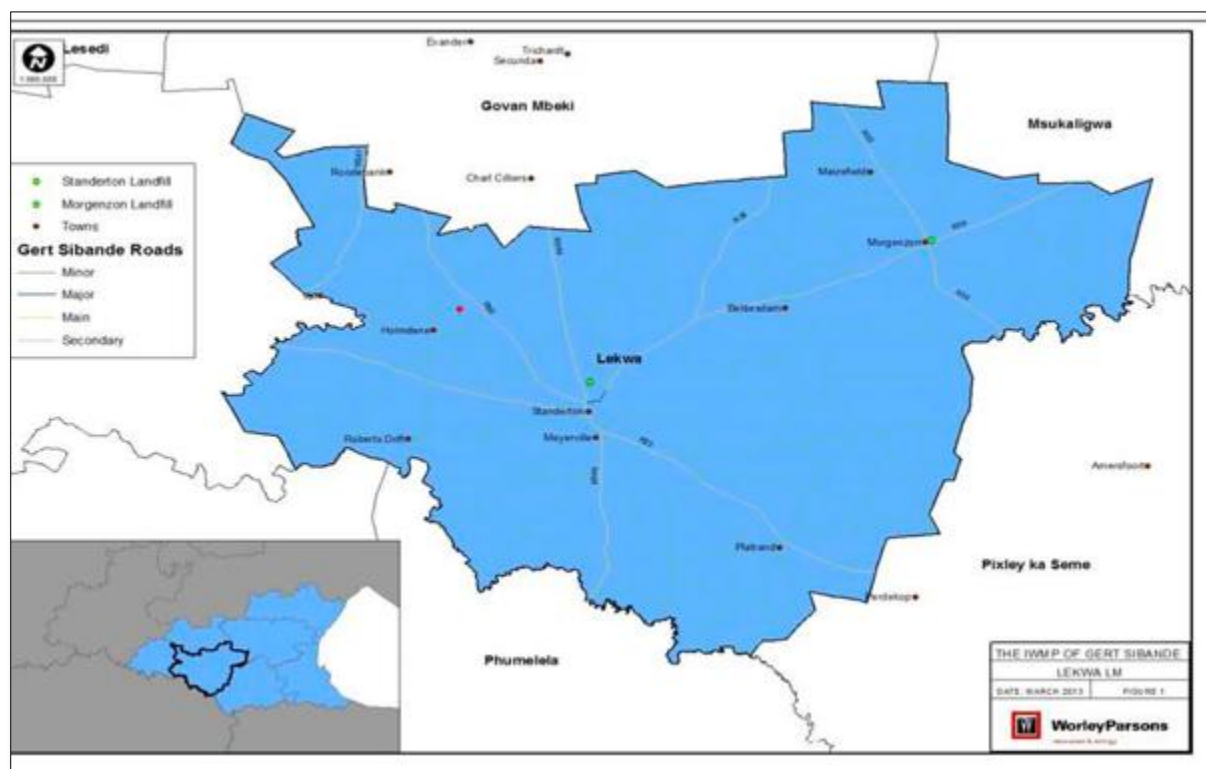


Figure 5: Locality Map of the Lekwa Municipality

Lekwa Local Municipality is administratively divided into **fifteen (15) wards**, each comprising a combination of urban, peri-urban, and rural settlements. These wards form the basic spatial and political units for planning, service delivery, and community participation in local governance. Understanding the geographic distribution of these wards is essential for effective waste management planning, equitable service provision, and resource allocation. The table below provides an overview of the ward numbers and corresponding areas within the municipal jurisdiction, highlighting key residential extensions, townships, and surrounding rural settlements that fall under each ward.

Table 3: Wards for Lekwa Local Municipality

WARD NUMBER	AREA
1	Ext 2, Mqashi, Loss, Welamlambo
2	BJ, Ext 3, Ext 9, Loss
3	Ext.1, Shivovo, Mahala Park, Stanwest
4	Meyerville, TLC
5	Jabavu, Ext 2, Phalama, Mapheshini
6	Khilani, Simendeni
7	Ext. 7

WARD NUMBER	AREA
8	Kosmos and Flora Park
9	Holmdene, Ext. 8
10	Town, Vodacom
11	Rooikoppen
12	Thuthukani and surrounding rural areas
13	Platrand and surrounding farms/ rural areas
14	Morgenzon
15	Ext.6

2.3 Waste Management And Climate Change

Waste management has a direct link to climate change because the storage, treatment, transportation and disposal of waste can result in the release of greenhouse gases (GHGs). Within Lekwa Local Municipality, the main climate change concern associated with waste management relates to the disposal of organic waste at landfill sites and uncontrolled dumping areas. When organic waste such as food waste, garden waste, paper, cardboard and other biodegradable materials decomposes under anaerobic conditions in landfill sites, methane gas is produced.

Methane is the most significant greenhouse gas associated with the waste sector because it has a much higher global warming potential than carbon dioxide. In the context of Lekwa Local Municipality, methane emissions may arise from the disposal of mixed municipal solid waste at landfill facilities, particularly where organic waste is not separated at source, composted, diverted, or otherwise treated before disposal. Illegal dumping and poorly managed waste disposal areas may also contribute indirectly to climate change through uncontrolled decomposition, burning of waste and inefficient waste collection systems.

Other waste management activities may also generate greenhouse gas emissions. These include emissions from waste collection vehicles, transportation of waste over long distances, open burning of waste, operation of waste facilities, and the treatment or disposal of certain waste streams. Open burning of waste is of particular concern as it

releases carbon dioxide and other air pollutants, while also posing risks to human health and the environment.

Waste prevention, recycling, composting, reuse and recovery are important climate change mitigation measures for Lekwa Local Municipality. By reducing the amount of waste disposed of at landfill sites, the municipality can reduce methane emissions, extend the lifespan of landfill facilities and reduce pressure on municipal waste infrastructure. Recycling also reduces the need for extraction, processing and manufacturing of new raw materials, which results in energy savings and reduced greenhouse gas emissions. Composting of organic waste, where properly managed, can reduce landfill disposal and produce compost that may be used for soil improvement, landscaping, agriculture and rehabilitation purposes.

The Integrated Waste Management Plan therefore promote waste minimisation and climate-resilient waste management practices, including:

Climate Change Issue	Relevance to Lekwa Local Municipality	Recommended IWMP Response
Methane emissions from organic waste disposed at landfill	Organic waste decomposes in landfill sites and produces methane, especially where waste is disposed of in mixed form	Promote separation at source, composting, diversion of garden waste and food waste, and reduction of biodegradable waste to landfill
Open burning of waste	Illegal dumping areas and poorly managed waste areas may result in burning of waste, releasing carbon dioxide and harmful pollutants	Strengthen enforcement, public awareness, improved waste collection coverage and rapid clean-up of illegal dumping hotspots
Emissions from waste collection and transportation	Waste collection vehicles contribute to fuel-related emissions	Optimise collection routes, maintain fleet vehicles, improve operational efficiency and reduce unnecessary waste transport distances
Limited recycling and recovery	Disposal of recyclable materials increases landfill volumes and missed resource recovery opportunities	Support recycling initiatives, buy-back centres, waste picker integration and partnerships with private recyclers
Organic waste not diverted from landfill	Garden waste, food waste and other biodegradable waste contribute to methane generation	Establish or strengthen composting initiatives, garden waste drop-off areas and organic waste diversion programmes

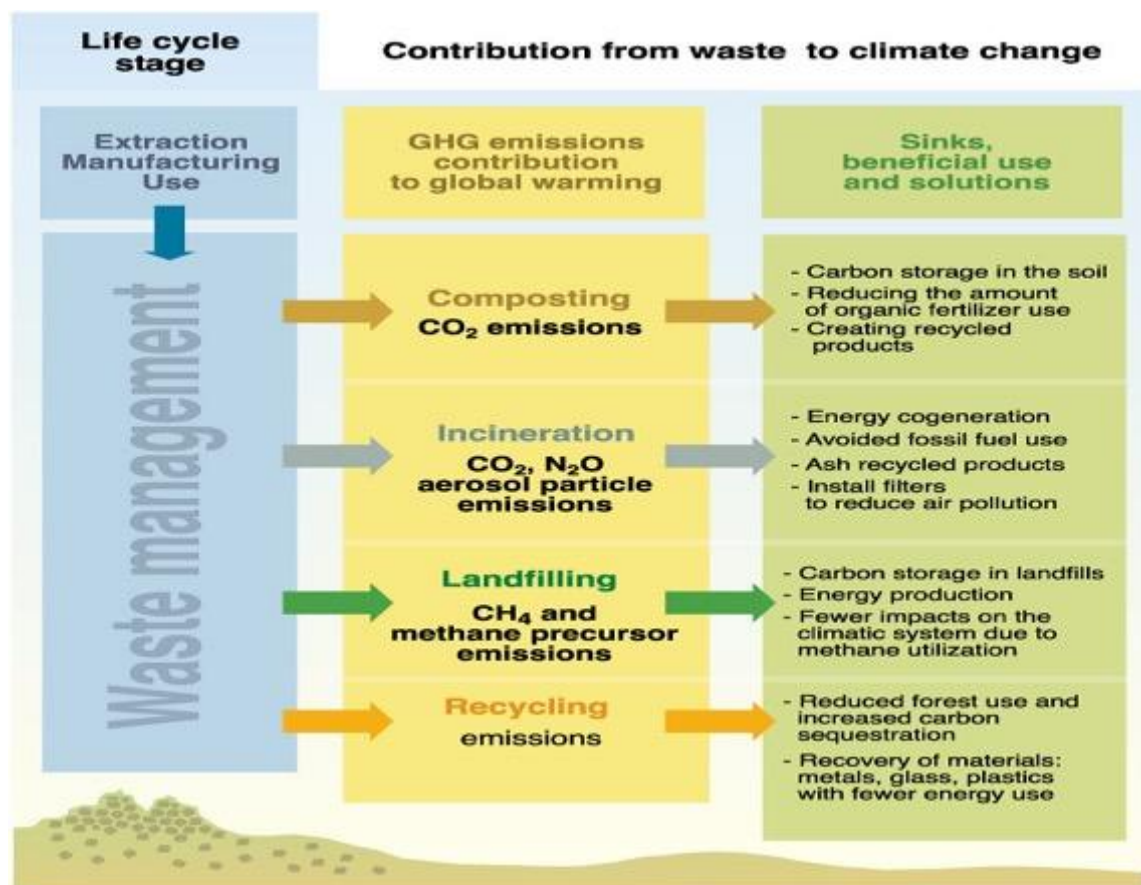


Figure 6: Contribution from waste to climate change

2.3.1 Sources Of GHG

Methane emissions from landfill are generally considered to represent the major source of climate impact in the waste sector (this impact is quantified in later sections). It is worth noting that, if a broader view of waste management were taken, which included materials management, landfill methane would no longer be the largest source of GHG in the sector. Waste contains organic material, such as food, paper, wood, and garden trimmings. Once waste is deposited in a landfill, microbes begin to consume the carbon in organic material, which causes decomposition. Under the anaerobic conditions prevalent in landfills, the microbial communities contain methane-producing bacteria. As the microbes gradually decompose organic matter over time, methane (approximately 50%), carbon dioxide (approximately 50%), and other trace amounts of gaseous compounds (< 1%) are generated and form landfill gas. In controlled landfills, the process of burying waste and regularly covering deposits with a low permeability material creates an internal environment that favours methane-producing bacteria.

As with any ecological system, optimum conditions of temperature, moisture, and nutrient source (i.e., organic waste) result in greater biochemical activity and hence greater generation of landfill gas. The gradual decay of the carbon stock in a landfill generates emissions even after waste disposal has ceased. This is because the chemical and biochemical reactions take time to progress and only a small amount of the carbon contained in waste is emitted in the year this waste is disposed. Most is emitted gradually over a period of years.

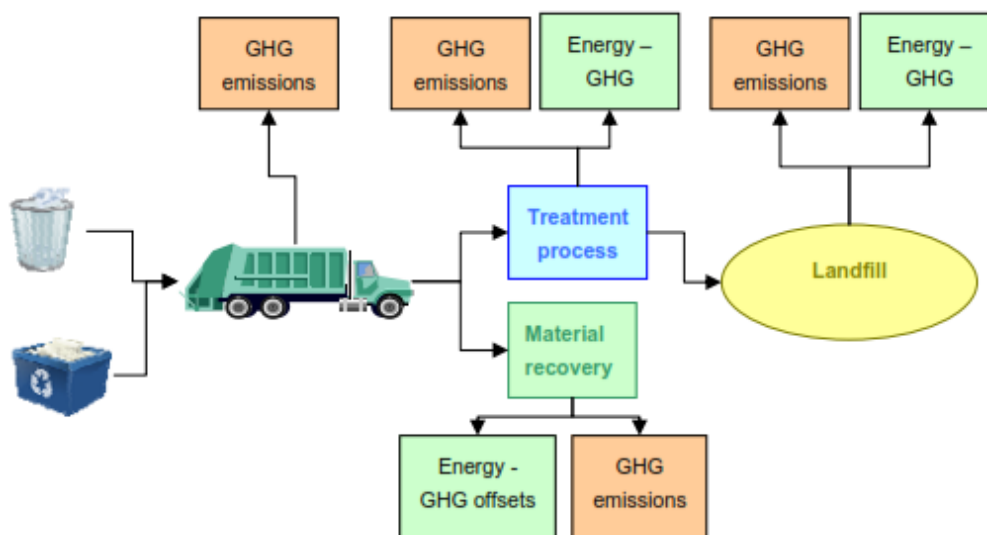


Figure 7: Simplified schematic of waste management system and GHG emissions in urban waste management.

“The diagram shows how waste can cause greenhouse gas emissions from the time it is collected until it is finally disposed of. Waste is first collected from bins and loaded into a waste collection truck. The truck transports the waste to a treatment or recovery facility. During transportation, the truck produces GHG emissions because it uses fuel. At the treatment facility, the waste may go through a treatment process or material recovery process. These processes can also produce GHG emissions, but they can also save energy or reduce emissions by recovering useful materials. Some recovered materials can be reused or recycled. This helps to create energy and GHG offsets, meaning it reduces the need to produce new materials and therefore reduces emissions. The remaining waste that cannot be recovered or treated is taken to a landfill. The landfill can produce GHG emissions, mainly from waste breaking down over time. However, if landfill gas is captured and used for energy, it can also create energy and GHG benefits.”

2.4 Legislative Framework

2.5 Lekwa Local Municipality Waste Management Obligation

It is illegal to engage in the actions (offences) listed in Section 49A of the National Environmental Management Act of 1998 (Act No. 107 of 1998), and the municipality must comply with those

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laws (NEMA). In accordance with Section 49B, a person found guilty of an offence is subject to a fine of no more than R10 million, a term of imprisonment of no more than 10 years, or both.

The following legal mandates and obligations have an impact on how waste is managed in the municipality jurisdiction.

2.5.1 The South African National Constitution Act 108 Of 1996

The South African Constitution (Act 108 of 1996) is the supreme law of the land. All laws, including environmental waste management planning must comply with the Constitution. The Constitution states that the people of South Africa have the right to an environment that is not detrimental to human health and imposes a duty on the state to promulgate legislation and to implement policies to ensure that this right is upheld. All departments of state or administration in the national, provincial or local levels of government have similar obligations. The principles of co governance are also set out in the Constitution and the roles and responsibilities of the three levels of government are defined.

According to the Constitution, responsibility for waste management functions is to be devolved to the lowest possible level of government. Local government therefore is assigned the responsibility for refuse removal, refuse dumps and solid waste disposal. Provincial government has the exclusive responsibility to ensure that local government carries out these functions effectively.

Status of Lekwa LM Compliance with the South African National Constitution Act

Lekwa Local Municipality is partially compliant with the constitutional waste management mandate. The Municipality has an approved IWMP framework, provides waste collection services to a significant number of households, operates a licensed landfill facility at Standerton, and has identified implementation goals for waste minimisation, service extension, landfill compliance, budgeting, awareness and by-law enforcement.

However, there are clear compliance gaps. These include unserved households, operational non-compliance at the Standerton landfill, limited access control, burning of waste, insufficient covering of waste, lack of adequate landfill monitoring, closure and rehabilitation requirements at Morgenzon, limited recycling at source, inadequate by-law enforcement and resource constraints.

The Municipality is working towards compliance through the IWMP implementation plan, which includes extending waste collection services, improving landfill operations, conducting audits,

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developing operational plans, improving budgeting, formalising recyclers, strengthening awareness campaigns, reporting on IWMP implementation and appointing by-law enforcement officers. These measures should be prioritised and monitored annually to ensure that Lekwa LM progressively fulfils its constitutional obligation to provide waste management services in a manner that protects human health and the environment.

2.5.2 National Environmental Management Act 107 Of 1998

The National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) as amended is the framework Act dealing with environmental management in South Africa. It imposes a duty of care on every person who causes environmental degradation to put measures in place to stop, reduce or rectify the pollution as it occurs. The environmental impact assessments that are required for the establishment and management of waste facilities are conducted under this legislation. The national environmental management principles in Section 2 of the Act provide for the sound management of the environment, which includes waste aspects such as the polluter pays, duty of care, proximity, and regionalization and cradle to grave principles. Section 24 of the Act makes provision for the application and enforcement of waste management licences. The duty of care and the remediation of environmental damage are addressed in Section 28 of the Act. The principles enunciated in the NEMA need to inform waste management decision making and practices.

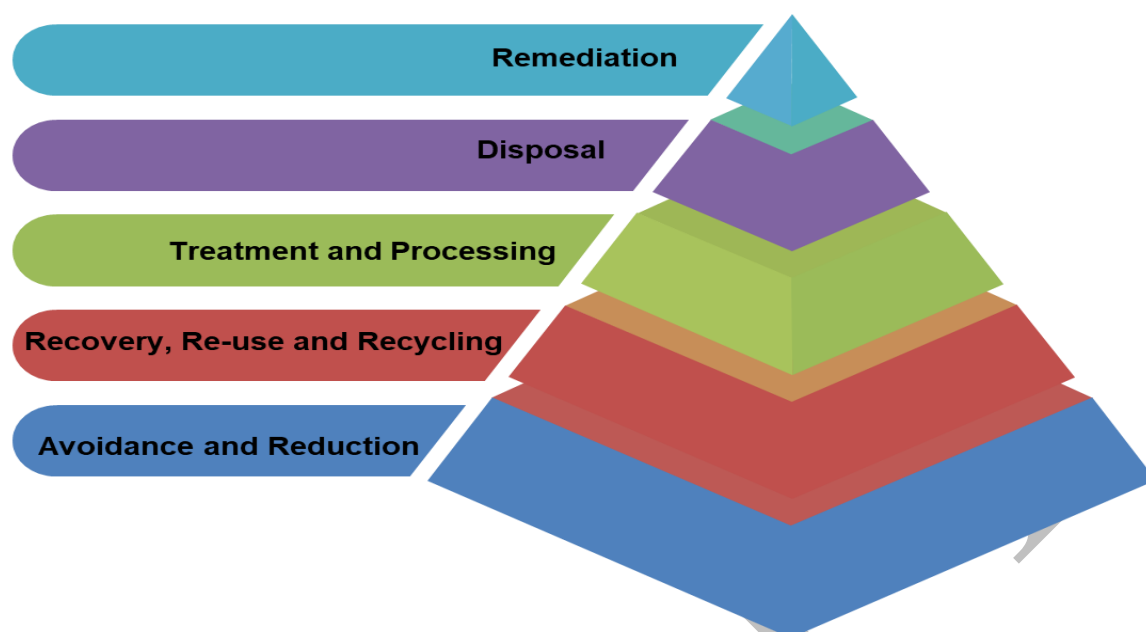
A key aspect of NEMA is that it provides a set of environmental management principles including Precautionary, Polluter pays and Prevention and duty of care as well as the Waste Management Hierarchy that apply throughout the Republic to the actions of all organs of state that may significantly affect the environment. In addition, Section 28 of NEMA, affectionately known as the “duty of care” provision, requires persons which are defined in the section to take reasonable measures to combat pollution or degradation of the environment.

The Rio Declaration on Environment and Development (1992) defined the Precautionary Principle as “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

² *The polluter pays principle states that “whoever is responsible for damage to the environment should bear the costs associated with it.” It is entrenched in Principle 16 of the Rio Declaration on Environment and Development (1992).*

³ *The Prevention and duty of care principle holds that environmental protection must be undertaken, first and foremost, in the form of preventive measures*

Failure to do so may result in the expropriation of whatever rights in land may be necessary to carry out any rehabilitation or remedial work.



Status of Lekwa LM Compliance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA)

The National Environmental Management Act, 1998 (Act 107 of 1998), as amended, has significant implications for waste management within Lekwa Local Municipality. NEMA provides the overarching environmental management framework for South Africa and establishes principles that must guide municipal decision-making, planning, service delivery and enforcement. These include the duty of care, prevention of pollution, precautionary approach, polluter pays principle, sustainable development, waste minimisation, public participation and accountability.

In terms of NEMA, Lekwa Local Municipality is required to ensure that waste management activities are undertaken in a manner that prevents pollution and environmental degradation. This includes the proper collection, transportation, treatment and disposal of waste, as well as the prevention of illegal dumping, burning of waste, nuisance conditions, odours, vectors, windblown litter, soil contamination and potential water pollution. The Municipality must also ensure that waste disposal facilities are operated lawfully and in accordance with applicable authorisations, licences and environmental management requirements.

Lekwa Local Municipality is partially compliant with the requirements and principles of NEMA. The Municipality has developed an IWMP, provides waste collection services to a significant number of households, operates the licensed Standerton landfill site, has a closure licence for the

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Morgenzon landfill site, reports waste information to SAWIS, and has identified waste minimisation, recycling, landfill compliance, public awareness and enforcement as key implementation priorities.

However, gaps remain. The Standerton landfill is not fully operated in accordance with licence conditions. The IWMP identifies inadequate covering of waste, limited availability of cover material, uncontrolled reclaiming, burning of waste, lack of fencing, poor access control, absence of groundwater monitoring, lack of separation of clean and contaminated water, and inadequate operational controls. These gaps have implications for NEMA's duty of care, precautionary principle, prevention principle and polluter pays principle.

Lekwa Local Municipality is working towards compliance through the IWMP implementation plan. The planned measures include conducting landfill site audits, developing and reviewing a landfill operation and maintenance plan, training landfill personnel, improving waste minimisation initiatives, formalising recycling activities, strengthening education and awareness campaigns, improving waste information management, reviewing tariffs and budgeting for waste services. To fully align with NEMA, the Municipality should prioritise landfill operational compliance, access control, groundwater monitoring, stormwater and leachate management, illegal dumping enforcement, proper rehabilitation planning and improved financial provision for landfill closure and remediation.

2.5.3 National Environmental Management: Waste Act 59 Of 2008

The National Environmental Management: Waste Act (No 59 of 2008) asserts the roles of both national and provincial government in waste management. National governments competence to legislate is established in line with section 44 of the Constitution on the grounds of the need to maintain essential national standards, establish uniform norms and standards, and to promote and give effect to the right to an environment that is not harmful to health and well-being. The Act establishes a national framework for waste planning, regulation, and management with roles for all spheres of government, specifically:

- i) The national government is tasked with establishing a national waste management strategy, including norms, standards and targets. National norms and standards may cover all aspects of the waste value chain, from planning to service delivery. Of particular importance from an intergovernmental perspective are the powers of national government with respect to norms and standards for:
 - The regionalization of waste management services;
 - Tariffs for waste services provided by municipalities, including providing for tariffs to be imposed to provide for waste management infrastructure or facilities and ensuring

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that funds obtained from the provision of waste services are used for the delivery of these services.

- ii) Provincial governments are tasked with the implementation of the national waste management strategy and national norms and standards, and may set additional, complementary provincial norms and standards. The Waste Act notes that these norms and standards –must amongst other things facilitate and advance regionalization of waste management services.
- iii) Local governments are required to ensure the universal and sustainable delivery of services, subject to national and provincial regulation. They are required to maintain separate financial statements, including a balance sheet of the services provided.

Chapter 2: Part 2 requires the Minister to set national norms and standards for the classification of waste – refer to Waste Classification and Management Regulations, Government Notice 36784, 23 August 2013; planning and provision of waste management services – refer to National Domestic Waste Collection Standards, Government Notice 33935, 21 January 2011, and storage, treatment, and disposal of waste, including the planning and operation of waste treatment and waste disposal facilities.

Section 9 states that the municipality must exercise its executive authority to provide waste management services in a manner that complies with the national and provincial norms and standards drawn up by the Minister.

In **Chapter 3** of the Act, it states that an Integrated Waste Management Plan (IWMP) must be drawn up and also underlines the contents on the IWMP. Certain waste management measures have been outlined in Chapter 4 of the Act.

Chapter 4 is fragmented into different parts, each focusing on a certain waste management measure:

- Part 1 stipulates that the Minister must declare a certain waste to be a priority given that the associated waste poses a threat to the environment.
- Part 2 designates the duties for all holders of waste to try to minimise the quantity of waste generated and should adopt recycling initiatives.
- Part 3 focuses on the measures that can be implemented in order to promote the recycling and reuse of waste.
- Part 5 outlines and defines the duties of the waste holder as well as the waste collection service provider in order to achieve efficient and effective waste storage, collection, and transportation.

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- Part 6 deals with the measures that need to be taken in terms of treatment, processing, and disposal of waste.
- Part 7 gives the Minister and the provincial MEC the authority to require the preparation of Industry Waste Management Plans.
- Part 8 focuses on Contaminated Land. It must be noted that by proclamation of the Minister in the Gazette, this section came into effect on 2 May 2014. On the same date the “National Norms and Standards for the Remediation of Contaminated Land and Soil Quality” were promulgated (see 1.1.4.7).

Chapter 5 designates the Minister as the licensing authority with respect to all waste management activities that involve obligations or other contractual agreements.

Status of Lekwa LM Compliance with the National Environmental Management: Waste Act (No 59 of 2008).

Lekwa Local Municipality is partially compliant with the National Environmental Management: Waste Act. The Municipality has developed an IWMP in terms of NEMWA, provides waste collection services to many households, operates a licensed landfill at Standerton, reports waste data to SAWIS/SAWIC, and has identified implementation measures for waste minimisation, recycling, landfill compliance, awareness, enforcement and financial planning.

However, the Municipality is not fully compliant in several operational areas. Key gaps include unserviced households, inadequate landfill operational compliance at Standerton, illegal disposal at the closed Morgenzon landfill, weak access control, burning of waste, limited recycling and waste minimisation, lack of a weighbridge, funding constraints and inadequate financial provision for landfill closure.

The Municipality is working towards compliance through its IWMP implementation plan, but the Morgenzon illegal disposal issue should be treated as a priority compliance matter because it directly undermines the closure licence and exposes the Municipality to potential enforcement action under NEMWA.

2.5.3.1 National Environmental Management: Waste Act, 2008(Act No.59 of 2008: National Domestic Waste Collection Standards, Government Notice 33935, 21 January 2011

This notice aims to standardize waste service delivery to ensure that this service be available to all while complying with current health and safety legislations as well as minimally changing those waste collection processes that function effectively and efficiently. The standards which are defined in this document are based on the principles outlined in **Section 2. The National Domestic Waste Collections Standards (NDWCS) also specifies that recyclables which are not collected at households should be deposited at drop-off centres which must be easily**

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accessible to households. These drop-off centres must promote recycling, ensure user friendliness and also collection must be done at regular intervals so that it does not cause a nuisance.

The standards and regulations aimed for ensuring health and safety of Waste Collection Personnel are addressed in **Section 7** of this document. The NDWCS defines that there should be mechanisms in place to ensure that there be transparent communication between different stakeholders.

Section 8 of this document stipulates that the service provider must create awareness amongst households about waste collection services offered, source separation, composting and the consequences of illegal dumping. This notice also outlines the role of the Waste Management Officer regarding waste awareness and the handling of complaints are prescribed.

Status of Lekwa LM Compliance with the National Domestic Waste Collection Standards, Government Notice 33935

Lekwa Local Municipality is partially compliant with the National Domestic Waste Collection Standards. The municipality has an IWMP, provides weekly waste collection in serviced areas, has identified the NDWCS service levels, and has incorporated waste management improvement actions into the IDP and IWMP. However, full compliance has not yet been achieved because some households remain unserved, fleet capacity is inadequate, landfill operations are not fully compliant with licence conditions, recycling/drop-off infrastructure is limited, by-laws are not yet fully promulgated and enforced, and illegal dumping remains a community concern.

The municipality is, however, working towards compliance through the IWMP and IDP commitments, including extension of waste services to unserved areas, procurement of additional refuse trucks, regular fleet maintenance, environmental awareness campaigns, formalisation of recyclers, development of recycler databases, possible buy-back centres, landfill upgrading/rehabilitation, gazetting of waste by-laws and appointment of by-law enforcement officers.

2.5.3.2 National Environmental Management: Waste Act, 2008(Act No.59 of 2008: National Waste Information Regulations, Government Notice 35583, 13 August 2012

This notice illustrates the regulations for the collections of data and information to fulfil the objectives of the national waste information system set out in section 61 of the Waste Act. These regulations apply uniformly to all persons conducting an activity listed in Annexure 1 of this

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notice. A person who conducts an activity in a province that has established waste information system in terms of Section 62 of the Waste Act and collects the minimum information required by the regulations must submit the information to a provincial waste information system, or the South African Waste Information System.

Status of Lekwa LM Compliance with the National Waste Information Regulations, Government Notice 35583

Lekwa Local Municipality is partially compliant with the National Waste Information Regulations, GN 35583 of 13 August 2012. The municipality participates in the South African Waste Information System through the reporting of waste data, particularly for the Standerton Landfill Site. The current IWMP also uses waste disposal records, waste transporter information and SAWIS data to determine waste types and quantities within the municipal area. However, compliance gaps remain, particularly in relation to incomplete reporting from the Morgenzon Landfill Site, inconsistent reporting by registered facilities, data anomalies, limited internal waste information management systems, and the absence of weighbridge-based waste quantification at municipal disposal facilities. The municipality is working towards compliance through the Draft IWMP, which identifies the establishment of a functional Waste Information Management System as a key goal and recommends improved registration, monthly data submission, data validation, designation of a Waste Information Officer, and improved coordination with provincial authorities and private waste operators.

2.5.3.3 National Environmental Management: Waste Act, 2008 (Act No.59 of 2008: Waste Classification and Management Regulations, Government Notice 36784, 23 August 2013

The purpose of this Regulation is to regulate the classification and management of waste in manner which supports and implements the provisions of the Waste Act; to establish a mechanism and procedure for the listing of waste management activities that do not require a Waste Management License; to prescribe requirements for the disposal of waste to a landfill; to prescribe general duties of waste generators, transporters, and managers.

Status of Lekwa LM Compliance with the Waste Classification and Management Regulations.

Lekwa Local Municipality is partially compliant with the Waste Classification and Management Regulations, GN 36784 of 23 August 2013. The municipality has identified the main waste streams generated within its jurisdiction, including domestic waste, business waste, garden waste, construction and demolition waste, health care risk waste, industrial waste and mining-related waste. The municipality currently provides collection services mainly for general, light

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industrial and commercial non-hazardous waste and recognises that hazardous industrial waste, mining waste and health care risk waste must not be disposed of at municipal general waste landfill sites. However, compliance gaps remain in relation to waste classification verification, waste record keeping at landfill sites, inadequate operational controls at Standerton Landfill, delayed rehabilitation of the closed Morgenzon Landfill, illegal dumping, and limited formal systems for the diversion and proper management of garden waste, construction and demolition waste, waste tyres and household hazardous waste. Lekwa LM is working towards compliance through the Draft IWMP, which identifies improved landfill operations, waste information management, regulatory compliance, recycling, composting, rehabilitation of Morgenzon Landfill and improved institutional capacity as key interventions.

2.5.3.4 National Environmental Management: Waste Act, 2008(Act No.59 of 2008: National Norms and Standards for the Assessment of Waste for Landfill Disposal, Government Notice 36784, 23 August 2013

The purpose of the Norms and Standards is to prescribe the requirements for the assessment of waste prior to disposal to landfill in terms of Section 8(1) a of the Waste Classification and Management Regulations.

The notice underlines the Standard Assessment Methodology to assess waste for the purpose of disposal to landfills which require the following:

- Identification of chemical substances present in waste
- Sampling and analysis to determine the total concentrations (TC) and leachable concentrations (LC) of the elements and chemical substances that have been identified in the waste and that are specified in Section 6 of this Notice.

Within 3 years of the date of commencement of the Regulations, all analysis of the TC and LC must be conducted by labs accredited by SANAS. The TC and LC limits must be compared to the threshold limits specified in section 6 of this notice. Based on the TC and LC limits the specific type of waste for disposal to landfill must be determined in terms of Section 7.

Status of Lekwa LM Compliance with the National Norms and Standards for the Assessment of Waste for Landfill Disposal

Lekwa Local Municipality is partially compliant with the National Norms and Standards for the Assessment of Waste for Landfill Disposal, GN 36784 of 23 August 2013. The municipality mainly manages general municipal waste streams, including domestic waste, garden waste and construction and demolition waste, and recognises that hazardous industrial waste, mining waste and health care risk waste must not be disposed of at municipal general waste landfill sites. However, compliance gaps remain because there is limited evidence of routine waste assessment, chemical substance identification, sampling and analysis of total concentration and leachable

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concentration, use of SANAS-accredited laboratories for waste streams requiring assessment, and formal waste acceptance procedures at municipal landfill sites. Operational gaps at Standerton Landfill, including inadequate access control, weak record keeping, lack of daily cover, absence of groundwater monitoring and lack of separation of clean and contaminated water, further increase the risk of inappropriate waste disposal. The closed Morgenzon Landfill Site also remains a concern due to ongoing illegal dumping of rubble and potentially hazardous waste. Lekwa LM is working towards compliance through the IWMP implementation actions, including landfill audits, development of landfill operation and maintenance plans, staff training, improved waste information management, operationalisation of the Standerton weighbridge and rehabilitation of the Morgenzon Landfill Site. Further compliance can be achieved by implementing a formal waste acceptance, screening, classification and assessment procedure for all waste entering municipal disposal facilities.

2.5.4 The National Waste Management Strategy GNR 42879 OF 2020

The National Waste Management Strategy (NWMS,2020) is a legislative requirement of NEM: WA. The purpose of the NWMS is to give effect in achieving the objectives outlined in the NEM: WA. The 2020 NWMS is a revision and update of the 2011 NWMS. Organs of state and affected persons are obliged to give effect to the NWMS. The 2020 NWMS is structured around central implementation themes that are described in terms of strategic objectives and actions:

- Theme 1: Waste Minimisation
- Theme 2: Effective and Sustainable Waste Services
- Theme 3: Waste Awareness and Compliance

The NWMS overall aim is to reduce the generation and environmental impacts associated with poor waste management. It presents a plan on how to achieve the desired goals outlined in the document which will ultimately promote a cleaner, healthier environment within South Africa.

Status of Lekwa LM Compliance with the National Waste Management Strategy GNR 42879 of 2020

Lekwa Local Municipality is partially compliant with the National Waste Management Strategy, 2020. The municipality's IWMP is aligned with the NWMS waste hierarchy and includes goals for waste minimisation, recycling, recovery, effective waste service delivery, safe disposal, public awareness, compliance enforcement and waste information management. However, implementation gaps remain, including limited separation at source, inadequate recycling and composting infrastructure, lack of municipal-wide recycling drop-off centres, illegal dumping, landfill operational non-compliance, weak by-law enforcement, incomplete waste data, limited

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funding and institutional capacity constraints. Lekwa LM is working towards compliance through planned IWMP interventions, including recycling projects, waste minimisation awareness, development of recycler databases, capacity building for recyclers, extension of services to unserved areas, landfill audits, landfill operation and maintenance planning, community education programmes, improved SAWIC reporting and strengthening of by-law enforcement. Full compliance will require adequate funding, clear implementation timeframes, responsible officials, measurable targets and annual performance reporting.

2.5.5 National Environmental Management: Air Quality Act 39 OF 2004

This act aims to protect the environment by providing reasonable measures for the protection and enhancement of the quality of air as well as for the prevention of air pollution and ecological degradation. Chapter 2 of the act stipulates the establishment of a national framework to achieve the objects of the act. This national framework will contain aspects of ambient air quality standards as well as national norms and standards on air quality management. This act also outlines the contents of air quality management plans and the procedure to be followed for the application of atmospheric emission license.

Section 21(1) as of this act stipulates that the Minister must publish a list of activities that will have significant detrimental effects on the environment. This list was published in the following document:

List of Activities Which Result in Atmospheric Emissions Which Have or May Have A Significant Detrimental Effect On The Environment, Including Health, Social Conditions, Economic Conditions, Ecological Conditions Or Cultural Heritage (GNR 248, March 2010).

This document contains the emission standards for cement production using alternative fuels and/or resources (AFR). This is an important aspect in terms of waste management because thermal waste treatment can be implemented during cement production. This involves the use of waste as an AFR in the cement production process.

Status of Lekwa LM Compliance with the National Environmental Management: Air Quality Act

Lekwa Local Municipality is partially compliant with the National Environmental Management: Air Quality Act, 2004 insofar as it recognises air quality legislation as relevant to waste management and currently does not operate a municipal waste incineration, thermal treatment or waste-to-energy facility requiring an Atmospheric Emission Licence. However, waste management activities within the municipality present air quality risks, particularly at the Standerton Landfill Site, where poor compaction, irregular covering of waste and reported

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burning by informal reclaimers may result in smoke, odour nuisance, particulate emissions and landfill fire risks. Illegal dumping, particularly at the closed Morgenzon Landfill Site, also creates potential air quality impacts through uncontrolled burning, odours and dust. Lekwa LM is working towards compliance through the IWMP, which identifies the need to improve landfill operations, rehabilitate non-compliant sites, strengthen security and access control, improve waste disposal practices and consider transfer stations and buy-back centres to reduce inefficient waste transport. Further compliance can be achieved by implementing a landfill fire prevention plan, prohibiting open burning, improving daily cover and compaction, maintaining an odour and dust complaint register, and ensuring that any future thermal treatment, waste-to-energy or AFR-related waste project is screened for Atmospheric Emission Licence requirements before implementation.

2.5.6 National Policy For The Provision Of Basic Refuse Removal Services To Indigent Households, Government Notice 34385, 22 June 2011

The National Policy on Free Basic Refuse Removal (FBRR) aims to address the need for free basic refuse removal among impoverished households. Many municipalities experience many challenges with respect to delivering an effective and sustainable waste service to all households. Some of the problems currently experienced by municipalities in terms of waste management are insufficient budget allocation, lack of equipment, skilled staff and poor access to service areas. There are 3 objectives of the National Policy on FBRR. The first, being to establish a framework for the development, identification and management of indigent households that can be enrolled for the FBRR service within the municipality. The second is to set broad principles, resulting in the adoption of bylaws for the implementation and enforcement of tariff policies that will support the FBRR service within the concerned municipalities. The last of these principals is to educate and raise awareness within municipalities regarding proper handling of domestic waste for FBRR as well as for the need to minimise waste and promote recycling.

Status of Lekwa LM Compliance with the National Policy For The Provision Of Basic Refuse Removal Services To Indigent Households, Government Notice 34385

Lekwa Local Municipality is partially compliant with the National Policy for the Provision of Basic Refuse Removal Services to Indigent Households, GN 34385 of 22 June 2011. The 2022–2027 IWMP identifies 1,647 indigent households and indicates that no registered indigent households were unserved at the time of the 2016 waste collection data. However, the municipality also recorded that 6,816 households were not receiving waste removal services, mainly due to rural service delivery limitations. This indicates that broader service coverage gaps remain and that the indigent register must be regularly updated and verified against actual service delivery.

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Lekwa LM is working towards compliance through the IWMP, which prioritises extension of waste collection to unserved and underserved areas, route optimisation, procurement of critical equipment, interim collection points, clean-up campaigns, awareness programmes and improved financial management. Full compliance will require an updated indigent household database, a dedicated Free Basic Refuse Removal implementation framework, proper tariff and subsidy application, provision of appropriate bins or communal collection systems, stronger by-law enforcement, and annual reporting on the number of indigent households receiving basic refuse removal services.

2.5.7 White Paper On Integrated Pollution And Waste Management For South Africa Of 2000

The White Paper on Integrated Pollution and Waste Management for South Africa serves to inform the public of the government's objectives towards integrated pollution and waste management as well as how the government intends to achieve these objectives. This document also intends to inform government agencies and State organs of these objectives, and their roles in achieving them. It also illustrates the shift from the way waste management was dealt with previously, mainly tackling post-consumer waste, towards a newer more holistic approach of waste management. This document also encourages the amalgamation of all existing legislations pertaining to waste management and pollution into a single piece of legislation dealing with all waste and pollution matters.

Status of Lekwa LM Compliance with the White Paper on Integrated Pollution and Waste Management for South Africa

Lekwa Local Municipality is partially compliant with the White Paper on Integrated Pollution and Waste Management for South Africa, 2000. The municipality has developed an IWMP and recognises the need to shift from a disposal-focused approach towards integrated waste management, pollution prevention, waste minimisation, recycling, compliance monitoring and public awareness. However, implementation gaps remain, including continued reliance on landfill disposal, limited separation at source, insufficient recycling and composting systems, illegal dumping, weak enforcement capacity, incomplete waste information records, limited digital data capture, weak landfill access control and insufficient documented pollution prevention measures. Lekwa LM is working towards compliance through IWMP actions that include landfill monitoring, safe disposal, awareness campaigns, school competitions, illegal dumping clean-ups, improved SAWIC reporting, by-law enforcement, waste forums and spatial mapping of pollution hotspots. Full alignment with the White Paper will require stronger preventative controls, measurable waste minimisation targets, improved landfill operations,

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enhanced enforcement, digital waste data systems and greater investment in recycling, composting and community education.

2.5.8 White Paper On Environmental Management Notice 749 Of 1998

The White Paper on Environmental Management was published in 1998. This policy sets out government's objectives in relation to environmental management, how it intends to achieve its objectives, and to guide government agencies and organs of state in developing strategies to meet their objectives. The policy document is an overarching policy framework that refers to all government institutions and to all activities that impact on the environment.

The policy states that government will allocate functions to the institutions and spheres of government that can most effectively achieve the objectives of sustainable development and integrated environmental management. This would include the allocation of certain functions to the municipal sphere of government. Where appropriate, provincial, and local government are to develop their own legislation and implementation strategies to address their specific needs and conditions within the framework of the policy.

Status of Lekwa LM Compliance with the White Paper on Environmental Management

Lekwa Local Municipality is partially compliant with the White Paper on Environmental Management, Notice 749 of 1998. The municipality has incorporated environmental management principles into its waste planning through the development of an Integrated Waste Management Plan and the preparation of a new IWMP. This demonstrates alignment with the White Paper's objectives of sustainable development, integrated environmental management, cooperative governance and the allocation of environmental functions to the municipal sphere where appropriate. However, implementation gaps remain, including landfill operational non-compliance, regular burning of waste at Standerton Landfill, uncontrolled reclaiming, illegal dumping, limited formal recycling and composting systems, weak waste information management, service delivery constraints and limited enforcement capacity. Lekwa LM is working towards compliance through the review of the previous IWMP, identification of implementation gaps, extension of waste services to unserved areas, planned improvement of landfill operations, formalisation of recycling, public awareness, by-law enforcement and strengthening of waste information systems. Full compliance will require funded implementation, measurable performance indicators, improved landfill compliance, stronger pollution prevention measures and continuous monitoring and reporting.

2.5.9 Hazardous Substances Act 15 Of 1973 (24 February 2000 – To Date)

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This legislation aims to address substances that are deemed hazardous, in order to regulate and prohibit the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances. In terms of waste management, Section 29 of the Hazardous Substances Act stipulates that the Minister has the designated authority to authorise, regulate or prohibit the dumping of hazardous substances. Industries that generate hazardous waste must produce an industrial waste management plan.

Status of Lekwa LM Compliance with the Hazardous Substances Act

Lekwa Local Municipality is partially compliant with the Hazardous Substances Act, 1973 in relation to waste management. The municipality provides collection services mainly for general and non-hazardous commercial waste and does not collect hazardous industrial or mining waste. The IWMP recognises that industrial waste is regarded as hazardous until proven otherwise and is prohibited from disposal at general municipal waste disposal sites. It further recognises that health care risk waste and mining waste must not be disposed of at municipal landfill sites and that access control and record keeping are required to prevent such disposal. However, compliance gaps remain in relation to landfill gate control, illegal dumping, incomplete oversight of hazardous waste generators, inconsistent SAWIS/SAWIC reporting, limited verification of waste manifests and disposal certificates, absence of household hazardous waste drop-off systems, and weak by-law enforcement. Lekwa LM is working towards compliance through improved waste information management, strengthened coordination with DARDLEA and private operators, improved reporting, and planned strengthening of by-law enforcement. Full compliance will require formal hazardous waste screening procedures, stronger access control at landfill sites, a hazardous waste generator register, awareness campaigns and safe disposal options for household hazardous waste.

2.5.10 National Water Act 36 Of 1998

The National Water Act contains several provisions that impact on waste management, including the disposing of waste in a manner which detrimentally impacts on a water resource and the discharge of waste into a water resource. The Act allows the Minister to make regulations for: Prescribing waste standards, which specify the quantity, quality and temperature of waste that may be discharged or deposited into or allowed to enter a water resource. Prescribe the outcome or effect, which must be achieved through management practices for the treatment of waste before it is discharged or deposited into or allowed to enter a water resource. Requiring that waste discharged or deposited into or allowed to enter a water resource be monitored and analyzed according to prescribed mechanisms.

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Status of Lekwa LM Compliance with the National Water Act

Lekwa Local Municipality is partially compliant with the National Water Act, 1998 in relation to waste management. The municipality recognises that waste disposal and waste-related discharges may impact water resources and that such impacts must be prevented, monitored and managed. However, significant compliance gaps exist at municipal waste disposal facilities. The Standerton Landfill Site has no separation of clean and contaminated water, no groundwater monitoring, no leachate pond and no fully functional stormwater control system. The site is also not operated fully in accordance with licence conditions, which increases the risk of contaminated runoff, leachate migration and groundwater pollution. The Morgenzon Landfill Site has a closure licence, but rehabilitation has been delayed and the site has inadequate drainage, no access control and no proper cover, creating further pollution risks. Lekwa LM is working towards compliance through the IWMP, which proposes landfill upgrades, stormwater control, proper cell management, leachate control, groundwater sampling, annual compliance reporting, illegal dumping control and rehabilitation of non-compliant disposal sites. Full compliance will require urgent implementation of water protection measures, routine water quality monitoring, proper leachate and stormwater infrastructure, secured landfill sites and annual reporting to the relevant authorities.

2.5.11 The Development Facilitation Act 67 Of 1995

The Development Facilitation Act 67 of 1995 sets out a planning and land development system, which ensures that national, provincial, and local government policies are implemented. Section 28 describes the requirements for Land Development Objectives, which must be developed by each local authority. One of the objectives of Land Development Objectives is to create a new system of planning that encourages sustained utilisation of the environment, particularly with regard to the environmental consequences of developments. Municipalities are encouraged to co-operate in order to develop the capacity of each municipality to exercise its powers and duties and manage its affairs.

Status of Lekwa LM Compliance with the Development Facilitation Act

Lekwa Local Municipality is partially compliant with the Development Facilitation Act, 1995 insofar as the municipality has developed an Integrated Waste Management Plan and is reviewing the performance of the previous IWMP to ensure alignment with the IDP, NWMS 2020 and provincial waste management framework. The Act has implications for waste management because land development must be planned in a manner that supports sustainable environmental utilisation and considers the environmental consequences of development. For Lekwa LM, this means that new residential, commercial, industrial and infrastructure developments must be

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supported by adequate waste collection, storage, recycling, cleansing, disposal and landfill capacity. Compliance gaps remain in relation to unserved and underserved areas, informal settlement growth, rural waste service coverage, illegal dumping, limited recycling and transfer infrastructure, landfill operational weaknesses, staff capacity constraints and insufficient integration of waste service planning into new land development approvals. Lekwa LM is working towards compliance through IWMP actions to extend waste services to informal settlements and unserved areas, review collection schedules, maintain fleet and equipment, improve landfill operations, fill vacant posts and strengthen budgeting. Full compliance will require waste service assessments for new developments, better integration between spatial planning and waste planning, and stronger intergovernmental cooperation to fund and implement waste infrastructure.

2.5.12 Municipal Systems Act No. 32 Of 2000

The Municipal Systems Act describes the core principles, mechanisms, and processes that are necessary to enable municipalities to move progressively towards the social and economic upliftment of communities and ensure access to services that are affordable to all. Its focus is primarily on the internal systems and administration of the municipality. The Act enables the process of decentralisation of functions through assigning powers of general competence to local Government. Municipal by-laws are regulated to achieve harmony with national and provincial legislation. As service authorities, municipalities remain responsible for the effective delivery of services and must provide an appropriate policy and regulatory framework. This can be achieved through the most appropriate service provider, ranging from internal departmental delivery to corporatisation and joint ventures to private sector delivery options. Performance management systems are to be developed to measure and evaluate performance in priority areas, which are to be reported annually to citizens and other spheres of government. The process to be followed in planning, drafting, and adopting the Integrated Development Plan is set out.

Status of Lekwa LM Compliance with the Municipal Systems Act

Lekwa Local Municipality is partially compliant with the Municipal Systems Act, 2000 in relation to waste management. The municipality has developed an Integrated Waste Management Plan, recognises the need to incorporate the IWMP into the IDP, provides waste collection services to a significant portion of households, has draft waste management by-laws, budgets for waste services, and provides for annual performance reporting in terms of section 46 of the Municipal Systems Act. However, gaps remain in relation to universal service coverage, with 6,816 households recorded as not receiving waste removal services, weak by-law enforcement, funding constraints, staff capacity limitations, incomplete waste information systems, limited alternative

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service delivery mechanisms and landfill operational compliance challenges. Lekwa LM is working towards compliance through planned IWMP actions that include service extension to unserved areas, review of collection schedules, improved budget and tariff planning, inclusion of IWMP goals in the SDBIP, annual performance reporting, appointment of enforcement and compliance personnel, development of compliance SOPs and strengthening of public participation and stakeholder communication.

2.5.13 Waste Tyre Regulation GNR 149 Of 2009

In summary, the regulations contain the following requirements: Section 4 of the regulations requires that no person may, (a) manage waste tyres in a manner which does not comply with the regulations, (b) recycle, recover or dispose of a waste tyre, at any facility or on any site, unless the recycling, recovery or disposal of that waste tyre is authorised by law, (c) recover or dispose of a waste tyre in a manner that is likely to cause pollution of the environment or harm to human health and well-being, or (d) dispose of waste tyres at a disposal facility two years from the date of commencement of the regulations unless such a waste tyre has been cut into quarters and no quartered waste tyres may be disposed five years from the date of promulgation of these regulations unless such waste tyres have been shredded, excluding in both instances bicycle tyres and tyres with an outside diameter above 1400mm and tyres used as engineering material.

Tyre producers and waste tyre stockpile owners must register with the Minister of Water and Environmental Affairs within 30 days of the date of commencement of the regulations and tyre dealers commencing after the regulations must register with the Minister at least 30 days prior to commencing the business. Section 7(3) requires that the tyre dealer must manage all waste tyres in his/her possession or control or cause such waste tyres to be managed in accordance with the approved integrated industry waste tyre management plan of the producer.

Status of Lekwa LM Compliance with the Waste Tyre Regulation

Lekwa Local Municipality is partially compliant with the Waste Tyre Regulations, GN R149 of 2009. The municipality recognises that waste tyres may not be recycled, recovered or disposed of except at authorised facilities or sites, and that tyre producers, dealers and stockpile owners have specific registration and management duties. However, compliance gaps remain because there is no clearly documented municipal waste tyre management programme, no local register of tyre dealers and stockpile owners, limited waste tyre quantity data, no dedicated tyre drop-off or collection system, no confirmed agreements with authorised tyre recyclers or recovery operators. The absence of buy-back centres and transfer stations further limits diversion of waste tyres from landfill and illegal dumping. Lekwa LM is working towards compliance through broader IWMP actions, including recycling promotion, development of recycler databases,

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improved waste information management, proposed buy-back centres and transfer stations. Full compliance will require a tyre-specific action plan, including a register of tyre dealers and stockpiles, designated temporary storage or drop-off arrangements, agreements with authorised tyre recovery operators, landfill gate controls to reject unauthorised tyres, public awareness and enforcement against illegal dumping or burning of tyres.

2.5.14 The National Norms And Standards For Disposal Of Waste To Landfill Gnr 636 Of 2013

These Norms and Standards determine the requirements for the disposal of waste to landfills as contemplated in regulation Section 8(1) (b) and (c) of the Waste Classification and Management Regulations. Chapter 2 outlines and illustrates Landfill Classification and Containment Barrier Design. Waste assessed in terms of the Norms and Standards for Assessment of Waste for Landfill Disposal in terms of Section 7(1) of the Act must be disposed to a licensed landfill as shown in Table 4.

Table 4: Landfill disposal requirements as per waste type

WASTE TYPE	LANDFILL DISPOSAL REQUIREMENTS
Type 0	Disposal to landfill not allowed
Type 1	Disposal at Class A landfill or H:h/H:H landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Edition, Dept. of Water Affairs and Forestry, 1998)
Type 2	Disposal at Class B landfill or G: L: B+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Edition, Dept. of Water Affairs and Forestry, 1998)
Type 3	Disposal at Class C landfill or G: L: B+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Edition, Dept. of Water Affairs and Forestry, 1998)
Type 4	Disposal at Class D landfill or G: L: B landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Edition, Dept. of Water Affairs and Forestry, 1998)

The waste listed in Section 2(a) of Annexure 1 to the Regulations must be disposed Table 5.

Table 5: Landfill disposal requirements for listed waste types as per section 2(a)

LISTED WASTE	LANDFILL DISPOSAL REQUIREMENTS
Domestic waste; business waste not containing hazardous waste of hazardous chemicals; non-infectious animal carcasses; garden waste.	Disposal at Class B landfill or G: L: B+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Edition, Dept. of Water Affairs and Forestry, 1998)

Post-consumer packaging; waste tyres.	Disposal at Class C landfill or G: L: B+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Edition, Dept. of Water Affairs and Forestry, 1998)
Building and demolition waste not containing hazardous waste or hazardous chemicals; Excavated earth material not containing hazardous waste or hazardous chemicals.	Disposal at Class D landfill or G: L: B landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Edition, Dept. of Water Affairs and Forestry, 1998)

The following waste included in Section 2(b) of Annexure 1 to the Regulations must be disposed as shown in Table 6 below, unless assessed in terms of the Norms and Standards for Assessment of Water for Landfill Disposal set in terms of Section 7(1) of the Act and disposed of in terms of Section 4(1) of these Norms and Standards

Table 6: Landfill disposal requirements for listed waste types as per section 2(b)

LISTED WASTE	LANDFILL DISPOSAL REQUIREMENTS
Asbestos waste; Expired, spoilt or unusable hazardous products; PCBs; General waste, excluding domestic waste, which contains hazardous waste or hazardous chemicals; Mixed, hazardous chemical wastes from analytical labs and labs from academic institutions in containers less than 100 litres.	Disposal at Class A landfill or H:h/H:H landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Edition, Dept. of Water Affairs and Forestry, 1998)

The waste that has been classified in terms of the Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste (2nd Edition, Dept. of Water Affairs and Forestry, 1998) prior to the Regulations coming into operation, may be accepted and disposed of as set out below in Table 7 for a period not exceeding 3 years after the date of coming into operations of the Regulations.

Table 7: Landfill disposal requirements for categorized hazardous waste ratings.

WASTE LANDFILL	DISPOSAL REQUIREMENTS
Hazardous Waste – Hazard Rating 1 or 2	Disposal at Class A landfill or H:h/H:H landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Edition, Dept. of Water Affairs and Forestry, 1998)
Hazardous Waste – Hazard Rating 3 or 4	Disposal at Class A landfill or H:h/H:H landfill as specified in the Minimum Requirements for

	Waste Disposal by Landfill (2nd Edition, Dept. of Water Affairs and Forestry, 1998)
Hazardous Waste – Delisted	Disposal at Class B landfill or G: L: B+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Edition, Dept. of Water Affairs and Forestry, 1998)
General Waste	Disposal at Class B landfill or G:S/M/L: B/B+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Edition, Dept. of Water Affairs and Forestry, 1998)

The notice also lists prohibitions and restrictions on the disposal of waste to landfill which comes into effect after the timeframes indicated for each waste and activities from the date of Regulations coming into operation. It is the responsibility of the Province and Municipalities to ensure that all its landfill sites are designed and operated as per the requirements of these Norms and Standards. It is therefore important to separate and classify waste to avoid disposing of waste that not suitable for a particular landfill site as indicated in the Tables above

2.5.15 Extended Producer Responsibility, 2020

The Extended Producer Responsibility Regulations were issued under the National Environmental Management: Waste Act, 2008. They require producers of identified products to take responsibility for those products beyond the point of sale, extending to the post-consumer stage of the product's life cycle. This means that producers, importers and brand owners must ensure that their products are collected, reused, recycled, recovered or otherwise responsibly managed after use.

The Regulations apply mainly to identified products in the following sectors:

1. Paper, packaging and some single-use products
2. Electrical and electronic equipment
3. Lighting products

The 2021 amendments clarify that Extended Producer Responsibility applies to producers of identified products published by the Minister, including products already placed on the market before the Regulations came into effect. They also define key terms such as producer, importer, brand owner, free rider, waste picker, collection, collection service fee, full cost and nett cost.

Key requirements of the EPR Regulations

The Regulations require producers or Producer Responsibility Organisations to:

Requirement	Summary
Register with DFFE	Existing producers must register with the Department through the South African Waste Information Centre system. New producers must register within the prescribed timeframe after commencing business.
Establish or join an EPR scheme	Producers must either establish their own EPR scheme or belong to a Producer Responsibility Organisation.
Pay EPR fees	Producers must fund the collection, transport, storage, treatment, recycling, recovery, administration, awareness and auditing costs of the EPR scheme.
Meet collection and recycling targets	Producers must achieve prescribed targets for collection, reuse, recycling, recovery and diversion from landfill.
Mandatory take-back	Certain products, including lighting products, batteries, electrical goods and electronic goods, must be subject to mandatory take-back at end-of-life.
Report to SAWIS/SAWIC	Producers and PROs must keep records and report quantities placed on the market, collected, sorted, recycled, recovered, exported and landfilled.
Integrate waste pickers	EPR schemes must integrate informal waste collectors, reclaimers and waste pickers into the post-consumer collection value chain.
Compensate waste pickers	Registered waste collectors, reclaimers and waste pickers must be compensated through collection service fees.
Cooperate with municipalities	Producer Responsibility Organisations and producers implementing their own schemes must cooperate with municipalities, where applicable, to increase the recovery of identified products from municipal waste.
Develop recycling infrastructure	EPR schemes must use existing infrastructure where possible or establish new infrastructure where needed after feasibility studies.
Submit performance and audit reports	PROs and producers must submit interim and annual performance reports, annual external performance audit reports and financial reports to the Department.

How the EPR Regulations affect Lekwa Local Municipality

The EPR Regulations do not place the main legal duty on Lekwa LM as the “producer”. The primary obligation falls on producers, importers, brand owners and Producer Responsibility Organisations. However, the Regulations have important practical implications for Lekwa LM because many EPR-regulated products occur in the municipal waste stream, including paper, cardboard, plastic packaging, glass bottles, metal cans, e-waste, batteries, lamps and lighting equipment.

The EPR Regulations therefore affect Lekwa LM in the following ways:

Area	Implication for Lekwa LM
Waste minimisation and diversion from landfill	Lekwa LM must use EPR as an opportunity to divert packaging, paper, e-waste, lighting waste and other recyclables away from Standerton Landfill and any other municipal disposal sites.
Recycling infrastructure	The municipality can partner with Producer Responsibility Organisations to establish or support drop-off centres, buy-back centres, sorting areas, collection points and recycling infrastructure.
Waste picker integration	Informal recyclers operating at Standerton Landfill, Morgenzon and other areas should be identified, registered, formalised and linked to EPR schemes.
Reduced landfill pressure	If implemented properly, EPR can reduce the volume of recyclables disposed of at landfill and extend landfill lifespan.
Data and reporting	Lekwa LM should improve recording of recyclable materials collected, diverted and recovered to align with SAWIS/SAWIC reporting and EPR scheme requirements.
Public awareness	The municipality should educate households and businesses on separation at source, recycling, take-back systems and responsible disposal of e-waste, batteries and lamps.
Household hazardous waste reduction	EPR take-back systems for lighting, batteries and electronic equipment can reduce hazardous substances entering general waste and landfill.
Local economic development	EPR can support small recyclers, cooperatives, waste pickers, youth, women and local entrepreneurs through collection and recycling opportunities.

Status of Lekwa LM Compliance with the Extended Producer Responsibility Regulations

The Extended Producer Responsibility Regulations require producers, importers and brand owners of identified products to take responsibility for the post-consumer stage of their products' life cycle. The Regulations apply to identified products in the paper, packaging and single-use products sector, electrical and electronic equipment sector, and lighting sector. Producers must register with the Department, establish or join EPR schemes, fund collection and recycling systems, meet collection and recycling targets, report to SAWIS/SAWIC, implement mandatory take-back where required, integrate waste pickers and cooperate with municipalities to increase recovery of identified products from municipal waste.

The EPR Regulations have important implications for Lekwa Local Municipality because paper, cardboard, plastic packaging, glass, metal packaging, e-waste, batteries and lighting waste form part of the municipal waste stream. Although the primary legal responsibility rests with producers and Producer Responsibility Organisations, Lekwa LM can use the EPR framework to reduce waste disposed of at landfill, improve recycling, support waste pickers, establish drop-off

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and buy-back centres, improve data collection and strengthen public awareness. Lekwa LM is partially aligned with the EPR Regulations through its IWMP objectives on waste minimisation, recycling, circular economy and waste picker integration. However, gaps remain, including limited separation at source, lack of municipal-wide recycling drop-off infrastructure, limited formal agreements with Producer Responsibility Organisations, incomplete recyclable waste data, and inadequate take-back systems for e-waste, batteries and lighting waste. Full alignment will require Lekwa LM to engage relevant Producer Responsibility Organisations, formalise waste picker integration, establish accessible drop-off and take-back systems, and monitor quantities of EPR-regulated products diverted from landfill.

2.5.16 National Policy For The Management Of Waste Electrical And Electronic Equipment, GN 6554 Of 29 August 2025

The National Policy for the Management of Waste Electrical and Electronic Equipment (WEEE) was published under the National Environmental Management: Waste Act, 2008 on 29 August 2025. The policy provides a national framework for the environmentally sound management of end-of-life electrical and electronic equipment, commonly referred to as e-waste or WEEE.

The policy applies to waste from electrical and electronic equipment such as:

- large and small household appliances;
- office, information and communication equipment;
- entertainment and consumer electronics;
- lighting equipment;
- electrical and electronic tools;
- security and health care electronic equipment; and
- mixed WEEE.

The policy recognises WEEE as a complex waste stream because it contains both valuable recoverable materials, such as metals, plastics and glass, and hazardous components, such as lead, mercury, cadmium, brominated flame retardants, refrigerants and other harmful substances. The policy therefore promotes the recovery of valuable materials while preventing harmful substances from leaking into the environment.

Status of Lekwa LM Compliance with the National Policy for the Management of Waste Electrical and Electronic Equipment

The National Policy for the Management of Waste Electrical and Electronic Equipment, GN 6554 of 29 August 2025, provides a national framework for the environmentally sound management of waste electrical and electronic equipment in South Africa. The policy promotes circular economy principles, extended producer responsibility, waste picker integration, safe collection,

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reuse, refurbishment, recycling, depollution and recovery of WEEE, while preventing hazardous substances from entering the environment. WEEE includes end-of-life electrical and electronic products such as household appliances, office and ICT equipment, consumer electronics, lighting equipment, electrical tools, security and health care equipment and mixed electronic waste.

The policy has direct implications for Lekwa Local Municipality because WEEE is generated by households, businesses, institutions, farms and government facilities within the municipal area. WEEE must be diverted from landfill and managed through authorised collection, reuse, refurbishment, recycling and treatment systems. Lekwa LM is partially aligned with the policy through its IWMP objectives on waste minimisation, recycling, drop-off centres, buy-back facilities, EPR funding, waste picker integration and waste information management. However, gaps remain because the municipality does not yet have a dedicated WEEE management programme, formal WEEE drop-off or take-back points, agreements with WEEE Producer Responsibility Organisations, separate WEEE data reporting, landfill gate controls to prevent WEEE disposal, or targeted public awareness campaigns on e-waste.

Lekwa LM should develop a WEEE implementation action plan. This should include engagement with Producer Responsibility Organisations, establishment of municipal WEEE drop-off points, integration of informal recyclers into the WEEE value chain, public awareness on e-waste separation and take-back, record keeping on WEEE quantities diverted from landfill, and enforcement of landfill waste acceptance procedures to prevent disposal of WEEE with general waste.

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CHAPTER 3

WASTE MANAGEMENT PERFORMANCE REVIEW

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3 PREVIOUS IWMP PERFORMANCE REVIEW

3.1 Implementation Of Previous IWMP

The Implementation Review provides an evaluation of progress made by the Lekwa Local Municipality in executing the goals, objectives, and actions set out in the Integrated Waste Management Plan (IWMP) 2022–2027. This review assesses the extent to which the municipality has implemented the strategic interventions identified in the implementation plan, the effectiveness of those interventions, and the challenges encountered during execution.

The purpose of the review is to determine whether the IWMP remains relevant, achievable, and aligned with the municipality's Integrated Development Plan (IDP), the National Waste Management Strategy (NWMS, 2020), and the Mpumalanga Provincial Waste Management Framework. It also ensures that the municipality complies with Section 13(3) of the National Environmental Management: Waste Act (Act No. 59 of 2008), which requires municipalities to report annually on the implementation of their IWMPs.

Through this review process, the municipality seeks to identify gaps between planned and actual performance, assess resource adequacy, highlight best practices, and recommend corrective measures to improve future implementation. The outcomes of this review will inform decision-making, budget planning, and the continuous improvement of waste management systems, thereby contributing to sustainable service delivery and environmental protection within Lekwa Local Municipality.

The monitoring process supports compliance with Section 13 of the National Environmental Management: Waste Act (Act No. 59 of 2008), which requires municipalities to include progress on IWMP implementation in their annual performance reports

Table 8: Implementation Review Matrix

Status	Description
Complete	The target has been achieved
In Progress	The implementation of a target is initiated/currently underway but not complete
Not Undertaken	No action has been taken to implement the target
Not Applicable	Where a goal and or management action is unmeasurable or no longer deemed applicable or the timeframe for the project has not yet passed.

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Table 9: Implementation Status of the 2022-2025 IWMP Targets

GOAL NO. & DESCRIPTION	STRATEGIC OBJECTIVE	PLANNED ACTIVITIES (2022–2027)	PROGRESS STATUS (✓ = COMPLETE / ONGOING / NOT STARTED)	CHALLENGES / CONSTRAINTS
Goal 1: Promote waste minimisation (reuse, recycling, recovery) to comply with the NWMS	Encourage waste minimisation projects	Support community and institutional waste minimisation projects	Ongoing	
	Formalise recycling activities	Develop and update recycler database	Not started	
	Provide capacity building for recyclers	Provide capacity building for the waste recyclers	Ongoing	
		Initiate office recycling project	Not started	
Goal 2: Ensure efficient waste collection services	Extend waste collection services to informal settlements/Unserviced areas	No. of new households serviced	Not started	Insufficient funds to procure additional trucks
		Review and update the waste collection schedule	Complete	
	Maintain equipment and fleet	% of fleet serviced annually	Ongoing	
Goal 3: Improve budgeting & financial management	Ensure full-cost accounting for waste at municipal level	Reviewed tariff model annually	Ongoing	
	Fill vacant positions and update organogram	% of vacancies filled	Ongoing	
Goal 4: Monitor safe disposal of waste in line with licences	Conduct landfill site audits	No. of audits conducted per year	Not started	
	Develop & review O&M plan	Updated plan approved by Council	Not started	

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GOAL NO. & DESCRIPTION	STRATEGIC OBJECTIVE	PLANNED ACTIVITIES (2022–2027)	PROGRESS STATUS (✓ = COMPLETE / ONGOING / NOT STARTED)	CHALLENGES / CONSTRAINTS
Goal 5: Strengthen education & awareness	Develop and implement awareness programmes	No. of programmes conducted annually	Ongoing	
	Roll out school competitions	No. of schools participating	Not started	
Goal 6: Strengthen compliance & enforcement	Improve data quality reporting to SAWIC	% monthly data accuracy	Ongoing	
	Train peace officers & establish Forum	No. of trained officers / Forum sessions	Not started	

3.2 Progress Towards Compliance with National Waste Management Strategy Goals

A review of the progress in the SLM with regards to the implementation of the 2020 NWMS goals and targets was undertaken. Where information was available, an assessment of the compliance with each of the targets was undertaken and documented.

Table 10: National Waste Management Strategy Objectives

GOAL	TARGETS	PROGRESS TO COMPLIANCE WITH TARGETS
Goal 1: Waste Minimisation	Prevent waste, and where waste cannot be prevented, divert 40% of waste from landfill within 5 years; 55% within 10 years; and at least 70% of waste within 15 years going to Zero- Waste to landfill through reuse, recycling, and recovery and alternative waste treatment.	- The absence of waste records renders it impossible to quantify or evaluate the LLM's waste minimisation performance. The LLM does not maintain a historical database of waste disposal records, nor is it documenting current waste records in a manner that would facilitate future analysis. - The LLM has aided certain co-ops in establishing themselves at landfill sites and removing recyclables from the landfill sites. However, no records of recyclable refuse tonnage are being retrieved from the co-ops or stored in a database. A number of the cooperatives have experienced a halt in their operations.
Goal 2: Effective and sustainable waste services	All South Africans live in clean communities with waste services that are well managed and financially sustainable.	Waste Collection Waste disposal services are provided by the LLM in the municipalities. Waste service is not provided to any locations outside of the towns. In rural areas, there are no collection services due to the limited access to these remote villages and their dispersed location, which results in prohibitive transportation costs. The absence of a waste collection service results in the burning and burying of refuse. The collection service in towns is divided between kerbside collection and skips in informal locations. Safe and environmentally sustainable disposal

GOAL	TARGETS	PROGRESS TO COMPLIANCE WITH TARGETS
		of hazardous household waste The diversion of domestic hazardous waste from landfills is not possible due to the absence of facilities. It is assumed that domestic hazardous waste is disposed of in conjunction with general waste at landfill sites. Effective integrated waste management planning - The quantity of waste that is being disposed of at the landfills is not known. The current records are not being collected digitally. - There is no plan in place to guide the development of waste management infrastructure, such as drop-off centers. - No electronic records exist in a format that enables the analysis of trends for significance.
Goal 3: Compliance, enforcement, and awareness	Mainstream of waste awareness and a culture of compliance resulting in zero tolerance of pollution, litter, and illegal dumping.	Reduce pollution, littering and illegal dumping The municipality has not implemented awareness campaigns in schools and communities; however, comprehensive records of these campaigns are not maintained, rendering it impossible to verify the extent to which they have been implemented. Enhance capacity to monitor compliance and enforce the Waste Act and International Agreements The enforcement of refuse by-laws is not being planned, and the capacity to enforce them is minimal. The municipal staff expressed that additional planning would be unhelpful unless an effort was made to train and designate at least one staff member as a peace officer/waste monitor. This individual would be able to concentrate on enforcing the new by-laws once they were available.

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GOAL	TARGETS	PROGRESS TO COMPLIANCE WITH TARGETS
		Ensure that municipal landfill sites and waste management facilities adhere to the licensing standards. The license of Morgenzon have expired, and the operations at Standerton do not comply with the license conditions.

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CHAPTER 4

STATUS QUO ASSESSMENT

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4 LEKWA LOCAL MUNICIPALITY STATUS QUO ASSESSMENT

The Status Quo Assessment for Lekwa Local Municipality provides a detailed overview of the current environmental and waste management conditions within the municipal area. It forms the foundation for identifying existing challenges, service delivery gaps, and opportunities for improvement in line with the 2027–2032 Integrated Waste Management Plan (IWMP). The assessment outlines the municipality's demographic profile, spatial characteristics, socio-economic trends, and institutional capacity, alongside the existing waste generation patterns, collection systems, disposal infrastructure, and recycling initiatives. This baseline information is essential for guiding evidence-based planning and ensuring that the municipality's waste management strategies are realistic, sustainable, and aligned with provincial and national waste management priorities.

4.1 Demographic Description Of Lekwa Local Municipality

4.1.1 Population

According to Stats SA's Census 2022, Lekwa's population increased from 115 662 in 2011 to 119 669 people in 2022 – 12th largest population in 2022 within the Mpumalanga province. The population increased by 4 007 between 2011 and 2022 with a population growth rate of 0.3% per annum, which was slower than the corresponding economic growth of 1.3% p.a. These statistics indicate that the municipality is growing at a slow rate which indicates that there are people leaving the municipal area possibly to further their studies and seeking employment opportunities elsewhere.

Table 11: LLM Population (Source: IDP 2025)

LOCAL MUNICIPAL AREA	POPULATION NUMBER		AVERAGE ANNUAL POPULATION GROWTH 2011-2022	AVERAGE ANNUAL ECONOMIC GROWTH 2011-2022
	2011	2022		
Lekwa Local Municipality	115 662	119 669	0.3%	1.3%

The Stats SA 2021 mid-year population estimates further indicate that the population of Lekwa would have grown to 155 094 in 2031. This indicates that Lekwa will continue growing at a slow pace which also indicates possible brain drain within the municipality and the lack of economic diversity as most opportunities are within the trade, community services and finance sectors.

Table 12: Lekwa LM Population Figures, Stats SA 2021 Mid-year population estimates

YEAR	ESTIMATED POPULATION	YEAR	ESTIMATED POPULATION
2021	137 124	2027	148 176
2022	139 046	2028	149 892
2023	140 970	2029	151 626
2024	142 846	2030	153 366
2025	144 687	2031	155 094
2026	146 472	2032	156 891*

Population Estimate for 2032

*** Determine average annual increase**

From 2021 → 2031 (10 years):

$155\,094 - 137\,124 = 17\,970$ total increase

Average annual increase = $17\,970 \div 10 = 1\,797$ people per year

4.1.2 Population Growth Rate

The rate of population expansion tells you how quickly a population changes size over time. A positive growth rate means that more people are moving to the municipality, whereas a negative growth rate means that people are leaving the municipality. The graph below shows that Lekwa LM's growth rate is positive, which means that the number of people living there is increasing. But it's developing more slowly than it did in the past. The population expanded by 1.4% from 2021 to 2022, but it has dropped to 1.3% from 2023 to 2024. In 2030–2031, it will drop even more to 1.1. This means that the town is less appealing and that more people are having babies. The population of Lekwa will primarily increase owing to fertility rather than individuals relocating in pursuit of socio-economic opportunity.

4.1.3 Households And Average Households Size

The number of households in Lekwa rose from 31,071 in 2011 to 38,583 in 2022, reflecting an increase of 7,512 households and an annual growth rate of 2.1%. Lekwa's proportion of Mpumalanga's households decreased from 2.9% in 2011 to 2.7% in 2022. Household size decreased from 3.7 in 2011 to 3.1 in 2022. This indicates a decline in the size of households in Lekwa. This phenomenon may be attributed to young adults relocating and forming independent households, the direct consequences of illegal settlements and heightened land invasions, or families opting for fewer children as a result of economic conditions.

Table 13: Household number per municipal area, 2011 & 2022. Source: Stats SA - Census 2011 & 2022

LOCAL MUNICIPAL AREA	HOUSEHOLD NUMBER		AVERAGE ANNUAL HOUSEHOLD GROWTH	HOUSEHOLD SIZE	
	2011	2022	2011-2022	2011	2022
Lekwa Local Municipality	31 071	38 583	2,1%	3,7	3,1

4.1.3.1 Increased Number of Households = Higher Waste Generation

Even if the total population growth rate is moderate, the increase from 31,071 households (2011) to 38,583 households (2022) suggests a greater number of refuse generation points. Domestic waste, including food scraps, packaging, paper, and plastics, is generated by each new household, resulting in an increased need for refuse receptacles, collection services, and disposal capacity. This expansion necessitates the development of waste management infrastructure, including:

- Additional collection routes and vehicles,
- Communal receptacles or additional skips,
- Development of transfer stations or an increase in landfill space.

4.1.3.2 Decline in Household Size and Changing Waste Composition

The decrease in the average household size from 3.7 to 3.1 persons suggests that there are a greater number of smaller households that are individually producing waste. Smaller households frequently produce more waste per capita as a result of reduced resource sharing (e.g., smaller packaging sizes, increased use of disposable items). This has an impact on the volume and composition of waste, which must be accounted for in the Integrated Waste Management System to facilitate effective planning and budgeting.

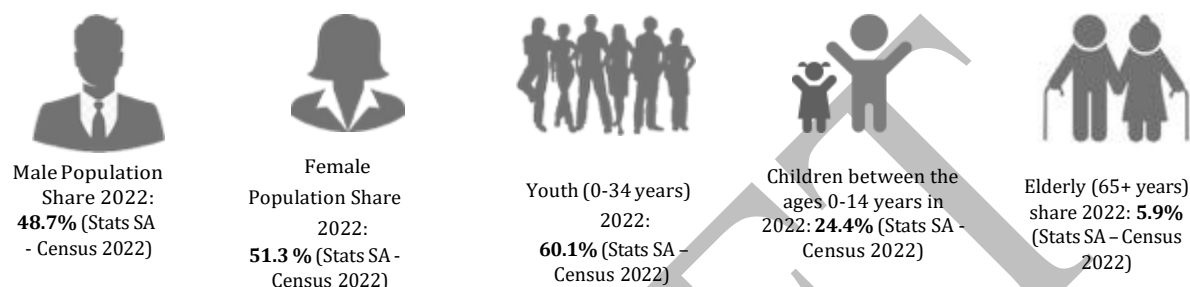
4.1.4 Age And Sex Composition

The age structure of a population is significant for planning because it shows what services might be needed and how much of those services are needed. The age structure is intimately related to the population's birth rate, death rate, and migration. For instance, a region with a lot of births usually has a high fertility rate and a high population growth rate. On the other hand, a location with a lot of old people usually has a longer life expectancy.

In 2022, 60.1% of the people living in the local municipal area were young (0–34 years old), while 9.6% were old (60 years old or over). In 2022, 51.3% of the population was female and 48.7%

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was male. The age profile of the Lekwa LM is more like a population pyramid that is getting smaller. The pyramids below show that the population of Lekwa LM is slowly expanding and that a high number of people are young. This could have an effect on future demographic trends, like changes in the workforce, the need for social services, and the economy as a whole. In 2011, most of the people were likewise between the ages of 20 and 24. The largest group of women in 2022 will be those between the ages of 30 and 34.



4.1.4.1 Population Age Structure and Waste Generation

Lekwa's population is predominantly youthful, with 60.1% of the population under the age of 34.

- This implies that the consumption of packaged goods, disposable products, and electronics is high, which in turn leads to an increase in solid waste generation.
- Additionally, younger households generate an increased volume of domestic and recyclable waste (e.g., plastics, paper, food waste), necessitating the implementation of effective waste separation, recycling, and awareness initiatives.

The low percentage of elderly residents (9.6%) suggests that there is a shortage of medical and geriatric waste. However, it also suggests that future planning for healthcare and old-age facilities should incorporate appropriate hazardous waste disposal mechanisms.

4.1.4.2 Planning for Future Waste Services

The expanding population pyramid signals continued population growth and urban expansion, which will increase demand for:

- Waste collection services in new residential extensions,
- Landfill capacity and transfer stations, and
- Community waste education initiatives targeting schools and youth.

The demographic trend also helps project per capita waste generation and informs resource allocation (e.g., the number of bins, collection frequency, and vehicle requirements).

4.2 Household Services

Basic services, including electricity, water, sanitation, refuse and waste removal, are essential for the enhancement of the quality of life of individuals. Additionally, sufficient supplies of these services are required to guarantee human dignity, well-being, and life (Stats SA 2017). The assessment of access to essential services is conducted at the household level. This section provides a comprehensive description of the access to essential services that households in Mpumalanga Province, Gert Sibande, and Lekwa LM have. The policy framework for basic services in South Africa is designed to ensure that all citizens have access to fundamental services, such as energy, water, and waste services. Access to enhanced potable water services for all citizens is a goal that South Africa has set for itself.

Generally, there has been some development in household services in Lekwa between 2011 and 2022, as indicated by the Census 2022 of Stats SA. Nevertheless, challenges persist, particularly in the areas of informal dwellings and refuse removal. In October 2021, News24 ranked Lekwa as the 9th highest/best municipality in Mpumalanga (Out of Order), with a score of 48/100. In 2023, Lekwa was one of six municipalities in Mpumalanga that were included in the National COGTA's list of 66 dysfunctional municipalities.

Table 14: Basic service delivery statistics for Lekwa, 2022. Sources: Stats SA - Census 2022

NAME	CENSUS 2011	CENSUS 2022
Formal dwellings	72,4%	88,0%
Flush toilets connected to sewerage	66,0%	73,2%
Weekly refuse disposal service	63,6%	66,8%
Access to piped water in the dwelling	44,3%	56,5%
Electricity for lighting	83,4%	91,8%

The proportion of households residing in informal housing is 9.5%, a reduction from 23.9% in 2011. In 2022, 3.6% of homes lacked access to piped water, an increase from 2.4% in 2011. In 2022, approximately 1.9% of households lacked access to sanitation facilities (toilets), a notable improvement from 4.1% in 2011. 20.9% of households lacked refuse removal services from the local authority, an increase from 17.0% in 2011. In 2022, 5.2% of households lacked electricity, a decrease from 11.2% in 2011.

4.2.1 Informal Dwelling

The quantity of informal houses decreased from 7,414 to 3,669 between 2011 and 2022, representing an enhancement of 3,745 households. Notwithstanding the enhancement,

9.5% of households continued to reside in informal accommodations. This can be ascribed to recent advancements, namely Extension 8.

Table 15: Informal dwelling number and share, 2011 & 2022. Source: Stats SA - Census 2011 & 2022

LOCAL MUNICIPALITY AREA	NUMBER OF HOUSEHOLDS IN INFORMAL DWELLINGS		SHARE OF TOTAL HOUSEHOLDS	
	2011	2022	2011	2022
Lekwa	7 414	3 669	23.9%	9.5%

4.2.1.1 Informal Settlements and Land invasion cases in Lekwa

The Lekwa Local Municipality contains twelve (12) informal settlements, as indicated in the table below. The municipality is confronted with land invasions, with seven (7) occurrences officially documented. No municipal services are available in these informal settlements. All twelve informal settlements are presently undergoing formalisation via the National Upgrading Support Programme (NUSP). Non-upgradable informal communities will be relocated and resettled in alternative areas.

Table 16: List of Informal Settlements and Land Invasion Cases

NAME OF SETTLEMENT/ADJACENT SETTLEMENT	PROPERTY DESCRIPTION	OWNERSHIP	WARD	NUMBER OF HOUSEHOLDS	DATE OF INVASION
Mandela Camp, located in Sakhile Ext.2	Public open space	LLM	5	746	1994
Sisulu Camp, located in Sakhile Ext.4	Public open space	LLM	11	458	1994
Welamlambo Camp, located in Sakhile Proper	Public open space	LLM	2	452	2006
Mahala Park, located in Azalea Ext.1	Public open space	LLM	3	290	2000
Slovo Camp, located in Sakhile Proper	Public open space	LLM	6	351	1996
Enkanini Camp, Standerton Ext.6	Public open space	LLM	15	309	2006
Taxi Rank(Standerton Ext.6)	Municipal owned stand set aside for a taxi rank.	LLM	15	90	2007

NAME OF SETTLEMENT/ADJACENT SETTLEMENT	PROPERTY DESCRIPTION	OWNERSHIP	WARD	NUMBER OF HOUSEHOLDS	DATE OF INVASION
Next to Lillian Mambakazi Clinic (new squatter camp) located in Sakhile Ext.3	Municipal land set aside for church erven as well as other community facility.	LLM	2	75	2018
Stand 8018 , Sakhile Ext.4 (new squatter camp)	Stand for a community facility.	LLM	11	139	2017
Stand 8017, Sakhile Ext.4 (new squatter camp)	Stand for a community facility.	LLM	11	176	2017
Next to railway line (Standerton Ext.6) (new squatter camp)	Public open space	LLM	15	365	2019
Stand 3995(Standerton Ext.6)	Municipal stand set aside for a filling station.	LLM	15	40	2010
TLC Camp, located in Sakhile Ext. 6	Eskom servitude	Eskom	6	200	2016
Farm Adjacent to Sakhile Ext.4	Privately owned farm belonging to Mr Dhlamini.	Private	11	339	2017
Enkanini (Sivukile)	This land supposedly belongs to Spoornet even there is no certainty on this.	RSA	14	178	2017
Shivovo Camp, located in Sakhile Proper	This informal settlement is	RSA	3	329	2016

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NAME OF SETTLEMENT/ADJACENT SETTLEMENT	PROPERTY DESCRIPTION	OWNERSHIP	WARD	NUMBER OF HOUSEHOLDS	DATE OF INVASION
	located on land which belongs to an adjacent Senior School.				
Morgenzon Farm (new informal settlement)	Agricultural land	LLM	14	128	2019
Open land in Standerton Ext.7 (new informal settlement)	Public open space	LLM	7	241	2018
Azalea next to fuel container yard.	Public open space	LLM	3	78	2019
TOTAL NUMBER OF INFORMAL DWELLINGS				4 984	

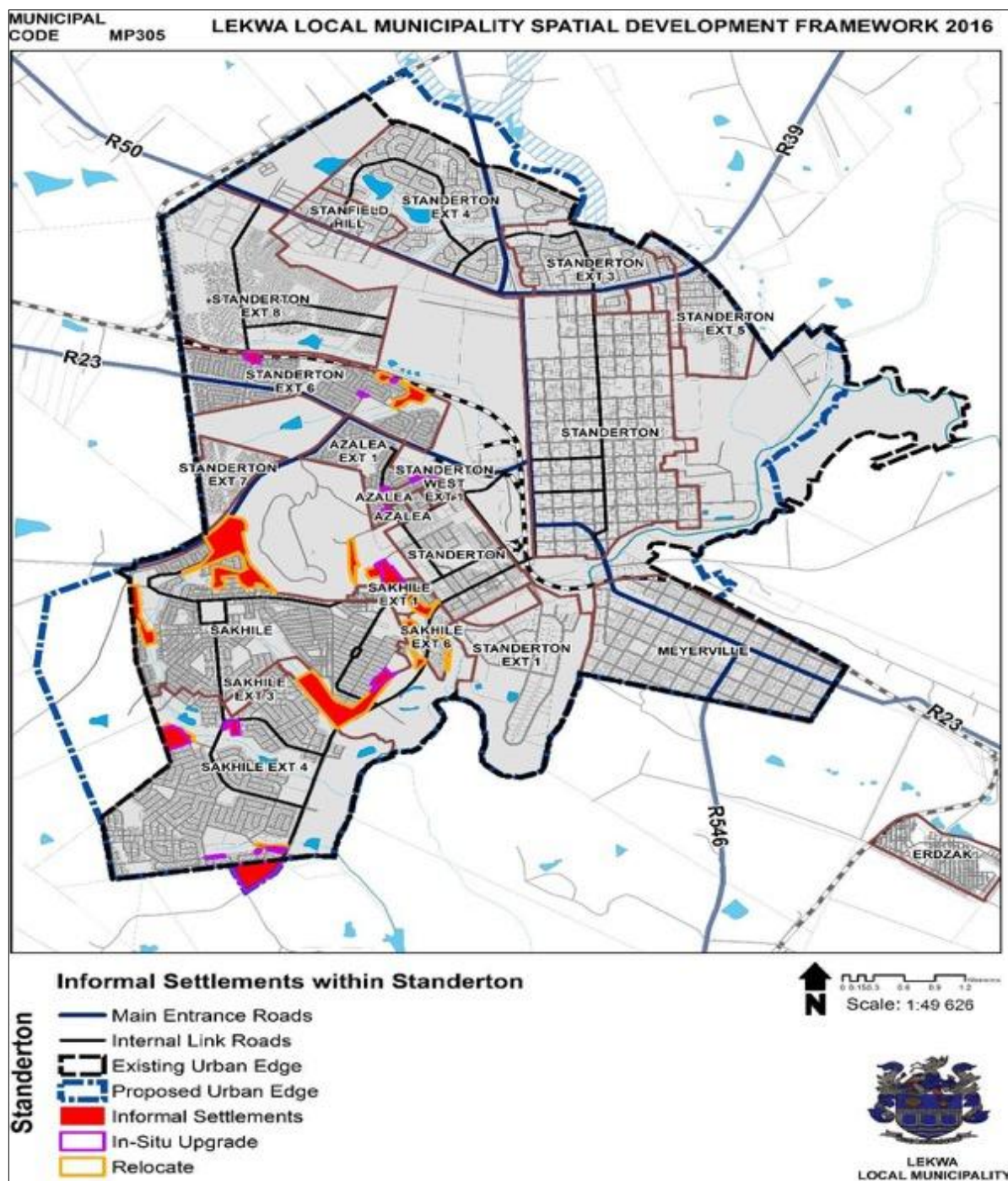


Figure 8: Informal Settlements in Standerton (Source: IDP 2025/2026)

4.2.1.2 Informal Dwellings and Waste Collection Coverage

Although the number of informal dwellings decreased from 7,414 in 2011 to 3,669 in 2022, approximately 9.5% of households still live in informal structures. These areas often lack formal waste collection infrastructure, such as curbside collection points, bins, and access roads for collection trucks. The IWMP will therefore include strategies to:

- Extend waste collection services to informal settlements,

- Implement alternative waste collection models (e.g., community waste drop-off points or mobile skips), and
- Provide temporary waste management infrastructure until permanent housing is developed.

4.2.2 Municipal Waste Removal

The proportion of households lacking refuse pickup by local authorities increased from 17.0% in 2011 to 22.3% in 2022. In 2022, 8,061 households continued to lack consistent refuse removal services. The reduction in garbage removal may be attributed to population growth and urban expansion, while the number of municipal resources, such as refuse vehicles, remains unchanged.

Table 17: Refuse removal 2011 & 2022. Source: Stats SA - Census 2011 & 2022

LOCAL MUNICIPALITY AREA	NUMBER OF HOUSEHOLDS WITH NO WEEKLY/LESS OFTEN REFUSE REMOVAL		SHARE OF TOTAL HOUSEHOLDS WITH NO WEEKLY/LESS OFTEN REFUSE REMOVAL	
	2011	2022	2011	2022
Lekwa	5 435	8 061	17.0%	22.3%

According to 2022 census estimates, around 77.7% of households in the Lekwa local municipality get their garbage collected at least once every week. The proportion of households receiving weekly refuse removal increased from 65.8% in 2016 to 77.7% in 2022, demonstrating improvement in waste collection services over the six-year period.

This upward trend indicates that the municipality has expanded service coverage, possibly through:

- Extension of waste collection routes,
- Increased availability of collection vehicles and equipment, and
- Improved operational efficiency by local waste management units.

Despite progress, 22.3% of households still do not receive weekly refuse collection, which suggests service disparities between urban centres (such as Standerton and Meyerville) and rural or informal settlements. These underserved areas often rely on self-disposal, burning, or illegal dumping, leading to environmental pollution and health risks. The IWMP will therefore address inequitable access to waste services, prioritizing rural communities and informal areas.

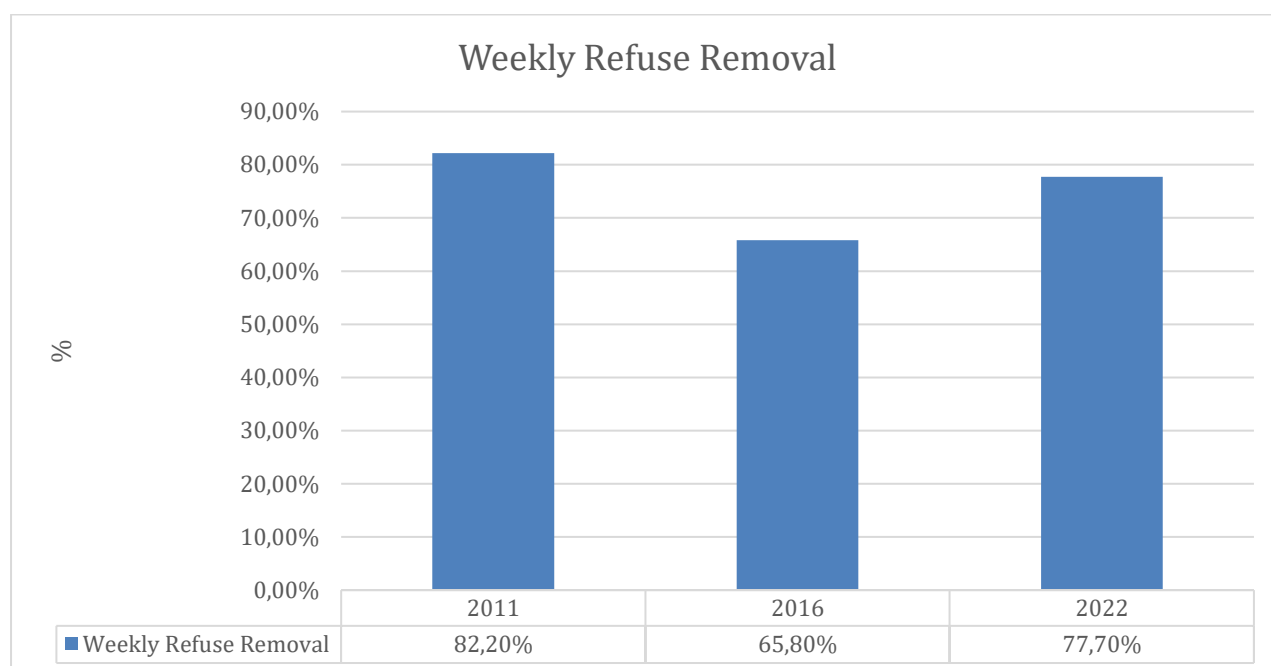


Figure 9: Lekwa Municipality Weekly Refuse Removal (Source: <https://municipalities.co.za/demographic/1150/lekwa-local-municipality>)

4.2.2.1 Wards/Areas Receiving Waste Removal

The Lekwa Local Municipality implements a structured and rotational waste collection system to ensure that all residential areas, townships, and extensions receive reliable and consistent refuse removal services. To achieve this, the municipality deploys five dedicated waste-collection teams operating on a weekly schedule that covers urban areas. The distribution of areas across teams and days is designed to optimise resource allocation, reduce service backlogs, and maintain environmental hygiene across all wards. Table 18 below provides a detailed breakdown of the weekly waste-collection schedule, highlighting the specific areas serviced by each team from Monday to Sunday.

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Table 18: Waste Collection Services by the Municipality

DAY	TEAM 1	TEAM 2	TEAM 3	TEAM 4	TEAM5
Monday	Flora Park	Standerton Ext 1	Smendeni Kilane TLC	Smendeni Kilane Sakhile Ext 1	Sivukile Ext 3
Tuesday	Kosmos Park	Standerton Ext 1 Meyerville	Jabavu\Moroka Hlongwane Mcashi	Jabavu/Moroka Shivovo Draaihoek	Morgenzon
Wednesday	Kosmos Park	Standerton Ext 1 Meyerville	Mcashi BJ, Ext 3 Mjanji	Mcashi BJ, Ext 3 Ma 11 Mapheshene	Sivukile Ext 2
Thursday	Mahala Park Railway houses	Stanwest/Azalea Standerton Ext 6 (Vodacom)	Los Phalama Ext 2	Los Phalama Basilreed	Sivukile Ext 1&4
Friday	Mahala Park RDP(Sfisosethu)	Standerton Ext 6 (Binda & Vodacom)	Crossroad Sakhile Ext 2&7	Crossroad Sakhile Ext 2&7	Old location
Saturday	Standerton Ext 6	Standerton Ext 6	Rooikoppen	Rooikoppen	
Sunday	Standerton Ext 6	Standerton Ext 6	Rooikoppen	Rooikoppen	

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4.2.2.2 Communal Bins and Street Cleaning

The Lekwa Local Municipality (LLM) maintains a street cleaning team of approximately 20 labourers who are responsible for daily cleaning activities in the central business district and other public areas. Their duties include sweeping streets, collecting litter, and maintaining general cleanliness around public spaces. Despite these efforts, littering remains a persistent challenge across the municipality.

The LLM has also placed waste bins at strategic locations (Figure 10) within the town to encourage proper waste disposal by the public. However, the number of bins provided is insufficient (Figure 11) to meet the demand, particularly in high-traffic areas such as taxi ranks, markets, and shopping zones. As a result, many residents and visitors still resort to improper disposal practices, contributing to widespread littering.

To address this, the municipality could expand the number and coverage of street bins, ensure regular emptying and maintenance, and strengthen public education related to littering.



Figure 10: Street Bins Located Along Von Backstrom Street



Figure 11: Littering at the Traffic Lights along Stefina Street in Meyerville

4.2.2.3 Small and Rural Communities

Small and rural communities find recycling difficult to carry out successfully due to a range of logistical problems and a lack of skills and initiatives. Recyclers and businesses participating in

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these communities tend to not be sustainable, which results in stockpiles of unused recyclables that impact negatively on the aesthetics of their area of operation. The cost of transporting recyclables to the major centres is often exorbitant in so much that transportation costs exceed the value of the material transported and making it commercially unviable.

It is equally important to bring politicians and councillors on board who have the authority to initiate waste management projects and who can approve the allocation of resources to such projects. It will also be seen if at the recommendation point of the IWMP if possible and practical, a dedicated waste minimization official should be part of the plan going forward to promote recycling, although smaller municipalities often cannot afford a dedicated official but with the growth of Burgersfort, it may be an appointment worth their while.

4.2.3 Waste Collection Vehicles

Lekwa Local Municipality currently operates a small waste collection fleet that remains inadequate for servicing all 15 wards in the area (lekwalm.gov.za)². Several compactor trucks in the fleet are relatively new, yet frequent breakdowns – largely due to poor servicing – are undermining the reliability of waste collection operations. All waste collection is handled in-house using municipal vehicles (with no outsourced contractors), meaning any vehicle downtime directly disrupts service delivery. These challenges underscore the urgent need for a proactive maintenance program and a structured vehicle replacement plan to ensure more reliable waste collection going forward.

² Lekwa Local Municipality Integrated Waste Management Plan 2022-2027

Table 19: List of Waste Vehicle Fleet for the Local Municipality

	JVK610MP	JSX708MP	JSX722MP	JSX731MP	JZD822MP	KFJ806MP	KFL847MP	JMP237MP	KRB311MP	
MAKE	CAT Front End Loader	UD Quester	UD Quester	UD Quester	Bell	UD	UD	UD	UD	UD
MODEL	CAT	CWE330 (Compactor)	CWE330 (Compactor)	CWE330 (Compactor)	Dump Truck	Croner (Compactor)	Croner (Compactor)	CWE330 (Compactor)	CWE330	CWE330 (Tipper)
KMs	-		137 126	130 531	104 194	-	-	-	87 700	37 685
CURRENT STATE	Not working. Currently under repairs	Out for repairs	Operational. Vehicle service was overdue on the day of the inspection.	Operational. Vehicle service was overdue on the day of the inspection.	Operational but not used at the landfill site.	Not operational. It was donated by Seriti Mine.	Not operational. It was donated by Seriti Mine.	Not operational. It was donated by Seriti Mine.	Operational. Vehicle service was overdue on the day of the inspection.	Tipper Truck donated by DFFE Operational. Vehicle service was overdue on the day of the inspection.
IMAGES	 		 	 	 	 	 	 	 	 

4.3 Waste Information Systems

The Lekwa Local Municipality participates in the South African Waste Information System (SAWIS), a national platform managed by the Department of Environmental Affairs (DEA) through the South African Waste Information Centre (SAWIC). SAWIS serves as a centralized database for collecting, verifying, and disseminating waste management data from all licensed facilities across South Africa. According to the SAWIC registration records, several facilities within Lekwa are registered, including the Standerton Landfill Site (D00727-01) for general waste disposal, Blue Diamond Recycling Facility (D15843-01) for waste recovery, and a few hazardous waste generators registered between 2018 and 2021. However, it is important to note that only the Standerton Landfill Site currently submits waste data to SAWIS, while no data have been recorded for the Morgenzon Landfill Site, despite it being licensed for closure.

Annual SAWIC statistical submissions from 2022 to 2025 show significant variability in reported figures. In 2022, a total of 685,873.45 tons of waste was reported from 69 facilities, dominated by hazardous waste (651,865.41 tons). The following year, 42 facilities submitted data, with a substantial increase in hazardous waste quantities to 1,142,726.50 tons, suggesting improved reporting by industrial sources. In 2024, 31 facilities reported a total of 1,020,749.70 tons, showing a slight decline. Notably, in 2025, 27 facilities reported an unusually high volume of 10,775,630 tons of general waste and no hazardous waste, likely reflecting bulk submissions or data discrepancies linked to the Standerton Landfill.

These inconsistencies underscore the urgent need to strengthen municipal data management, particularly through establishing a functional Municipal Waste Information System (WIS) aligned with SAWIC. Improved coordination between the municipality and private waste operators will enhance data reliability, assist in tracking waste generation and diversion trends, and support regulatory compliance. To achieve this, Lekwa should designate a Municipal Waste Information Officer responsible for data collation, monthly uploads, and validation in accordance with the National Waste Information Regulations (GN 625 of 2012) under the National Environmental Management: Waste Act (Act No. 59 of 2008). Ensuring consistent reporting from both Standerton and Morgenzon landfill sites will be essential for accurate monitoring, planning, and implementation of waste minimization strategies.

Table 20 outlines all waste management facilities within Lekwa Local Municipality that are registered on the South African Waste Information System (SAWIS), together with their activity types, registration numbers, and reporting status. The data show that while 21 facilities are

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officially registered—including the Standerton Landfill Site, Tutuka Power Station waste facilities, Blue Diamond Recycling Facility, and several hazardous waste generators—only a few actively submit data to SAWIS. The Standerton Landfill Site remains the primary municipal reporting point. Most industrial and hazardous waste generators have inconsistent or outdated submissions, with the last recorded data from 2023 for some facilities. This pattern highlights weak compliance monitoring and limited municipal oversight of private sector reporting. Strengthening coordination between the municipality, DARDLEA, and facility operators is essential to ensure accurate, up-to-date reporting and full integration of all operating sites into the national waste information system

Table 21 provides a summary of waste data reported to the South African Waste Information System (SAWIS) by facilities within Lekwa Local Municipality for the period 2022 to 2025. The data reveal notable fluctuations in both the number of reporting facilities and the total waste quantities submitted annually. While 2022 recorded 69 reporting facilities with a total of 685,873.45 tons of waste—predominantly hazardous waste—the number of facilities and total tonnage declined in subsequent years, suggesting inconsistent data submission and reporting gaps. A significant anomaly was observed in 2025, where only 27 facilities reported an unusually high 10,775,630 tons of general waste, likely due to consolidated submissions from the Standerton Landfill Site. These variations underscore the need for improved data verification, regular reporting from all operational sites, and integration of SAWIS data into the municipal Waste Information System (WIS) to ensure accurate monitoring and informed waste management planning.

Table 20: Registered Waste Management Facilities in Lekwa Local Municipality (as per SAWIS/SAWIC, 2025)

SAWIS NUMBER	REGISTRATION	SITE NAME	TYPE OF ACTIVITY	ACTIVITY NAME	LOCAL MUNICIPALITY	SUBMITTED DATE
D00727-01		STANDERTON LANDFILL	Waste Disposal	STANDERTON LANDFILL SITE	Lekwa	24-05-2018
D16443-01		Restricted	Hazardous Waste Generator	Restricted	Lekwa	12-10-2021
D15843-01		Blue Diamond	Waste Recovery or Recycling	Blue Diamond	Lekwa	21-01-2021
D14384-01		Restricted	Hazardous Waste Generator	Restricted	Lekwa	09-07-2019
D14387-01		Restricted	Hazardous Waste Generator	Restricted	Lekwa	09-07-2019
D14311-01		Restricted	Hazardous Waste Generator	Restricted	Lekwa	04-10-2023
D12551-01		Tutuka General Waste Disposal Site	Waste Disposal	Tutuka Hazardous Waste Disposal Site	Lekwa	04-10-2023
D12043-01		Tutuka Ash Disposal Facility	Waste Disposal	Tutuka Ash Disposal Facility	Lekwa	04-10-2023
D09840-01		Restricted	Hazardous Waste Generator	Restricted	Lekwa	09-03-2017
D06519-01		Restricted	Hazardous Waste Generator	Restricted	Lekwa	25-06-2015
D06489-01		Restricted	Hazardous Waste Generator	Restricted	Lekwa	23-06-2015

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SAWIS NUMBER	REGISTRATION	SITE NAME	TYPE OF ACTIVITY		ACTIVITY NAME	LOCAL MUNICIPALITY	SUBMITTED DATE
D04258-01		Restricted	Hazardous	Waste	Restricted	Lekwa	12-12-2013
D02137-01		Restricted	Hazardous	Waste	Restricted	Lekwa	09-04-2013
D01926-01		Restricted	Hazardous	Waste	Restricted	Lekwa	28-03-2013
D01928-01		Restricted	Hazardous	Waste	Restricted	Lekwa	28-03-2013
D01562-01		Restricted	Hazardous	Waste	Restricted	Lekwa	12-03-2013
D01464-01		Restricted	Hazardous	Waste	Restricted	Lekwa	25-03-2013
D01395-01		Restricted	Hazardous	Waste	Restricted	Lekwa	18-03-2013
D00347-01		Restricted	Hazardous	Waste	Restricted	Lekwa	26-08-2011
D00347-02		Standerton Hospital	Waste Treatments		Standerton Incinerator	Hospital Lekwa	26-08-2011
D00346-01		Restricted	Hazardous	Waste	Restricted	Lekwa	26-08-2011

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Table 21: Summary of Waste Information System (SAWIC) Data for Lekwa Municipality (2022-2025)

YEAR	NUMBER OF REPORTING FACILITIES	GENERAL WASTE (TONS)	HAZARDOUS WASTE (TONS)	TOTAL WASTE (TONS)	REMARKS
2022	69	34,008.04	651,865.41	685,873.45	Data submitted mainly from Standerton Landfill; Morgenzon Landfill not reporting.
2023	42	12,402.68	1,142,726.50	1,155,129.18	Notable rise in hazardous waste reported by private industrial generators.
2024	31	5,267.70	1,015,482.00	1,020,749.70	Moderate decline in total waste reported; Morgenzon still inactive in SAWIC.
2025	27	10,775,630.00	0.00	10,775,630.00	Data anomaly—high tonnage possibly due to bulk reporting or data entry inconsistencies.

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Reporting remains dominated by the Standerton Landfill Site and Tutuka Power Station facilities (general waste and ash disposal). Five hazardous waste generators appear in the database, but only one (D14311-01) has a recent submission (October 2023). Morgenzon Landfill Site's absence from SAWIS creates a data gap that affects municipal waste quantification and compliance reporting. It is recommended that Lekwa formalise registration and monthly data submission for all active facilities, designate a Waste Information Officer, and coordinate verification with DARDLEA to align municipal and national datasets.

4.4 Explanation Of Discrepancies Between SAWIC Registered And Reporting Facilities

The discrepancy between the total number of facilities registered on the South African Waste Information System (SAWIS) and those reflected as actively reporting in the annual data is largely attributed to differences in compliance, data submission frequency, and the operational status of registered entities. Although several facilities within Lekwa Local Municipality are registered on SAWIC, only a limited number consistently submit waste data each reporting cycle. Many of the registered facilities are private hazardous waste generators that are required to report only when waste is generated or removed, resulting in intermittent or once-off submissions. Others may have ceased operations, changed ownership, or failed to comply with the reporting requirements stipulated under the National Waste Information Regulations (GN 625 of 2012). Furthermore, municipal facilities such as the Morgenzon Landfill Site are still operational pending closure but remain unregistered or inactive on SAWIC, contributing to under-representation in the dataset. The difference is therefore not necessarily a reflection of missing infrastructure, but rather an indication of administrative and compliance gaps that require improved coordination between the municipality, provincial environmental authorities, and private operators to ensure that all active facilities are registered, verified, and submit data consistently.

4.4.1 Overview Of Reported Domestic Waste Tonnages (2022–2024) SAWIS Records

The Lekwa Local Municipality (around Standerton, South Africa) has recorded a dramatic decline in general waste tonnages over the past three years. According to SAWIC (South African Waste Information Centre) data, general waste disposed in Lekwa was 34,008.04 tonnes in 2022, dropping to 12,402.68 tonnes in 2023, and further to an extrapolated 5,267.70 tonnes in 2024. This represents a steep decrease to roughly 15% of the 2022 level by 2024. Such a precipitous drop is highly unusual and warrants careful analysis. In this report, we examine the significance of this trend, explore potential causes for the sharp decline, and discuss implications for municipal waste planning – including adjustments to collection services, impacts on landfill lifespan, and future waste minimization strategies.



Figure 12: Reported Domestic Waste on SAWIC from 2022 - 2024

This three-year trend is striking in both magnitude and rapidity. Under normal circumstances, municipal solid waste generation tends to grow gradually with population and economic activity, or at best stabilize with effective waste reduction programs. For context, Lekwa’s waste generation had been estimated around 33,420 tonnes per year in recent years, aligning with national averages for a population of ~130,000 (roughly 0.63 kg per person per day). The sharp decline to only ~5,268 tonnes in 2024 is therefore a significant deviation. Such a drop could indicate either major changes in waste management practices (e.g. an unprecedented success in waste diversion or reduction) or serious anomalies (such as data/reporting issues or service delivery failures). In either case, the trend’s significance lies in its implications: it affects how the

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municipality plans for waste services and infrastructure, and it raises questions about the underlying factors driving waste volumes so low.

Several plausible causes (and contributors) could explain the dramatic reduction in recorded general waste tonnages:

- Improved Waste Diversion or Minimization Efforts:** One optimistic interpretation is that Lekwa achieved exceptional waste reduction through recycling, composting, and other diversion programs. The municipality's Integrated Waste Management Plan (IWMP) indeed emphasizes waste minimization (e.g. separation at source, reuse, and recycling initiatives aligned with the National Waste Management Strategy 2020) and envisions a "decreased outlook trend in waste disposal volume" as these measures take effect. If substantial new programs were implemented around 2022–2023 (such as community recycling projects or organic waste diversion), they could have reduced the amount of waste ending up at landfill. Reducing incoming waste directly extends landfill life – *"The less you put in, the longer the site lasts"* (infrastructurenews.co.za)³ – and is a key goal of modern waste strategies. However, while incremental reductions are expected from such efforts, an 85% drop in two years would be an extraordinary success and likely exceeds typical outcomes. This suggests that while waste minimization might have contributed, it is probably not the sole explanation.
- Changes in Data Reporting and Measurement:** Another likely factor is data accuracy and reporting methodology. The SAWIC figures are noted as "extrapolated data," which hints that incomplete data (e.g. only certain months or areas) may have been scaled up, potentially introducing error. Many South African municipalities lack weighbridges at landfills and rely on estimates for reporting (gardenroute.gov.za).⁴ According to a regional waste management official, *"accurate and consistent reporting remains a challenge, particularly due to the lack of weighbridges in most municipalities"* (gardenroute.gov.za). If Lekwa's measurement or reporting process changed between 2022 and 2023 (for instance, a switch from estimated volumes to actual weighed data, or vice versa), the reported tonnages could vary greatly without reflecting

³ <https://infrastructurenews.co.za/2025/10/30/extending-the-life-of-landfills-engineering-compliance-and-smart-operations/#:~:text=%E2%80%9CThe%20less%20you%20put%20in%2C,is%20that%20simple%2C%E2%80%9D%20says%20Pienaar>

⁴ <https://www.gardenroute.gov.za/2024/11/29/28-november-2024-media-release-accurate-waste-data-the-key-to-managing-our-regions-waste-effectively/#:~:text=Planning%20this%20is%20noted%20countrywide>

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a real change on the ground. A scenario could be that 2022's figure (34k tonnes) was an overestimation under old methods, and later years are more accurate. Conversely, it could be that 2023–2024 data are under-reported due to reporting lapses or missing data (for example, if the municipality failed to log all waste or if the extrapolation was based on only a few months of records). In short, a methodological or administrative issue might have artificially depressed the 2023–2024 numbers.

- Service Delivery Problems and Uncollected Waste (Illegal Dumping):** A more troubling cause to consider is declining waste collection service coverage. If the municipality struggled to collect waste from all areas (due to resource constraints, vehicle breakdowns, strikes, etc.), then less waste would arrive at the landfill – not because less was generated, but because it was never picked up or officially recorded. Reports from Standerton in 2025 indicate that *“several areas get overlooked when the waste truck rolls by”* and some neighborhoods had no municipal waste collection for years ([citizen.co.za](https://www.citizen.co.za/ridge-times/news-headlines/2025/07/24/Ilm-speaks-to-illegal-dumping/#:~:text=Furthermore%2C%20the%20municipality%20provides%20weekly,the%20waste%20truck%20rolls%20by)).⁵ As a result, illegal dumping became rampant – *“Standerton is filthy... illegal dumping in the Lekwa area has reached a critical point”* ([citizen.co.za](https://www.citizen.co.za/ridge-times/news-headlines/2025/07/24/Ilm-speaks-to-illegal-dumping/#:~:text=Furthermore%2C%20the%20municipality%20provides%20weekly,the%20waste%20truck%20rolls%20by)). If this deterioration in service began or worsened around 2023, it could explain a sharp drop in landfill tonnage: waste was still produced by residents, but ended up in informal dumpsites instead of the official landfill. This would dramatically reduce the recorded waste tonnage while actually indicating a failure in management. The illegal dumping cause aligns with the data: 5,000–12,000 tonnes per year is implausibly low for a population of this size, suggesting many thousands of tonnes are simply unaccounted for in the official system.
- Economic or Demographic Changes:** It's also possible that changes in the local economy or population influenced waste generation. For example, if a major industry or commercial source of waste shut down in 2022, the “general waste” stream (which includes business waste) could have dropped significantly. Similarly, any decline in population or consumer activity (perhaps due to economic downturn or out-migration from the area) would reduce waste generation. However, such factors alone are unlikely to cause the extreme decrease observed, unless very large employers closed or a significant portion of the population left. These factors might contribute on the margins or in combination with the above causes.

⁵<https://www.citizen.co.za/ridge-times/news-headlines/2025/07/24/Ilm-speaks-to-illegal-dumping/#:~:text=Furthermore%2C%20the%20municipality%20provides%20weekly,the%20waste%20truck%20rolls%20by>

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In reality, the sharp decline is likely due to a combination of these factors. For instance, some waste minimization efforts may have begun (diverting a modest portion of waste), while reporting gaps and service issues compounded the decline in recorded tonnage. It is crucial for the municipality to identify the dominant causes behind the numbers – whether it’s a positive story of waste reduction or a warning sign of system failure – before drawing conclusions or adjusting policies.

4.4.2 Overview Of Reported Hazardous Waste Tonnages (2022–2024) SAWIC Records

Hazardous waste generation in the Lekwa Local Municipality has shown a dramatic rise between 2022 and 2023, followed by a moderate reduction in 2024. This section analyzes the trend based on SAWIC (South African Waste Information Centre) extrapolated data for 2022–2024, and discusses the significance of these changes. Possible causes – including increased industrial activity, improved waste reporting, and stricter regulatory enforcement – are examined. The report also explores implications for hazardous waste management planning, such as the need for adequate storage, treatment capacity, transportation logistics, and compliance with waste licensing regulations. The goal is to provide a comprehensive understanding of the trends and to highlight critical considerations for local authorities and industries in managing hazardous waste safely and legally.

According to SAWIC extrapolated data, hazardous waste quantities in Lekwa Municipality were approximately 651,865 tonnes in 2022, 1,142,726 tonnes in 2023, and 1,015,482 tonnes in 2024. This represents a sharp increase (nearly doubling) from 2022 to 2023, followed by a slight decrease in 2024. In other words, reported hazardous waste generation spiked in 2023 to a level about 75% higher than the previous year, then dipped by roughly 11% in 2024. Despite the small decline in 2024, the volume remained significantly above the 2022 baseline. This pattern – a surge then partial pullback – is noteworthy and suggests that 2023 was an exceptional year for hazardous waste generation or reporting in the municipality.

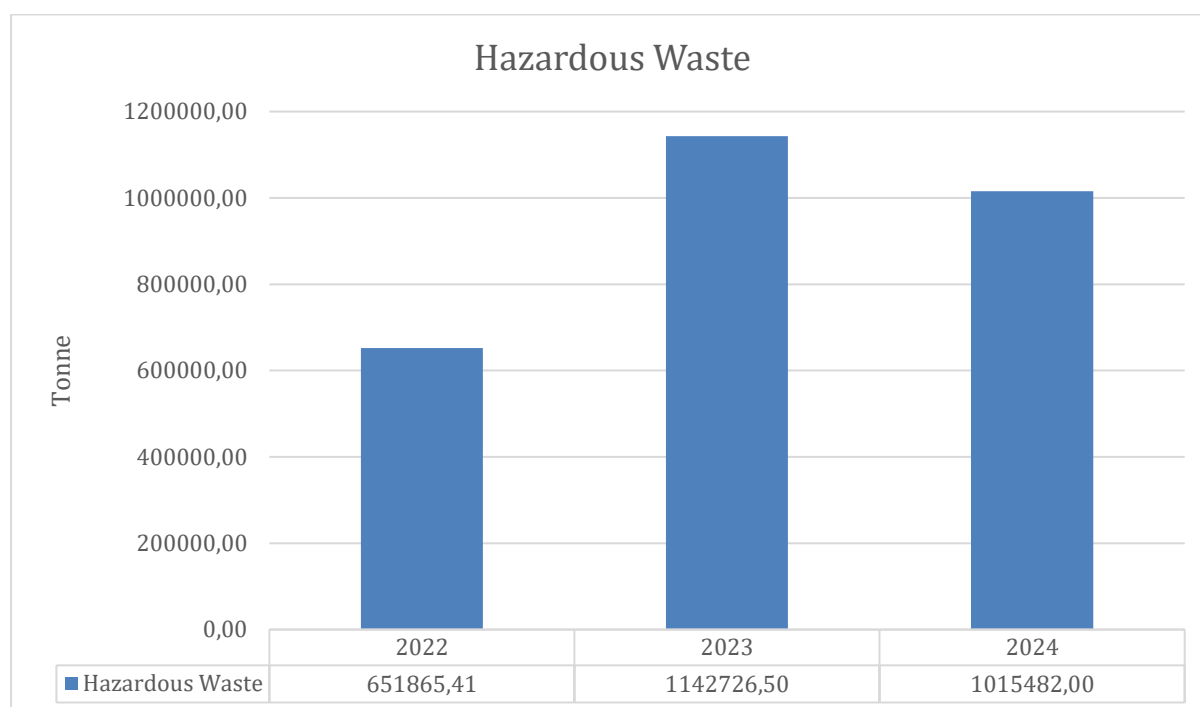


Figure 13: Reported Hazardous Waste on SAWIC from 2022 - 2024

The magnitude of these figures is striking for a local municipality. By comparison, Lekwa's general municipal waste disposed at its landfill was only on the order of tens of thousands of tonnes per year. The hazardous waste quantities in the hundreds of thousands of tonnes indicate contributions from large-scale industrial and mining activities rather than ordinary household or commercial waste. In fact, the previous Integrated Waste Management Plan (IWMP) notes that the municipality itself does not directly handle hazardous industrial or mining waste, apart from overseeing that such waste is managed safely by the generators. Hazardous waste in Lekwa is generated mainly by private sector activities (e.g. Thuthuka Power Station and Seriti Mine), and none of it is supposed to go to the municipal general landfill. This context implies that the data likely capture waste from major industrial operations in the area that report to the national waste information system.

4.5 Future Waste Generation Quantities

The Department of Environmental Affairs (DEA) guideline for municipal waste planning says a normal person in South Africa produces between 0.5 and 0.7 kilograms of waste per day. Because Lekwa has both urban and rural areas, we use the middle value: 0.6 kg per person per day.

Table 22: Baseline Waste Projection (0.6 kg/person/day)

YEAR	ESTIMATED POPULATION	TOTAL ESTIMATED WASTE (t/annum)
2027	148,176	32,451
2028	149,892	32,826
2029	151,626	33,206
2030	153,366	33,587
2031	155,094	33,966
2032	156,891	34,359

$$\text{Total Waste (tonnes per year)} = (\text{Population} \times 0.6 \text{ kg} \times 365 \text{ days}) \div 1\,000$$

4.6 Health Care Risk Waste

Health care risk waste (HCRW) is waste that contains infectious agents, sharps, hazardous chemicals, or pharmaceuticals, or is genotoxic or radioactive. Used needles, discarded medication or any infectious wastes are all classified as HCRW but are often found in small quantities in the domestic waste stream. The list of health care facilities within the local municipality is listed below:

(a) Government (Public) Healthcare Facilities

- **Standerton Hospital** – Government district hospital serving the area (195 beds), operated by the Mpumalanga Department of Health. (Located at 9 Kruger Street, Standerton; 24-hour facility)
- **Standerton TB Specialized Hospital** – Government tuberculosis hospital in Standerton (run by the Department of Health) specializing in TB treatment.
- **Lilian Mambakazi Community Health Centre (CHC)** – Government community health centre in Sakhile (Rooikoppen area of Standerton), opened in 2015 through a public-private partnership. Provides comprehensive primary healthcare including 24-hour maternity and emergency services
- **M.S. Msimango Clinic (Standerton Clinic)** – Government primary health clinic in central Standerton (often referred to by its Church Street location). It is an 8-hour public clinic operated by the Department of Health.

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- **Sakhile Clinic** – Government primary healthcare clinic serving Sakhile township in Standerton. (Provides day services to the local community.)
- **Mispel Street Clinic** – Government primary health clinic in the Florapark/Kosmos Park area of Standerton. (An 8-hour clinic, also noted as a TB treatment site tempuhealth.gov.za.)
- **Stanwest Clinic (Azalea Clinic)** – Government clinic in the Stanwest/Azalea area of Standerton. (8-hour primary care clinic serving the western parts of Standerton.)
- **Morgenzon Clinic** – Government primary healthcare clinic in the town of Morgenzon (which falls under Lekwa Municipality). (Provides 8-hour daily clinic services to Morgenzon residents.)
- **Thuthukani (Newtown) Clinic** – Government clinic facility serving the Thuthukani community (near the Tutuka area). This clinic was established/upgraded in 2022 from a mobile clinic to a fixed community healthcare centre through a partnership with Seriti/New Denmark Colliery. (Delivers daily primary healthcare services to the previously under-served Thuthukani/Rooikoppen community.)
- **W.F. Te Water SANTA Centre** – A tuberculosis (TB) clinic in Standerton, operated in partnership with the South African National Tuberculosis Association (SANTA). Although NGO-run, it functions as a public TB treatment center (serving the community's TB patients in collaboration with the Department of Health).

(b) Private Healthcare Facilities

- **Mar-Peh Private Hospital** – Private hospital in Standerton. Originally founded as Mar-Peh Medi-Care (a sub-acute facility), it expanded into a full acute hospital (opening around 2015) It is a fully licensed private hospital providing a range of medical and surgical services to the community.

The general waste generated by hospitals, and general waste from clinics close to the urban centres, is collected by the LLM and transported to landfill. The management of HCRW does not fall within the ambit of the local municipality's responsibility but is the responsibility of the Provincial Government.

4.7 Mine Waste

Within Lekwa Local Municipality (around Standerton and Morgenzon in Mpumalanga), the currently operating mines include both coal collieries and aggregate (quarry) operations. Below is a list of the active mines, their primary commodity type, and their operating company/owner, as confirmed by official and industry sources:

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- **New Denmark Colliery** – An **underground coal mine** (thermal coal) located about 30 km north of Standerton. It was formerly owned by Anglo American and is now operated by **Seriti Resources**. New Denmark is one of South Africa’s deepest coal mines and supplies approximately 3 Mtpa of thermal coal to Eskom’s Tutuka Power Station.
- **Highveld Crushers Quarry** – An **open-pit dolerite quarry** near Standerton producing crushed stone (aggregate) and natural sand for construction. According to the Department of Mineral Resources and Energy (DMRE) directory, Highveld Crushers is an operational opencast mine (aggregate and natural sand) in Standerton.
- **Howard (Morgenzon) Quarry** – An **open-pit dolerite mine** near Morgenzon (northern part of Lekwa). Operated by **B&E International**, the Howard Quarry produces high-quality dolerite aggregate and sand, used for construction and roadworks

4.7.1 Waste Management Practices At Mines In Lekwa Local Municipality

4.7.1.1 New Denmark Colliery (Seriti Resources)

- **Types of waste:** As an underground coal mine, New Denmark generates general wastes (office and domestic refuse, scrap metal, used packaging, conveyor belting, etc.) and various hazardous wastes. Hazardous streams include used oils and grease, oil-contaminated rags/soil, spent hydraulic fluids, used oil filters, old batteries and fluorescent tubes, and possibly used chemical containers or explosive packaging.
- **Regulatory compliance (Waste Act, SAWIS, manifest):** Being ISO 14001 certified and a large coal operation, New Denmark Colliery adheres strictly to South Africa’s Waste Act and regulations. It will have registered as a waste generator on the South African Waste Information System (SAWIS) given the quantities of hazardous waste produced. The mine classifies its waste streams per SANS 10234 and submits required reports to authorities. Hazardous waste is not stored on site longer than allowed by law. Every load of hazardous waste leaving site uses the mandatory **waste manifest** system to track it from cradle to grave. The mine’s practices are aligned with its approved Environmental Management Programme and Integrated Water and Waste Management Plan. Local authorities monitor that no mining waste enters municipal sites, and New Denmark’s compliance record is maintained through regular internal and external audits.
- **Use of licensed contractors:** The colliery uses **authorized waste service providers** to collect and dispose of its waste. Hazardous waste removal and disposal is done only via contractors licensed to handle such waste. These contractors ensure transport under safe conditions and deliver waste to licensed facilities. All hazardous waste shipments are

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accompanied by waste manifest documentation for tracking. Internally, New Denmark maintains a waste register and keeps copies of **waste manifests** and disposal certificates as required.

4.7.1.2 Highveld Crushers (Aggregate Quarry) & Howard Quarry (Aggregate Mining Operation)

Types of waste: Highveld Crushers is a commercial quarry and concrete products operation. Its waste profile differs from coal mines, but it still produces both general and hazardous wastes. General wastes include domestic trash from site offices (food, paper, etc.), packaging materials (cement bags, plastic wrap, empty pallets), as well as inert rubble like concrete or stone off-cuts. The crushing activities might generate fine dust and waste rock which are largely inert (often these are reused in backfilling or sold as low-grade fill rather than discarded). The facility also accumulates scrap metal (e.g. worn crusher parts, used machine components, broken tools) and worn-out tyres from loaders or trucks. Hazardous wastes chiefly come from equipment maintenance: used engine and hydraulic oils, oil filters, diesel and oil-soaked rags or soil, grease cartridges, spent coolant and paint/solvent containers from the workshop. Additionally, any old vehicle batteries or electronic waste (from machinery controls) are hazardous. If blasting is done on site, the boxes and bags from explosives (with residual chemicals) are also treated as hazardous waste. All these wastes are identified and managed according to regulations; in fact, by default industrial/mining waste is considered hazardous until proven otherwise and cannot be landfilled as general waste, so the company errs on the side of caution in classifying waste streams. Highveld Crushers relies on licensed waste contractors for waste removal since the municipal collection service is limited to household waste

4.7.2 Waste Management Practices At Tutuka Power Station.

Like other coal-fired stations, Tutuka produces a wide range of waste streams. **General wastes** include ordinary domestic/refuse waste from offices and canteens, food waste from the kitchen, paper/cardboard, wooden packaging, and scrap metals or other inert materials. These are non-hazardous wastes that pose a low risk if properly managed. The station also generates various **hazardous wastes**, such as:

- **Coal Ash** – by far the largest waste stream. Combusting coal produces **fly ash** (fine particulate ash captured in electrostatic precipitators) and **bottom ash** (coarser ash from the boilers). Tutuka produces **thousands of tonnes of ash per day** (around 13,600 tons daily, based on design figures). Coal ash contains heavy metals and soluble salts, so it is classified as industrial hazardous waste under SA regulations.

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- **Oil-Contaminated Waste** – used lubrication and transformer oils, oil filters, oily rags/absorbents, and oil-contaminated soil from spills. These are toxic/hazardous wastes requiring special handling.
- **Chemicals and Industrial Process Waste** – spent chemical reagents, boiler cleaning residues, ion-exchange resins, and brine or sludge from water treatment processes. For example, sludge from cooling tower blowdown and “dirty” water dams is periodically removed and disposed on the ash dump (since it contains concentrated salts/ash). Similarly, any sewage treatment sludge is **treated as hazardous** and disposed of at a licensed hazardous facility (sewage biosolids can contain pathogens and industrial contaminants).
- **Medical Waste** – the station’s on-site clinic generates small amounts of medical waste (e.g. used sharps and contaminated medical supplies). These are immediately secured in proper sharps containers or medical waste bins and later removed by authorized medical waste contractors for incineration or treatment.
- **Spent Batteries** – lead-acid batteries (LABs) from backup power systems and smaller batteries are considered hazardous due to lead and acid. They are stored safely and sent to accredited recyclers or hazardous waste disposal according to regulations.
- **Fluorescent Tubes and Mercury Lamps** – spent fluorescent light tubes and sodium vapor lamps contain mercury and other toxics. They are collected and handled as hazardous waste (typically sent for mercury recovery or hazardous disposal).
- **Electronic Waste** – obsolete electronics and printer toner cartridges are collected separately. For instance, used printer cartridges are kept in a designated box by IT; once full, they are sent off for **recycling** through an approved e-waste recycler. Other e-waste (old computers, etc.) is similarly diverted to recycling.
- **Used Grease and Filters** – used machine greases are put in labeled containers on site. Once containers are full, that grease is disposed of at a hazardous waste site. Used oil **filters** and grease-soaked materials are also handled as hazardous waste; they are not stored longer than 90 days on site and ultimately go to a licensed hazardous waste facility

4.7.2.1 Removal and Disposal via Licensed Contractors

General and Hazardous Waste Disposal: General (non-hazardous) waste that cannot be recycled is disposed of at the G:S:B- Tutuka Power Station Landfill Site, which use to operate under Waste Management Licence No. 12/9/11/L217/6, issued in 2010 before an integrated waste management license was issued in 2026..

Previously, Tutuka Power Station operated an on-site general waste landfill under an older permit, Permit No. 16/7/X205/D6/Z1/129, which was granted in 1994.

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In 2016, Tutuka Power Station was issued an Integrated Waste Management Licence (No. 12/9/11/L456/6/R1) covering all its waste management facilities. This licence authorises the management of both general and hazardous waste, including the hazardous waste disposal facility, brine treatment facility, and general waste disposal facility.

4.8 Waste Recycling

4.8.1 Separation At Source

The Lekwa Local Municipality (LLM) does not currently implement a formal separation-at-source system, such as the two-bag or multi-bag system, in any of its towns. This means that households (like paper, plastics, and glass) from general waste at the point of generation. Instead, all types of waste are typically mixed together and collected as general waste, which is then transported directly to landfill sites. The absence of a separation system limits opportunities for material recovery, recycling, and waste minimisation, and contributes to increased landfill volumes and shorter landfill lifespan. This situation highlights the need for the municipality to develop and implement a structured separation-at-source programme, supported by community awareness campaigns, partnerships with recyclers, and the provision of colour-coded containers or bags to facilitate sorting. Such initiatives would align the municipality with the objectives of the National Waste Management Strategy (NWMS) and the Waste Act (Act No. 59 of 2008), which promote waste reduction, reuse, and recycling as key elements of sustainable waste management.

4.8.2 Local Recyclers

The Lekwa Local Municipality (LLM) does not operate any formal municipal recycling programmes. However, recycling activities do occur within its jurisdiction through the involvement of private individuals and recycling companies. These entities operate independently, often engaging in informal collection and sorting of recyclable materials. Most of these initiatives are concentrated at the Standerton Landfill Site, where recyclers manually retrieve materials such as plastics, paper, metals, and glass from the general waste stream. While these efforts contribute to waste diversion and livelihood creation, they are not coordinated or supported through a structured municipal recycling plan. The lack of a formal recycling framework limits the municipality's ability to quantify recycling rates, regulate informal activities, and integrate recycling into the broader Integrated Waste Management System. Strengthening collaboration with these recyclers, formalising their operations, and introducing municipal buy-back or sorting facilities could greatly enhance recycling performance and align

the municipality with national waste reduction and circular economy objectives under the National Waste Management Strategy (NWMS).



Figure 14: Three (3) Recyclers operate on municipality land in Sakhile.

Within the Lekwa Local Municipality (LLM), informal recycling activities play a significant role in diverting recyclable materials from landfill disposal, despite the absence of a formal municipal recycling programme. In Sakhile, three individual recyclers operate from different properties along Hlongwane Road, where they collect and sort materials such as paper, plastics, and bottles (Figure 14). These recyclables are then transported to Johannesburg, where they are sold to larger recycling buyers for income generation. Additionally, informal recyclers were observed operating at both the Standerton and Morgenzon Landfill Sites (Figure 15 and Figure 16 respectively), where they manually retrieve bottles, plastics, and paper from mixed waste streams. The collected materials are typically sold to Myar Recycling Company, a local recycling business based in Standerton, which provides a small but important market link for these waste pickers.

However, these recycling activities are conducted under poor and unsafe working conditions. The recyclers at both landfill sites work without protective clothing, exposing themselves to health and safety risks such as sharp objects, hazardous waste, and extreme weather conditions. Furthermore, there is no designated shelter or shading provided for them, which exacerbates their vulnerability and highlights the lack of formal recognition and support for their work. To improve the sustainability and safety of these informal recycling initiatives, it is recommended that the municipality integrate informal recyclers into its waste management system through the

provision of basic protective equipment, shaded sorting areas, and formal partnerships with recycling companies. This would not only enhance worker safety and efficiency but also support the objectives of the National Waste Management Strategy (NWMS) and promote inclusive economic participation in the recycling sector.

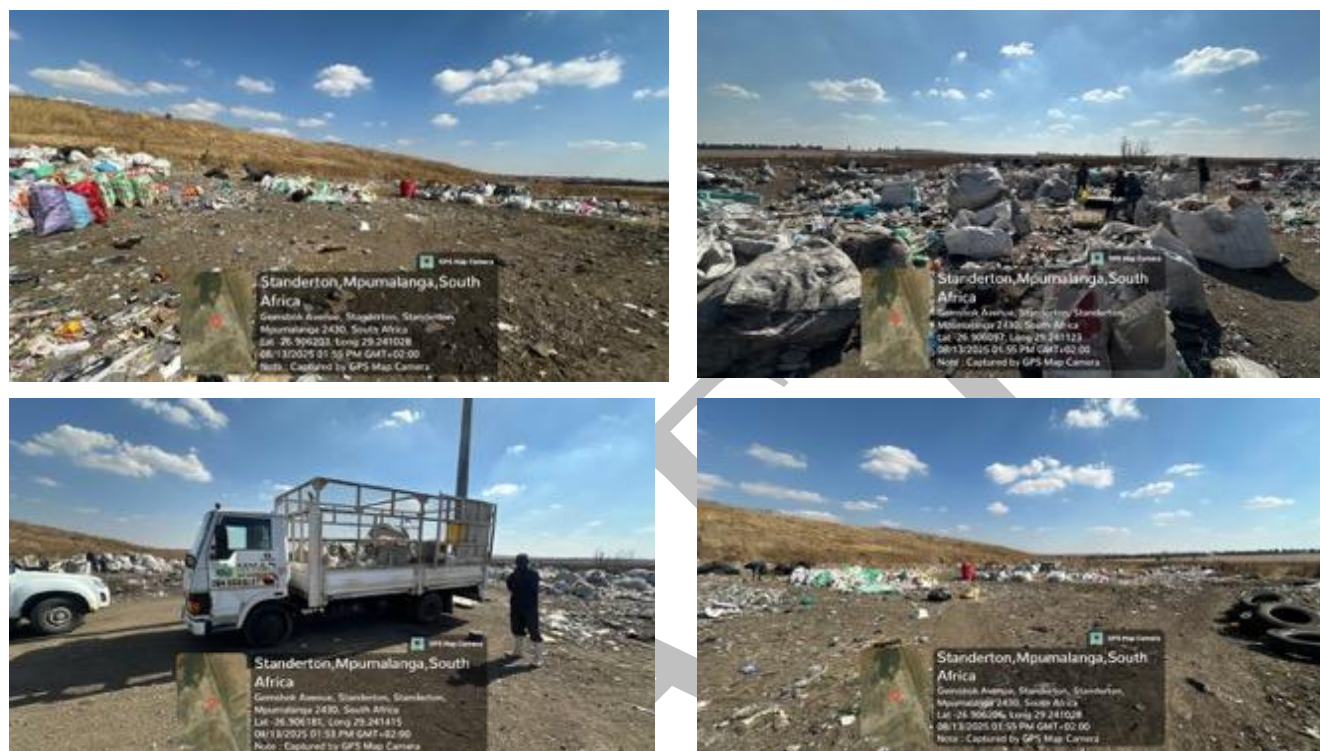


Figure 15: Informal recycling activities at the Standerton Landfill Site⁶



Figure 16: Informal recycling activities at the Morgenzon Landfill Site

⁶ The images show waste pickers sorting and bagging recyclable materials such as plastics, paper, and bottles for resale to local and regional recycling companies. Recyclers operate under unhygienic conditions without protective clothing or shelter, highlighting the need for improved health, safety, and infrastructure support within the municipality's waste management system

Definition of Informal Recyclers

According to the **Department of Forestry, Fisheries and the Environment (DFFE)** and the **Department of Science and Innovation (DSI)** in the *Waste Picker Integration Guidelines for South Africa* (2020), *informal recyclers*—also known as **waste pickers**—are defined as:

“Individuals who collect reusable and recyclable materials from residential and commercial waste bins, streets, open spaces, and landfill sites, in order to recover value from waste through reuse, resale, or recycling to earn a livelihood.”

4.8.3 Organic Waste Management In The Municipality

There are several policy and legislative frameworks that mandate municipalities to reduce the quantity of organic waste disposed of at landfill sites. One of the most significant instruments is the National Norms and Standards for the Disposal of Waste to Landfill (Government Notice No. 636 of 2013), published under the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008). These regulations set progressive targets for the diversion of organic waste, requiring municipalities to achieve a 25% reduction of garden waste to landfill by 2018 **and a** 50% diversion by 2023, based on the 2013 baseline.

This legislative requirement is further supported by the National Waste Management Strategy (NWMS, 2020), which promotes waste minimisation, recycling, and composting as key actions for achieving a zero-waste-to-landfill approach. The policy direction encourages municipalities, including Lekwa Local Municipality, to establish organic waste diversion programmes such as composting initiatives, garden waste drop-off centres, and partnerships with the private sector for processing biodegradable materials.

Implementing these measures not only ensures compliance with national waste legislation, but also extends landfill lifespan, reduces greenhouse gas emissions, and supports the transition toward a circular economy that values organic material as a resource rather than waste.

At present, the Lekwa Local Municipality (LLM) does not have any formal municipal programmes dedicated to organic waste diversion, nor does it operate composting facilities or garden refuse drop-off centres within its jurisdiction. This lack of infrastructure and programme implementation presents a significant challenge in meeting the national targets for organic waste diversion from landfill, as outlined in the National Norms and Standards for the Disposal of Waste to Landfill (GN 636 of 2013).

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A major concern is that the LLM lacks reliable waste characterisation and disposal tonnage data, which makes it difficult to determine an accurate historical baseline for organic waste generation and disposal trends. Without this data, effective planning, monitoring, and reporting of organic waste diversion progress cannot be achieved. Establishing a comprehensive waste information system, conducting regular waste characterisation studies, and developing community-level composting initiatives would enable the municipality to comply with national waste diversion goals, reduce the volume of organic waste sent to landfill, and promote sustainable resource recovery practice.

4.9 Awareness Campaigns

The Lekwa Local Municipality (LLM) conducts limited waste management awareness campaigns, primarily aimed at discouraging illegal dumping and promoting cleaner communities. However, most of the visible awareness initiatives within the municipal area are driven by private companies, which erect “NO DUMPING” signage in strategic locations (Figure 17). These signs often serve a dual purpose — conveying anti-dumping messages while simultaneously advertising the companies’ services or products.

While such private-sector involvement contributes positively to public awareness, the municipality’s reliance on these efforts indicates a lack of structured and coordinated municipal awareness programmes. There is currently no consistent municipal communication strategy that addresses key topics such as waste separation at source, recycling, or the health and environmental impacts of improper waste disposal. Strengthening LLM’s internal awareness campaigns through community engagement, school outreach, clean-up drives, and media-based education programmes would enhance public participation and promote behavioural change in line with the objectives of the National Waste Management Strategy (NWMS, 2020), which emphasises education and awareness as essential tools for achieving sustainable waste management practices.

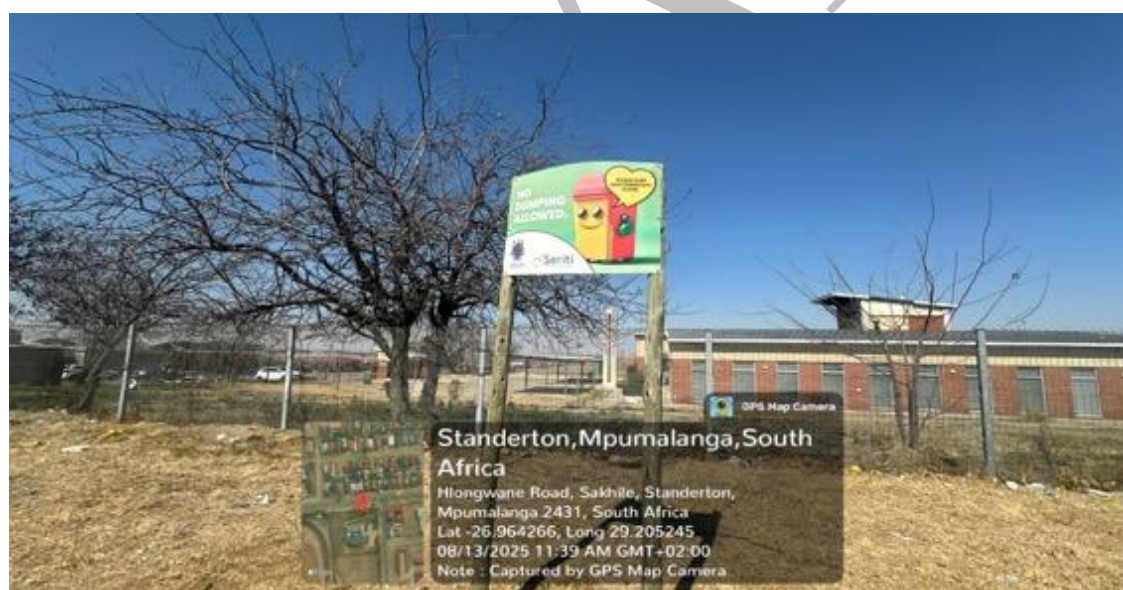


Figure 17: Anti Littering Awareness Signage

4.9.1 Circular Economy And Integration Of Waste Pickers

The Circular Economy Guidelines for the Waste Sector (Department of Environment, Forestry and Fisheries, 2020) defines a circular economy as *“an economy that is restorative and regenerative by design and aims to keep products, components, and materials at their highest utility*

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and value at all times." This model seeks to decouple economic growth from the consumption of finite natural resources while promoting sustainable development, job creation, and reduced environmental impacts, including carbon emissions.

In the context of the Lekwa Local Municipality (LLM), a circular economy means keeping materials circulating within the local economy—through reuse, repair, and recycling—rather than allowing them to exit the economy as waste that ends up in landfill sites. However, several barriers hinder LLM's transition towards circularity, including limited waste data, inadequate technical capacity, low public awareness, and financial constraints. Furthermore, similar to other semi-rural municipalities, there is evidence of domestic waste "leakage" from the formal collection system due to residents resorting to informal disposal or burning of waste, especially in areas without regular municipal collection services.

Despite these challenges, LLM already engages in activities that contribute to circularity, such as the operation of landfill sites where recyclables are recovered by informal waste pickers and small-scale recyclers. To enhance circularity, LLM could expand waste collection to underserved areas, support the establishment of drop-off and buy-back centres, and strengthen partnerships with informal recycling operators.

The role of informal waste pickers is particularly critical in this transition. According to the *Waste Picker Integration Guidelines for South Africa* (DEFF & DSI, 2020), waste pickers recover up to 80–90% of recyclable paper and packaging materials in the country's waste stream. In LLM, they operate independently, though often under poor working conditions and without formal recognition. The municipality can strengthen its circular economy framework by formalising relationships with these cooperatives through Memoranda of Understanding (MOUs), ensuring proper data management, registration of recycling operations in line with national norms and standards, and encouraging fair compensation for waste pickers.

By integrating informal recyclers into the municipal waste system and promoting investment in local recycling markets, Lekwa Local Municipality can make significant strides toward achieving a circular economy, contributing to both environmental sustainability and local socio-economic development.

4.10 Illegal Dumping Sites

Illegal dumping is a persistent environmental challenge in Lekwa Local Municipality, particularly in areas such as Sakhile, Azalea, Morgenzon, and parts of Standerton. Common waste types found

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at illegal dumping hotspots include disposable diapers, building rubble, and garden waste. These materials suggest that much of the waste originates from households and small-scale construction activities. Although the municipality undertakes regular clean-up campaigns and awareness initiatives to educate communities on proper waste disposal practices, illegal dumping continues to occur due to limited enforcement mechanisms. The municipality has not yet gazetted its Waste Management By-laws, which limits its ability to take legal action against offenders or regulate waste disposal effectively. As a result, open spaces, road verges, and areas near cemeteries and public institutions often become informal dumping points. Strengthening waste collection services, finalising and enforcing municipal by-laws, and sustaining community education programmes are critical steps toward reducing illegal dumping and improving overall environmental hygiene in the municipality.

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Table 23: List and Location of Illegal Dumping Hotspots

ITEM	LOCATION	COORDINATES		IMAGES
		LATITUDE	LONGITUDE	
1	Cnr Hlongwane Road& Shabangu Street, Sakhile	26.964267	29.205235	 

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ITEM	LOCATION	COORDINATES		IMAGES
		LATITUDE	LONGITUDE	
2	Hlongwane Road (Next to cemetery), Sakhile	26.963696	29.199730	 

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ITEM	LOCATION	COORDINATES		IMAGES
		LATITUDE	LONGITUDE	
3	Next to Standerton TB Hospital, Sakhile	26.975711	29.220731	 

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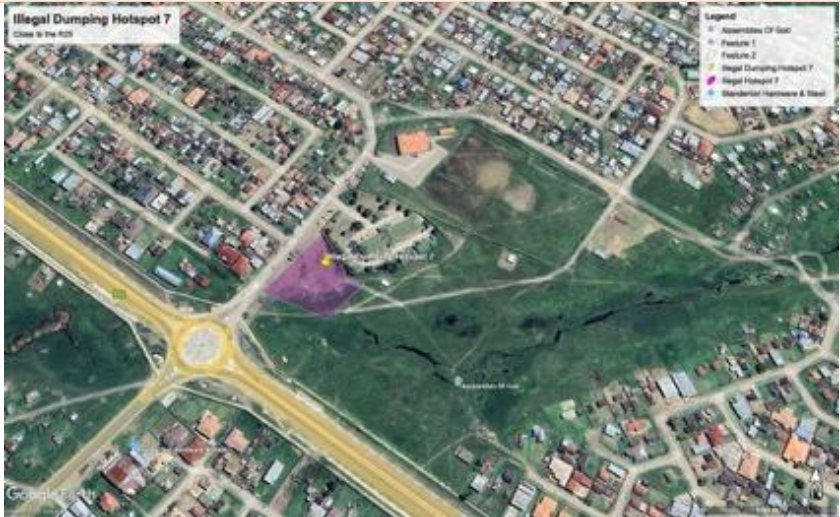
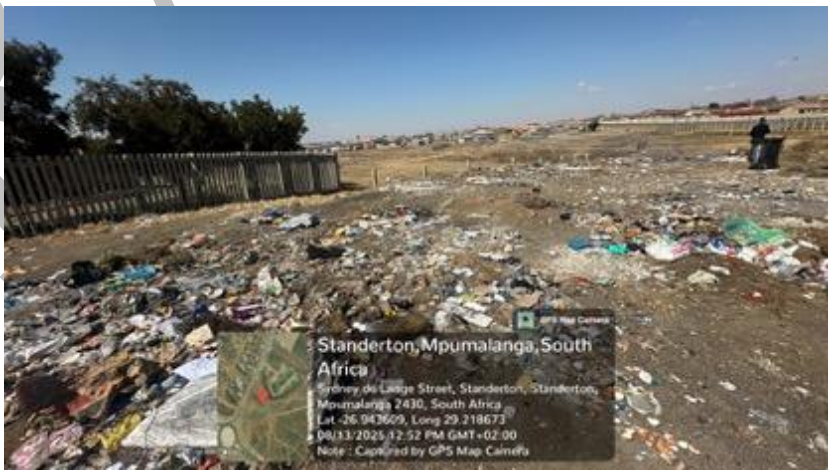
ITEM	LOCATION	COORDINATES		IMAGES
		LATITUDE	LONGITUDE	
4	Kubheka Road, Sakhile (Opposite Abi Discount Supermarket)	26.985975	29.200075	 

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ITEM	LOCATION	COORDINATES		IMAGES
		LATITUDE	LONGITUDE	
5	Kubheka Road, Sakhile	26.978849	29.207145	 

ITEM	LOCATION	COORDINATES		IMAGES
		LATITUDE	LONGITUDE	
6	Sydney de Lange Street, Azalea,	26.948001	29.222498	 

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ITEM	LOCATION	COORDINATES		IMAGES
		LATITUDE	LONGITUDE	
7	Sydney de Lange Street, Standerton (Next to R25 Road)	26.943609	29.218673	 

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		LATITUDE	LONGITUDE	
8	Sydney de Lange Street, Standerton	26.939785	29.214994	 

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ITEM	LOCATION	COORDINATES		IMAGES
		LATITUDE	LONGITUDE	
9	Extension 8	26.923062	29.202735	 

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ITEM	LOCATION	COORDINATES		IMAGES
		LATITUDE	LONGITUDE	
10	Caproni Street, Standerton	26.925404	29.210357	 

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ITEM	LOCATION	COORDINATES		IMAGES
		LATITUDE	LONGITUDE	
11	Sivukile, Morgenzon	26.745756	29.612691	 

ITEM	LOCATION	COORDINATES		IMAGES
		LATITUDE	LONGITUDE	
12	Sivukile, Morgenzon	26.735326	29.602660	 

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4.11 Municipality Waste Management By-Law

The Lekwa Local Municipality has developed a draft Waste Management By-Law intended to regulate waste handling, storage, collection, transportation, and disposal across the municipal area. However, the by-law has not yet been formally gazetted and therefore remains in draft form. Although the municipality does not currently have an enforceable local by-law, waste management activities are still guided by applicable national and provincial legislation, including the National Environmental Management: Waste Act (Act 59 of 2008) and associated regulations. These legislative frameworks provide the necessary authority to address issues such as illegal dumping, waste separation, and general waste service standards. Once gazetted, the municipal by-law will strengthen local enforcement capacity, enhance compliance, and align municipal operations with the broader waste management objectives set out in national policy and the municipality's Integrated Waste Management Plan (IWMP).

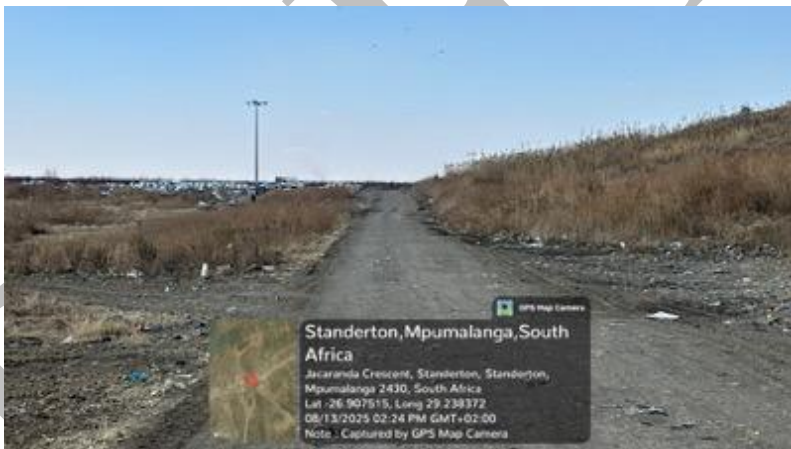
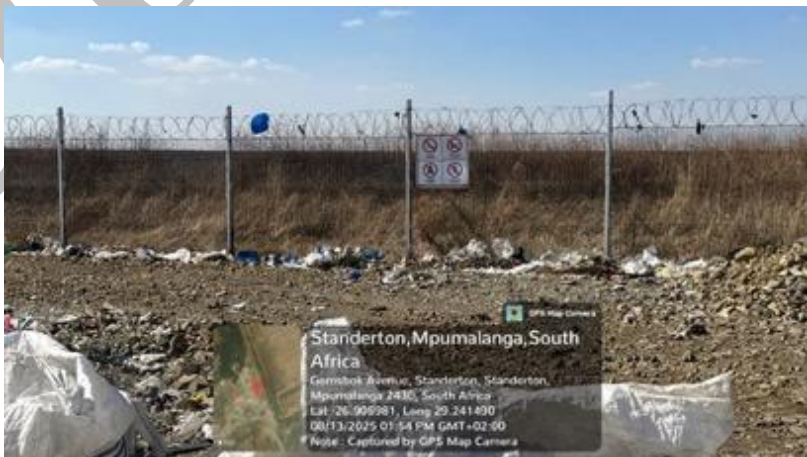
4.12 Waste Management Facilities

4.12.1 Standerton Waste Disposal Site

The Standerton Landfill Site, located within Lekwa Local Municipality, operates under Waste Management Licence Number 12/9/11/L109/6 and is classified as a **G:S:B-** facility. According to the South African Waste Information Centre (SAWIC) portal, the site was licensed in 2010 and covers an estimated area of 19 hectares. The landfill is currently operational and managed by a contractor appointed by the municipality. However, the overall management of the site remains inadequate, as waste compaction and daily covering are not conducted regularly. This poor operational control poses significant environmental and safety risks, including increased potential for landfill fires, odour nuisance, and the attraction of vermin. Furthermore, the lack of consistent compaction and covering practices results in inefficient use of available airspace, shortening the site's lifespan and undermining long-term waste disposal capacity. Improved supervision, adherence to licence conditions, and regular maintenance are essential to ensure compliance with national landfill management standards and to safeguard environmental quality.

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Table 24: Summary of Standerton Landfill Site

Location	Standerton
Coordinates	26°54'28.03" S 29°14'27.20" E
Site Classification	G:S:B-
License Status	26/01/2010
License Number	12/9/11/L109/6
Size	19ha
Remaining Life of Site	Approximately 7 years for the current cell.
Access and Security	The landfill is accessed via a gravel road, which can become difficult to navigate during the rainy season due to poor surface conditions. The site is securely fenced, and access is controlled by on-site security personnel to ensure that only authorised vehicles and personnel are permitted entry. <i>Access road to the disposal cell</i>  <i>Site is properly fenced</i> 

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	<i>Access control at the main entrance</i> 
Waste Information Management	The weighbridge is fully operational, and a designated personnel member is responsible for recording and maintaining all weight measurement data. <i>Weighbridge at the main entrance of the site</i> 
Facilities	The site comprise of the following: • Controlled access • Weighbridge • Disposal cell. The public toilet facilities at the disposal site were vandalised.

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	<i>Vandalised public toilets and a security guardroom at the site</i> 
Machinery	The management of the site outsourced to a contractor by the municipality. The only machinery that was on site on the day of the visit was a bulldozer. <i>A builder that is currently used on site.</i> 
Stormwater Management	The landfill does not have a fully functional storm water control system
Leachate Management	There no leachate pond on site.

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Recycling	Recyclable waste is retrieved from waste body by individuals and sorted there on site. 
Waste Compaction and Covering	Waste compaction and covering activities are not carried out on a regular basis.  
Monitoring and Compliance	The presence of groundwater monitoring boreholes at the site could not be confirmed, and no surface or groundwater quality monitoring is currently being conducted. In addition, no formal internal or external environmental

	audits have been undertaken to assess compliance with licence conditions or environmental performance standards.
Challenges	• There is no public toilet facilities • Site not managed as per the conditions of the waste license • Stealing of the boundary fence • Access road difficult to use during the rainy season. • No recycling facilities

4.12.1.1 Preliminary Airspace Estimate for the Current Operation Cell.

To account approximately for perimeter slopes and irregular geometry, a provisional shape factor of 0.75 is applied:

$$\text{Gross airspace} = \text{Cell area} \times \text{Average fill depth} \times 0.75$$

ASSUMED AVERAGE FILL DEPTH	RECTANGULAR VOLUME	ESTIMATED GROSS AIRSPACE
4 m	93,620 m ³	70,200 m ³
6 m	140,430 m ³	105,300 m ³
8 m	187,240 m ³	140,400 m ³
10 m	234,050 m ³	175,500 m ³
12 m	280,860 m ³	210,600 m ³

Reasonable planning estimate

Based on the aerial image and the size of the cell, a reasonable preliminary assumption would be an average developed fill depth of approximately 8–10 m.

The estimated gross airspace would therefore be:

$$140,000 \text{ m}^3 \text{ to } 176,000 \text{ m}^3$$

A central planning estimate would be approximately:

$$158,000 \text{ m}^3$$

This is based on an assumed average effective depth of 9 m:

$$23,405 \times 9 \times 0.75 = 157,984 \text{ m}^3$$

Allowance for cover material

The waste licence requires deposited waste to be compacted and covered daily with at least 150 mm of soil or other approved material. The cell must also be developed under approved engineering drawings and operated with monitoring of tonnage, compaction and landfill stability. Allowing approximately 10–15% of the gross airspace for daily, intermediate and final cover:

Gross airspace	Estimated airspace available for waste
140,000 m ³	approximately 119,000–126,000 m ³
158,000 m ³	approximately 134,000–142,000 m ³
176,000 m ³	approximately 150,000–158,000 m ³

The current disposal cell has an estimated gross airspace capacity of approximately 140,000–176,000 m³, with a central estimate of approximately 158,000 m³. After allowing for cover material, the estimated net waste-disposal capacity is approximately 134,000–142,000 m³.

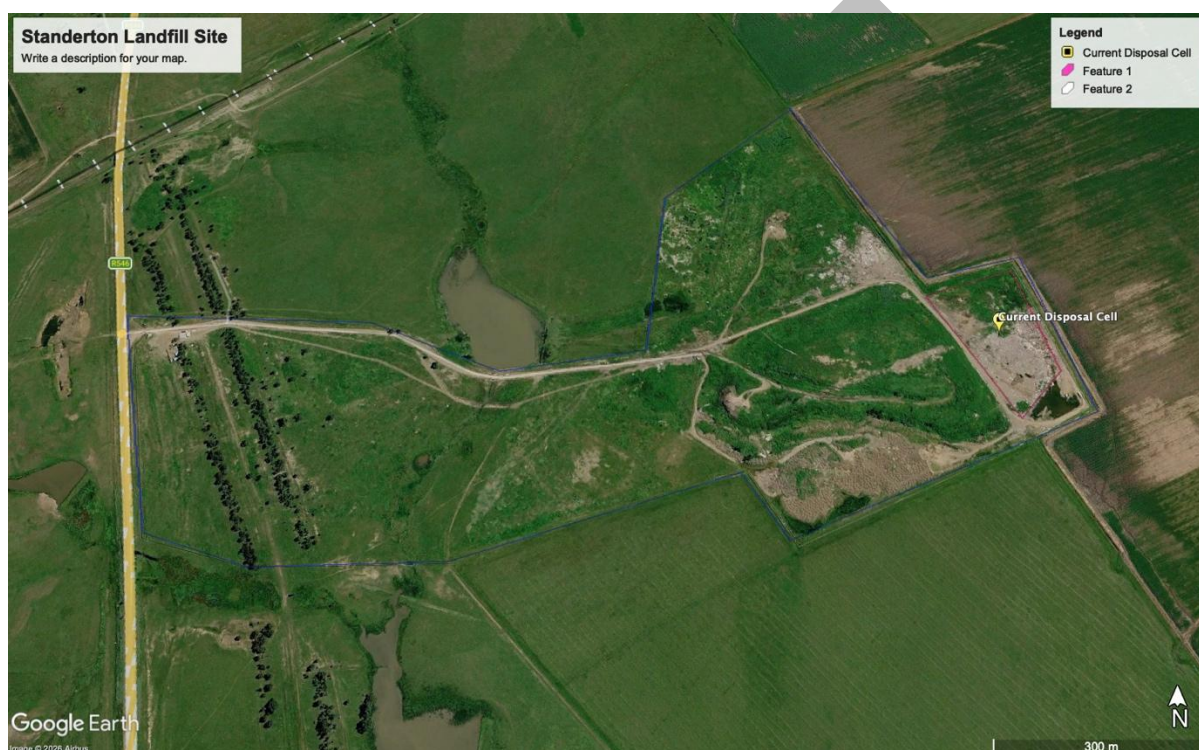


Image of current disposal cell



Figure 18: Location of Standerton Waste Disposal Site

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4.12.2 Morgenzon Waste Disposal Site.

The Morgenzon Landfill Site is situated on the Farm Morgenzon 466 IS, approximately 237 metres northeast of the town of Morgenzon, along the R39 route to Ermelo. The site historically served as the main disposal facility for waste generated in Morgenzon and the nearby township of Sivukile, with a combined population of approximately 8,969 in 2022. The landfill reached full capacity approximately three years earlier than anticipated due to the absence of compaction practices, which led to insufficient airspace and uncontrolled waste disposal beyond the licensed footprint, resulting in environmental degradation.

Although the Department of Environmental Affairs issued a Closure Licence on 28 September 2016, the closure process was not initiated during the 2023/2024 financial year as initially planned. The Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) has since initiated litigation against the municipality for non-compliance with the licence conditions and delays in implementing the closure and rehabilitation process. A Municipal Infrastructure Grant (MIG) of R4,250,653 has been allocated for the 2025/2026 financial year to support the rehabilitation works.

Despite the closure, illegal dumping continues to occur on the site, primarily by nearby businesses and individuals. The waste observed includes abattoir waste, construction rubble, supermarket waste, and garden waste, posing significant environmental and health risks. The persistence of such activities highlights the urgent need for strict access control, community awareness, and enforcement measures to prevent further degradation of the site until formal rehabilitation is completed.



No access control on site



Recyclers still collecting recyclables on site



Waste from abattoir disposed on site



Waste suspected from supermarkets within Morgenzon



Collapsed boundary wall



Construction rubble disposed on site

Figure 19: Images of Morgenzon Waste Disposal Site



Figure 20: Location of Morgenzon Waste Disposal Site

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4.12.3 Proposed New Waste Disposal Site In Morgenzon

The Lekwa Local Municipality has identified a new landfill site in Morgenzon, strategically located near the R39 route to Ermelo, to address the waste disposal challenges following the closure of the old Morgenzon Landfill Site. The selection of the new site was based on technical, environmental, and accessibility considerations to ensure long-term sustainability and compliance with national waste management standards. A comprehensive Environmental Impact Assessment (EIA) process was undertaken in accordance with the National Environmental Management Act (Act 107 of 1998) and the Environmental Impact Assessment Regulations. This process included site investigations, public participation, and specialist studies to assess potential impacts on soil, groundwater, air quality, and surrounding communities.

All required environmental authorisations and approvals have since been obtained from the relevant authorities, paving the way for the development of a modern and compliant landfill facility. The establishment of this new site is expected to improve waste management efficiency, reduce illegal dumping, and ensure that Morgenzon and Sivukile have a sustainable and environmentally sound waste disposal solution for the future.

4.13 Transfer Stations And Buy Back Centres

The Lekwa Local Municipality currently does not have any established buy-back centres or transfer stations within its jurisdiction. The absence of these facilities limits the municipality's capacity to promote waste recovery, recycling, and material diversion from landfill. Without buy-back centres, recyclable materials such as plastics, paper, glass, and metals are not being effectively collected, sorted, or reintegrated into the recycling value chain, resulting in most of these materials ending up at disposal sites or in illegal dumps. Similarly, the lack of transfer stations means that waste from outlying areas must be transported directly to the landfill sites, increasing operational costs and placing additional strain on the municipality's waste collection fleet. Establishing strategically located buy-back centres and transfer stations would significantly improve waste management efficiency, create employment opportunities through recycling initiatives, and contribute to achieving national waste minimisation targets.

4.14 Institutional Management

Within the Lekwa Local Municipality, Waste Management functions under the Department of Community Services and Safety. The department is politically led by the Member of the Mayoral Committee (MMC) for Community Services and Safety, who provides executive oversight and

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policy direction as part of the Mayoral Committee collective. At the administrative level, the department is headed by the Executive Manager: Community Services and Safety, who is responsible for implementing policies and strategic programmes aligned with the municipality's Integrated Development Plan (IDP) and service delivery mandate.

The Manager: Waste Management oversees the Waste Management Section and is responsible for developing, implementing, and monitoring the Integrated Waste Management Plan (IWMP). This includes coordinating waste collection, transportation, and disposal services, as well as ensuring compliance with national and provincial waste management legislation. The municipality delivers these services through its administrative units, which are central to ensuring community access to waste collection and environmental health services.

In line with the National Environmental Management: Waste Act (Act No. 59 of 2008), the municipality has designated a Waste Management Officer (WMO) to coordinate waste management activities and ensure alignment with the National Waste Management Strategy (NWMS). In Lekwa Local Municipality, the Manager: Waste Management performs the duties of the WMO, supported by a single Waste Officer who is responsible for day-to-day operational activities.

This structure clearly indicates that the Waste Management Section is under capacitated, with insufficient technical and operational personnel to effectively manage the full scope of waste services across the municipality. The limited human resources negatively affect service delivery efficiency, data collection, enforcement of waste by-laws, and compliance with licence conditions. It also hinders the municipality's ability to implement waste minimisation initiatives, conduct routine monitoring and reporting, and respond promptly to illegal dumping and infrastructure maintenance needs. Strengthening institutional capacity through the appointment of additional skilled personnel, training, and provision of adequate operational resources is therefore critical to improving overall waste management performance within the municipality.

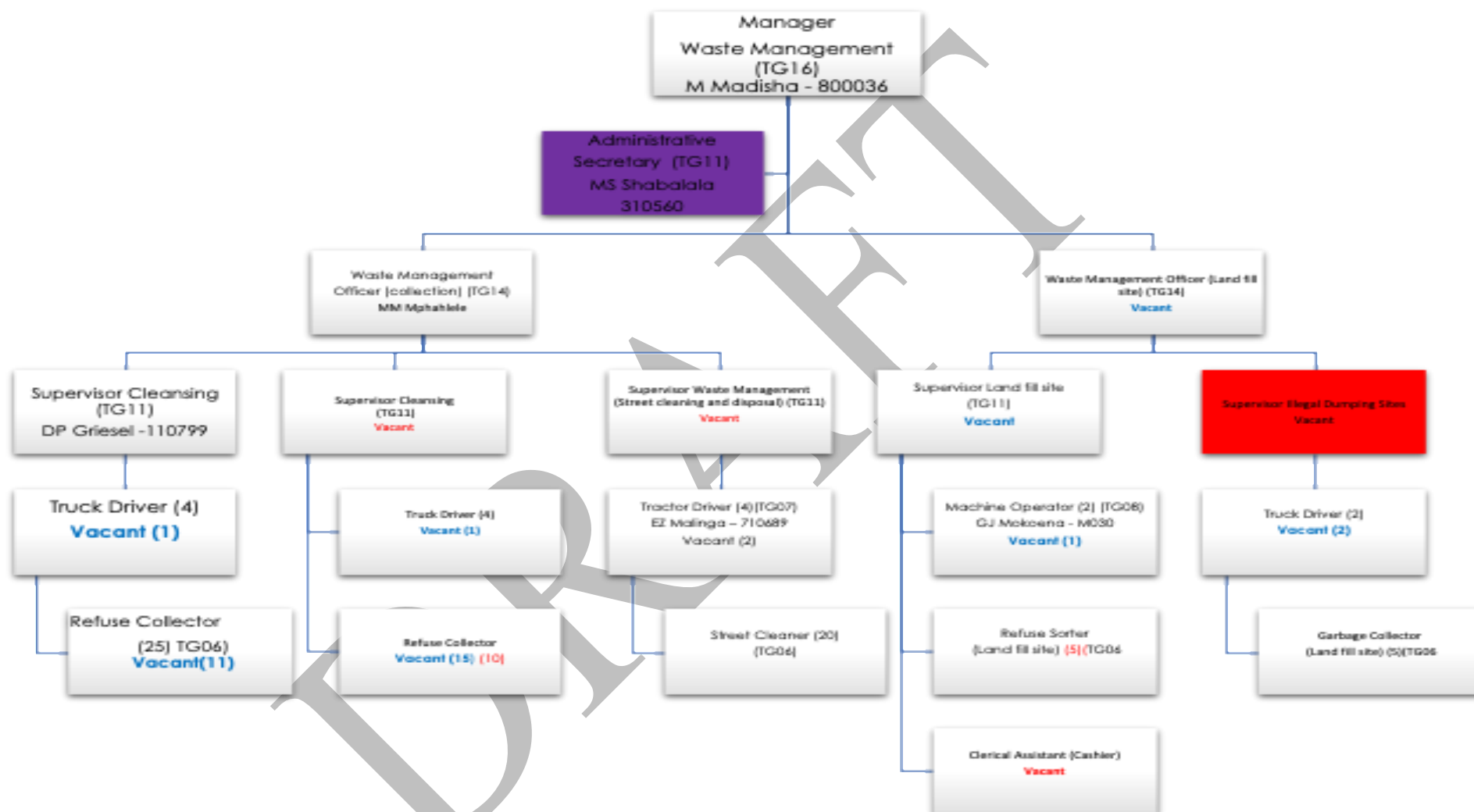
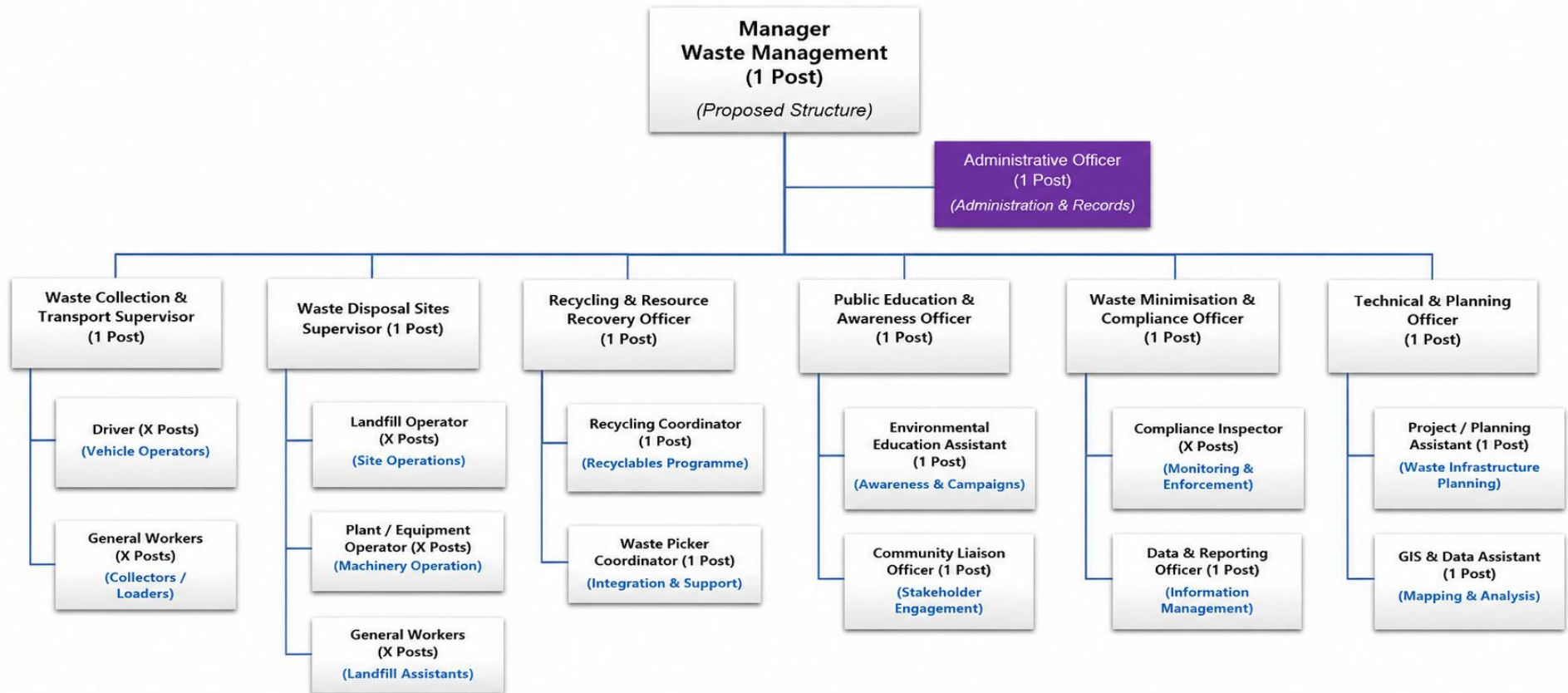


Figure 21: Waste Management Organogram



Note: X = To be determined based on workload, population size and service delivery requirements.
This proposed structure aligns with the National Waste Management Strategy (NWMS) and minimum competency requirements.

Figure 22: Proposed Waste Management Unit Organogram

4.15 Financing Of Waste Management Activities

The financing of waste management activities within Lekwa Local Municipality is largely dependent on external funding sources, particularly grants from national and provincial government programmes. As reflected in Table 25, the Rehabilitation of the Morgenzon Landfill Site is currently being funded through the Municipal Infrastructure Grant (MIG), with an approved budget allocation of R4,697,324. To date, an expenditure of R744,868 has been recorded, primarily covering preliminary work associated with the design phase and the re-application for the landfill closure licence.

Table 25: Waste Management Budget Allocation and Expenditure

PROJECT/PROGRAMME DESCRIPTION	FUNDING AGENT	BUDGET	EXPENDITURE TO DATE	PROGRESS TO DATE/STATUS
Rehabilitation of Morgenzon Landfill Site	MIG	R4 697 324	R744 868	Design phase in progress and re-application for closure license

The reliance on conditional grants such as the MIG highlights the municipality's limited internal financial capacity to fund major waste management infrastructure projects from its own revenue sources. This financial constraint has significant implications for effective waste management service delivery. Insufficient or delayed funding often leads to prolonged project implementation timelines, poor maintenance of existing infrastructure, and limited investment in essential waste management initiatives such as buy-back centres, transfer stations, and landfill compliance upgrades. To ensure sustainable and compliant waste management, Lekwa Local Municipality needs to strengthen its financial planning, improve grant utilisation efficiency, and explore alternative funding mechanisms such as public-private partnerships and revenue generation through waste recycling programmes.

Table 26: Proposed Waste Management Projects

PROJECT NAME	2025/2026 FY	2026/2027 FY	2027/2028 FY	PLANNED JOB OPPORTUNITIES FOR 2025/2026	WARD LOCATION
Rehabilitation of Morgenzon Landfill site MIG 03/2526	R4 697 324	-	-	10	14
Keep Lekwa Clean (EPWP 01/2526	R1 760 000	-	-	60	1,2,3,4,5,6,7,8,10,11,14 &15

4.16 Conclusion

The status quo assessment of waste management in Lekwa Local Municipality reveals a system facing significant operational, infrastructural, and institutional challenges, despite the municipality's efforts to improve service delivery and compliance. Key issues include inadequate waste collection coverage in certain areas, limited recycling initiatives, the absence of buy-back centres and transfer stations, and poor landfill management practices—particularly at the Standerton and closed Morgenzon landfill sites. The municipality also lacks a gazetted Waste Management By-law, which limits its enforcement capacity, although national and provincial legislation continues to guide waste management activities.

Institutionally, the Waste Management Section operates under the Department of Community Services and Safety but remains under capacitated, with limited technical and operational staff to execute its mandate effectively. Financial constraints further compound these challenges, as most waste management projects rely heavily on conditional grants such as the Municipal Infrastructure Grant (MIG). Despite these limitations, progress has been made in the planning and funding of key projects, such as the rehabilitation of the Morgenzon Landfill Site and the identification of a new licensed landfill near Morgenzon.

Overall, while the municipality demonstrates commitment to improving waste management through policy development, project planning, and community awareness programmes,

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substantial investment, institutional strengthening, and legislative enforcement are required. These interventions are essential to transition the municipality towards an efficient, sustainable, and compliant waste management system aligned with the objectives of the National Waste Management Strategy and the National Environmental Management: Waste Act (Act 59 of 2008).

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CHAPTER 5

GAPS AND NEEDS ASSESSMENT

DRAFT

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5 GAPS AND NEEDS ASSESSMENT

The Gaps and Needs Assessment provides a critical analysis of discrepancies between the current waste management status and the desired future state envisioned in the National Waste Management Strategy (NWMS, 2020) and the Mpumalanga Provincial Waste Management Framework. In line with the DEA IWMP Toolkit, this assessment identifies weaknesses in existing systems, defines the needs required to bridge these gaps, and prioritises interventions that will enable Lekwa Local Municipality (LLM) to deliver efficient, compliant, and sustainable waste management services.

This assessment draws from the findings in the Status Quo Report (2025), stakeholder consultations, and a review of applicable legislation and policies.

5.1 Legislative And Regulatory Compliance

South African law assigns waste management to local government (Constitution Schedule 5: “refuse removal, refuse dumps and solid waste disposal” are municipal functions). The National Environmental Management: Waste Act (NEMWA) requires all municipalities to develop and integrate an IWMP with the IDP and to adhere to national/provincial norms and standards (Section 9). NEMWA (s9) further obliges municipalities to ensure “access for all” to waste services and that services are “affordable” and “sustainable”. The National Waste Management Strategy (NWMS 2020) reinforces these by-setting targets (e.g. “zero waste” to landfill and clean communities with zero tolerance for dumping) and obliges local authorities to enforce waste laws.

Status vs Target: Lekwa’s current framework falls short in key ways. The municipality’s draft Waste Management By-law has not been gazetted (still unsigned), so there is effectively *no enforceable local legislation*. This undermines compliance: illegal dumping is widespread and cannot be penalized. Licensed landfill operations are non-compliant – Standerton Landfill fails to conduct daily cover/compaction as required by its Waste Management Licence, and the Morgenzon landfill license has lapsed. These violate both licence conditions and the National Norms and Standards (GN 636 of 2013) for landfill management. In sum, Lekwa is not fully meeting even basic legal requirements – it lacks a functioning by-law and is not consistently meeting licence or National Waste Act standards.

Implications: These gaps expose the municipality to legal risk and environmental harm. Unregulated dumping and burning create health hazards, and landfill mismanagement risks

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leachate, fires and shortened site life. For example, irregular landfill operation at Standerton “poses significant environmental and safety risks, including potential fires, odour nuisance, and vermin,” as noted by the status quo. Socially, failure to enforce the law undermines public confidence and leads to blight (informal dumps in public areas). Economically, non-compliance can trigger fines or require costly remedial action.

Recommendations: Lekwa must finalize and promulgate its waste by-law, train and appoint designated waste enforcement officers (per NEMWA), and rigorously enforce landfill licence conditions. The municipality should review all relevant waste legislation (e.g. NEMWA, Norms & Standards) and align its operations (and IDP/IWMP) accordingly. Strengthening by-law enforcement and regulatory oversight is critical for addressing the identified gaps and meeting the NWMS objectives (e.g. all communities clean and compliant).

5.2 Service Coverage And Equity

Legally, municipalities must “ensure access for all” to waste removal services, and national goals aim for universal coverage of curbside or reasonable drop-off services. NWMS 2020 explicitly envisions “all South Africans living in clean communities with waste services that are well managed”.

Status vs Target: According to 2022 data, about 77.7% of Lekwa’s households receive weekly waste collection, up from 65.8% in 2016, reflecting an improvement. However, this leaves ~22.3% unserved. In practice, collection is concentrated in urban/town areas (Standerton, Morgenzon town wards) while many rural settlements and informal areas have no service at all. Services in informal settlements are limited to communal skips, and even these are insufficient. In short, coverage is uneven: many outlying wards and villages rely on self-disposal (burning or illegal dumping) because roads or funding are inadequate for truck routes.

Implications: This service gap has clear social and environmental costs. Households without collection often resort to open burning or dumping, causing air pollution, disease vectors, and groundwater risks. It entrenches inequality: poorer or remote communities effectively pay the price of uncollected waste. Economically, informal dumps impose high clean-up costs on the municipality. The status quo notes that “the absence of a waste collection service results in the burning and burying of refuse” in rural areas. This violates the Waste Act’s access requirement and falls short of community expectations for equitable services.

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Recommendations: The IWMP should target extending services to the unserved 20–25% of households. Practical measures include new collection routes or drop-off points for remote villages, and affordable service models for low-density areas (e.g. satellite bins or transfer of waste to main routes). The municipality should also ring-fence budget or seek grant funding to hire additional trucks if needed, ensuring that all wards have at least communal waste access. Ensuring “access for all” will reduce illegal dumping and improve health outcomes in underserved areas.

5.3 Waste Collection And Transportation Systems

The ideal system provides reliable, frequent collection (generally weekly or better), adequate vehicles and containers, and efficient transport to disposal sites. NEMWA reinforces this by requiring that services be “effective and efficient” and allows municipalities to set local standards for waste handling.

Status vs Target: Lekwa currently operates an in-house fleet of compactor trucks and skips (no private contractors). The fleet is small and strained. Although a few compactor trucks exist, frequent mechanical breakdowns (due to poor maintenance) have undermined reliability. Because all collection is done internally (no outsourced or public-private partnerships), any vehicle downtime directly halts service delivery. There is no formal maintenance or replacement plan. As a result, some wards experience delays or missed collections when trucks fail. The status quo assessment notes that “several compactor trucks ... are relatively new, yet frequent breakdowns – largely due to poor servicing – are undermining the reliability of waste collection operations”.

Implications: Inadequate collection logistics reduce service efficiency and increase costs (fuel, overtime, repairs). Missed collections exacerbate illegal dumping. The reliance on a minimal fleet violates the NWMS call for sustainable, well-managed services. Socially, unpredictable service erodes public trust; economically, it forces emergency fixes (e.g. temporary skips, road access fixes) and wastes municipal staff time.

Recommendations: Lekwa should invest in fleet renewal and maintenance. A vehicle replacement and preventative-maintenance program is needed to ensure trucks are operational. If budgets allow, outsourcing some collection (e.g. to private contractors or CWP programs) could provide backup when municipal vehicles are down. The plan should also examine waste containers: replacing damaged bins and optimizing routes (e.g. GPS routing) to improve

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efficiency. Overall, improving the reliability and capacity of collection/transport will be essential to meet coverage and service standards.

5.4 Waste Diversion And Recycling

South Africa's waste policies emphasize recycling and waste minimisation: NWMS 2020 sets long-term targets of 40% waste diversion (from landfill) in 5 years, 55% in 10 years, and 70% in 15 years. The National Landfill Norms (GN 636/2013) also mandate 25% reduction of garden/organic waste to landfill by 2018 and 50% by 2023. The waste hierarchy and circular-economy goals imply strong emphasis on source-separation, composting, and formal recycling.

Status vs Target: Lekwa currently has no formal diversion programs. There are no municipal buy-back or recycling centers, no curbside separation (even co-mingled), and no composting/organic collection. Only a handful of informal waste-pickers operate on landfill sites (Standerton and Morgenzon) or in Sakhile township, manually salvaging plastics, glass, metal and paper. However, these informal recyclers work under hazardous conditions (no protective gear, no shelter), and their output is not captured in municipal data. As the status quo notes, *“these efforts contribute to waste diversion and livelihood creation, but they are not coordinated or supported through a structured municipal recycling plan”*.

- **Organic waste:** Lekwa has *no composting or garden-waste program*. It disposes all organic refuse to landfill. This flagrantly misses the GN 636/2013 targets (25% organic diversion by 2018, 50% by 2023). No biodegradable waste drop-offs or partnerships exist. Lack of organic diversion shortens landfill lifespan (more biodegradable material decaying anaerobically) and increases methane emissions (see social/climate impacts).
- **Other recycling:** Even non-organic recycling is minimal. No formal paper/glass/plastic bins or education for households. The status quo IWMP confirms *no formal recycling infrastructure or programmes*, meaning recyclables are not routinely separated or collected. For example, metals and plastics buried or burned with general waste produce toxic smoke.

Implications: The diversion gap has multiple implications: environmentally, continued dumping of recyclables and organic wastes resources and exacerbates pollution and GHG emissions. Socially, the lack of recycling programs forfeit job creation and community opportunities that small recycling initiatives could provide. Economically, valuable materials (e.g. paper, plastic, glass) go to waste, and the municipality loses potential revenue from recyclables or compost. This

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gap also conflicts with national policy: NWMS pillars stress a circular economy and resource recovery, and Lekwa is not yet advancing these goals.

Recommendations: Lekwa should formalize and expand diversion activities. Possible measures include establishing small buy-back/drop-off centers (in town and rural areas), providing sorting bins for paper/glass/plastic in key locations, and organizing municipal composting trials or partnerships (e.g. communal garden-waste composter). The IWMP should also plan to integrate the existing informal recyclers into a broader system (providing them training/PPE and linking to buyers). In the medium term, working with EPR (Extended Producer Responsibility) schemes or NGOs can help finance recycling bins and campaigns. All of these steps would start closing the gap with NWMS targets (e.g. gradually moving toward even the 40% diversion goal) and recovering value from waste.

5.5 Waste Disposal Facilities

Municipalities must provide safe, licensed landfill disposal and comply with technical standards (NEMWA and GN 636/2013). NWMS objectives (and Norms) envision progressive reduction of landfilled waste (toward a “zero waste” vision). Safe disposal also means no open burning, controlled leachate, and site management to protect health.

Status vs Target: Lekwa has two formal disposal sites: the Standerton Landfill and the (now closed) Morgenzon landfill. Standerton is licensed (G:S:B- facility) but operated sub-optimally. A site inspection found that daily compaction and cover are often skipped. This violates landfill standards (which require daily cover) and poses clear risks: the status report warns of “increased potential for landfill fires, odour nuisance, and the attraction of vermin”. Compaction lapses also waste airspace, shortening the site’s lifespan. In contrast, Morgenzon’s landfill (which served ~9,000 people) reached capacity *three years early* due to lack of compaction. It received a closure licence in 2016, but the municipality did not initiate closure and rehabilitation as planned. Illegal dumping (including hazardous abattoir waste and rubble) continues unabated on the closed site. Meanwhile, all waste from Morgenzon/Sivukile is trucked 45–50 km to Standerton, increasing costs and pollution. Notably, no transfer stations or buy-back centers exist at all in Lekwa, so all outlying waste goes directly to the landfills (or is dumped illegally).

Implications: Poor landfill management undermines both environmental and social goals. Uncovered and mixed waste creates safety hazards (fires, scavenger exposure) and contaminates soil and water. Burning at these sites (some evidence of burning was observed) emits toxic smoke

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(with dioxins, etc. – see WHO). The early failure of Morgenzon’s site forced expensive trucking to Standerton; without a timely closure and new site, waste will backlog again. The absence of transfer stations means higher vehicle operating costs (fuel, wear) and extra emissions, and communities have nowhere else to take recyclables. In short, Lekwa’s disposal system is not meeting national norms or expectations. For example, the Norms (GN 636) aim to cut organics to landfill, but Lekwa has no composting, so falls short of the 25/50% organics targets. Likewise, the NWMS vision of clean communities is undermined by ongoing dumping on closed sites.

Recommendations: The municipality should upgrade Standerton Landfill to meet licence requirements immediately (regular compaction, daily cover, leachate control). Staff training or contractor support could ensure compliance. The Morgenzon site must be fully rehabilitated: complete the closure process, install security (to stop illegal dumping) and monitor for pollution. Lekwa’s plan to develop a new Morgenzon landfill (EIA and approvals already obtained) should proceed on schedule. Finally, planning for transfer stations/buy-back centers is needed to improve logistics and divert recyclables. These steps will close the gap with regulatory standards (Norms and licences) and help protect environmental health.

5.6 Public Education And Awareness

A cornerstone of modern waste policy is informed citizens who sort waste and avoid dumping. NWMS 2020 explicitly calls for mainstreaming waste awareness and a “culture of zero tolerance” for litter and illegal dumping. The Waste Act and White Paper likewise emphasize education (e.g. FBRR policy includes public awareness objectives).

Status vs Target: Lekwa currently has very limited outreach. There is no structured programme of school or community campaigns. The status quo report notes *“the municipality has not implemented awareness campaigns in schools and communities”*; any clean-up or outreach efforts are ad hoc and not tracked. Although some clean-up drives occur, they have not measurably reduced dumping because enforcement and follow-up are weak. In practice, illegal dumping remains common (in open areas, roadsides, and even at the closed Morgenzon site). In short, community expectations for a clean environment are not met by current education: most residents lack information on separation, and don’t face consequences for bad practices.

Implications: Poor awareness exacerbates all other gaps. People may not know how to recycle or may not care to do so; they dump waste freely without understanding the costs. This behavior contributes directly to the environmental and health issues already noted (air pollution from

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burning, contamination from dumping). It also undermines the effectiveness of any new services: for example, if curbside recycling bins were provided without education, participation would be low. The lack of education campaigns means the municipality misses out on the “waste minimisation” and job-creation benefits (e.g. from cooperative recycling projects) that NWMS envisions.

Recommendations: The IWMP should include a robust community education strategy. This can involve school programmes, public workshops, signage (more anti-litter posters), and media outreach about waste rules and recycling. Education must be paired with enforcement: as noted in the status quo, “strengthening waste collection services, finalising and enforcing by-laws, and sustaining community education programs are critical” to reduce dumping. Partnerships with NGOs or roll-out of the “Greenest Town” competitions (as per NWMS/Good Green Deeds initiative) could raise public interest. In summary, improving awareness and participation is essential to meet NWMS goals of a culture of compliance.

5.7 Institutional Arrangements And Capacity

Effective waste management requires adequate organization and staffing. NEMWA mandates each municipality to designate a Waste Management Officer (WMO) and to align waste management with the IDP. The Waste Act and municipal governance laws imply that capacity must match responsibility.

Status vs Target: Lekwa has formally designated the Waste Manager as the WMO, supported by a single waste officer. This minimal staffing is insufficient to run the entire waste portfolio. In fact, the status quo finds the Waste Section to be “*undercapacitated, with insufficient technical and operational personnel to effectively manage the full scope of waste services*”. Key functions – service planning, by-law enforcement, data management, maintenance – are understaffed. For example, there is currently no dedicated waste inspector or “peace officer” to handle dumping complaints. Moreover, institutional coordination is weak: waste is under Community Services, but there is little integration with planning or environment units. Informal recyclers are not managed by any municipal unit, illustrating a gap in stakeholder engagement.

Implications: These institutional gaps mean that even well-designed plans can fail in execution. Limited staff cannot monitor landfills daily, follow up on illegal sites, or implement new programs (like drop-off centers). It hampers budgeting (no one focusing full-time on waste revenue/expenditure) and data collection (see next section). Politically, lack of a strong waste unit may lead to lower priority in the IDP. Ultimately, this slows progress toward legislative and

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strategy goals. The IWMP itself notes that limited personnel “*negatively affect service delivery efficiency, data collection, enforcement of waste by-laws, and compliance with licence conditions*”.

Recommendations: Lekwa Local Municipality should strengthen the Waste Management Section by filling all vacant posts in the approved organogram as a priority. The current structure is generally sufficient, but the vacancies are affecting waste collection, landfill management, illegal dumping response, by-law enforcement, data collection and compliance monitoring.

The Waste Manager should remain the designated Waste Management Officer, supported by the Waste Management Officer and Administrative Secretary. The Administrative Secretary may be trained and formally delegated to assist with peace officer-related administrative functions, including complaint records, illegal dumping registers, notices and enforcement documentation.

Priority vacancies to be filled include landfill officers, supervisors, truck drivers, machine operators, refuse collectors, street cleaners, refuse sorters, garbage collectors and clerical support staff. Staff should also receive training on landfill operations, waste reporting, health and safety, by-law enforcement, recycling, waste picker engagement and environmental compliance.

Where immediate appointments are not possible, Lekwa LM should use phased recruitment, internal reassignment, EPWP support and assistance from Gert Sibande District Municipality, DARDLEA, DFFE and COGTA. Partnerships with recyclers and Producer Responsibility Organisations should also be used to support recycling, awareness and waste diversion.

5.8 Financial And Funding Mechanisms

Integrated waste management must be financially sustainable. In practice, this means: adequate municipal budget for operations (capital and O&M); internal cost-accounting (as NEMWA requires); ring-fenced waste reserves or tariffs (e.g. FBRR for the poor); and leveraging external funds. The NWMS and national policies encourage cost-recovery (within reason) and innovative funding (grants, partnerships, EPR fees).

Status vs Target: Lekwa’s waste budget is heavily grant-dependent. Table 25 of the status quo shows that, for example, R4.7 million of MIG funds were allocated for Morgenzon rehabilitation (with limited expenditure so far). Almost no funding for basic collection or recycling projects comes from the municipal operating budget. The IWMP concludes that “reliance on conditional grants highlights the municipality’s limited internal financial capacity”. Operational budgets have been tight; there is little room for unexpected repairs or for purchasing bins/containers. The

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National FBRR policy (free basic refuse removal) is acknowledged in the status report, but funding this indigent service fully is a challenge without dedicated subsidies. In summary, waste services suffer from chronic underfunding relative to needs.

Implications: Financial constraints reinforce all other gaps. Delayed funding means infrastructure (e.g. waste trucks, landfill upgrades) deteriorates. It also hinders expansion of services or new programs: without money for bins, people can't recycle even if infrastructure existed. The conclusion of the status quo is blunt: *"Financial constraints further compound these challenges, as most waste management projects rely heavily on conditional grants"*. Under-budgeting also risks cost-recovery compliance (affordability vs cost) and sustainability of services (e.g. undercharging leads to deficits). Failure to ring-fence or properly account for waste costs means cross-subsidies from other services and no clear picture of efficiency.

Recommendations: Lekwa needs a robust financial strategy for waste. Firstly, it should ensure full-cost accounting: track waste revenues (tariffs, fines, recyclables sales) and costs separately. The municipality should also improve grant utilization (e.g. ensure timely expenditure of MIG and seek other grants like the Energy Efficiency and Demand Side Management (EEDSM) or Green Fund where applicable). Exploring alternative funding is key: for instance, partnering with private recyclers on buy-back centers can bring investment and revenue. Implementing a modest landfill gate fee or recycling levy (if legal/feasible) could generate funds. Public-private partnerships (e.g. using EPWP or municipal bonds) could finance bins or composter equipment. Finally, the municipality should enforce tariff policies (e.g. collecting overdue waste charges, as allowed under FBRR policy) and ensure indigent subsidies are properly applied. These measures will begin to bridge the funding gap and make waste services more sustainable.

5.9 Waste Information Management

National policy recognizes that "you cannot manage what you do not measure." NEMWA (Sections 60–62) establishes a National Waste Information System (SAWIC) and requires municipalities to report waste data. An accurate database (generation rates, tonnages, recycling rates, service coverage) is an ideal standard.

Status vs Target: Lekwa currently lacks a fully functional and comprehensive waste information system. Although the Standerton Landfill Site is equipped with a weighbridge, there is limited evidence of consistent use for recording actual incoming waste tonnages. In many cases, tonnages are still estimated based on visual truck assessments or assumed volumes. No routine waste

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characterization studies have been conducted to determine the composition of waste streams (e.g. percentage of recyclables, organics, hazardous materials), and no formal statistics are collected on quantities recovered by informal recyclers, despite their visible activity. While basic data may be submitted to SAWIC, it is often incomplete, sporadic, or based on estimates rather than measured volumes. There is no central system for consolidating monthly data on waste generation, collection, diversion, or disposal.

A compliant municipality should have:

- A functioning waste information system (WIS) that records accurate, disaggregated data on waste generation, collection, diversion, and disposal.
- Weighbridges or calibrated scales at disposal facilities to ensure actual tonnage reporting.
- Monthly tracking of waste quantities (including collected, recycled, composted, and landfilled waste).
- Regular waste characterization studies to understand composition.
- Consistent reporting to SAWIC (South African Waste Information Centre).
- A designated Waste Information Officer (WIO) trained to manage and submit waste data.

Implications:

- **Planning constraints:** Without reliable baseline data on waste flows, Lekwa cannot accurately project future landfill capacity requirements or design diversion strategies.
- **Targeting failure:** National and provincial diversion targets (e.g. for organic waste under GN 636) cannot be measured or achieved without baseline composition data.
- **Accountability gaps:** Council and community stakeholders cannot verify the success or failure of waste interventions, undermining public trust.
- **Financial disadvantages:** Incomplete data weakens funding proposals to DFFE, DEFF, or DHET, where project justification depends on baseline waste statistics.
- **Compliance risk:** Irregular or inaccurate SAWIC submissions put the municipality at risk of non-compliance with national reporting obligations.

Recommendations:

1. **Fully operationalize the Standerton landfill weighbridge:**
 - Ensure daily use to record all incoming waste loads.

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- Train landfill operators to record vehicle type, origin, and waste category (e.g. household, commercial, green waste).
- Regularly calibrate and maintain the weighbridge for data accuracy.

2. Conduct a municipal waste composition study:

- Perform at least one waste characterization audit every 3 years, covering urban and rural areas.
- Determine the proportions of recyclables, organics, and residual waste to establish baseline values.

3. Develop a basic digital Waste Information System:

- Use spreadsheet-based or open-source waste data templates to track:
 - Monthly tonnage collected and landfilled
 - Number and volume of illegal dumps cleared
 - Materials diverted or recovered (from drop-offs, buy-back centers, or informal reclaimers)
- Upgrade to database or software tools over time as capacity grows.

4. Designate and train a Waste Information Officer (WIO):

- Appoint a staff member with clear responsibility for data collection, quality control, and reporting to SAWIC.
- Provide training in DEA/DFFE reporting systems and data validation procedures.

5. Integrate data into decision-making:

- Use waste data trends to:
 - Monitor service efficiency
 - Track progress against diversion targets
 - Prioritize areas for recycling rollout or illegal dumping enforcement
 - Support financial modelling and budget allocation

6. Ensure SAWIC compliance:

- Submit quarterly and annual data reports in full compliance with National Waste Information Regulations (GN R625 of 2012).
- Maintain backup records for all data reported.

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CHAPTER 6

GOALS & OBJECTIVES

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6 GOALS AND OBJECTIVES

Based on the gaps and needs identified in the waste management status quo, a set of goals and objectives is formulated to define the desired end state for the municipality's waste management. These goals align with South Africa's national and provincial waste management strategies and are structured across short-, medium-, and long-term horizons (as recommended by the DEA IWMP Toolkit). In an Integrated Waste Management Plan (IWMP), the goals and objectives directly address the shortcomings identified in the gap analysis, and they are aligned with the National Waste Management Strategy 2020 and provincial IWMP goals. The NWMS 2020 emphasizes three broad pillars – Waste Minimisation, Effective & Sustainable Services, and Waste Awareness & Compliance – which guide the strategic goals. Below, the strategic goals (visionary outcomes) and specific operational objectives (measurable targets) are outlined for short (1–3 years), medium (3–5 years), and long term (5–10+ years):

6.1 Goal 1: Promote Waste Minimisation, Reuse, And Recycling

Strategic intent: Reduce the amount of waste generated and sent to landfill by maximizing waste avoidance, reuse, recycling, and recovery, in line with the waste hierarchy and national targets. This supports the NWMS goal of diverting waste from landfill (e.g. 40% diversion within 5 years) and developing a circular waste economy.

- **Short-term (1–3 years):** Initiate separation-at-source programs and pilot recycling projects (e.g. in urban areas and schools). Establish or formalize recycling collection points or buy-back centers to encourage communities to divert recyclables. Launch public awareness on waste minimisation (promoting reuse of items and reduction of single-use plastics).
- **Medium-term (3–5 years):** Roll out full source separation for recyclables to at least 40% of households and businesses. Invest in recycling infrastructure such as a material recovery facility (MRF) or composting site for organic waste. Partner with informal waste pickers or cooperatives to integrate them into the recycling system, increasing the recycling rate and creating green jobs. Aim to divert at least 25–40% of waste from landfill through reuse/recycling, consistent with national targets.
- **Long-term (5–10+ years):** Achieve a significant reduction in landfilled waste, moving toward a “zero waste to landfill” outcome. Continuously improve and expand waste diversion programs – for example, achieving 50%+ waste diversion by year 10. Encourage extended producer responsibility (EPR) initiatives and advanced waste treatment technologies (like waste-to-energy for non-recyclables) as needed to minimize residual

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waste. The ultimate objective is to sustainably close the materials loop, using waste as a resource and aligning with the circular economy principles in the NWMS.

6.2 Goal 2: Ensure Effective and Efficient Waste Service Delivery to All Areas

Strategic intent: Provide all residents and businesses with access to reliable, regular waste collection and cleansing services, to protect public health and keep communities clean. This goal addresses service coverage gaps and inefficiencies, aligning with the national goal of universal waste services and clean communities. It also includes optimizing collection operations and maintenance of equipment for efficiency.

- **Short-term (1–3 years): Improve collection coverage and reliability** by addressing urgent service gaps. For example, extend waste collection to unserved or underserved neighborhoods (including rural villages and informal settlements) using available resources. Optimize collection routes and schedules to use the existing fleet more efficiently and procure critical equipment (e.g. additional refuse trucks or skip bins) to reduce downtime. Immediately respond to illegal dumping hotspots by providing interim collection points or clean-up campaigns.
- **Medium-term (3–5 years): Achieve universal access** to waste collection – ensure 100% of households receive at least a weekly waste removal service. This may involve scaling up the fleet and staff, or contracting private service providers, to cover all areas. Maintain and upgrade waste collection vehicles for efficient service. Implement standardized collection levels of service as per national norms (for example, one refuse bin per household, weekly collection). By year 5, all communities should be living in cleaner environments with well-managed waste services that are also financially sustainable.
- **Long-term (5–10+ years): Sustain high-quality waste services** with continuous improvement. Aim for improvements like daily or twice-weekly collection in dense urban centers and expanded services (e.g. garden waste pickup, bulky waste removal on schedule). Ensure the waste service remains efficient and cost-effective through route optimization, new technology (like route tracking, waste collection data systems), and periodic fleet renewal. In the long term, the objective is that the municipality’s waste services are resilient, adaptive to growth, and meet all regulatory standards – contributing to a clean, healthy environment for all residents in line with national and provincial service goals.

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6.3 Goal 3: Achieve Environmentally Sound Waste Treatment and Disposal (Compliance and Capacity)

Strategic intent: Ensure all waste that cannot be diverted is disposed of or treated in an environmentally responsible and legally compliant manner. This goal focuses on adequate infrastructure (landfills, transfer stations, treatment facilities) and compliance with waste licensing standards, addressing gaps such as limited landfill airspace, non-compliant dump sites, or lack of hazardous waste management. It aligns with national objectives for safe waste disposal and zero tolerance for pollution.

- **Short-term (1–3 years): Improve compliance at existing disposal sites.** Conduct environmental audits of current landfill(s) and dumping areas to identify non-compliances. Implement immediate remedial actions: e.g. improving landfill cover, security fencing, leachate management, and record-keeping to move toward permit conditions. If any open dumpsites exist, initiate their formal closure or upgrade plans.
- **Medium-term (3–5 years): Upgrade or develop waste disposal facilities** to meet future needs. For instance, rehabilitate and license the municipal landfill to full compliance with national standards, extending its lifespan (through cell development, liner installation, etc.) and mitigating environmental risks. If the current site is insufficient, identify a site and initiate development of a new regional landfill or alternative treatment facility (possibly in partnership with the district or private sector). By year 5, all waste disposals should occur at licensed, engineered facilities that comply with environmental regulations. In parallel, implement waste treatment options for specific streams (e.g. a compost facility for organic waste to reduce landfill load).
- **Long-term (5–10+ years): Sustain adequate disposal capacity and explore advanced treatment.** Ensure the municipality has a long-term solution for waste disposal – either a well-managed local landfill with sufficient airspace or access to a regional facility. Complete the closure and rehabilitation of any old or non-compliant dump sites, restoring those lands (and addressing any contaminated land as per Goal 7 of NWMS). Explore and potentially invest in alternative technologies (such as material recovery facilities) to handle waste in a way that further reduces environmental impact and extends landfill life. The overarching objective is full compliance with waste management legislation in all disposal and treatment activities, protecting environmental quality and moving towards the “zero pollution” vision (no uncontrolled dumping or pollution).

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6.4 Goal 4: Enhance Public Awareness, Education, And Compliance Enforcement

Strategic intent: Cultivate a community that is informed about proper waste management and actively participates in waste reduction, while also enforcing regulations to prevent illegal dumping and littering. This addresses gaps in public behavior and by-law enforcement, aligning with the national goal of creating a culture of compliance and zero tolerance for pollution/litter.

- **Short-term (1–3 years): Launch intensive awareness campaigns** on waste and health. For example, run community outreach programs and school education initiatives about waste separation, anti-littering, and the impacts of illegal dumping. Establish a waste management hotline or reporting mechanism for the public to report dumping or service issues. Simultaneously, begin stricter enforcement of waste by-laws: designate or train enforcement officers to issue warnings or fines for illegal dumping and littering offenses.
- **Medium-term (3–5 years): Integrate waste education and strengthen compliance.** Make waste and recycling education a continuous effort – integrate it into school curricula, local radio, and community events. Foster community-led programs like cleanup campaigns and recycling competitions to deepen public participation. Increase the capacity for enforcement by possibly creating a dedicated environmental management unit or collaborating with provincial environmental compliance officers. By mid-term, the goal is to significantly reduce incidents of illegal dumping and litter – e.g. 50% reduction in illegal dumping sites – through a combination of community buy-in and consistent law enforcement (fines/penalties applied where needed).
- **Long-term (5–10+ years): Achieve a culture of compliance and responsibility.** In the long run, the aim is for all citizens to take responsibility for waste – separating recyclables, using services correctly, and refraining from dumping. Enforcement should transition to a maintenance mode where violations are rare due to social norms against littering. The municipality should have institutionalized programs for continuous public environmental education (e.g. annual “Zero Waste” awareness weeks) and robust enforcement presence. A “zero tolerance” approach to pollution and illegal dumping will be the norm, consistent with national and provincial directives. This will result in cleaner neighborhoods and a safer environment, with community members as active partners in waste management.

6.5 Goal 5: Strengthen Institutional Capacity and Financial Sustainability

Strategic intent: Build the municipality’s internal capacity (human resources, organization, and tools) and secure sustainable financing for waste management. This goal ensures the necessary institutional framework, policies, and funding are in place to implement the above initiatives. It

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aligns with national goals on integrated waste management planning, good governance, and sound financial management for waste services.

- **Short-term (1–3 years): Organizational improvements** – Strengthen the existing waste management section by filling key vacancies and training staff in waste management skills. On the financial side, conduct a review of the waste service budget and tariff structure – plug immediate funding gaps by improving revenue collection for waste services (billing all served households, reducing non-payment).
- **Medium-term (3–5 years): Financial sustainability measures** – Implement a cost-reflective tariff model for waste services, as recommended by national guidelines, to ensure adequate revenue for operations. This may include gradually increasing waste fees to cover full-service costs, while protecting indigent households via subsidies. Pursue external funding opportunities for capital projects (e.g. apply for provincial/national grants for landfill upgrades or vehicles). Institutionally, provide ongoing training for waste management staff (technical training for landfill operators, by-law enforcement training for officers, etc.). Develop an information management system (e.g. reporting into SAWIS – the South African Waste Information System) to track waste quantities and performance. By year 5, the municipality should have a viable financial plan for waste (balanced budget) and a capable waste management unit to drive implementation.
- **Long-term (5–10+ years): Continuous capacity development and adaptive management** – Regularly review and update the IWMP and ensure its goals are integrated into the municipal Integrated Development Plan (IDP) and budget (the IWMP goals should be key performance indicators in the SDBIP). Strive for a fully professionalized waste management service – with well-trained staff, succession planning, and use of technology (e.g. GIS routing, digital billing). Financially, aim for waste services that are not only cost-covering but also efficient; any surplus can be reinvested in service improvements. Diversify funding through public-private partnerships or revenue from waste-to-resource activities (selling recyclables, energy generation). Overall, the municipality’s capacity should be robust enough to adapt to future challenges (population growth, new waste regulations) and continuously improve services. This goal supports sound governance, fulfilling the municipal mandate to provide waste services and enforce regulations effectively.

6.6 Goal 6: Establish A Functional Waste Information Management System

Strategic Intent: To develop and operationalize a reliable, accurate and consistent Waste Information Management System (WIMS) that enables Lekwa Local Municipality to comply with national reporting obligations (SAWIC), support evidence-based decision-making, track waste flows, and measure progress toward diversion and service delivery targets. This addresses the current critical information gap identified in the status quo assessment, where the absence of verified waste data undermines effective planning, compliance, and financial justification for external funding.

Short-Term Objectives (1–2 Years):

- Ensure full utilization of the existing weighbridge at the Standerton landfill by training staff, implementing load logging protocols, and conducting regular calibrations.
- Require all municipal and contracted waste collection vehicles to maintain standardized load tracking records (e.g. estimated volumes per trip), reconcilable monthly.
- Conduct a waste composition audit across representative areas to determine the baseline of recyclables, organic and residual fractions, forming a foundation for future diversion targets.
- Develop a basic digital Waste Information System (WIS), using spreadsheets or open-source tools, to consolidate monthly data on collections, landfilling, illegal dumping clearances, and recycling.
- Appoint and train a Waste Information Officer (WIO) responsible for compiling and validating data and ensuring timely submission to the South African Waste Information Centre (SAWIC).

Medium-Term Objectives (3–5 Years):

- Institutionalize quarterly and annual data reporting to SAWIC, with improved completeness and accuracy based on weighbridge records, load tracking, and validated internal systems.
- Expand the WIS to include additional modules (e.g. illegal dumping incident tracking, informal recycler activity, diverted organic waste volumes).
- Use data from the WIS to inform strategic planning, including budgeting, infrastructure needs, and IWMP performance monitoring, thereby improving accountability to Council and communities.

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- Align WIMS indicators with National Waste Management Strategy 2020 outcome targets (e.g. 40% diversion from landfill by 2025).

Long-Term Objectives (5+ Years):

- Integrate the municipal WIS into broader district or provincial waste data platforms, contributing to regional planning and compliance tracking.
- Transition from spreadsheet-based to a centralized database or cloud-based platform, allowing multi-user access and real-time updates.
- Use data trends to conduct predictive planning (e.g. future landfill airspace requirements, fleet capacity projections, and localized recycling targets).
- Demonstrate full compliance with GN R625 (National Waste Information Regulations) and support transparent, data-driven governance in all waste operations.

6.7 Goal 7: Legislative And Regulatory Compliance

Strategic Intent: To ensure that all municipal waste management practices, infrastructure, and reporting mechanisms are fully compliant with applicable national and provincial legislation, including the National Environmental Management: Waste Act (Act No. 59 of 2008), Municipal Systems Act, and associated norms and standards (e.g. landfill compliance, SAWIC reporting, waste licensing).

Short-Term Objectives (1–2 Years):

- Conduct a full legal compliance audit of waste-related facilities and services (including waste licenses, permits, and operational conditions).
- Gazette the municipal waste by-law that aligns with national and provincial regulations and includes enforcement provisions for illegal dumping and non-compliant generators.
- Submit updated compliance reports to DFFE and ensure all licensed sites meet minimum requirements.

Medium-Term Objectives (3–5 Years):

- Formalize a municipal compliance and enforcement plan (C&E Plan) for waste management with scheduled inspections, penalties, and corrective actions.
- Develop Standard Operating Procedures (SOPs) for compliance monitoring, reporting, and site inspections.
- Build interdepartmental and intergovernmental cooperation (e.g. Environmental Health, Law Enforcement, DFFE) for coordinated enforcement and legal follow-up.

Long-Term Objectives (5+ Years):

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- Achieve 100% compliance of all municipal waste management facilities with NEM:WA licensing conditions.
- Maintain real-time digital registers of permits, licenses, and compliance checklists across all waste operations.
- Embed legal compliance into staff performance KPIs and continuous professional development programs.

6.8 Goal 8: Financial And Funding Mechanisms

Strategic Intent: To establish a financially sustainable waste management system through improved cost recovery, diversified funding sources, and transparent budgeting—enabling the municipality to maintain infrastructure, expand services, and meet operational needs in line with its IWMP targets.

Short-Term Objectives (1–2 Years):

- Conduct a comprehensive cost analysis of all municipal waste services (collection, disposal, street cleaning, etc.).
- Develop a ring-fenced Waste Management Budget within the municipal financial system.
- Review and update the waste tariff structure to better reflect the cost of service provision and ensure affordability across user categories.
- Identify and apply for external funding opportunities from DFFE, DEA, and MIG for infrastructure improvements (e.g. landfill compliance, buy-back centres, fleet upgrades).

Medium-Term Objectives (3–5 Years):

- Introduce differentiated tariffs (e.g. commercial vs. residential, high vs. low volume generators) and explore options for cost-reflective pricing.
- Develop project proposals for donor funding, PPPs, or climate finance (e.g. for organic diversion, WtE feasibility, or recycling programs).
- Improve billing and revenue collection systems, including billing integration with GIS and waste generation data.

Long-Term Objectives (5+ Years):

- Achieve at least 80% cost recovery on operational waste services (excluding capital projects).

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- Establish a dedicated Waste Infrastructure Development Fund for long-term capital planning.
- Transition toward performance-based budgeting using IWMP indicators and waste service KPIs as justification for allocations.

The Goals and Objectives outlined in this chapter present a clear and structured roadmap for transforming waste management in Lekwa Local Municipality. Rooted in the findings of the Status Quo Analysis and Gap and Needs Assessment, these goals are aligned with the National Waste Management Strategy (2020), relevant provincial priorities, and the DEA IWMP Toolkit.

Each goal addresses a critical dimension of the waste management system—ranging from improving service delivery and promoting waste minimisation, to ensuring financial sustainability, legal compliance, public awareness, and accurate information management. Objectives have been defined across short-, medium-, and long-term horizons to allow for progressive implementation, resource planning, and measurable impact over time.

By committing to these goals and systematically implementing the associated actions, Lekwa Local Municipality can transition toward an integrated, compliant, and sustainable waste management system that meets the needs of its communities while protecting environmental and public health. The next chapter will translate these goals into actionable plans, timelines, budgets, and responsibilities through the IWMP Implementation Plan.

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CHAPTER 7

ASSESSMENT OF ALTERNATIVES

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7 ASSESSMENT OF ALTERNATIVES

After establishing the goals and objectives, the next step is to identify and evaluate alternative strategies to achieve these goals. The IWMP guidelines advise that for each identified need or goal, various alternatives should be considered and evaluated across multiple criteria – including environmental impact, technical feasibility, social acceptance, financial viability, and institutional requirements. By assessing a range of options (e.g. different technologies, delivery mechanisms, partnerships, funding models), the municipality can choose the most appropriate interventions for each aspect of the waste management system. Below is an assessment of alternatives for addressing key gap areas, ensuring that financial, institutional, and technological considerations are included for each:

7.1 Alternatives For Waste Minimisation And Recycling

To increase waste diversion from landfill, the municipality can consider several approaches (which are not mutually exclusive):

- Enhance Source Separation vs. Centralized Sorting:** One option is a **source separation program** where households sort recyclables (supported by separate bins and curbside collection of recyclables). This yields cleaner recyclable materials but requires public participation and additional collection logistics. Alternatively, a centralized Materials Recovery Facility (MRF) can be used to sort recyclables from mixed waste – this is technologically driven and can recover materials even if the public doesn't separate, but it involves higher capital and operational costs for sorting equipment. A hybrid approach could start with drop-off or buy-back centers, then scale up to curbside separation as community buy-in grows.
- Community Recycling Initiatives vs. Private-Sector Led Recycling:** The municipality could promote community-based recycling projects (e.g. cooperatives or SMMEs that run collection of recyclables in neighborhoods, perhaps through an expanded public works programme). This has social benefits (job creation, local ownership) but might need oversight and support (training, stipends). Alternatively, it could partner with private recycling companies or producers (through Extended Producer Responsibility schemes) to handle recycling – for example, contracting a private firm to manage a recycling center or allowing EPR organizations to set up collection of certain materials (glass, electronics) in the area. Public-private partnerships in waste recycling can bring in investment and expertise, though the municipality must ensure contract conditions meet its waste diversion goals.

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- Organic Waste Management Technologies:** For the significant organic waste fraction, options include community composting programs (low-tech, small scale compost sites in communities or at garden refuse drop-offs) versus a more centralized composting facility or anaerobic digester. Community composting is low-cost and educational but may handle limited volumes, whereas an industrial-scale compost plant or digester can process large quantities and even generate biogas/energy. The latter requires more capital and skilled operation. The municipality should weigh the costs and benefits: e.g. a compost facility can significantly reduce garden/kitchen waste going to landfill and produce compost for local use, but needs a stable input stream and market for compost.
- Waste-to-Energy (WtE) vs. Traditional Recycling:** As a long-term alternative, especially if landfill space becomes very scarce, the municipality could explore waste-to-energy incineration or thermal treatment for residual waste. WtE can drastically cut landfill volume and generate electricity, but it is capital-intensive, requires consistent waste feedstock and skilled operation, and has to meet air emission standards. Traditional recycling and composting align better with the waste hierarchy (material recovery), whereas WtE focuses on energy recovery – the optimal strategy may be a combination (recycle what is economically feasible, and consider WtE for non-recyclable, high-calorific waste). The environmental and financial trade-offs of WtE must be carefully assessed against improved recycling programs.
- Public Education and Incentives:** An important “soft” alternative to support minimisation is using economic incentives to encourage waste reduction. Options include introducing pay-as-you-throw (PAYT) tariffs (charging fees based on the amount of waste a household generates, to incentivize reduction/recycling) versus continuing with flat rates. PAYT can significantly drive waste minimisation but needs a reliable measurement system and public acceptance. Another approach is providing incentives for recyclers – e.g. reward schemes or competitions for neighborhoods that recycle the most. These measures can amplify the effectiveness of any technical alternative chosen above by ensuring community participation.

7.2 Alternatives For Waste Collection Service Delivery

To achieve universal and efficient collection services, different institutional and operational models can be considered for service delivery:

- Municipal Direct Service vs. Outsourcing:** The municipality can choose to deliver collection services in-house (expanding its own workforce, fleet, and management) or outsource to private contractors through tenders. In-house expansion gives the city direct

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control and flexibility, but requires significant capacity-building, procurement of vehicles, and ongoing budget for staff and maintenance. Outsourcing or public-private partnerships (PPPs) might bring in efficiency and expertise from the private sector and can sometimes be cost-effective via competitive bidding. However, PPPs require robust contract management and oversight to ensure service quality and avoid cost escalations. A mixed model is also possible: for example, the municipality handles residential waste collection, while a contractor manages commercial waste or street cleaning.

- Conventional vs. Alternative Collection Systems:** In urban centers with high housing density, door-to-door collection using compactor trucks is the conventional method. In harder-to-service areas (rural villages or informal settlements with narrow streets), alternatives include using smaller vehicles or tractors with trailers, or establishing communal collection points (bulk bins or skips that are serviced regularly). The municipality can assess which system suits each area: communal collection can be more practical in low-density rural areas (lower cost, but risk of dumpsites if not managed), whereas door-to-door provides better service levels but at higher cost. Another alternative is promoting community-based micro-collection: e.g. local micro-enterprises or cooperatives are contracted to collect waste from households (using carts or small trucks) and bring it to a central skip or transfer point. This can improve service in informal areas and create jobs, though it needs training and supervision.
- Frequency and Routing Options:** The service efficiency can be improved by evaluating collection frequency (e.g. once weekly vs. twice weekly for different waste streams). An alternative to the traditional model is a two-stream collection (one day for general waste, another day for recyclables/organics) which might require additional rounds but improves recycling. The municipality can also explore modernizing routes with route optimization software or even GPS-tracked collection, whether services are in-house or outsourced, to minimize fuel and time – this is an operational alternative that can yield financial savings.
- Regional Cooperation:** As an institutional alternative, the municipality could consider **regionalizing waste services** in partnership with neighboring municipalities or the district. For instance, a cluster of municipalities might share a single contractor or a joint service utility for waste collection, which could achieve economies of scale. This requires inter-governmental agreements but can be beneficial if the local capacity alone is insufficient.
- Equipment Financing Models:** If fleet expansion is needed, alternatives include purchasing vehicles vs. leasing them. Leasing or rental contracts for refuse trucks might

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reduce upfront capital costs and ensure maintenance by the provider, though potentially at a higher long-term cost. Purchasing requires capital outlay but the municipality then owns the assets. The decision can be based on financial analysis of life-cycle costs and available financing; both options should aim to ensure reliable collection vehicles are in place to meet service targets.

7.3 Alternatives For Waste Treatment And Disposal Infrastructure

Addressing gaps in disposal capacity and compliance may involve choosing among different technical solutions and investment strategies:

- Upgrade Existing Landfill vs. Develop New Landfill:** If the current landfill site is not compliant or nearing capacity, one alternative is to rehabilitate and expand the existing landfill. This could involve installing proper lining, leachate control, gas ventilation, and adding new cells to extend its life. The cost might be moderate compared to starting anew, and it builds on an existing site – but there could be limitations (land availability, surrounding community acceptance, or the extent of past non-compliance). The other route is to establish a new landfill site that is fully compliant from design phase. A new regional landfill, possibly developed jointly with the district or through a PPP, might secure long-term disposal needs with modern standards. However, it involves substantial capital cost, environmental impact assessments, and finding a suitable location (which can face public opposition). In deciding, the municipality should compare the remaining life of the old site and cost to upgrade vs. the long-term benefits of a new engineered landfill. Sometimes a phased approach is used: upgrade the old site for interim use while developing a new regional site.
- Alternative Disposal Technologies:** Instead of relying solely on landfills, the municipality can consider alternative treatment technologies to reduce the volume of waste requiring landfilling:
- Waste-to-Energy (Incineration):** As noted, a controlled incinerator with energy recovery can significantly reduce waste volume (>90% reduction) and generate electricity or heat. This alternative can be viable for high volumes of waste and is in line with international practices for waste disposal in space-constrained areas. The downsides are high investment and operating costs, the need for continuous technical expertise, and managing air emissions and ash disposal.
- Mechanical Biological Treatment (MBT):** An MBT plant combines mechanical sorting and biological treatment (composting/anaerobic digestion) of mixed waste. It can recover

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some recyclables and stabilize the organic fraction (reducing landfill impact). MBT is less proven in South Africa and still relatively complex, but it can be scaled modularly.

- Landfill Mining and Reclamation:** As part of rehabilitating an old dumpsite, an innovative approach is landfill mining, where waste from an old site is excavated and processed to recover materials or energy, and the land is restored. This can free up space or eliminate the pollution source, but it requires careful cost-benefit analysis. Each technology alternative must be evaluated for environmental benefits (emission reductions, land savings) versus costs and institutional capacity required. The choice may also consider provincial plans – for example, the province might favor regional WtE facilities or support municipalities in obtaining funds for advanced tech.
- Public vs. Private Operation of Disposal Facilities:** Running a landfill or treatment facility can be done by the municipality directly or through outsourcing to an experienced operator. A PPP for landfill management could bring technical know-how (ensuring daily cover, compliance monitoring, etc.) and possibly financing (the private partner might invest in infrastructure in return for fees). The alternative of keeping operations in-house allows direct control but needs investment in training and retaining skilled landfill managers. The municipality should weigh its institutional capacity – if internal skills are lacking, contracting a competent operator (with clear performance targets in the contract) could improve compliance faster. Any PPP should include strict environmental performance requirements to align with the goal of sound disposal.
- Landfill Rehabilitation Approaches:** For closed or old waste sites, alternatives include capping in place (covering with clay/geomembrane and vegetation to contain pollution) versus excavating and relocating waste to a licensed site. Capping is usually more cost-effective and safer in the short term, whereas excavation is expensive and risky but might be warranted if a site is causing severe pollution or the land is needed for redevelopment. A middle ground is to phased rehabilitation, where sections of the dump are cleared or improved over time. The approach chosen should be based on environmental risk assessment and future land use plans. Financially, funds for rehabilitation can be a challenge – the municipality may seek government grants or developer contributions if, say, the old dump land is to be repurposed. Each method must comply with the minimum requirements for landfill closure (preventing leachate generation and gas emissions).

7.4 Alternatives For Public Awareness And Enforcement

To tackle issues of littering and illegal dumping and improve public cooperation, various programmatic alternatives can be employed:

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- Educational Programs: In-house vs. NGO partnerships:** The municipality's in-house communications unit could design and run ongoing waste awareness campaigns (through local radio, flyers, community workshops). This ensures messages are tailored to local context and can be integrated with service updates, but it requires dedicated staff time and expertise in environmental education. An alternative is to partner with NGOs or community-based organizations that specialize in environmental education to run these programs. NGOs/CBOs might have more trust at the community level and innovative approaches to behavior change (eco-clubs in schools, door-to-door outreach). The municipality could fund and coordinate such partners.
- Enforcement Strategies: Dedicated Unit vs. Integrated Enforcement:** One option is establishing a dedicated environmental enforcement unit within the municipal law enforcement division – officers who focus solely on waste by-law enforcement and patrol for dumping. This brings specialization and can yield stronger enforcement presence, but adds to operating costs (salaries, vehicles) and requires law enforcement powers. Alternatively, the municipality can train existing law enforcement (or even community peace officers) to include waste issues in their duties. For instance, traffic or municipal police could be cross trained to spot and act on illegal dumping during their regular patrols. There is also the model of community enforcement: engaging community leaders or volunteers as “waste wardens” who monitor and report infractions (though actual ticketing may still lie with official officers).
- Use of Technology and Surveillance:** To bolster enforcement, the municipality could invest in monitoring technology – e.g. installing CCTV cameras at frequent illegal dumping spots or using drone surveillance for remote areas. This tech-heavy alternative may deter offenders and provide evidence for prosecutions, but it comes at a financial cost and requires data management (and raises privacy considerations). A lower-tech alternative is simply increasing signage and barriers at hotspot areas, combined with frequent clean-ups – while this doesn't catch offenders, it can discourage dumping if hotspots are made less accessible or quickly cleaned.
- Community Incentives and Reporting:** Instead of only punitive measures, an alternative approach is to create community incentive programs for cleanliness. For example, implement a “Cleanest Ward Competition” with prizes for wards that have the least litter/ dumping. This can spark positive peer pressure and community-led policing of waste issues. Additionally, establishing an easy reporting mechanism (tip-offs) for illegal dumping – such as a toll-free number or WhatsApp line – can encourage residents to report violators, enabling quicker enforcement action. Over time, building social norms

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where citizens feel responsible for keeping their area clean can be as important as formal enforcement.

- **Law Enforcement Collaboration:** Consider forming a partnership with provincial or national environmental compliance authorities for tough cases. For instance, serious illegal dumping (hazardous waste dumping) could be referred to the provincial environmental management inspectorate (Green Scorpions) for investigation. This collaboration is an alternative way to extend enforcement capacity beyond the municipality's own resources.

7.5 Alternatives For Institutional And Financial Arrangements

Ensuring the necessary institutional setup and funding will often determine the success of all other interventions. Key alternatives to address institutional and financial gaps include:

- **Public-Private Partnerships (PPPs) and Inter-Municipal Agreements:** Institutionally, if the municipality faces resource constraints, it can leverage partnerships. We have already discussed PPPs for specific functions (collection, landfill operation, recycling facilities) – broadly, a PPP can inject private capital and expertise, while the municipality retains regulatory oversight. Another institutional strategy is inter-municipal cooperation: for example, sharing certain waste management facilities or services with the district or neighboring municipalities (e.g. a district-wide hazardous waste facility or joint procurement of waste trucks). Such agreements can reduce costs per municipality and pool technical know-how. The alternative to partnerships is a fully self-reliant approach where the municipality builds all capacity in-house – this may be desirable for autonomy but challenging if funding and skills are limited.
- **Funding Mechanisms:** Financial alternatives to support waste management include:
- **Tariff Reforms:** Implementing a stepped tariff or improved billing system so that more funds are generated from user charges. For instance, adjusting the tariff so it is cost-reflective (while providing relief to indigent households) can gradually close the funding gap. An alternative is to ring-fence waste revenue – ensuring all fees collected are reinvested in the service (this is more a financial policy than an alternative source, but it improves sustainability).
- **Government Grants and Subsidies:** The municipality can aggressively pursue external funding. Alternatives include applying for the Municipal Infrastructure Grant (MIG) for capital projects like landfill development, seeking provincial capacity-building grants, or tapping into national programs (for example, the DFFE's recycling enterprise support

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programs). While these are not guaranteed sources year to year, they can fund once-off improvements.

- **Private Investment:** Through PPPs, private partners might finance infrastructure (e.g. build a waste transfer station or WtE plant) in exchange for tipping fees or shared revenues. This shifts upfront costs off the municipal books, but the municipality will have to commit to payments or supply of waste over time.
- **Innovative Funding:** Consider polluter-pays instruments like a local landfill levy or disposal surcharge for large waste generators, which could fund environmental compliance costs. Or explore climate finance if applicable (e.g. a biogas project from waste might attract carbon credit funding). Each financial option should be evaluated for feasibility and impact on stakeholders; often a mix of funding sources is the most resilient strategy.
- **Organizational Structure Alternatives:** To improve institutional capacity, the municipality might restructure how waste services are managed. One alternative is creating a municipal owned entity or utility for waste management – a semi-autonomous unit focused only on waste (with its own budget), which can sometimes operate more efficiently and even generate revenue (as seen in some larger cities). Alternatively, keep waste management within the existing municipal department but establish a multi-stakeholder waste management forum (including community reps, businesses, NGOs) to guide and support the implementation of the IWMP. This can enhance oversight and transparency. The choice depends on the scale of operations and the municipality's flexibility; a smaller municipality may opt for strengthening the current department structure with better training and clear roles, rather than forming a separate entity.
- **Staged Implementation vs. Big Bang:** As an approach to rolling out improvements, the municipality can choose a phased approach – addressing the most critical gaps first (e.g. fleet and landfill compliance in the short term), then gradually introducing recycling and other advanced programs as capacity grows. The alternative would be a “big bang” where multiple major projects are launched in parallel (for example, upgrading the landfill and starting city-wide recycling within a year or two). Phasing is generally safer in terms of institutional load and finances, whereas a big bang could show quicker results but risks overload. The IWMP should plot a realistic implementation schedule, possibly prioritizing quick wins before more complex alternatives.

7.6 Alternatives For Waste Information Management

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To improve decision-making, regulatory compliance, and service efficiency, Lekwa Municipality must establish a functional Waste Information Management System (WIMS). The following alternatives (which may be combined progressively) are available:

- **Manual Recordkeeping vs. Spreadsheet-Based WIS:** In the most basic form, landfill staff and waste collectors can keep handwritten logbooks of loads received, types of waste, and source areas. This is low-cost and can be implemented quickly, but prone to inconsistency, data loss, and limited analytical value. A more reliable alternative is to compile monthly data in standardized spreadsheet templates (e.g. Excel), managed by a trained Waste Information Officer. This enables easier aggregation and basic trend analysis. While still manual, it improves data transparency and allows quarterly reporting to SAWIC.
- **Spreadsheets vs. Open-Source Digital Platforms:** Moving from spreadsheets to a structured open-source platform (e.g. Kobo Toolbox or DHIS2) allows field teams to submit digital records via mobile devices, which can be automatically stored and analyzed. This requires initial training and device access, but greatly improves consistency, data security, and integration over time. For example, landfill weighbridge data could be uploaded daily into an online form, with built-in validation checks. This approach is cost-effective for small municipalities and scalable as needs grow.
- **Municipal-Led Data Management vs. Shared Provincial or District Platforms:** Lekwa could manage its WIMS independently, assigning and training internal staff. This fosters ownership and quicker response times but may strain limited capacity. Alternatively, it could integrate into a district-level or provincial waste data platform, benefitting from centralized support and shared infrastructure (e.g. automatic SAWIC uploads). However, this may reduce flexibility or delay data visibility unless intergovernmental coordination is strong. A hybrid model—local entry with provincial technical support—may offer the best balance.
- **In-House WIMS vs. Outsourced Digital Services:** The municipality may consider contracting external IT providers to develop and maintain a cloud-based WIMS with dashboards, automated SAWIC formatting, and long-term analytics. This improves sophistication and ensures regular updates but depends on service contracts, licensing fees, and external accountability. In contrast, an in-house model using free or low-cost tools empowers municipal staff, though it requires dedicated training and maintenance capacity.
- **Basic Reporting vs. Predictive and Performance-Based Use of Data:** Initially, waste data may only be used for regulatory compliance (e.g. SAWIC quarterly submissions).

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Over time, the municipality could expand the system to inform operations—e.g. flagging high-waste areas for recycling rollout, forecasting landfill airspace depletion, or tracking illegal dumping frequency. More advanced uses could include GIS-based mapping, public dashboards, and performance-based budgeting. While long-term, these applications unlock the full value of waste data.

- **Standalone WIMS vs. Integration with Municipal Billing or Fleet Systems:** A final alternative is whether the WIMS operates independently or links with other municipal systems. Integration with billing systems (e.g. linking volume data to waste tariffs) can support cost recovery and “pay-as-you-throw” models. Similarly, linking to fleet GPS and maintenance systems can improve route efficiency and truck utilization. While technically demanding, integration enhances service delivery and financial sustainability if carefully managed.

7.7 Alternatives for Legislative and Regulatory Compliance

While Lekwa Local Municipality has drafted a Waste Management By-law, the lack of formal gazettement and structured enforcement mechanisms remains a gap in achieving full legal compliance. Several implementation and institutional alternatives are available to strengthen compliance with national and provincial regulations:

- **Gazette and Enforce Existing Draft By-law vs. Rely on Generic Provisions:** The most immediate option is to gazette the existing draft by-law to give it legal standing. This allows the municipality to enforce penalties for illegal dumping, regulate service providers, and define roles across the waste value chain. In the absence of a gazetted by-law, the municipality would continue operating under generic national frameworks or outdated local regulations—limiting local enforcement power. Gazetting is cost-effective and should be prioritized.
- **Internal Compliance Capacity vs. Provincial Support:** The municipality can assign or hire an **Environmental Compliance Officer** to monitor landfill permit conditions, illegal dumping, and general by-law compliance. This ensures local ownership and quicker enforcement. Alternatively, it can request technical compliance support from provincial authorities or work with the Gert Sibande District Municipality’s environmental unit for inspections and reporting. While useful in the interim, reliance on external support may limit response times and sustainability.
- **Scheduled Internal Compliance Audits vs. External Compliance Reviews:** Lekwa can implement a regular internal compliance audit programme, including checklists for facilities (landfill licensing conditions, signage, recordkeeping), service providers, and

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enforcement activities. Alternatively, it may commission third-party environmental compliance reviews every few years to ensure objectivity and identify risks. The former builds internal accountability; the latter offers expert insight but at higher cost.

- **Standalone Enforcement Unit vs. Integrated Law Enforcement Collaboration:** To enforce waste by-laws, the municipality could establish a dedicated enforcement unit within the waste department. However, this may strain HR and budget resources. A more feasible alternative is to integrate enforcement with existing municipal law enforcement or community safety officers, who can be trained to issue waste-related fines and enforce dumping regulations. This leverages existing structures while improving service coordination.
- **Reactive Compliance Responses vs. Preventive Compliance Culture:** Currently, compliance actions are often triggered by complaints or regulatory audits. A shift toward a preventive compliance approach—such as routine inspections, public awareness of legal obligations, and early interventions—can reduce violations. This includes signage at hotspots, scheduled community monitoring, and performance-based monitoring linked to service provider contracts.

The preferred path is to urgently gazette the by-law, designate a compliance officer, and integrate enforcement into broader municipal law enforcement efforts. Over time, this should be supported by structured internal audits and a preventive compliance culture to meet the requirements of the Waste Act and licensing authorities.

7.8 Alternatives for Financial and Funding Mechanisms

Ensuring financial sustainability in municipal waste services requires a mix of revenue strategies, cost containment, and external funding access. The following alternatives are considered:

- **Flat-Rate Tariff System vs. Cost-Reflective Tariffs:** Many municipalities use flat-rate tariffs (e.g. per household) that do not differentiate based on volume or service level. While simple, this can under-recover costs and create inefficiencies. A cost-reflective tariff structure, based on actual service delivery and waste generation, can improve revenue but requires accurate data and billing integration. Gradual introduction—starting with commercial or high-volume users—may be most feasible.
- **Public Funding (MIG/Equitable Share) vs. Blended Financing Models:** Lekwa currently relies on municipal budgets and grants (e.g. MIG, EPWP) to fund infrastructure and operations. A more diversified approach includes blended financing, where public funds are combined with private sector investment (e.g. PPPs for landfill upgrades or recycling infrastructure), or donor/grant funding for pilots (e.g. composting, education

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campaigns). This spreads risk and brings in technical expertise but needs proper contract management.

- **Incremental Budgeting vs. Performance-Based Budgeting:** Traditional budgeting rolls over past allocations without strong linkage to service outcomes. Moving to performance-based budgeting—where future allocations are tied to waste diversion rates, coverage improvements, or cost recovery benchmarks—can strengthen internal accountability. It also supports more robust IWMP implementation monitoring.
- **Municipal Billing System vs. External Collection Models:** Revenue collection through the municipal billing system may suffer from inefficiencies or low recovery rates. Alternatives include external billing and collection agencies or embedding waste charges into pre-paid electricity systems, which can increase compliance. These options require legal clarity and administrative reforms, but may drastically improve cash flow.

The recommended strategy is a phased introduction of cost-reflective tariffs, establishment of a ring-fenced waste budget, and active pursuit of external funding sources (e.g. climate finance, Extended Producer Responsibility partners). Over time, performance-based budgeting should be mainstreamed for long-term sustainability.

In summary, each gap or objective comes with multiple alternative solutions, and these must be weighed holistically. The IWMP process requires evaluating these alternatives on technical merits, costs, social/environmental impact, and institutional fit. For example, a PPP might improve efficiency but needs strong contract management; a high-tech solution might solve a problem but could fail if not maintainable locally. By comparing alternatives (e.g. in a matrix of criteria), the municipality can select a balanced, optimal mix of interventions that collectively achieve the IWMP goals. Importantly, the chosen set of strategies should remain aligned with national/provincial policy (e.g. prioritizing waste hierarchy options) and be adaptable over the short-, medium-, and long-term planning horizons.

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CHAPTER 8

IMPLEMENTATION PLAN

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8 IMPLEMENTATION PLAN

The following tables present a detailed implementation plan aligned with the identified strategic Goals of the Lekwa Local Municipality's Integrated Waste Management Plan (IWMP). Each action is categorized by priority, projected timeframe (Short/Medium/Long-term), indicative budget range, potential funding source, and responsible entity. Short-term actions are expected to be initiated within 1–2 years, Medium-term within 3–5 years, and Long-term beyond 5 years. Budget figures are presented as indicative ranges in South African Rand (ZAR). The Lekwa Local Municipality is the primary responsible authority for all actions (in some cases working with partners as noted).

8.1 Goal 1: Promote Waste Minimization And Recycling

Lekwa aims to promote waste minimisation through increased re-use, recycling and recovery of waste in order to reduce landfill disposal. Achieving this goal will help comply with national waste reduction targets and extend landfill lifespan. Key actions under this goal focus on establishing recycling systems and infrastructure, encouraging composting of organics, and supporting waste reduction initiatives in the community.

Table 27: Waste Minimization and Recycling

	Action (Goal 1: Waste Minimisation)	Priority	Timeframe	Budget (ZAR)	Funding Source Options	Responsibility
1.1	Establish recycling drop-off centres and support buy-back facilities in urban areas to increase recovery of paper, plastic, glass and metals (aligns with promoting re-use/recycling). This includes providing skips or containers for sorted recyclables and engaging local recyclers.	High	Short-term	1–2 million	Municipal budget; Extended Producer Responsibility (EPR) funds or private sector support (for recycling infrastructure)	Lekwa Local Municipality
1.2	Implement separation-at-source programs for households and businesses, starting with pilot neighbourhoods (distribution of separate bins/bags for recyclables) to divert waste from landfill. Gradually expand to entire municipality.	High	Short-term (pilot); Medium-term (scale-up)	500k–1 million (pilot); 2–3 million (full program)	Municipal budget (operational); Potential provincial grants for waste minimisation	Lekwa Local Municipality
1.3	Introduce organic waste composting initiatives , such as a community composting site or garden waste drop-off for composting. This reduces green waste in landfill and produces compost for parks or communities. Provide basic equipment (shredders) and training.	Medium	Medium-term	500k–1 million	Municipal budget; MIG (Municipal Infrastructure Grant) for compost site setup; possible	Lekwa Local Municipality

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	Action (Goal 1: Waste Minimisation)	Priority	Timeframe	Budget (ZAR)	Funding Source Options	Responsibility
					private partnership (garden services)	
1.4	Promote waste minimisation awareness through campaigns on reduce, re-use, recycle (e.g. public workshops, school programs) to encourage behavioral change. (This action supports Goal 5 as well, by educating the community on waste reduction).	Medium	Short-term (launch); Ongoing	100k–300k annually	Municipal budget (communications); potential sponsorships or NGO funding for educational materials	Lekwa Local Municipality

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8.2 Goal 2: Ensure Efficient Waste Collection Services Delivery

The municipality aims to provide effective and efficient waste collection services to all communities, in line with national standards. This involves expanding waste collection coverage, improving equipment and staff capacity, and ensuring that waste services meet health and environmental standards. The following actions will enhance service delivery so that all households have access to regular waste removal and that collected waste is safely managed.

Table 28: Efficient Waste Collection Services for Everyone

	Action (Goal 2: Waste Service Delivery)	Priority	Timeframe	Budget (ZAR)	Funding Source	Responsibility
2.1	Expand waste collection to unserved areas , ensuring 100% of households (including rural and informal settlements) receive at least basic weekly waste removal. This may involve introducing communal collection points or door-to-door collection in new areas.	High	Short-term (service rollout); Medium-term (full coverage)	1–2 million (for additional bins and initial rollout)	Municipal budget (operational); Equitable Share (for basic services in low-income areas)	Lekwa Local Municipality
2.2	Procure additional refuse collection trucks and equipment to improve service reliability and route efficiency. Add new trucks to accommodate expanded routes and maintenance downtime.	High	Short-term (procurement); Medium-term (fleet renewal)	5–8 million (for 2–3 trucks @ ~R2–3 M each)	MIG funding (capital expenditure on service vehicles); Municipal capital budget	Lekwa Local Municipality
2.3	Optimize waste collection operations through staff training and route planning. Train collection crews on safe handling and customer service, and implement optimized route schedules (possibly using route	Medium	Short-term (training); Medium-term (route improvements)	200k–500k (training & planning)	Municipal budget; Provincial support (capacity building programs)	Lekwa Local Municipality

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	Action (Goal 2: Waste Service Delivery)	Priority	Timeframe	Budget (ZAR)	Funding Source	Responsibility
	management software) to increase efficiency and reduce fuel costs.					
2.4	Establish a routine maintenance program for vehicles & equipment to reduce breakdowns. Set up a preventive maintenance schedule and ensure budget for spare parts. This improves service consistency (fewer missed collections).	High	Short-term (initiate); Ongoing	100k–200k per year	Municipal budget (O&M); possible provincial grants for fleet management	Lekwa Local Municipality
2.5	Address illegal dumping by providing adequate waste containers/skips in public areas and enforcing by-laws. Schedule clean-ups on identified dumping hotspots. Enforcement officers to issue fines for dumping violations, combined with community awareness (links to Goal 4).	Medium	Short-term (hotspot intervention); Ongoing	500k (initial containers and clean-up); 100k/yr enforcement ops	Municipal budget; EPWP (Expanded Public Works Programme) for clean-up projects	Lekwa Local Municipality

8.3 Goal 3: Achieve Environmentally Sound Waste Treatment and Disposal (Compliance and Capacity)

The municipality must ensure all waste is disposed of safely and in compliance with environmental regulations. Goal 3 focuses on maintaining the landfill and any disposal sites according to permit conditions and the Waste Act requirements. This includes infrastructure upgrades, regular monitoring, and managing hazardous or special waste appropriately to prevent pollution. The actions below strengthen the environmental compliance of waste disposal operations:

Table 29: Safe Waste Disposal

	Action (Goal 3: Safe Waste Disposal)	Priority	Timeframe	Budget (ZAR)	Funding Source	Responsibility
3.1	Upgrade and maintain the Standerton landfill to meet license conditions. Key improvements include repairing perimeter fencing, provision of cover soil for waste, stormwater control, and proper cell management. This ensures safe, legal disposal in line with permit and national standards.	High	Short-term (critical fixes); Medium-term (further upgrades)	3–5 million (upgrade works and equipment)	MIG or Dept. of Environment grants (capital funding for landfill compliance); Municipal budget (maintenance)	Lekwa Local Municipality
3.2	Conduct regular environmental monitoring at the landfill (groundwater sampling, leachate control, emissions checks) and submit annual compliance reports to authorities as required by the Waste Act and license. Address any issues (e.g. groundwater contamination) promptly to protect health and environment.	High	Short-term (establish monitoring); Ongoing (annual)	200k per year (monitoring contracts & lab tests)	Municipal budget; Provincial environmental department support (technical assistance)	Lekwa Local Municipality
3.3	Undertake a phased feasibility assessment and, subject to the findings, develop a Waste-to-Energy (WtE) project using controlled incineration with energy recovery. The assessment	Medium	Medium-term: feasibility, waste-	R3–8 million for feasibility, waste characterisation,	DFFE and provincial environmental	Lekwa Local Municipality, in partnership

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Action (Goal 3: Safe Waste Disposal)	Priority	Timeframe	Budget (ZAR)	Funding Source	Responsibility
must determine the quantity, composition and calorific value of the available residual waste; identify an appropriate technology and plant capacity; evaluate electricity and/or heat recovery opportunities; assess site and grid-connection requirements; and establish a suitable procurement and operating model. A controlled incinerator may reduce the volume of residual waste requiring landfill disposal by more than 90% while generating electricity or useful heat, and may therefore be suitable where landfill airspace is constrained and sufficient waste feedstock is available. Implementation must, however, be preceded by detailed technical, financial, environmental and legal feasibility studies and the required authorisations. The project must provide for continuous specialist operation and maintenance, advanced air-emission control and monitoring, and the safe treatment and disposal of bottom ash, fly ash and other residues.		characterisation, technology and site assessment (2–3 years); Long-term: authorisation, financing, procurement and phased implementation (4–10+ years), subject to feasibility	concept design and authorisation studies; capital cost to be determined by the feasibility study and selected plant capacity	grants; DBSA and other development-finance institutions; Green Fund; municipal infrastructure funding; public-private partnership; independent power producer and private-sector investment	with DFFE, the provincial environmental authority, Eskom/energy off-taker, DBSA and an appointed specialist transaction and technical advisory team

8.4 Goal 4: Ensure Communities are Aware of Waste Impact on Health, Well-being & Environment

The IWMP emphasizes the importance of public awareness and education, noting that communities should be aware of the impacts of waste on their health, well-being, and the environment. Building such awareness is essential for public cooperation in waste separation, timely payment for services, and prevention of illegal dumping. The following actions aim to engage residents, schools, and businesses through education and participatory programs, fostering a culture of responsible waste management in Lekwa:

Table 30: Education and Awareness.

	Action (Goal 4: Education & Awareness)	Priority	Timeframe	Budget (ZAR)	Funding Source	Responsibility
4.1	Implement regular public education campaigns on proper waste management and its health/environmental impacts. Use local radio, community meetings, and flyers to disseminate messages on topics like waste separation, recycling benefits, and the dangers of illegal dumping. Refresh campaigns semi-annually to keep momentum.	Medium	Short-term (launch); Ongoing (semi-annual)	200k per year (media, print materials)	Municipal budget; NGO or private sponsorships (CSR programs by local industries for environmental awareness)	Lekwa Local Municipality
4.2	Introduce waste education in schools through eco-clubs or integration into curriculum. Provide educational materials and encourage school recycling projects or competitions. Young learners can act as environmental ambassadors in their families, reinforcing community awareness.	Medium	Medium-term (pilot in schools); Ongoing (annual events)	100k–200k per year	Municipal budget; Department of Education partnership or NGO grants for environmental education	Lekwa Local Municipality
4.3	Organize community clean-up events and recycling drives , e.g. quarterly “Keep Lekwa Clean” days. Mobilize volunteers, ward committees, and businesses to clean public areas and collect recyclables. These events visibly	Low	Short-term (plan events); Ongoing (quarterly)	50k–100k per event (logistics, tools, refreshments)	Municipal budget; EPWP funding (can cover stipends for participants) and local business	Lekwa Local Municipality

	demonstrate the benefits of proper waste management and instil pride in a cleaner community.				contributions (sponsoring clean-ups)	
4.4	Engage ward committees and community leaders to spread awareness and report issues. Train them on waste bylaws and health impacts so they can advocate locally and act as the municipality's eyes and ears in identifying problem areas or non-compliance. This grassroots approach ensures sustained awareness at the community level.	Medium	Short-term (training); Ongoing (engagement)	100k (initial training workshops)	Municipal budget; Provincial support (community environmental outreach programs)	Lekwa Local Municipality

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8.5 Goal 5: Strengthen Institutional Capacity

Institutional challenges—such as limited staffing, skills shortages, and fragmented responsibilities—undermine Lekwa’s ability to deliver effective waste services. Strengthening institutional capacity is critical to ensure the implementation, enforcement, and monitoring of IWMP goals. This section outlines priority actions to build an efficient, well-coordinated, and professionally staffed Waste Management Unit.

Table 31: Institutional Capacity

	Action (Goal 5: Institutional Capacity)	Priority	Timeframe	Budget (ZAR)	Funding Source	Responsibility
5.1	Conduct a formal institutional assessment of the Waste Management Unit (staffing levels, qualifications, structure, and equipment gaps).	High	Short-term (Year 1)	150k–200k	Municipal budget	Lekwa Local Municipality – HR & Waste Management Unit
5.2	Develop and approve a revised Waste Unit organogram with clearly defined roles (e.g. planners, compliance officers, landfill supervisor).	High	Short-term (Year 1)	Administrative	Municipal HR process	Lekwa Local Municipality – HR Unit & MM’s Office
5.3	Recruit or redeploy staff to fill critical vacancies (e.g. Waste Information Officer, Compliance Officer, Recycling Coordinator).	High	Medium-term (Years 2–3)	500k–1 million/year (salaries)	Municipal budget; potential EPWP support	Lekwa Local Municipality – HR & Waste Management Unit
5.4	Develop a skills development plan and conduct regular training for staff on landfill operations, waste legislation, data systems (e.g. SAWIC), and recycling.	Medium	Medium-term (start Year 2); Ongoing	100k–250k/year	Municipal budget; LGSETA/EPWP training grants	Lekwa Local Municipality – Waste Unit & HR
5.5	Improve internal coordination between Waste, Finance, LED, and Law Enforcement units	Medium	Short-term (setup in Year 1); Ongoing	Administrative	Internal	Lekwa Local Municipality – MM’s Office & Waste Unit

through a dedicated IWMP Task Team that meets quarterly.					
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8.6 Goal 6: Establish A Functional Waste Information Management System

This goal aims to develop an accurate, consistent, and transparent waste information system in Lekwa Municipality, in alignment with the National Waste Information Regulations (GN R625 of 2012) and the National Waste Management Strategy (2020). Although the Standerton Landfill Site has a weighbridge, it is not fully utilized, and there is currently no centralized system to collect, process, and report waste data. Addressing this gap is crucial for regulatory compliance, effective planning, and evidence-based service improvements.

Table 32: Waste Information Management

	Action (Goal 6: Waste Information Management)	Priority	Timeframe	Budget (ZAR)	Funding Source	Responsibility
6.1	Ensure full use of the existing weighbridge at Standerton landfill by training staff to record incoming loads accurately and consistently, logging source, type, and weight of all waste. Perform regular calibration.	High	Short-term	100k–200k (training, calibration)	Municipal budget; possible DEA/DFFE compliance support	Lekwa Local Municipality
6.2	Conduct a waste composition study (waste audit) to determine baseline percentages of recyclables, organics, and residuals. This informs diversion targets and landfill forecasting.	High	Short-term	300k–500k	Municipal budget; DFFE support programs	Lekwa Local Municipality
6.3	Develop a basic Waste Information System (WIS) using spreadsheets or open-source software to track: (a) landfill tonnages, (b) monthly collection volumes, (c) illegal dumping clearance volumes, (d) recycling volumes.	High	Short-term	150k–250k	Municipal budget	Lekwa Local Municipality
6.4	Assign and train a Waste Information Officer (WIO) responsible for compiling, validating, and submitting data to SAWIC in line with GN R625.	High	Short-term	100k (training & systems setup)	Municipal budget; DEA/DFFE capacity-building grants	Lekwa Local Municipality

	Action (Goal 6: Waste Information Management)	Priority	Timeframe	Budget (ZAR)	Funding Source	Responsibility
6.5	Establish regular reporting procedures to SAWIC and internal management: submit quarterly and annual reports, and use data to guide service improvement and budgeting.	Medium	Medium-term	<i>Administrative</i>	Municipal budget	Lekwa Local Municipality
6.6	Integrate waste data into planning and budget decisions: Use collected data to track progress toward IWMP targets, justify funding applications, and inform fleet/resource allocation.	Medium	Medium-term	<i>Administrative</i>	Municipal budget	Lekwa Local Municipality

8.7 Goal 7: Strengthen Legislative And Regulatory Compliance

The IWMP identifies legal compliance as a foundational element for sustainable waste management. While Lekwa has developed a draft Waste Management By-law, it is not yet gazetted, and regulatory oversight remains inconsistent. The following actions aim to formalize the legal framework, institutionalize compliance monitoring, and improve enforcement of waste-related regulations.

Table 33: Legislative and Regulatory Compliance

	Action (Goal 7: Legislative Compliance)	Priority	Timeframe	Budget (ZAR)	Funding Source	Responsibility
7.1	Finalize and gazette the existing municipal waste by-law to enable enforcement of dumping penalties and regulation of waste services.	High	Short-term (gazette in Year 1)	50k-100k	Municipal budget (legal gazetting & publication)	Lekwa Local Municipality – Legal Unit & Waste Management Unit
7.2	Develop a Compliance Monitoring and Enforcement Plan, including routine inspections and violation reporting templates.	Medium	Medium-term (Years 2-3)	100k-200k	Municipal budget; provincial environmental support	Lekwa Local Municipality – Waste Management & Legal Services

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7.3	Conduct quarterly internal compliance audits of landfill operations, illegal dumping enforcement, and SAWIC data submissions.	Medium	Medium-term (initiate in Year 2); Ongoing	50k–100k per year	Operational budget	Lekwa Local Municipality – Waste Management Unit
7.4	Train municipal law enforcement and community peace officers on the by-law, enabling them to issue fines and act on violations.	High	Short-term (training in Year 1); Refresher annually	75k–150k	Municipal training budget; EPWP support	Lekwa Local Municipality – Public Safety & Waste Unit

8.8 Goal 8: Ensure Sound Budgeting & Financial Management of Waste Services

This goal seeks to put municipal waste services on a sustainable financial footing, in line with national policy which emphasizes full cost accounting and cost-reflective tariffs. Currently, waste services are often under-priced and under-funded, leading to aging infrastructure and service shortfalls. The following actions aim to improve financial planning, cost recovery, and funding for waste management:.

Table 34: Financial Management

	Action (Goal 8: Financial Management)	Priority	Timeframe	Budget (ZAR)	Funding Source	Responsibility
8.1	Conduct a full-cost accounting of waste services and develop a cost reflective tariff structure. Calculate the true cost of collection, disposal, fleet maintenance, etc., and restructure refuse fees accordingly so that revenue can sustainably cover these costs. Consider volumetric tariffs (charging by volume of waste) where feasible.	High	Short-term (study); Medium-term (implement new tariffs)	300k–500k (for financial study/consultant)	Municipal budget; support from National Treasury (guidance/circular on waste tariffs)	Lekwa Local Municipality

	Action (Goal 8: Financial Management)	Priority	Timeframe	Budget (ZAR)	Funding Source	Responsibility
8.2	Ring-fence the waste management budget and ensure revenue from refuse charges is reinvested into waste services. This includes setting up proper accounting so that income from waste services is only used for operating and improving those services (in line with MFMA principles).	High	Short-term	N/A (policy/administrative action)	Municipal budget (internal policy change)	Lekwa Local Municipality
8.3	Improve billing and revenue collection for waste services. Update the customer database, integrate refuse charges on municipal bills, and enforce collections (while providing indigent support per policy). Aim to reduce revenue loss from non-payment.	Medium	Short-term (system update); Ongoing	200k (system improvements & outreach)	Municipal budget; Equitable Share subsidy for indigent households	Lekwa Local Municipality
8.4	Seek additional funding sources for waste projects, leveraging external grants and partnerships. For example, apply for Municipal Infrastructure Grant for capital projects (landfill upgrades, vehicles), use Equitable Share transfers for basic services, and explore public-private partnerships (e.g. with recycling companies) to share costs.	Medium	Short-term (identify sources); Ongoing (apply as needed)	<i>Indicative:</i> 5–10 million (external grants targeted over plan period)	National grants (MIG for infrastructure, DEA programs for waste) and provincial funding; Private sector investment for relevant initiatives	Lekwa Local Municipality

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CHAPTER 9 MONITORING PLAN

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9 MONITORING AND REVIEW PROGRAM

Monitoring and review of the Lekwa Local Municipality IWMP is essential to ensure that the goals, objectives and implementation actions contained in the IWMP are implemented within the required timeframes and that progress is measured against clear performance indicators. The monitoring and review process must guide Lekwa LM in tracking whether waste management services are improving, whether identified gaps are being addressed, and whether the municipality is moving towards compliance with the National Environmental Management: Waste Act, 2008, the National Waste Management Strategy, 2020, applicable norms and standards, landfill licence conditions and municipal service delivery obligations.

For Lekwa LM, monitoring must specifically focus on the priority issues identified in the Status Quo Assessment, including waste collection coverage, servicing of rural and informal areas, illegal dumping hotspots, landfill operational compliance at Standerton, closure and rehabilitation of Morgenzon Landfill, recycling and waste diversion, waste information reporting, public awareness, by-law enforcement, institutional capacity and budget allocation.

The IWMP must therefore be treated as a practical management tool and not only as a compliance document. The municipality should use the monitoring and review programme to determine what has been implemented, what has not been implemented, why implementation has been delayed, and what corrective actions are required.

9.1 REPORTING

Section 13(3) of the National Environmental Management: Waste Act requires that annual performance reports prepared in terms of section 46 of the Municipal Systems Act must include information on the implementation of the IWMP. Lekwa LM must therefore report annually on the extent to which this IWMP has been implemented.

The annual reporting process should be coordinated by the Waste Management Officer, supported by the Waste Management Section, Finance Department, IDP/PMU unit, landfill operations staff, cleansing supervisors and other relevant municipal departments. The annual IWMP implementation report should be submitted internally to municipal management and Council, and should also inform the municipality's annual performance report, IDP review and SDBIP performance reporting.

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The annual IWMP implementation report for Lekwa LM should include, at minimum, the following:

Reporting Requirement	Lekwa LM-Specific Reporting Focus
Extent of IWMP implementation	Report on progress against each IWMP goal, objective and implementation action, including whether actions are completed, ongoing, delayed or not started.
Waste management initiatives undertaken	Report on projects implemented during the year, including clean-up campaigns, recycling initiatives, illegal dumping interventions, awareness campaigns, landfill improvements, waste picker engagement and fleet improvements.
Waste service delivery performance	Report on the number of households receiving waste collection services, areas serviced, areas not serviced, collection frequency, missed collections, complaints received and corrective actions taken. Particular attention must be given to rural areas, informal settlements and indigent households.
Waste collection and transportation	Report on the condition and availability of refuse trucks, tractor-trailers, landfill plant, downtime, maintenance expenditure, route optimisation and operational constraints.
Illegal dumping	Report on illegal dumping hotspots, number of sites cleaned, repeat dumping areas, enforcement actions taken, awareness activities undertaken and costs incurred in clearing illegal dumping.
Landfill compliance	Report on Standerton Landfill operations, including access control, covering and compaction of waste, fire incidents, waste burning, record keeping, stormwater control, leachate management, groundwater monitoring, waste picker control and compliance with licence conditions.
Morgenzon Landfill closure and rehabilitation	Report on progress with closure, rehabilitation, prevention of illegal dumping, site security, funding requirements and compliance with closure licence conditions.
Waste minimisation and recycling	Report on recycling activities, separation-at-source initiatives, recyclable quantities diverted, local recyclers supported, waste picker integration, buy-back/drop-off initiatives and engagement with Producer Responsibility Organisations.
Waste information management	Report on SAWIS/SAWIC submissions, waste quantities recorded, data gaps, reporting accuracy, landfill records, recycling data and progress towards a functional municipal waste information system.

Reporting Requirement		Lekwa LM-Specific Reporting Focus
Compliance with legislation and standards	and	Report on compliance with NEMWA, National Domestic Waste Collection Standards, Waste Information Regulations, landfill norms and standards, EPR-related requirements, municipal by-laws and any directives or licence conditions.
Budget and expenditure	and	Report on the actual budget allocated and spent on waste collection, landfill operations, fleet maintenance, personnel, recycling, awareness, illegal dumping clean-ups and IWMP implementation projects.
Institutional capacity		Report on filled and vacant posts, training undertaken, staff shortages, operational capacity constraints and steps taken to fill critical vacancies.
Amendments to the IWMP		Record any changes required due to budget limitations, feasibility studies, new legislation, revised municipal priorities, new waste facilities or implementation constraints.

The annual report should clearly identify corrective actions for delayed or underperforming actions. Each corrective action must indicate the responsible department or official, timeframe, budget requirement and reporting mechanism.

9.2 MONITORING

Monitoring must be undertaken continuously throughout the implementation of the IWMP and formally reviewed at least once per year. Lekwa LM should monitor both operational performance and strategic progress. Operational monitoring should be done monthly or quarterly, while strategic monitoring should be consolidated annually through the annual performance report.

Monitoring must focus on whether the IWMP is improving the actual waste management situation in Lekwa LM. The following monitoring framework can be used by the municipality.

Monitoring Area	Indicator To Be Monitored	Frequency	Responsible Unit
Waste collection coverage	Number and percentage of households receiving weekly waste collection services	Quarterly / annually	Waste Management Section
Unserviced areas	Number of rural, informal or underserved areas without regular refuse removal	Quarterly / annually	Waste Management Section / IDP Unit

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Monitoring Area	Indicator To Be Monitored	Frequency	Responsible Unit
Collection reliability	Number of missed collections, complaints received and complaints resolved	Monthly	Waste Management Officer / Supervisors
Fleet availability	Number of operational refuse trucks, downtime, repairs and maintenance costs	Monthly	Waste Management / Fleet Management
Illegal dumping	Number of illegal dumping hotspots, sites cleared, repeat sites and enforcement actions	Monthly / quarterly	Waste Management / Law Enforcement
Standerton Landfill operations	Daily cover, compaction, access control, incoming waste records, fire/burning incidents and site housekeeping	Weekly / monthly	Landfill Supervisor / Waste Management Officer
Landfill environmental monitoring	Groundwater monitoring, stormwater control, leachate control, dust, odour, litter and vectors	Quarterly / annually	Waste Management / Environmental Unit
Morgenzon Landfill closure	Progress on closure, rehabilitation, fencing, access control and prevention of illegal dumping	Quarterly	Waste Management / Infrastructure
Waste minimisation	Recycling initiatives implemented, recyclers supported, recyclable quantities diverted	Quarterly / annually	Waste Management / Local Economic Development
Waste picker integration	Number of waste pickers identified, registered, trained or linked to recycling initiatives	Quarterly / annually	Waste Management / LED / Social Development
Awareness campaigns	Number of campaigns conducted, communities reached, schools involved and topics covered	Quarterly / annually	Waste Management / Communications
Waste information reporting	SAWIS/SAWIC submissions completed, data accuracy and availability of landfill records	Monthly / quarterly	Waste Management Officer
By-law enforcement	Number of notices issued, fines issued, inspections undertaken and cases followed up	Quarterly	Law Enforcement / Waste Management
Budget implementation	Budget allocated, budget spent and unfunded IWMP actions	Quarterly / annually	Finance / Waste Management

Monitoring Area	Indicator To Be Monitored	Frequency	Responsible Unit
Institutional capacity	Vacant posts, filled posts, training completed and capacity constraints	Annually	Human Resources / Waste Management

The Waste Management Officer should maintain an IWMP implementation tracking register. This register should record each implementation action, responsible person, target date, progress status, budget requirement, constraints and corrective measures. The register should be updated quarterly and used to inform management meetings, IDP reviews, SDBIP reporting and annual performance reporting.

Monitoring should also include site inspections. Standerton Landfill and Morgenzon Landfill should be inspected regularly using a standard landfill inspection checklist. Illegal dumping hotspots should be monitored to determine whether clean-up campaigns and enforcement actions are reducing repeat dumping.

9.3 REVISION OF THE IWMP

The Lekwa LM IWMP must be viewed as a living document that is updated as municipal conditions change. Waste generation patterns, population growth, informal settlement expansion, new developments, legislation, budget availability, landfill capacity, recycling markets and institutional capacity may change during the implementation period. The IWMP must therefore be reviewed regularly to remain relevant and implementable.

9.3.1 Annual Review

Lekwa LM should review the IWMP goals, objectives, targets and implementation plan annually as part of the municipal IDP review and annual performance reporting process. The annual review should assess:

- Progress made against each IWMP goal and target;
- Actions completed, delayed or not implemented;
- Reasons for delays or non-implementation;
- Changes in waste service coverage;
- Progress in addressing illegal dumping;
- Landfill compliance improvements;
- Waste minimisation and recycling performance;
- Adequacy of budget and expenditure;
- Institutional capacity and staffing constraints;

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- Legislative changes affecting waste management;
- New risks, gaps or priority needs; and
- Corrective actions required for the next financial year.

Where implementation actions are no longer practical due to funding, technical or institutional constraints, they should be revised and replaced with realistic actions. However, the municipality should ensure that revisions do not weaken compliance with national waste legislation or landfill licence requirements.

9.3.2 Five-Year Comprehensive Review

Because the IWMP forms part of the Integrated Development Plan required in terms of Chapter 5 of the Municipal Systems Act, the IWMP must be comprehensively reviewed after five years. The comprehensive review must update the full Status Quo Assessment and reassess Lekwa LM's waste management system.

The five-year review should include:

Review Component	Purpose
Updated Status Quo Assessment	Update population, households, service coverage, fleet, facilities, waste quantities, waste streams, landfill status, recycling and illegal dumping data.
Performance evaluation	Assess implementation of all IWMP goals, objectives, targets and actions over the five-year period.
Legislative compliance review	Assess compliance with new and existing waste legislation, norms and standards, licence conditions and by-laws.
Service delivery review	Determine whether all communities, including rural, informal and indigent households, have access to reliable waste collection services.
Landfill and facility review	Assess Standerton Landfill compliance, Morgenzon rehabilitation, future disposal capacity, need for transfer stations, buy-back centres and drop-off facilities.
Waste minimisation review	Evaluate recycling, composting, separation at source, waste picker integration and Producer Responsibility Organisation partnerships.

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Review Component	Purpose
Financial review	Assess budget adequacy, tariff recovery, expenditure, unfunded projects and financial sustainability.
Institutional review	Assess staffing, organogram, vacancies, skills, training, enforcement capacity and interdepartmental coordination.
Gap and needs assessment	Identify remaining and new gaps requiring intervention.
Revised goals and implementation plan	Reformulate goals, targets, actions, timeframes, budgets and responsibilities for the next IWMP cycle.

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