

INTERGRATED WASTE MANAGEMENT PLAN

eDumbe Local Municipality

10 Hoog Street

Paulpietersburg

3180

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APPENDIXES

LIST OF ABBREVIATIONS

CBO Community Based Organisations

CBWCM Community-Based Waste Collection Models

CISR Council for Scientific Industrial Research

DFFE Department of Forestry ,Fisheries and Environment

DWAF Department of Water Affairs and Forestry

ECA Environment Conservation Act, Act No. 73 of 1989

EPR Extended Producer Responsibility

HCRW Health Care Risk Waste

IDP Integrated Development Plan

IWM Integrated Waste Management

IWMP Integrated Waste Management Plan

KZNEDTEA KwaZulu Natal Economic Development, Tourism and Environmental Affairs

MEC Member of Executive Committee

MIG Municipal Infrastructure Grant

MoU Memorandum of Understanding

MSA Municipal Systems Act (Act No. 32 of 2000)

NEMA National Environmental Management Act, (Act No. 107 of 1998)

NHA National Health Act (Act No.61 of 2003)

NEMWA National Environmental Management Waste Act, (Act No. 59 of 2008)

NWMS National Waste Management Strategy

PET Polyethylene Terephthalate

PRO Producer Responsibility Organizations

SDF Spatial Development Framework

SLA Service Level Agreement

WCMR Waste Classification Management Regulations

WMO Waste Management Officer

GLOSSARY OF TERMS

Building and demolition waste means waste, excluding hazardous waste, produced during the construction, alteration, repair or demolition of any structure, and includes rubble, earth, rock and wood displaced during that construction, alteration, repair or demolition;

Business waste means waste that emanates from premises that are used wholly or mainly for commercial, retail, wholesale, entertainment or government administration purposes;

A landfill working Cell refers to the volume of waste generally placed during one working day and covered on all horizontal surfaces by cover soil;

Communal Waste Disposal Site is the smallest waste disposal site classification with a capacity of less than 25 tonnes per day; Composting is the controlled aerobic biological decomposition of organic matter, such as food scraps

and plant matter, into humus, a soil-like material. Aerobic is the decomposition process in the presence of oxygen;

Constitution means the Constitution of the Republic of South Africa, 1996;

Container as referred to in this document means a disposable or re-usable vessel in which waste is placed for the purposes of storing, accumulating, handling, transporting, treating or disposing of that waste, and includes bins, bin-liners and skips;

Decommissioning in relation to waste treatment, waste transfer or waste disposal facilities, means the planning for and management and remediation of the closure of a facility that is in operation or that no longer operates;

Department as referred to in this document means the Department of Fisheries ,Forestry and Environment;

Disposal as referred to in this document means the burial, deposit, discharge, abandoning, dumping, placing or release of any waste into, or onto, any land;

Disposal Site Airspace or capacity is the total volume of space on a waste disposal site to be filled with waste and cover material;

Domestic waste means waste, excluding hazardous waste, that emanates from premises that are used wholly or mainly for residential, educational, health care, sport or recreation purposes;

Environment as referred to in this document means the surroundings within which humans exist and that are made up of -

(i) the land, water and atmosphere of the earth;

(ii) micro-organisms, plant and animal life;

(iii) any part or combination of (i) and (ii) and the interrelationships among

and between them; and

(iv) the physical, chemical, aesthetic and cultural properties and conditions

of the foregoing that influence human health and wellbeing;

Environment Conservation Act as referred to in this document means the Environment Conservation

Act, 1989 (Act No, 73 of 1989);

Extended producer responsibility measures means measures that extend a person's financial or physical responsibility for a product to the post-consumer stage of the product, and includes -

(a) waste minimization programmes;

(b) financial arrangements for any fund that has been established to promote the reduction, re-use, recycling and recovery of waste;

(c) awareness programmes to inform the public of the impacts of waste emanating from the product on health and the environment; and

(d) any other measures to reduce the potential impact of the product on health and the environment;

Garden Refuse means waste generated as a result of normal domestic gardening activities, including grass cuttings, leaves, plants, flowers and other similar small and light organic matter, but shall not include tree branches with a diameter thicker than 40 millimetres at any point of its length, domestic waste, bulky waste, construction and demolition waste or any waste generated as a result of commercial garden service activities; General Waste Collection Standards

Gazette, when used in relation to-

(a) the Minister, means the Government Gazette; and

(b) the MEC, means the Provincial Gazette of the province concerned;

General waste means waste that does not pose an immediate hazard or threat to health or to the environment, and includes—

a) domestic waste;

b) building and demolition waste;

c) business waste: and

d) inert waste;

Groundwater means all waters flowing or existing under the ground surface;

Hazardous waste means any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment;

Incineration means any method, technique or process to convert waste to flue gases and residues by means of oxidation;

Industry includes commercial activities, commercial agricultural activities, mining activities and the operation of power stations;

Inert waste means waste that—

a) does not undergo any significant physical, chemical or biological transformation after disposal;

b) does not burn, react physically or chemically biodegrade or otherwise adversely affect any other matter or environment with which it may come into contact; and

c) does not impact negatively on the environment, because of its pollutant content and because the toxicity of its leachate is insignificant;

Integrated Waste Management Plan is a plan which has been compiled to provide the most cost-effective and technically and environmentally acceptable solutions to the total waste management in the municipality. It addresses the situation analysis, and offer solutions to ensure responsible waste management. As such it addresses waste generation, waste minimisation and re-use, collection of all waste, disposal infrastructure (disposal facilityrequirements) and disposal according to environmentally sound practices and within the requirements of relevant legislation and regulations. A plan prepared in terms of Section 12 of the National Environmental Management**:** Waste Act (Act 59of 2008);

Licensing authority means an authority referred to in section 43 and that is responsible for implementing the licensing system provided for in Chapter 5;

Health Care Risk Waste means waste capable of producing any disease and includes but is not limited to the following:

(a) laboratory waste;

(b) pathological waste;

(c) isolation waste;

(d) genotoxic waste;

(e) infectious liquids and infectious waste

(f) sharps waste;

(g) chemical waste; and

(h) pharmaceutical waste;

MEC means the Member of the Executive Council of a province who is responsible for waste management in the province;

Minimisation when used in relation to waste, means the avoidance of the amount and toxicity of waste that is generated and, in the event where waste is generated, the reduction of the amount and toxicity of waste that is disposed of;

Minister as referred to in this document means the Minister of Environmental Affairs;

Municipality means a municipality established in terms of the Local Government: Municipal Structures Act, 1998 (Act No. 117 of 1998);

Municipal Systems Act means the Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000);

National Environmental Management Act means the National Environmental Management Act, 1998 (Act No. 107 of 1998);

Operating Plan consists of drawings, descriptions and other documents regarding the operation of the waste disposal site, placement of waste, building daily cells and lifts, leach ate management, waste disposal gas management and all other functions related to the operation of the waste disposal site;

Operator is the person or organisation responsible for the operation of the waste disposal site. The operator may be the owner, another public agency or private contractor;

Owner is the person or organisation that owns the property and/or facilities that constitute the waste disposal site;

Pollution has the meaning assigned to it in section 1 of the National Environmental Management Act;

Reclamation is the unauthorised separation of solid waste for recyclable materials and food for human consumption;

Recycle means a process where waste is reclaimed for further use, which process involves the

separation of waste from a waste stream for further use and the processing of that separated material as a product or raw material;

Re-use means to utilise articles from the waste stream again for a similar or different purpose without changing the form or properties of the articles;

Site Feasibility is the initial step in the DFFE permitting/licensing process that establishes the basic site features and general feasibility for a fully permitted/licensed waste disposal site;

Solid Waste is waste of a solid nature generated by a person, business or industry;

Sorting is the authorised separation of solid waste materials for the purpose of recycling or disposal, either at the source of generation or at a solid waste management facility;

Storage means the accumulation of waste in a manner that does not constitute treatment or disposal of that waste;

The Bureau means the Waste Management Bureau established by section 34A;

Treatment means any method, technique or process that is designed to-

(a) change the physical, biological or chemical character or composition of a waste; or

(b) remove, separate, concentrate or recover a hazardous or toxic component of a waste; or

(c) destroy or reduce the toxicity of a waste,

in order to minimise the impact of the waste on the environment prior to further use or disposal;

Waste means—

(a) any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3 to this Act; or

(b) any other substance, material or object that is not included in Schedule 3 that may be defined as a waste by the Minister by notice in the Gazette,

but any waste or portion of waste, referred to in paragraphs (a) and (b), ceases to be a waste-

(i) once an application for its re-use, recycling or recovery has been approved or, after such approval, once it is, or has been re-used, recycled or recovered;

(ii) where approval is not required, once a waste is, or has been re-used, recycled or recovered;

(iii) where the Minister has, in terms of section 74, exempted any waste or a portion of waste

generated by a particular process from the definition of waste; or

(iv) where the Minister has, in the prescribed manner, excluded any waste stream or a portion of a waste stream from the definition of waste;

Waste disposal facility means any site or premise used for the accumulation of waste with the purpose of disposing of that waste at that site or on that premise;

Waste management activity means any activity listed in Schedule 1 or published by notice in the Gazette under section 19, and includes—

a) the importation and exportation of waste;

b) the generation of waste, including the undertaking of any activity or process that is likely to result in the generation of waste;

c) the accumulation and storage of waste;

d) the collection and handling of waste;

e) the reduction, re-use, recycling and recovery of waste;

f) the trading in waste;

g) the transportation of waste;

h) the transfer of waste;

i) the treatment of waste; and

j) the disposal of waste;

Waste Management facility is a place, infrastructure, structure or containment of any kind, wherein,

upon or at, a waste management activity takes place and includes a waste transfer station, container yard, landfill site, incinerators, lagoons, recycling and composting facilities;

Waste management license means a license issued in terms of Section 49;

Waste management officer means a waste management officer designated in terms of Section 10;

Waste management services means waste collection, treatment, recycling and disposal services;

Waste minimization programme means a programme that is intended to promote the reduced generation and disposal of waste;

Waste transfer facility means a facility that is used to accumulate and temporarily store waste before it is transported to a recycling, treatment or waste disposal facility;

Waste treatment facility means any site that is used to accumulate waste for the purpose of storage, recovery, treatment, reprocessing, recycling or sorting of that waste

1. INTRODUCTION

The review of an Integrated Waste Management Plan (IWMP) is a legal requirement for certain organs of state, such as provincial governments and municipalities, in terms of the National Environmental Management: Waste Act, No. 59 of 2008, to ensure proper planning and management of waste**.** The process followed to arrange the Integrated Waste Management Plan (IWMP) consisted of two phases. The first phase involved conducting a 'Situation Analysis' and determining the 'Desired End State' for waste management within the municipal jurisdiction. The second phase focused on identifying, evaluating, and selecting alternative methods or approaches for achieving the desired end state.

This report, the IWMP, is a concise document that consolidates the information gathered during both phases. It provides the Municipality with a strategic plan for managing and improving waste management services within its area of jurisdiction. The Municipality will be responsible for implementing the IWMP, as well as evaluating and reviewing the plan to ensure that its objectives are being effectively achieved.

2. LEGISLATIVE REQUIREMENTS

THE SOUTH AFRICAN CONSTITUTION, 1996 (ACT 108 OF 1996)

Section 24 of the Bill of rights of the Constitution of South Africa clearly states that everyone has the right to:

(a) An environment that is not harmful to their health or well-being; and

(b) Should have the environment protected, for the benefit of present and future generations,

through reasonable legislative and other measures that:

(i) prevent pollution and ecological degradation;

(ii) Promote conservation; and

(iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

The Constitution of South Africa emphasizes the need to protect the environment for the benefit of present and future generations through reasonable legislative and other measures, such as the development and implementation of an Integrated Waste Management Plan (IWMP). In line with this constitutional mandate, the IWMP must include measures that uphold the environmental rights of all citizens within the jurisdiction of the Municipality. Furthermore, it should actively promote and enhance environmental protection and prevent degradation, as enshrined in Section 24 of the Constitution.

2.1 THE NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT (ACT NO. 59 OF 2008)

Chapter 3, Section 11 of the Waste Act requires that certain organs of state develop Integrated Waste Management Plans (IWMPs)**.** Section 12 outlines the required contents of IWMPs, while Section 13 sets out the reporting mechanisms for their implementation.

In terms of Section 11(4)(a)(ii) of the Waste Act, municipalities are required to incorporate the approved IWMP into their Integrated Development Plans (IDPs)**,** as provided for in Chapter 5 of the Municipal Systems Act, 2000 (Act No. 32 of 2000**)**, hereinafter referred to as the "MSA." Chapter 5, Sections 23 to 37 of the MSA guide the process of developing IDPs.

Specifically, Section 36 of the MSA states that a municipality must give effect to its IDP and conduct its affairs in a manner consistent with it. This legal obligation implies that the arrangement and implementation of the IWMP must be fully aligned with the municipality's IDP**.**

In addition to the Waste Act, various aspects of waste management are regulated by other pieces of legislation, including:

- **National Water Act (Act No. 36 of 1998)** – regulates the discharge of waste into water resources and the protection of water quality.
- **Hazardous Substances Act (Act No. 15 of 1973)** – governs the control and handling of hazardous substances.
- **Advertising on Roads and Ribbon Development Act (Act No. 21 of 1940)** – includes provisions related to visual pollution and waste from advertising.
- **National Health Act (Act No. 61 of 2003)** – deals with public health aspects of waste.

Other applicable policies, standards, and municipal by-laws that should be considered in the development of an Integrated Waste Management Plan (IWMP) include, but are not limited to:

- Municipal health and environmental by-laws
- Provincial environmental management frameworks
- National Environmental Management: Air Quality Act (Act No. 39 of 2004)
- National norms and standards for waste management facilities and services
- Recycling and extended producer responsibility (EPR) regulations
- Waste Classification and Management Regulations (2013)

2.1.1 Regulations in Terms of the Waste Act

On 13 August 2012, the Minister of Water and Environmental Affairs, Ms. Edna Molewa, published the National Waste Information Regulations, 2012, in Government Gazette No. 35583, under Sections 69(1)(y), (aa), and (ee) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008). These regulations came into effect on 1 January 2013.

The purpose of the National Waste Information Regulations is to regulate the collection and reporting of data and information in order to fulfil the objectives of the South African Waste Information System (SAWIS), as outlined in Section 61 of the Waste Act.

Any person or entity conducting activities listed in Annexure 1 of the Regulations is required to register on SAWIS via the official portal: www.sawic.org.za.

Municipalities must comply with the following key provisions of the Regulations:

Registration: In terms of Section 4, the Municipality must follow the prescribed procedures and meet

- the required criteria to report on SAWIS.
- Reporting: In accordance with Section 7, the Municipality must submit a quarterly report containing the required information, as outlined in Annexure 2, within 30 days after the end of each reporting period.

Compliance with these regulations is critical to support national efforts in improving waste data accuracy, tracking waste generation and disposal trends, and informing strategic waste management planning.

2.1.2 Waste Classification and Management Regulations (WCMR)

The Waste Classification and Management Regulations (WCMR) were promulgated under the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and came into effect on 23 August 2013. These regulations were developed in terms of Section 69 of NEM: WA and aim to improve and streamline the classification, management, and disposal of waste in South Africa.

The WCMR replaces previous classification systems and provides a consistent framework for identifying and managing all waste streams. In particular:

- All waste previously classified under the **"**Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste" (2nd Edition, 1998 – Department of Water Affairs and Forestry),

2.1.3 Norms and Standards for the Assessment of Waste for Landfill and the Norms and Standards for the Disposal of Waste to Landfill promulgated under the National Environmental Management: Waste Act,2008 (NEM: WA) (effective 23 August 2013):

The Norms and Standards for the Assessment of Waste for Landfill Disposal and the Norms and Standards for Disposal of Waste to Landfill were also published for immediate implementation. The purpose of the Norms and Standards for the Assessment of Waste for Landfill. Disposal are to outline the requirements for the assessment of waste prior to the disposal to landfill and to advice on the total concentration and the leachable concentration threshold limits. The Norms and Standards for Disposal of Waste to Landfill seek to determine the requirements for the disposal of waste to landfill. They stipulate the containment barriers for the different landfill types and list the barrier requirements that must be included in an application for waste management license for a landfill site or cell;

2.1.4 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE AMENDMENT ACT 26 OF 2014

The definition of waste was amended in the abovementioned Amendment Act as follows:

"waste" means-

(a) any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3 to this Act; or

(b) any other substance, material or object that is not included in Schedule 3 that may be defined as a waste by the Minister by notice in the Gazette, but any waste or portion of waste, referred to in paragraphs (a) and (b), ceases to be a waste-

(i) once an application for its re-use, recycling or recovery has been approved or, after such approval, once it is, or has been re-used, recycled or recovered; where approval is not required, once a waste is, or has been re-used, recycled or recovered;

(ii) where the Minister has, in terms of section 74, exempted any waste or a portion of waste generated by a particular process from the definition of waste; or

(iii) where the Minister has, in the prescribed manner, excluded any waste stream or a portion of a waste stream from the definition of waste.

The above implies that residue deposits and residue stockpiles falls under the definition of Waste under NEMWA and activities which involves these waste streams needs to be licensed under NEMWA accordingly. The NEMWA licensing procedure will apply to these activities but the Minister of Mineral Resources is the licensing authority where a waste management activity involves residue deposits and residue stock piles on a prospecting, mining, exploration or production area;

The Waste Management Listed Activities were also amended as part of the above mentioned Act as follows:

IMPORTANT DEFINATIONS	
Importance of definitions	Definitions determine the scope of application of the NEMWA and its subsequent Regulation
Facility	**"**a place infrastructure, structure or containment of any kind including associated structures of infrastructure ,wherein ,upon at a waste management activity takes place and includes a transfer facility ,a waste storage facility ,container yard ,waste disposal facility ,incinerators, lagoons, recycling .co-processing or composting facilities**"**
Lagoon	**"**the containment of waste in excavations and includes evaporation dams ,earth cells ,sewage treatment facilities and sludge farms "

Temporary storage	''a once of storage of waste for a period not exceeding 90 days"
Category A activities	
Regulation 3	A person who wishes to commence ,undertake or conduct a waste management activity listed under this category, must conduct a basic assessment process set out in the EIA Regulation made under Section 24(5) of NEMA as part of waste management licence application contemplated in Section 45 read with Section 20(b) of NEMWA
Category A activity	**Storage of waste** (1)The storage of general waste in lagoons (Note :storage of general waste other than lagoons –refer to Category C-i.e no licence) Recycling recovery of waste (3) The recycling of general waste at facility that has a operational area in excess of 500m^2,excluding recycling that takes place as integral part of an internal manufacturing process within the same premises . (4) The recycling of hazardous waste in excess of 500kgbut less than 1 ton per day calculated as monthly average ,excluding recycling that takes place as an integral part of an internal manufacturing process within the same premises. (5) **The recovery of waste including the refining ,utilisation ,or co-processing of waste** in excess of 10 tons but less than 100 tons of general waste per day o,r **in excess of 500kg but less than 1 ton of hazardous waste per day**, excluding recovery that takes place as an integral part of internal manufacturing process within the same premises. **Treatment of waste** (6) The treatment of general waste using any form of treatment at a facility that has the capacity to process in excess of 10 tons but less than 100 tons (7) The treatment of hazardous waste using any form of treatment of a facility that has the capacity to process in excess of 500kg but less than 1 ton per day excluding the treatment of effluent ,waste water of sewage. **Disposal of waste** (9)The disposal of inert waste to land in excess of 25 tons ,but not exceeding 25 000 tons ,excluding the disposal od such

	waste for the purpose of leaving and building which has been authorised by or under other legislation (10) The disposal of general waste to a land covering an area of more than 50m^2 but less than 200m^2 and with a total capacity not exceeding 25 000 tons . (11) The disposal of domestic waste generated on premises in an areas not serviced by the Municipal service where the waste disposed exceeds 500kg per month . **Construction, expansion or decommission of facilities an associated structures and infrastructure** (12) The construction of a facility for waste management activity listed in Category A of this Schedule (not in isolation to associated waste management activity) (13) The expansion of waste management activity listed in Category A or B of this schedule which does not trigger an additional waste management activity in terms of this schedule (14) The decommission of a facility for waste management activity listed in Category A or B of this Schedule.
Category B Activities	
Regulation 4	A person who wishes to commence, undertake or conduct a waste management activity listed under this Category, must conduct a scoping and environmental impact reporting process set out in the EIA Regulations made under Section 24(5) of NEMA as part of a waste management licence application contemplated in Section 45 read with Section 20(b) of the NEMWA management activity listed under this Category, must conduct a scoping and environmental impact reporting process set out in the EIA Regulations made under Section 24(5) of NEMA as part of a waste management licence application contemplated in Section45 read with Section 20(b) of the NEMWA
Category B	**Storage of hazardous waste** (1) The storage of hazardous waste in lagoons excluding storage of effluent, wastewater or sewage. (Note: storage of hazardous waste other than in lagoons – refer to Category C [i.e. no licence]) **Reuse, recycling or recovery of waste**

	(2) The reuse or recycling of hazardous waste in excess of 1 ton per day, excluding reuse or recycling that takes place as an integral part of an internal manufacturing process within the same premises. (3) The recovery of waste including the refining, utilisation, or co- processing of the waste at a facility that processes in excess of 100 tons of general waste per day or in excess of 1 ton of hazardous waste per day, excluding recovery that takes place as an integral part of an internal manufacturing process within the same premises. **Treatment of waste** (4) The treatment of hazardous waste in excess of 1 ton per day calculated as a monthly average; using any form of treatment excluding the treatment of effluent, wastewater or sewage. (5) The treatment of hazardous waste in lagoons, excluding the treatment of effluent, wastewater or sewage. (6) The treatment of general waste in excess of 100 tons per day calculated as a monthly average, using any form of treatment. **Disposal of waste on land** (7) The disposal of any quantity of hazardous waste to land. (Note: definition of residue deposits and residue stockpiles as well as distinction between disposal and storage) (8) The disposal of general waste to land covering an area in excess2of 200m and with a total capacity exceeding 25 000 tons. (9) The disposal of inert waste to land in excess of 25 000 tons, excluding the disposal of such waste for the purposes of levelling and building which has been authorised by or under other legislation. **Construction of facilities and associated structures and infrastructure** (10) The construction of a facility for a waste management activity listed in Category B of this Schedule (not in isolation to associated waste management activity).
Category C Activities	

Regulations 5	A person who wishes to commence, undertake or conduct a waste management activity listed under this Category, must comply with the relevant requirements or standards determined by the Minister listed below- (a) Norms and Standards for Storage of Waste, 2013; or (b) Standards for Extraction, Flaring or Recovery of Landfill Gas, 2013; or (c) Standards for Scrapping or Recovery of Motor Vehicles, 2013
Category C Activities	**Storage of waste** (1) The storage of general waste at a facility that has the capacity to store in excess of 100m3 of general waste at any one time, excluding the storage of waste in lagoons or temporary storage of such waste. (2) The storage of hazardous waste at a facility that has the capacity to store in excess of 80m3 of hazardous waste at any one time, excluding the storage of hazardous waste in lagoons or temporary storage of such waste. (3) The storage of waste tyres in a storage area exceeding 500m2. **Recycling or recovery of waste** (2) The sorting, shredding, grinding, crushing, screening or bailing of general waste at a facility that has an operational area in excess of 2 1000m . (4) The scrapping or recovery of motor vehicles at a facility that has an operational area in excess of 500m2. (5) The extraction, recovery or flaring of landfill gas
Transitional provisions	A person who lawfully conducts a waste management activity listed in this Schedule on the date of the coming into effect of this Notice may continue with the waste management activity until such time that the Minister by notice in a Gazette calls

	upon such a person to apply for a waste management licence. An application for a waste management activity which was listed under the previous Waste Management Activities List Notice which is no longer listed in terms of this Schedule and a decision on such an application is still pending on the date of coming into effect of this Notice, such an application will be considered withdrawn. If a situation arises where waste management activities, listed under the previous Waste Management Activities List Notice, are listed differently under the current list of waste management activities, and a decision on such an application is still pending, such an application will still be processed by the licensing authority in accordance with this Notice, except if it is an application for a waste management activity A 3(11) or waste management activity B 4(7) listed under the previous Waste Management Activity List Notice (i.e. the treatment of effluent, wastewater or sewage). A person who submitted an application for a waste management licence for a waste management activity which is no longer listed in Category A or B but listed in Category C of this Schedule on the date of coming into effect of this Notice, must consider such an application for that activity withdrawn, and must comply with the requirements or standards for that waste management activity. A person who lawfully conducted a waste management activity that is no longer listed in Category A or B, but listed in Category C of this Schedule, on the date of coming into effect of this Notice, may continue with the waste management activity for the duration stipulated in the permit or waste management licence until the expiry date of the permit or waste management licence where after such a person must comply with the requirements or standards for that waste management activity.

	An application submitted for a waste management activity A 3(11) or waste management activity B 4(7) listed under the previous Waste Management Activity List Notice (i.e. the treatment of effluent, wastewater or sewage) and is still pending on the date of coming into effect of this Notice, such an application will be considered by the relevant licensing authority and will be assessed and decided upon under the previous Waste Management Activities List Notice up to the construction phase of that facility. A person who obtained a waste management licence for waste management activity A 3(11) or waste management activity B 4(7) listed under the previous Waste Management Activity List Notice (i.e. the treatment of effluent, wastewater or sewage) prior to the coming into effect of this Notice, must comply with the waste management licence conditions up to the completion of the construction phase and thereafter must comply with any applicable authorisation or legislation. A person who submitted an application for waste management licence for activity A 3(11) or B 4(7) listed under the previous Waste Management Activity List Notice (i.e. the treatment of effluent, wastewater or sewage) and such an application falls outside the revised thresholds for these activities under the NEMA Listing Notices, wherein a decision is still pending on the date of coming into effect of this Notice, must consider such an application withdrawn.

Table 1 : NEMWA listed activities and its categories of activities

2.1.5 Waste Pricing Strategy and Fiscal Instruments

The South African Government is in the process of developing a Waste Pricing Strategy, with the Council for Scientific and Industrial Research (CSIR) commissioned to lead this initiative. Drawing from international best practices and research, the strategy presents a range of fiscal instruments aimed at catalysing the growth of the waste economy.

These instruments may include:

- Fees and charges
- Incentives and subsidies
- Environmental taxes and levies
- Deposit-return schemes

The overarching goal is to:

- Enhance the value of waste as a resource
- Divert waste from landfill
- Stimulate investment in the recycling and circular economy
- Create employment opportunities
- Generate sustainable revenue streams

Revenue generated through these mechanisms will be channeled into the national Treasury and could be redistributed via a newly established Waste Bureau. This Bureau will be responsible for funding priority waste management projects and programs that meet national objectives, such as job creation and waste diversion.

It is important to note that:

While taxes must be routed through the Treasury as per fiscal policy regulations, other instruments such as levies and deposit-return schemes are not strictly required to follow this process and may be managed more flexibly.

Both private and public sector entities wishing to access these funds must submit comprehensive business plans. These plans should outline:

- The amount of funding requested,
- How the proposed project will stimulate the recycling and waste economy, and
- The anticipated job creation impact.

This strategy forms part of broader efforts by the Department of Forestry ,Fisheries and Environment to promote sustainable waste management and unlock the economic potential of the sector.

2.2 New Waste Bureau

The Department of Forestry, Fisheries and Environment has established the Waste Management Bureau in terms of Section 34A(1) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008).The primary functions of the Waste Bureau include:

Overseeing the implementation of Industry Waste Management Plans ;

Managing revenue collected from waste management charges; and disbursing these funds to approved projects and initiatives aligned with national waste reduction and recycling objectives.

The Bureau plays a critical role in operationalizing the Waste Act's extended producer responsibility (EPR) provisions and in ensuring that waste management is financially sustainable, transparent, and capable of supporting South Africa's transition to a circular economy.

2.3 Extended Producer Responsibility (EPR) in Focus

Extended Producer Responsibility (EPR)—a principle widely acknowledged and increasingly accepted by producers—is becoming a central feature in the government's evolving waste management strategy. EPR is being positioned as both a regulatory tool (the "stick") and a financial incentive (the "carrot") to compel producers to take greater responsibility for the end-of-life management of their products, particularly with regard to increasing recycling rates and diverting waste from landfill.

Under the EPR framework:

- Producers are held accountable for the collection, recycling, and environmentally sound disposal of the products they place on the market.
- Non-compliance may lead to regulatory penalties or restrictions.
- At the same time, producers may gain access to funding or support mechanisms, administered by entities such as the Waste Management Bureau, provided they comply with EPR obligations and contribute meaningfully to the circular economy.

This dual approach is intended to shift the financial and operational burden of waste management from Municipalities to producers, while incentivizing innovation in product design, material recovery, and sustainable packaging solutions.

2.4 Concerns Regarding Impact on Existing Organizations

There is growing concern that government interventions—whether inadvertently or otherwise—may jeopardize the survival of long-standing organizations that have played a critical role in the waste and recycling sector. These organizations, many of which operate as industry-led Producer Responsibility organizations (PROs) or community-based recycling initiatives, are directly or indirectly responsible for enabling the employment of an estimated 100,000 people, many of whom are among the most vulnerable and economically disadvantaged members of society.

Disrupting these structures without adequate transition support or integration into the new policy and funding framework could have serious socio-economic consequences, including:

- The loss of jobs in the informal and formal waste sectors;
- The collapse of established collection and recycling networks; and
- The erosion of community-based initiatives that have been built over decades.

It is therefore essential that any new policies—such as those involving EPR or the centralization of waste funding through the Waste Bureau—be implemented with careful stakeholder engagement, transitional support mechanisms, and a clear strategy to protect existing jobs and support inclusive growth within the waste economy.

2.5 Waste Management Council

As part of its broader strategy to reform and revitalize the waste and recycling sector, the Department of Fisheries ,Forestry Environment (DFFE) has proposed the establishment of a Waste Management Council. This council is envisioned as a public-private, cross-sector stakeholder body that will play a strategic advisory role in guiding the development and direction of the waste and recycling industry toward a more sustainable, efficient, and economically beneficial future.

The Council is expected to:

- Foster collaboration between government, industry, civil society, and other key stakeholders;
- Provide informed guidance on policy, implementation challenges, and best practices; and
- Support the alignment of waste management efforts with national environmental and socio-economic goals.

It is hoped that the Council will be sufficiently representative, with the inclusion of experienced industry stakeholders who possess practical knowledge and insight into the realities of the recycling and waste management sectors. This will be essential to ensure that policies are not only theoretically sound but also implementable and responsive to on-the-ground realities.

2.6 The National Waste Management Strategy (NWMS)

The National Waste Management Strategy (NWMS), gazetted by the Department of Forestry, Fisheries and Environment (DFFE) in 2012, was developed to give effect to the objectives of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008).

The NWMS outlines a comprehensive framework for integrated waste management across South Africa and sets national goals, targets, and priorities to improve waste reduction, recycling, and the diversion of waste from landfill.

Municipalities are required to align their Integrated Waste Management Plans (IWMPs) with the goals and targets of the NWMS, where feasible. This alignment ensures that local waste management efforts contribute meaningfully to the attainment of national objectives, including:

- Minimizing waste generation;
- Promoting the reuse, recycling, and recovery of waste;
- Ensuring safe and environmentally sustainable waste disposal; and
- Expanding access to waste services in underserved areas.

By aligning with the NWMS, municipalities support a coordinated and outcomes-driven approach to waste management that reflects both environmental protection and socio-economic development imperatives.

2.7 National Domestic Waste Collection Standards (January 2011)

The National Domestic Waste Collection Standards, published in January 2011, were developed to address historical inequities in the provision of waste collection services across South Africa. These standards aim to ensure that acceptable, affordable, and sustainable waste collection services are extended to all citizens, particularly those in previously underserved or disadvantaged areas.

Key objectives of the standards include:

- Improving the quality of life for all South Africans through consistent and reliable waste collection;
- Promoting a cleaner, healthier, and more acceptable living environment;
- Supporting the constitutional right to a healthy environment; and
- Encouraging proper planning and service delivery by municipalities.

The absence or poor quality of domestic waste collection services can lead to significant environmental degradation and public health risks, such as the spread of disease, illegal dumping, and water pollution. As such, it is imperative that municipalities prioritise the planning, resourcing, and implementation of waste collection services in accordance with these national standards.

2.8 National Policy for the Provision of Basic Refuse Removal Services to Indigent Households

The National Policy for the Provision of Basic Refuse Removal Services to Indigent Households provides a framework to guide municipalities in delivering basic refuse removal services to indigent communities—those who are financially unable to pay for such services.

The policy defines a basic refuse removal service level as the most appropriate and sustainable form of waste collection, determined by site-specific conditions, including the nature of the settlement (urban, peri-urban, or rural), population density, and local infrastructure capacity.

Key elements of the policy include:

- Guidance on service levels for various settlement types and densities;
- Recommended collection frequencies to ensure adequate public health and environmental protection;
- Provision of suitable waste receptacles to facilitate proper waste storage and collection;
- Flexibility in service delivery, allowing municipalities to either directly provide or facilitate the provision of these services.

The ultimate goal of the policy is to promote equity, improve the quality of life for impoverished communities, and ensure a clean and healthy environment, in line with constitutional and legislative obligations.

2.9 National Environmental Management Act (NEMA) – Act No. 107 of 1998

The National Environmental Management Act (NEMA) is regarded as the foundational environmental legislation in South Africa and serves as the overarching framework for all environmental management laws in the country.

The primary purpose of NEMA is to give legal effect to Section 24 of the Constitution of the Republic of South Africa, which guarantees that everyone has the right to an environment that is not harmful to their health or well-being, and that the environment must be protected for the benefit of present and future generations.

Key principles and objectives of NEMA include:

- Promoting sustainable development by requiring the integration of social, economic, and environmental factors into all development planning, implementation, and decision-making processes;
- Ensuring that development and land use planning are conducted in a manner that minimizes environmental harm, promotes equity, and considers the needs of both current and future generations;
- Providing legal mechanisms, including Environmental Impact Assessments (EIAs) and enforcement provisions, to ensure environmental accountability and transparency.

NEMA establishes the principle of cooperative governance among all spheres of government and underscores the importance of public participation, precautionary action, and environmental justice in achieving sustainable environmental management.

2.9.1 Municipal Systems Act, 2000 (Act No. 32 of 2000)

In terms of Section 25 of the Municipal Systems Act (MSA), 2000, each municipal council is required to adopt a single, inclusive, and strategic Integrated Development Plan (IDP) within a prescribed period after the commencement of its elected term. The IDP serves as the principal strategic planning instrument guiding all development and service delivery within the municipality.

In relation to waste management, the IDP must incorporate relevant sectoral environmental plans, including an Integrated Waste Management Plan (IWMP). The IWMP outlines the municipality's goals, strategies, and implementation framework for managing waste in a sustainable and legally compliant manner.

Furthermore, Municipalities are required to ensure that:

- The IWMP is aligned with the IDP;
- Adequate resources (financial, human, and technical) are allocated to implement the IWMP effectively;
- Waste management activities are planned and executed in a way that supports the overall development objectives of the municipality.

By integrating the IWMP into the IDP, municipalities affirm their commitment to environmental sustainability, efficient service delivery, and compliance with national legislative mandates.

2.9.2 National Health Act, 2003 (Act No. 61 of 2003)

The National Health Act (NHA) establishes a framework for a uniform and structured health system across South Africa, aligned with constitutional obligations and other relevant legislation. It outlines the roles and responsibilities of national, provincial, and local governments in delivering health services.

2.9.2.1 Environmental Health Functions and Waste Management

- Section 32 mandates that Provincial Health MECs assign environmental health functions—including environmental pollution control, waste management, and water quality monitoring—to district and metropolitan municipalities.
- These functions are classified as Schedule B functions under the Constitution, meaning Municipalities are responsible for funding and providing expanded Municipal health services.
- The assignment of these additional functions has increased the financial and administrative responsibilities at the district level, requiring support from the provincial government.

2.9.2.2 Transitional Arrangements and Funding

- Section 34 provides for transitional arrangements, requiring local Municipalities to continue delivering environmental health services until formal Service Level Agreements (SLAs) are established with district Municipalities.
- Many districts face challenges restructuring and financing environmental health functions because district Municipalities lack revenue-raising powers, such as property rates or equitable share finance.
- Provinces must assess resource needs and make funds available via SLAs that define:
- The scope of services;
- Resource allocation responsibilities between Province and Municipalities; and
- Performance and monitoring standards.

2.9.2.3 Healthcare Risk Waste (HCRW) Disposal

- While the NHA does not specifically regulate the disposal of healthcare risk waste (HCRW), draft regulations (GNR21 of 14 January 2000) require registration for activities including waste incineration and waste disposal sites.
- These regulations address environmental conditions constituting health risks or nuisances, requiring registration for scheduled trades, including those involved in HCRW management.

3. METHODOLOGY

Approach

The following methodology was employed to conduct the situation analysis investigation:

3.1 Data Collection

All relevant records and documentation from the Municipality's Waste Management Section were obtained to support the study.

Field Visits:

Due to the scope of the study, no field visits were conducted. The report was compiled in-house using available data, records, and secondary information on waste management services within the study area .

Waste Infrastructure Inspection:

Key waste infrastructure, including waste disposal site, was evaluated through an in-house assessment to determine its condition, capacity and operational status, without conducting site visits .

Financial Data Acquisition:

Financial information related to waste management was collected from the Municipality's approved Tariff Structure and Budget for the 2025/2026 financial year.

Secondary Data Sources:

Additional general information was sourced from the Municipality's approved Integrated Development Plan (IDP) for 2024/2025 and demographic data from Statistics South Africa (Stats SA)

3.2 Background

The Municipality is situated within the Zululand District of the KwaZulu-Natal Province and shares its northern border with the Mpumalanga Province. Classified as a Category B municipality within KwaZulu-Natal, it is the smallest of the five municipalities comprising the district, covering a geographical area of approximately 1,943 km². The Municipality is divided into 10 wards.

The administrative seat of the Municipality is located in Paulpietersburg. According to the 2016 Community Survey, the Municipality comprises 17,415 households and serves a population of approximately 89,614 residents.

3.3 Locality

The Municipality comprises a main town, Paulpietersburg, along with two informal settlements, Bilanyoni and eDumbe Location. It is strategically situated in Paulpietersburg along the R33 road, approximately 50 km north of the town of Vryheid, in the north-western part of the KwaZulu-Natal Province.

The geographic location of the Municipality is illustrated in Figure 1 below:

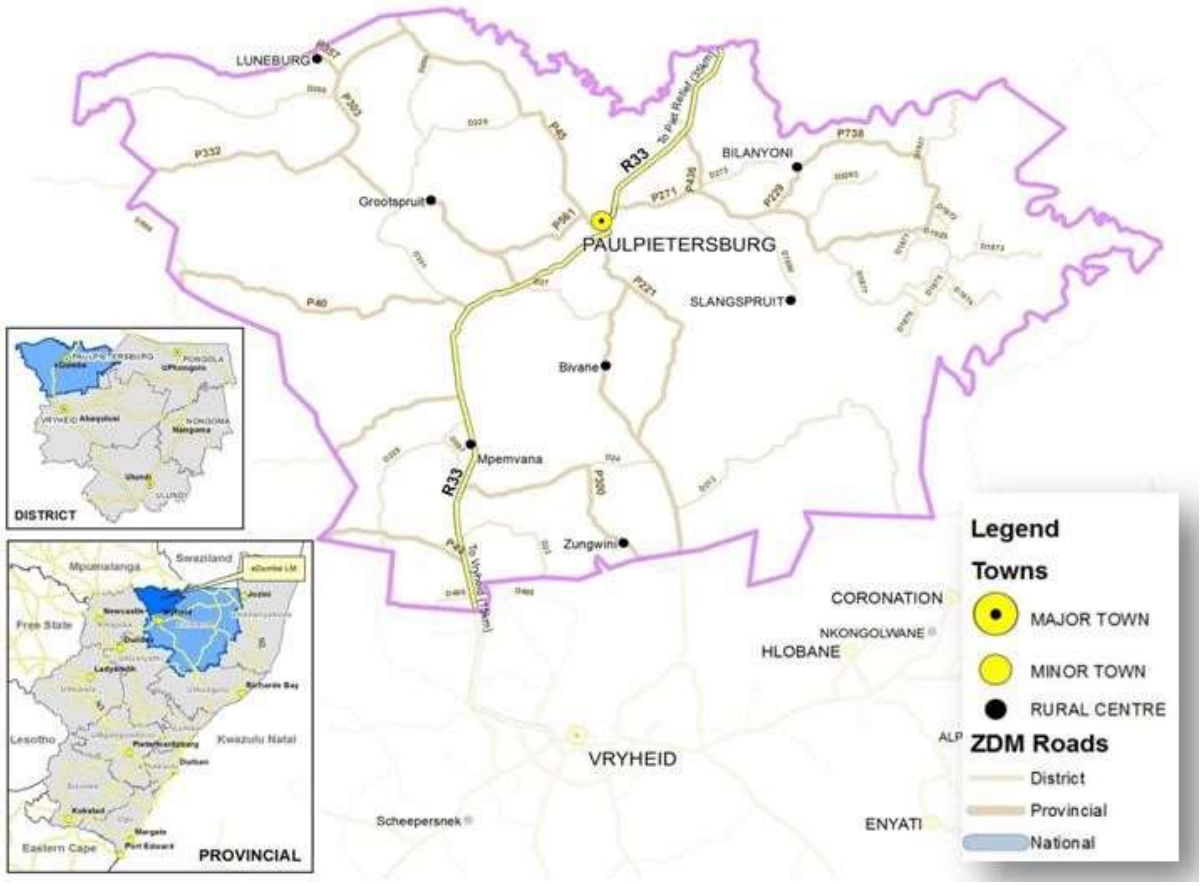


Figure 1. eDumbe Local Structure Map

3.4 Study Area

The study area encompasses the following towns and settlements within the eDumbe Municipality:

- Paulpietersburg (main town)

In addition, the following rural areas are included within the municipal boundaries:

- Bilanyoni
- eDumbe Location

3.5 Demographics

The demographic information presented in this section is drawn from the 2016 Community Survey, Statistics South Africa (Stats SA) 2011 and 2016 data, and the Municipality's Integrated Development Plan (IDP) 2024/2025. Demographics refer to the statistical characteristics of a population within a specific area and time, typically including factors such as gender, race, age, economic and social status, household numbers and distribution, poverty levels, education, and employment status.

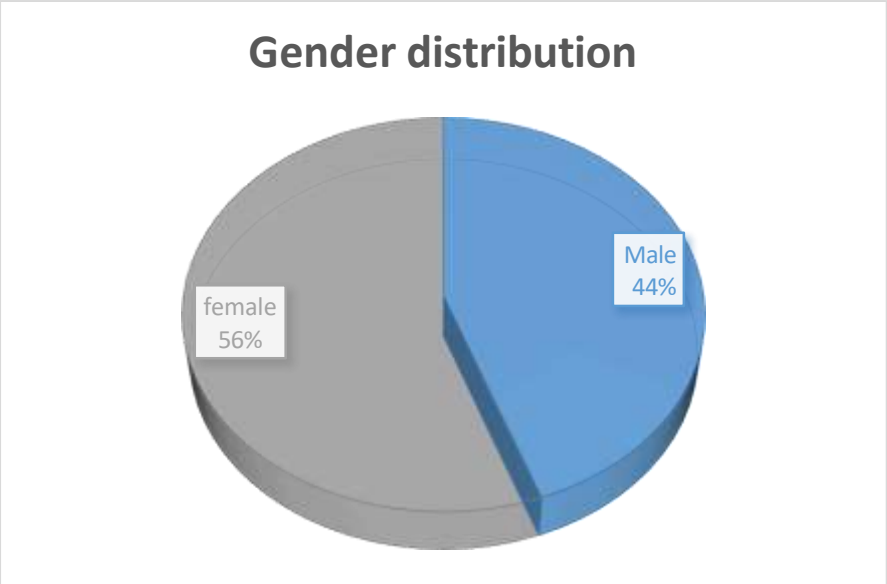
According to the Municipal IDP, the Municipality has experienced an increase in the number of households receiving refuse removal services from the local authority. However, challenges remain particularly in informal settlement, which are often difficult to access due to limited resources and poor road infrastructure. Consequently, these factors continue to hinder the Municipality's ability to provide consistent waste removal services to all households.

3.5.1 Population

The Municipality has a total population of 95,099 people residing in 17,415 households, resulting in an average household size of approximately 5.1 persons. Since 2016, the population growth rate has averaged 2% per annum (Stats SA, 2016).

Figures below provide visual representations of the following demographic aspects:

- Gender distribution
- Household distribution
- Population groups



(c) Figure 2 : Gender Distribution illustrated in a pie chart.

3.5.2 Household Distribution

The eDumbe Local Municipality is predominantly rural in nature, with an estimated **8**2% of households located within dispersed traditional settlements under customary land tenure. Formal urban development is limited to small nodes, such as the eDumbe town centre, which accommodate a relatively small proportion of the population. This settlement pattern has implications for service delivery, particularly in relation to waste management, where low-density and scattered households present logistical and infrastructural challenges.

A detailed breakdown of refuse collection coverage and service distribution within the Municipality is provided in a later section of this document.

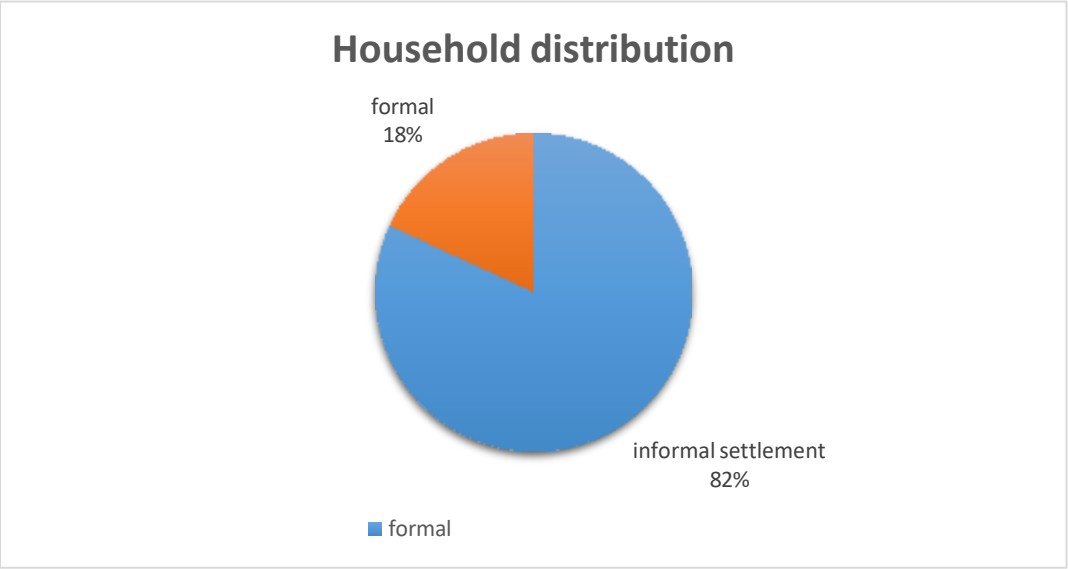


Figure 3: Household Distribution illustration

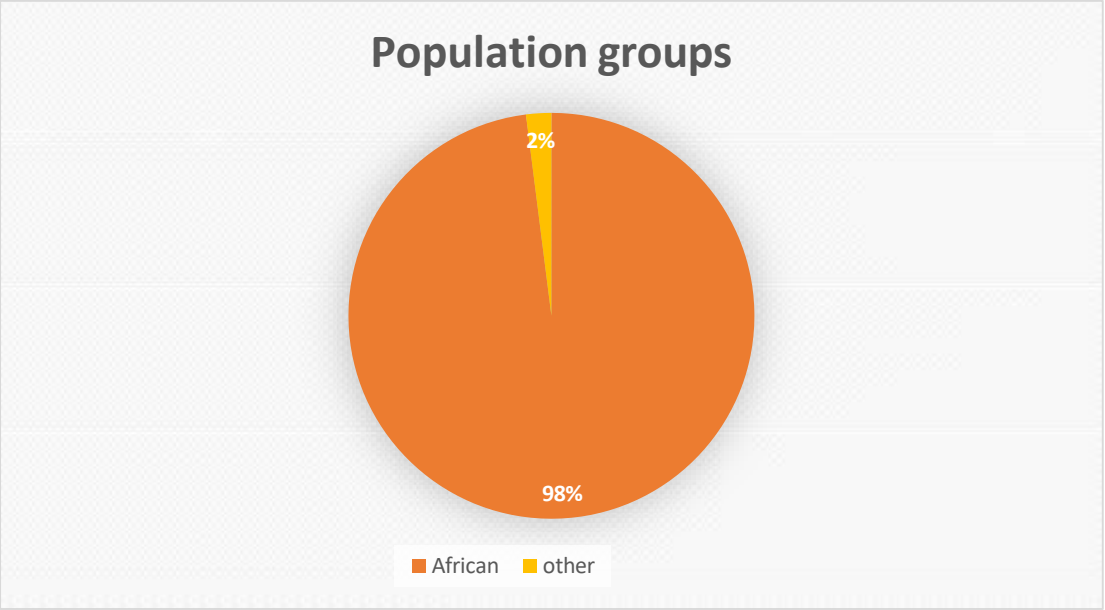


Figure 4: Populations Groups illustration

3.5.3 Income Levels and Employment Distribution

According to the eDumbe Integrated Development Plan (IDP) 2024/2025, approximately 69% of households within the Municipality earn less than R800 per month, highlighting significant levels of poverty and economic vulnerability.

A major challenge faced by the Municipality is the lack of up-to-date and comprehensive data on key economic indicators, including:

- Employment and unemployment rates
- Nature of local economic activities

- Household income distribution
- Labour market participation

This data gap limits the Municipality's ability to make fully informed decisions regarding resource allocation, job creation strategies, and targeted social support, especially in relation to waste management services where affordability and accessibility are critical considerations.

Efforts to improve data collection and analysis in these areas are essential to support evidence-based planning and promote inclusive economic development within the municipal area.

3.5.4 Education

The educational attainment of the population aged 20 years and older is illustrated below based on data from the IDP (2025/26).

This distribution provides insight into the level of education within the Municipality, which has direct implications for employment opportunities, economic development, and awareness around environmental and waste management issues.

A higher level of education within the community can support better public participation, compliance with waste practices, and engagement in recycling and sustainability initiatives.

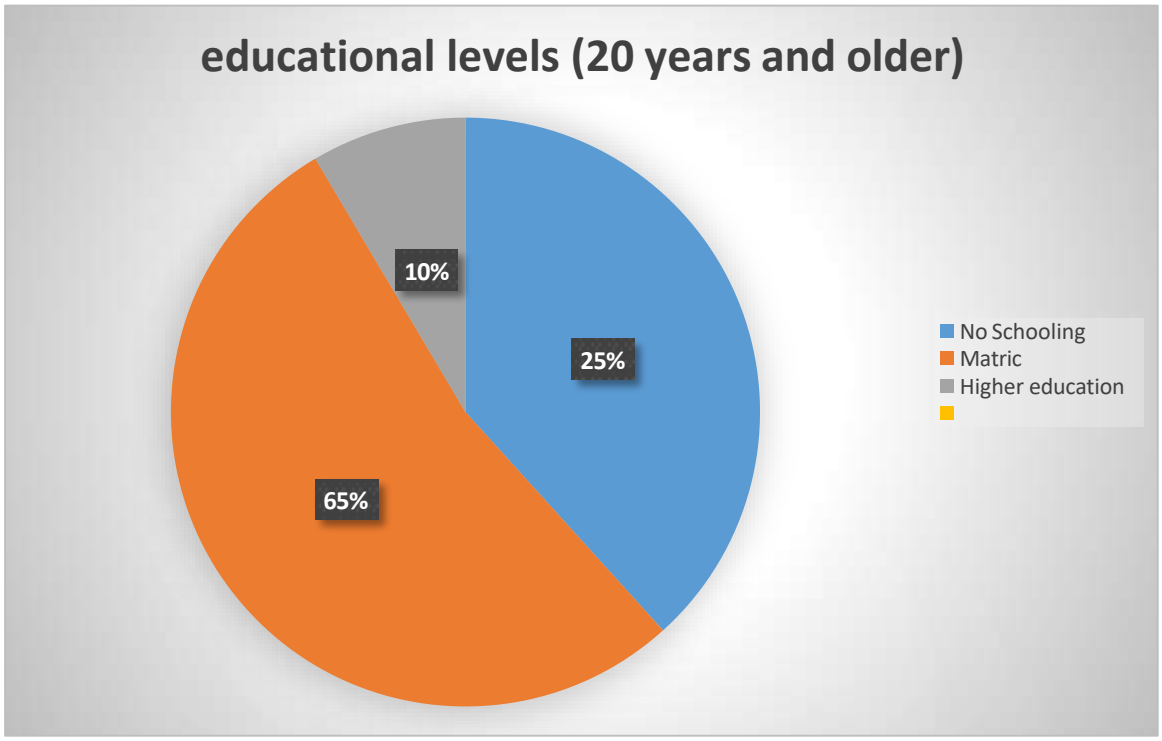


Figure 5: Educational Levels illustration

Education levels are directly linked to employment prospects, household income, and the community's awareness of proper waste management practices. In the eDumbe Municipality, education levels have increased, with only 65% of the population having completed Grade 12.

A very small proportion of residents pursue post-matric studies, which further limits opportunities for skilled employment and economic mobility.

This low level of educational attainment has broader implications for waste management efforts, as limited awareness and understanding of responsible waste disposal practices can contribute to challenges such as illegal dumping, poor recycling participation, and low uptake of community waste initiatives.

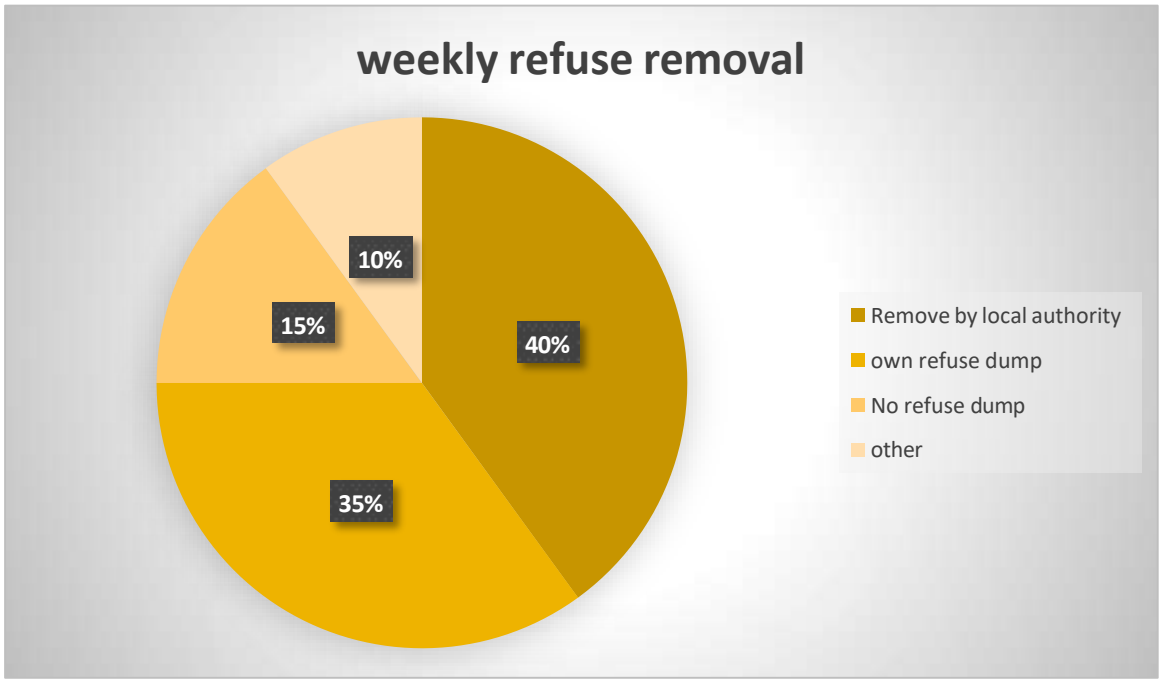


Figure 6: Weekly Refuse Removal illustration

In 2022, 40% of households within the Municipality received weekly refuse removal services by the local authority. This has been seen as an improvement from 24%, according to the Municipal IDP. This upward trend demonstrates a great improvement in the Municipality's waste management service delivery performance. However, the relatively increase in percentage that a significant portion of households—particularly those in rural or informal settlements—remain without regular refuse removal services.

Expanding access to these basic services is essential for:

- Reducing illegal dumping,
- Improving public health,
- Promoting environmental sustainability, and
- Meeting national service delivery targets.

Further strategies to extend coverage and improve efficiency are discussed in subsequent sections of this document. This indicates that the Municipality is still far from achieving universal (100%) refuse removal service coverage within its boundaries.

One of the main contributing factors to this shortfall is the inaccessibility of certain residential and informal settlement areas, which often lack proper road infrastructure, making regular service delivery logistically and financially challenging. Despite these obstacles, the Municipality must continue to

prioritize expanding and improving waste collection services, particularly in underserved areas, to ensure equitable access, environmental protection, and compliance with national waste management objectives.

3.6 Waste Quantities and Types

In terms of the National Environmental Management: Waste Act (Act 59 of 2008), it is essential for a municipality to determine the types and quantities of waste generated within its area of jurisdiction. This includes establishing data on the waste that is generated, recycled, treated, and disposed of.

Waste quantities are typically measured by mass (in kilograms and tones), and this data forms a critical component for planning, budgeting, infrastructure development, and service delivery improvement within the municipal waste management framework.

To compile this information, data was sourced from the following:

- Municipal records and the Integrated Development Plan (IDP)

The accuracy and reliability of this data are crucial for understanding the waste profile of the municipality and for informing the design and implementation of the Integrated Waste Management Plan (IWMP).

3.6.1 Waste Generation

Accurate measurement of waste generation is essential for effective waste planning and management. Municipality can calculate the quantity of waste generated using one or more of the following three methods:

Option 1: Weighbridge Method

Where a weighbridge is available, waste quantities can be measured by weighing vehicles at the point of entry and again upon exit at the waste disposal facility. The difference in mass indicates the amount of waste offloaded. This is the most accurate method but depends on the availability and functionality of weighbridge infrastructure.

Option 2: Volume-to-Mass Estimation (Without a Weighbridge)

In the absence of a weighbridge, waste quantities can be estimated using volume-to-density ratios, requiring accurate and consistent record-keeping. This approach relies on standardized assumptions of waste density to convert waste volumes into approximate masses.

Option 3: Waste Stream Analysis / Sampling

This method involves conducting a waste audit or waste characterization study by selecting a representative sample area—ideally covering at least 30% of the total target population. For example, in residential areas, selected households across different wards may be asked to separate waste using colour-coded bags (e.g., black for general waste, clear for recyclables). These households receive training and instructions on how to participate, and their waste is then measured, analyzed, and extrapolated to estimate municipal-wide waste generation patterns.

The eDumbe Municipality currently uses Option 2 (volume-to-mass estimation) to determine local waste generation rates. While this method provides a reasonable estimate in the absence of a weighbridge, it does require accurate volume tracking and verified waste density factors to ensure the reliability of the data.

Efforts to enhance data accuracy—including exploring options to install a weighbridge or conduct waste stream audits—will improve planning, reporting, and compliance with regulatory requirements under the National Waste Information Regulations.

3.6.2 Waste Generation per Capita

Given that the eDumbe Municipality is categorized as a low-income municipality, the estimated waste generation rate is taken as 0.41 kg per capita per day, based on national benchmarks.

Over the past few years the Municipality experienced an average population growth rate of 2% per annum. Applying this growth rate, the estimated current population is approximately 96 735.

Using this figure, the total annual waste generation is calculated as approximately 14,475 tones.

The calculation is summarized in the table below:

Parameter	**Value**
Estimated Population	96 735
Waste Generation Rate	0,41Kg/person/day
Total Waste Generation Day	96 735X0,41Kg=39,661.35kg=0,03966tonnes
Total Waste Generation per year	0.03999 tonnes/dayx365 days=14,475,90 tonnes/year

Table 2: Total Waste Generation per Capita

Note: The total in the original draft stated 14,475 tonnes per annum.

3.6.2.1 Future Waste Generation Rates and Quantities

The population is projected to grow at an annual rate of 2% over the next ten years. In line with this population increase waste generation is also expected to rise proportionally. Therefore, waste quantities are projected as follows:

Estimated Waste Generation for eDumbe Municipality

Year Waste Generation Projection

Year	***Population projection***	***Daily waste /kg***	***daily waste/tonnes***	***Annual waste tonnes***
2026	96 735	39,66	0,03966	14,47
2027	98,670	40,45	0,0,4045	14,76
2028	100,643	41,26	0,04126	51,06
2029	102,656	42,09	0,04209	15,36
2030	104,709	42,93	0,04293	15,67
2031	106,803	42,39	0,04239	15,98
2032	108,939	44,66	0,04466	16,30
2033	111,118	45,56	0,04556	16,63
2034	113,340	46,47	0,04647	16,96
2035	115,607	47,40	0,04740	17,30
2036	117,919	43,35	0,0,4335	17,64

Table 3: Yearly Waste generation Projection

This projection serves as a baseline scenario. In reality, changes in behavior, policy, waste reduction initiatives, or shifts in consumption patterns may significantly influence future waste quantities. Therefore, it is recommended to update this forecast regularly with actual population and waste data

Future Waste Generation Rates and Quantities

Based on an estimated annual population growth rate of 2%, the population is expected to increase steadily over the next ten years. Correspondingly, waste generation is projected to increase at the same rate

Based on these assumptions, it is projected that over the next 10 years, the municipality will generate a total of approximately 17,64 tons of waste. In terms of

- Waste disposal site airspace
- Transportation capacity
- Personnel and operational resources

Note:

This projection does not account for any future implementation of waste minimization strategies such as recycling, reduction, or reuse initiatives. Should such programs be introduced or expanded, the actual volume of waste requiring final disposal could be significantly lower than projected.

This forecast provides a baseline scenario useful for infrastructure planning, budgeting, and environmental management. However, it should be revisited regularly to account for actual changes in population growth, consumption trends, and municipal waste management policies.

3.6.3 Waste Type Analysis

The following is a brief description of the methodology followed in executing this component of the project:

A waste stream characterization exercise was carried out. The primary objective is to assess the types and quantities of materials within the municipal waste stream, with particular focus on identifying the proportion of recyclable materials present.

The waste characterization involved both observation and sampling at the local landfill site. The results of this assessment revealed that the following waste fractions are most frequently encountered within the municipal solid waste stream:

- Organic Waste (including food scraps and garden waste)
- Plastics (including PET bottles, plastic bags, and packaging)
- Paper and Cardboard
- Glass
- Metals (ferrous and non-ferrous)
- Textiles
- E-waste (in smaller quantities)
- Construction and Demolition Debris
- General Domestic Waste

The high proportion of recyclable materials—such as plastics, paper, metals, and glass—indicates a significant potential for diversion from landfill through recycling and recovery initiatives. Organic

waste, which also constitutes a large portion of the waste stream, presents opportunities for composting or anaerobic digestion if the appropriate infrastructure and programs are implemented.

These findings provide a foundation for developing targeted waste management strategies, including recycling programs, public awareness campaigns, and the design of infrastructure aimed at waste minimisation and resource recovery.



Figure 7: The Municipal dump site

3.6.4 Industrial and Mining Waste

The Municipality does not collect hazardous, industrial, or mining waste as part of its waste management operations. As such, the possibility of hazardous, industrial, or mining waste being disposed of at the municipal waste disposal site is considered irrelevant.

At the Municipal dump site there is no evidence of hazardous, industrial, or mining waste within the town or at the municipal dumpsite site. Furthermore, there are no known sources within the municipal boundaries that generate significant quantities of such waste.

As a result, this waste category is not currently a concern for the Municipality's waste management planning. However, the Municipality remains vigilant and continues to monitor for any potential future illegal dumping or changes in industrial activity that could alter this status.

3.6.5 Health Care Risk Waste (HCRW)

The Municipality does not collect Health Care Risk Waste (HCRW), and therefore, the direct handling and disposal of such waste falls outside the scope of Municipal waste management services. However, from a regulatory and environmental responsibility perspective, the Municipality must ensure that no HCRW is disposed of at the Municipal waste disposal site.

Within the Municipal area, there are seven clinics located in Paulpietersburg, while the nearest hospital is in Vryheid, approximately 50 kilometers from Paulpietersburg. There are two main waste streams are generated by these health facilities

- General solid waste
- Medical waste / Health Care Risk Waste (HCRW

All HCRW is currently collected by private service providers once they are full. While the Municipality is not directly responsible for HCRW collection, it should monitor and maintain oversight over how and where this waste is ultimately disposed of. To support this, the Municipality works with the District EHP's to enforce a system of record-keeping in collaboration with healthcare facilities and private waste collectors to track HCRW disposal routes and destinations.

The general (non-hazardous) waste generated at the clinics is collected by the Municipality and disposed of at the Paulpietersburg waste disposal facility.

Proper management of HCRW is critical to public health, and while the Municipality may not directly handle this waste, its role in oversight, coordination, and education remains essential.

3.7 Recycling, Treatment and Disposal

This section outlines the current status of recycling, waste treatment, and final disposal practices within the Municipality, and identifies opportunities for improvement and strategic intervention.

3.7.2 Recycling

At present, recycling within the Municipality is limited and largely informal. There is no formal Municipal recycling program, and waste separation at source is not widely practiced by households or businesses. A small number of informal waste pickers recover recyclable materials directly from the landfill site or from curbside waste prior to municipal collection.

A recent waste characterization analysis demonstrates that approximately 52% of the municipal waste stream consists of recyclable materials, such as:

- Plastics (PET, HDPE, LDPE)
- Paper and cardboard
- Glass
- Metals (aluminum and steel)

This indicates a significant opportunity to divert waste from landfill through the development of structured recycling initiatives. These could include:

- Implementation of separation-at-source programs
- Public awareness campaigns
- Partnerships with private recycling companies
- Support for waste pickers and cooperatives

3.7.2 Waste Treatment

There are currently no formal waste treatment facilities (e.g., composting, anaerobic digestion, or incineration) operating within the Municipality. Organic waste, which forms a large portion of the total waste stream, is disposed of at the landfill without any form of treatment or processing.

Introducing low-tech, decentralized composting solutions or community-based composting projects could significantly reduce the volume of organic waste sent to landfill and enhance soil health through compost use. Treatment of garden and food waste is a practical and scalable option for rural and small-town Municipalities.

3.7.3 Waste Disposal

The Paulpietersburg Municipal disposal site is the primary disposal facility in the Municipality. All general domestic and commercial waste collected by the Municipality is transported to and disposed of at this site. The disposal site is operational, but challenges in the site includes:

- Lack of proper daily cover and compaction
- Limited access control and record-keeping
- No formal leachate or storm water management
- Uncontrolled scavenging activities

These challenges pose risks to environmental compliance and public health. It is essential that the disposal site be managed in accordance with applicable legislation and best practice guidelines, including:

- Improved operational procedures and staff training
- Enforcement of site access and waste types
- Future planning for landfill airspace and closure
- Investigation of alternative disposal or transfer options

This section provides a baseline understanding of the Municipality's current waste management practices, and highlights the need for investment in recycling systems, and improved landfill operations to ensure long-term sustainability and compliance.

3.7.4 Garden Refuse

Garden refuse generation within the Municipality is limited, primarily due to the socio-economic profile of the area. The residential zones are predominantly low-income households, with many properties having minimal or no garden space, which results in relatively small volumes of garden waste being produced. There is no separate collection system in place specifically for garden or green waste.

At present, the record keeping at the Municipal disposal site is insufficient . This makes it difficult to quantify the actual volume of green waste generated or assess its potential for diversion through composting or other treatment options.

To improve management of garden refuse, the following measures are recommended:

- Introduce basic waste categorization and record-keeping at the dump site.
- Educate residents on the benefits of separating garden waste from general waste.
- Pilot small-scale composting initiatives, particularly in schools or community gardens.
- Explore opportunities for a dedicated green waste drop-off point within the municipal area.

Such initiatives could reduce the burden on landfill airspace, decrease operational costs, and contribute to sustainable waste management practices within the Municipality.

3.7.5 Waste Disposal Sites

The Municipality currently has jurisdiction over one waste disposal site, namely the Paulpietersburg Waste Disposal Site.

This site has not yet been formally authorised in terms of environmental legislation. With the introduction of the National Environmental Management: Waste Act (NEMWA), the Municipality will be required to apply for a waste management license for this facility in accordance with Section 45 of NEMWA.

The Municipality is currently proposing the establishment of a legally compliant disposal site, which will be properly licensed.

3.6 Site Conditions and Operational Challenges

The Paulpietersburg waste disposal site is operational but is currently experiencing a number of operational deficiencies, including:

- Lack of daily cover of waste, leading to wind-blown litter and increased health risks
- Uncontrolled access and reclaiming activities, which interfere with day-to-day operations
- Untrained or inadequately trained personnel, resulting in non-compliant waste handling practices
- Presence of vectors, such as flies and rodents
- Odours and dust affecting nearby areas
- No formal record-keeping or site management systems in place
- Insufficient infrastructure, such as fencing, signage, and leachate/storm water control

The current status of the Paulpietersburg waste disposal site, highlighting its operational conditions and challenges, is summarized below in Table 4:

Aspect	**Status**
Position of site	2.5km south east of the Paulpietersburg town. (Co-ordinates: 27°26'17.90"S and 30°49'40.76"E).
Site Authorization	Not authorized; licensing required under Section 45 of NEMWA
Operational Management	Untrained personnel; lack of formal management system
Access Control	No formal control; uncontrolled reclaiming activities
Environmental Concerns	Presence of vectors, odours, dust
Infrastructure	Limited fencing, signage, leachate and stormwater control
Record Keeping	No proper waste intake or operational records
Classification of site:	Class G
Estimated size of site:	2Ha
Estimated remaining life of site:	5 years
Daily Cover	Not applied regularly; wind-blown litter common
Operating hours:	7H30 – 16H30, Monday – Thursday 7H30-13H30 Friday Closed on Sat-Sun

	Closed on public holidays

Table 4 : Site Conditions and Operational Challenges at the eDumbe dump site



Figure 7: Image showing the status of the Municipality disposal site

3.8 Status of Waste Collection Services

3.8.1 Service Area and Refuse Collection

The eDumbe Municipal area comprises a total of 10 wards, including the town of Paulpietersburg, as well as informal settlements such as Bilanyoni and eDumbe Location. The full extent of the waste service area is illustrated in Figure 1 of this report.

At present, waste collection services are provided to all developed and officially proclaimed areas within the Municipality. This includes residential, commercial, and institutional zones where formal waste collection infrastructure exists.

3.8.2 Service and Receptacles Provided

The Municipality utilizes a black bag system as the standard form of receptacle for waste collection across the municipal area. Households and businesses are expected to place their refuse in black plastic bags, which are then collected according to scheduled municipal collection rounds.

The waste collection service is structured per region, based on the type and density of development, and is summarised in Table 4 below. This includes the service level, frequency of collection, and receptacle type for each area.

Region	***Type of area***	***Collection frequency***	***Receptacle type***	***Notes***
Paulpietersburg	Formal Urban	Weekly	Black bags	door-to-door collection
Bilanyoni	Semi-settlement	Weekly	Black bags	Roadside collection;

				limited access for collection trucks
eDumbe Location	formal settlement	Weekly	Black bags	Service subject to road accessibility
Commercial Area	Central business district	Daily	Pedestrian bins/ Black bags	Lack of storage areas poses management challenges

Table 5 : Status of waste collection services at eDumbe area.

3.8.3 Frequency of Street Cleansing

The frequency of street cleansing, is based on foot traffic, commercial activity, and available municipal resources. The aim of these services is to maintain acceptable levels of cleanliness in public spaces and enhance the overall hygiene and aesthetic quality of the municipality.

The current street cleaning schedule is summarised in Table 6 below:

Area/ facility	***Location type***	***Cleaning frequency***	***Notes***
Central Business District Urban	Commercial Core	Daily	High pedestrian and vehicle traffic
Taxi Ranks	Transport Hub	Daily	Litter builds up quickly; requires consistent attention
Residential Area (Focus on main streets and communal spaces)	Formal Housing Areas	Once a week	Focus on main streets and communal spaces
Informal Settlements	High-density Residential	Irregular / As needed	Limited access and resources; service gaps reported
Public Open Spaces / Parks Community	Recreational Areas	Weekly	Seasonal increases in litter during events or holidays

Table 6: Frequency of Street cleaning

While core areas such as the CBD and transport hubs are cleaned daily, limited resources and personnel affect the regularity of services in outlying and informal areas. There is a need to:

- Expand service coverage in underserved communities
- Increase cleaning frequency in high-traffic zones during weekends or holidays

3.8.4 Collection Needs

Although all areas within the Municipality's boundary are currently being serviced, actual service coverage remains limited when measured at the household level. According to a Municipal IDP 2025/26, approximately 40% of households are receiving a formal waste collection service.

This significant service gap is likely attributed to several key factors:

- Remote locations of many households, especially in rural and dispersed settlements

- Poor road infrastructure, making regular access by waste collection vehicles difficult or impossible
- Limited municipal resources, including vehicles, personnel, and funding
- Unplanned or informal housing layouts, which complicate structured service delivery

This data indicates a need for expanded waste collection coverage, particularly in underserved rural and informal areas. Without proper collection services, residents may resort to unsafe practices such as open dumping or burning of waste, which pose serious health and environmental risks.

To address this, the Municipality should consider:

- Alternative collection models for difficult-to-reach areas (e.g., community drop-off points, smaller vehicles, or contracted services)
- Upgrading road access and infrastructure where possible
- Improved data collection and mapping of unserviced households
- Community engagement to promote safe interim waste practices and support for new service models

Expanding equitable access to waste collection is a fundamental requirement for effective municipal waste management and public health protection.

3.8.5 Equipment

The availability of the correct type and adequate number of waste collection vehicles and equipment is a critical factor in ensuring that the Municipality can deliver efficient and reliable waste management services. A shortage of operational vehicles or the use of inappropriate equipment can significantly hinder service delivery, especially in geographically dispersed or infrastructure-poor areas. The municipality's TLB, which is intended to assist with compacting waste on-site, is not functioning properly. It should be emphasized that the municipality has only one operational TLB, which is also used for digging graves and is expected to provide support at the site.

Below is the summarize information about fleet as well as receptacles provided by the Municipality. summarised in Table 7:

Equipment type	***Quantity***	***Condition***	***Notes***
Refuse compactor trucks	2	Good	Always in full operation
Tractor + Trailer	1	Fair	Used for bulk waste; limited capacity
LDV (Light Delivery Vehicle)	1	Good	Used for supervision and transport of personnel
Skip Loader	1	Fair	Used to collect bulk containers
Pedestrian Bins	8	Functional	Concentrated in CBD; often misused by businesses
TLB	1	Poor condition	Suppose to be used in disposal site to compact waste
Skip bins	3	Poor conditions	Used to collect bulk of waste in CBD

Table 7: Summary of Available Waste Collection Equipment

The limited availability of equipment, couple with poor condition of certain fleet items, particularly the TLB designated to support operations at the disposal site, present a significant operational risk. This has further heighten public concern regarding the condition of the disposal site and non-compliance with applicable waste management standards.

To improve waste management efficiency, the Municipality should:

- Assess fleet requirements based on geographic coverage and service frequency
- Consider the procurement of a new tractor loader backhoe (TLB) to support operations at the disposal site.
- Explore funding options, including government grants or partnerships
- Develop a maintenance schedule to extend equipment lifespan and reduce downtime

An updated inventory and condition assessment of all waste management equipment should be conducted as part of ongoing municipal asset management.



Figure 8: The Municipal waste compactor truck

3.8.6 Appraisal of Existing Waste Management Services and Practices

The Municipality is responsible for the provision of waste and management of waste services , including the collection and management of general household waste and other Municipal waste streams within its area of jurisdiction. The Municipality's current service delivery was assessed in terms of service coverage, collection frequency, reliability, infrastructure and equipment, transportation, disposal, illegal dumping management, waste minimisation and recycling initiatives, as well as the Municipality's response to complaints and service requests.

Private waste-management service providers also operate within the Municipality, with some private operators providing specialised waste-management services, including the collection, transportation and management of health-care waste generated by health-care facilities. These services are particularly important due to the potentially hazardous nature of health-care risk waste and the need for appropriate handling, transportation, treatment and disposal in accordance with applicable legal and environmental requirements.

The private-sector health-care waste services were therefore considered as part of the overall waste-management system. The appraisal should consider whether health-care waste is appropriately segregated at source, safely stored, collected at suitable frequencies, transported using appropriate vehicles and handled, treated and disposed of at appropriately authorised facilities. The Municipality should also maintain appropriate oversight of these activities where required by the applicable legislative and regulatory framework.

Legal Compliance

Existing Municipal and private waste-management activities were reviewed against the applicable national, provincial and local legislative and regulatory requirements. Particular attention given to requirements relating to general waste services, health-care risk waste,

3.8.6 Waste Management Compliant and Corrective

Complaint type	Number received	Corrective action	Number resolved	Evidence
Missed collection	0	Additional collection arranged	0	Work orders
Illegal dumping	37	Waste removed	18	Photos
Overflowing bins	20	Bin emptied	20	Work orders

Waste management-related complaints are recorded through the Municipality's established complaint and service-request mechanisms. The complaints received are assessed and referred to the relevant responsible officials for corrective action. The complaints generally relate to matters such as missed or delayed waste collection, illegal dumping, littering, overflowing waste receptacles and other waste management service issues. Corrective measures include arranging remedial collection services, removal of illegally dumped waste, cleaning of affected areas, servicing of waste receptacles and follow-up inspections where required.

The number of complaints received and their resolution status can be verified from the Municipality's complaints register and supporting service-request records. These records are maintained and reported as part of the Municipality's monitoring of waste management service delivery.

3.8.7 Financing for Waste Management

The Municipal Systems Act (Act No. 32 of 2000), Chapter 8 (Sections 73–86A), mandates that municipalities must ensure effective budgeting and financial planning to fulfil their Constitutional responsibilities, including the provision of sustainable and equitable waste management services.

For the Municipality to successfully implement its Integrated Waste Management Plan (IWMP), it is essential to assess and secure the necessary financial, human, and technical resources. This includes both the resources currently available and those that will be needed to:

- Enforce municipal waste management by-laws
- Support waste collection operations in both urban and rural areas
- Procure and maintain vehicles and equipment
- Manage and rehabilitate waste disposal facilities

- Implement public awareness and education campaigns
- Expand recycling and composting programmes

Proper financial planning is critical to ensuring the effective delivery and long-term sustainability of waste services. It also enables the Municipality to:

- Accurately assess current budget allocations to the Waste Management Section
- Identify funding gaps for infrastructure, staffing, and operations
    - Plan for future resource requirements as the number of serviced households and businesses grows
    - Prepare for emergency or unexpected costs, such as vehicle breakdowns or environmental compliance actions

To this end, the Municipality should develop a comprehensive financial strategy aligned with the goals of the IWMP. This should include:

- Multi-year budgeting for capital and operational costs
- Annual reviews of waste management budgets to reflect changes in service demand
    - Exploration of alternative funding sources, such as national and provincial grants, public-private partnerships, and donor support
    - Cost recovery mechanisms, including the potential review and adjustment of tariffs for waste services where appropriate

Strong financial management will serve as a critical enabler in ensuring that the Integrated Waste Management Plan (IWMP) progresses beyond the planning phase into effective and sustained implementation. This requires the establishment of robust budgeting processes, transparent financial controls, and efficient resource allocation mechanisms that are aligned with the municipality's strategic objectives.

Furthermore, sound financial governance will support the prioritisation of key waste management initiatives, facilitate investment in necessary infrastructure and services, and enhance the municipality's ability to leverage external funding opportunities. In this context, effective financial management not only underpins operational efficiency but also contributes to the long-term sustainability and resilience of waste management systems.

3.8.8Analysis of the most recent waste management income and expenditure, budget and its percentage of the overall Municipal budget

The IWMP provides information on the financial resources allocated to waste management services based on the most recent approved Municipal budget. The budget information reflects both the income generated from waste management services and the expenditure incurred in providing these services.

Waste management expenditure includes costs associated with services such as waste collection, transportation, disposal, landfill operations, street and area cleaning, waste minimization, recycling initiatives, and other related waste management activities. For the 2025/26, the Municipality allocated approximately R521 739 towards waste management services, compared with an overall Municipal budget of R280, 304 ,000. This represents approximately 0.23 % of the overall Municipal budget. The waste management income for the period of 20205/26 amounted to approximately R30 621 999,

(Total waste management expenditure ÷ Total Municipal expenditure budget) × 100=%

49,4 293, 17÷ 256 ,537, 17 × 100 = 0.23%

3.8.8 Current Tariff Structure for Waste Collection

Removal tariffs	Tariffs 2025/2026			
	1-2 bins	3-4 bins	5-6 bins	6 or more
Business	R 431.78	R 648.26	R698.03	R1000.00
Domestic	R 157.43	-	-	-
Condemnation	R 1257.60	-	-	-

Table 8 : Summary of the current waste tariff structure for waste collection at eDumbe LM

The current tariff structure for waste collection services in the Municipality is based on the 2025/2026 financial year rates. These tariffs are designed to be cost-reflective, with incremental increases applied

annually. These increases are primarily determined by the revenue required to cover service delivery costs and to contribute to the Municipality's general rates income.

Despite having a tariff system in place, the Municipality currently lacks sufficient capacity to ensure effective tariff collection. This challenge significantly affects the Municipality's ability to recover operational costs and reinvest in improving service delivery.

To address this shortfall, the Municipality is in the process of appointing an external service provider to assist with tariff billing and revenue collection. This is expected to improve financial sustainability and enable more efficient and reliable waste services over time.

Key issues related to the current tariff structure include:

- Limited enforcement and collection capacity
- Tariffs not always collected from informal or hard-to-reach areas
- Insufficient revenue generation for long-term infrastructure needs

Going forward, it is recommended that the Municipality:

- Review and update the tariff structure to reflect current costs and service levels
- Expand the billing system to cover more areas, especially where new services are introduced
- Strengthen administrative systems for monitoring payment compliance
- Educate communities about the link between tariffs and service quality to encourage payment

3.9 Organisational and Institutional Matters

A critical component of effective waste service delivery is the availability of adequate human resources and a well-defined organisational structure. The Municipality has not developed a personnel organogram for the Environmental and Waste Management Section, which can assist with outlining the current staffing complement and the reporting lines across the various functional areas.

The organogram should include staff assigned to the following core functions:

- Management and Planning
- Waste Collection Operations

While the structure provides a basic foundation for service delivery, the Municipality is currently experiencing a shortage of personnel across all operational areas, particularly in the management and operation of the waste disposal site. This shortfall hampers the Municipality's ability to meet service expectations and comply with the legislative obligations outlined in the National Environmental Management: Waste Act (NEMWA).

The Waste and Environmental Unit should be supported by a dedicated Manager or Senior Environmental officer personnel to ensure effective oversight and operational efficiency. Environmental services constitute a highly technical function, requiring specialized knowledge and professional expertise. A current municipal organizational structure indicates that only one personnel is presently responsible for this entire function. This arrangement is insufficient to manage the increasing demands of waste management and environmental compliance.

Consequently, there is a need to appoint a Manager or Senior Environmental Officer to provide leadership, strategic direction, and technical guidance within the unit. Such a position would enhance capacity for planning, monitoring, and implementing sustainable environmental management

practices, while ensuring compliance with regulatory requirements and supporting the municipality's long-term environmental objectives.

The organisational structure should therefore also be used as a tool to assess gaps and identify new roles or capacity requirements needed to:

- Implement the IWMP effectively
- Enforce local waste management by-laws
- Expand waste services to unserviced areas
- Develop and support waste minimisation programmes (e.g. recycling, composting)
- Conduct community education and stakeholder engagement

The appointment of additional skilled personnel within the Environmental Unit is necessary to strengthen planning, improve implementation of environmental programmes and ensure effective management of compliance obligation. This will ensure the Municipality has the institutional capacity to deliver on its waste management mandate effectively and in line with national legislation.

To support the effective implementation of the Integrated Waste Management Plan (IWMP) and compliance with the National Environmental Management: Waste Act (NEMWA), the organogram for the Environmental and Waste Management Unit should ideally include key functional areas and roles.

3.9.1 Proposed Organizational Structure for the Waste and Environmental Unit

1. **Senior Environmental Officer / Manager**
    - Provides strategic leadership and oversight of the unit.
    - Responsible for planning, monitoring, and ensuring compliance with environmental regulations.
    - Supervises Environmental Officer and support staff.
2. **Environmental Officer**
    - Implements environmental programs and initiatives under the guidance of the Senior Environmental Officer/Manager.
    - Conducts inspections, monitors waste management activities, and ensures regulatory compliance.
3. **Supervisor**
    - Oversees daily operational activities of waste collection and disposal.
    - Coordinates teams of drivers, operators, and waste collection personnel.
4. **Driver / Operator**
    - Operates waste collection vehicles and equipment.
    - Ensures safe and efficient collection, transport, and disposal of municipal waste.
5. **Waste Collection Personnel (General Assistants, G.A.)**
    - Performs the physical collection and handling of waste.
    - Supports drivers and operators in maintaining cleanliness and proper waste segregation

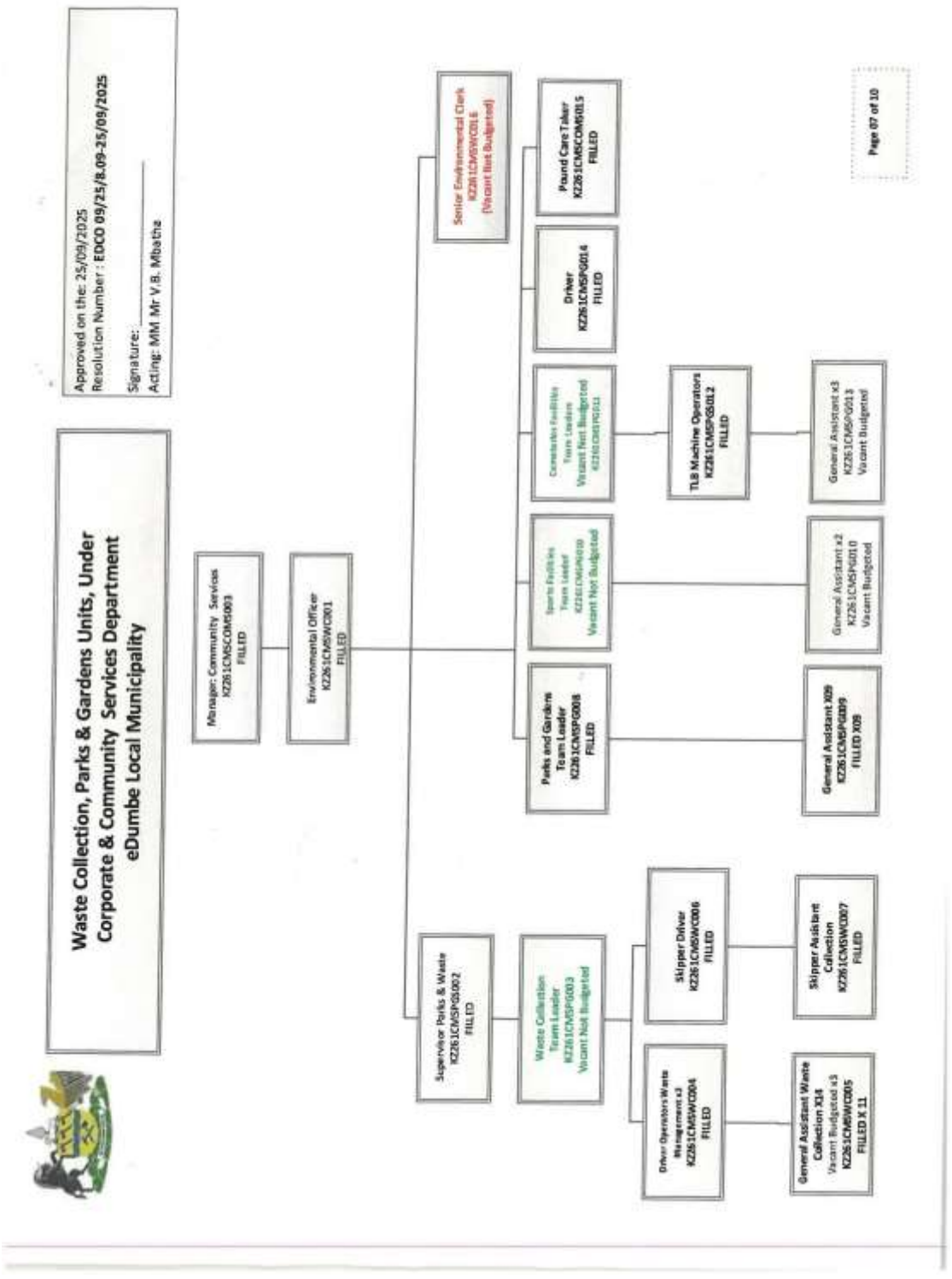


Figure 10 : The Municipal Organogram under Community Service Department

4. LEGAL MATTERS

4.1 Legal Compliance

The waste disposal site is currently not licensed or operated in accordance with the Minimum Requirements for Waste Disposal by Waste Disposal Site (1998). As a result, the municipality is not in full compliance with the relevant legislation. Corrective actions will need to be undertaken to address this non-compliance and ensure adherence to applicable legal standards.

4.2 Municipal By-Law Pertaining to Waste

The Municipality currently has waste management by-laws; however, these have not yet been gazetted. The Municipality is in the process of gazetting a comprehensive set of by-laws to align with national legislative requirements, particularly the National Environmental Management: Waste Act (NEMWA).

The following section outlines the requirements for drafting waste management by-laws in accordance with Chapter 4, Part 6 of NEMWA, and how these laws should reflect the strategic priorities for waste disposal within the existing regulatory framework.

4.3 Key Provisions under NEMWA:

- Chapter 4, Part 6 of NEMWA prohibits the unauthorised disposal of waste. Where no household waste collection service exists, waste must be disposed of in a manner that is environmentally sound and economically viable.
- Section 26(1)(b) requires that all waste disposal be explicitly authorised and conducted without causing environmental pollution or endangering human health and well-being.
- Section 68(1) provides for a maximum penalty of R10 million or imprisonment for up to 10 years for unauthorised waste disposal, depending on the severity of the environmental or health impact.
- Section 27(1) addresses littering and imposes a duty on private landowners who allow public access to their property to provide adequate waste receptacles and ensure authorised disposal before waste becomes a nuisance.
- Section 27(2) further prohibits individuals from littering in public spaces.
- Section 68(2) stipulates a maximum fine of R5 million or up to 5 years' imprisonment for offences related to littering.

These waste management and anti-littering provisions form the minimum requirements that must be implemented and enforced through municipal by-laws and local law enforcement mechanisms.

4.4 Enforcement and the Role of the Designated Waste Management Officer (WMO)

Proper monitoring, compliance, and enforcement are essential. These responsibilities should be clearly defined in the by-laws and delegated as follows:

- Waste Management Officer (WMO): Focuses on the regulatory aspects of NEMWA, distinct from operational service delivery which remains the responsibility of other municipal waste management personnel.

Key responsibilities of the WMO include:

- Managing stakeholder engagement regarding NEMWA implementation;
- Liaising with Environmental Management Inspectors (EMIs) during compliance monitoring activities;
- Ensuring alignment of municipal and local Integrated Waste Management Plans (IWMPs) with reporting cycles;
- Building capacity for effective implementation of NEMWA provisions;
- Monitoring adherence to national norms and standards in waste service delivery.

5. Strategic goals objectives short-medium and long term targets

5.1. Introduction

The strategic goals and targets of the Integrated Waste Management Plan (IWMP) provide the overarching direction for the planning, implementation, monitoring and continuous improvement of waste management within the Municipality. The strategic goals are aligned with the principles of sustainable waste management the waste management hierarchy, applicable national and provincial legislation ,and the Municipality's broader developmental priorities. The purpose of establishing clearly defined strategic goals and targets is to ensure that waste management activities are implemented in a coordinated, measurable and sustainable manner. The strategic goals provide the desired outcomes, while the objectives and targets establish the specific actions and levels of performance that should be achieved over defined timeframes.

The targets are categorised into short-term, medium-term and long-term periods. Short-term targets generally focus on establishing the institutional, operational, financial and infrastructural foundations required for improved waste management. Medium-term targets focus on strengthening service delivery, increasing waste minimisation, reuse, recycling and recovery, improving compliance and expanding infrastructure and community participation. Long-term targets are directed towards achieving an integrated, resource-efficient and environmentally sustainable waste management system that progressively reduces reliance on disposal to landfill and supports the transition towards a circular economy.

The implementation of these goals and targets should be guided by the principles of prevention, waste minimisation, reuse, recycling, recovery, treatment and, only where necessary, environmentally sound disposal. The targets should also be reviewed periodically to take account of changes in population, waste generation patterns, available technologies, financial resources, legislative requirements and institutional capacity.

5.2. Strategic Goal 1: Waste Minimisation and Reduction

The Municipality will promote the prevention and minimisation of waste generation at source by encouraging households, businesses, institutions and other waste generators to adopt practices that reduce the quantity and environmental impact of waste generated. Waste minimisation should be incorporated into municipal operations as well as community and commercial activities. Emphasis should be placed on responsible consumption, reuse of materials, source separation, environmentally responsible procurement and the reduction of unnecessary packaging and single -use materials.

(I)Short-term targets

In the short term, the Municipality will establish and strengthen waste minimisation programmes, undertake awareness and education initiatives, and develop baseline information on waste generation and composition. Municipal facilities should be encouraged to implement waste reduction measure and environmentally responsible procurement practices.

(II)Medium-term targets

Over the medium term, the Municipality will expand waste minimisation programmes to households, businesses, schools, institutions and other major waste generators. Waste reduction initiatives should be incorporated into relevant municipal programmes and supported through partnerships with the private sector, community organisations and other stakeholders.

(III)Long-term targets

In the long term, the Municipality will strive to achieve a measurable reduction in waste generation per capita and progressively transition towards resource-efficient and circular waste management practices. Waste prevention and minimisation should become an established component of municipal planning and community behaviour.

5.3. Strategic Goal 2: Increased Recycling, Reuse and Resource Recovery

The Municipality will increase the diversion of recyclable and recoverable materials from disposal facilities by strengthening recycling, reuse, recovery and source-separation initiatives.The objective is to maximise the recovery of valuable resources from the waste stream while reducing the volume of waste requiring final disposal. This will contribute to environmental protection, resource conservation, job creation and the development of local economic opportunities.

(I)Short-term targets

The Municipality will identify existing recycling and recovery initiatives, assess gaps in infrastructure and services, and establish or strengthen source-separation and recycling programmes where feasible. Awareness campaigns will be implemented to encourage households and businesses to separate recyclable materials from general waste.

(II)Medium-term targets

The Municipality will progressively increase the quantity and proportion of recyclable and recoverable materials diverted from landfill. Partnerships with recycling enterprises, waste pickers, cooperatives, community-based organisations and other relevant stakeholders should be strengthened to improve collection and recovery rates.

(III)Long-term targets

The Municipality will work towards establishing an integrated resource-recovery system in which recyclable, reusable and recoverable materials are progressively diverted from landfill. The long-term objective is to minimise the disposal of recoverable materials and contribute towards a circular economy in which resources remain in productive use for as long as possible.

5.3. Strategic Goal 3: Improved and Equitable Waste Collection Services

The Municipality will provide reliable, equitable and sustainable waste collection services to all communities within its area of jurisdiction, with particular attention to underserved and vulnerable communities.Waste collection services should be planned according to population growth, settlement patterns, waste generation rates and available municipal resources. Service delivery should also be supported by appropriate infrastructure, equipment, vehicles and operational capacity.

(I)Short-term targets

The Municipality will identify areas experiencing inadequate, irregular or non-existent waste collection services and develop interventions to address priority service gaps. Existing collection routes, equipment and operational processes will be assessed and improved where necessary.

(II)Medium-term targets

The Municipality will progressively improve the reliability, frequency and coverage of waste collection services and ensure that service standards are consistently applied across communities. Collection systems should be reviewed periodically to respond to changes in population and waste generation.

(III)Long-term targets

The Municipality will strive to achieve and maintain comprehensive, equitable, reliable and financially sustainable waste collection services. Waste collection systems should be continuously improved through appropriate technologies, infrastructure, operational planning and performance monitoring.

5.4 Strategic Goal 4: Improved Waste Disposal and Landfill Management

The Municipality will ensure that waste requiring final disposal is managed in an environmentally responsible, legally compliant and sustainable manner. Existing waste disposal facilities should be operated and maintained in accordance with applicable legislative, environmental and licensing requirements. The Municipality will also investigate opportunities to extend the operational lifespan of disposal facilities through waste diversion, recycling, recovery and improved waste management practices.

(I)Short-term targets

The Municipality will assess the condition, capacity and compliance status of existing waste disposal facilities and identify priority maintenance, rehabilitation and operational requirements. Environmental monitoring and record-keeping systems will be strengthened.

(II)Medium-term targets

The Municipality will implement required improvements to waste disposal infrastructure and progressively reduce the quantity of recoverable and recyclable waste disposed of at landfill facilities.

(III) Long term goal

To obtained and maintained the required waste management license for eDumbe disposal site and ensure compliance with appropriate environmental legislation.

5.**5. Strategic Goal 5: Reduction of Illegal Dumping and Littering**

The Municipality will reduce illegal dumping and littering through an integrated approach combining infrastructure provision, public education, community, participation, enforcement and monitoring. Illegal dumping has adverse environmental, social, public –health and aesthetic impacts and can place addition financial pressure on Municipal resources. Addressing the problem therefore requires both preventative and enforcements.

(I)**Short-term targets**

Illegal-dumping hotspots will be identified, mapped and prioritised. Clean-up activities, awareness campaigns, improved waste collection and appropriate disposal infrastructure will be implemented in priority areas. Enforcement mechanisms will also be strengthened where necessary.

(II)Medium-term targets

The Municipality will progressively reduce the number and frequency of illegal-dumping incidents through sustained monitoring, enforcement, community involvement and improved access to appropriate waste disposal services.

(III)Long-term targets

The Municipality will aim to maintain communities that are substantially free from illegal dumping and littering through sustained behavioural-change programmes, effective enforcement, adequate waste infrastructure and ongoing community participation.

5.6. Strategic Goal 6: Public Awareness, Education and Community Participation

The Municipality will promote active public participation and environmental awareness to encourage responsible waste management practices among residents, businesses, institutions and other stakeholders. Effective waste management cannot be achieved through municipal service delivery alone. Community participation is essential to waste minimisation, source separation, recycling, responsible disposal and the prevention of illegal dumping.

(I)Short-term targets

The Municipality will develop and implement structured waste-management awareness and education programmes targeting households, schools, businesses, community organisations and other relevant stakeholders.

(II)Medium-term targets

Awareness programmes will be expanded and institutionalised through partnerships with schools, community structures, businesses, non-governmental organisations and other stakeholders. Community participation in recycling, source separation and clean-up initiatives will be increased.

(III)Long-term targets

The Municipality will seek to establish a long-term culture of responsible waste management in which communities actively participate in waste reduction, separation, recycling and appropriate disposal. Environmental awareness should become an ongoing component of municipal community engagement.

5.7. Strategic Goal 7: Strengthening Institutional Capacity and Governance

The Municipality will strengthen institutional capacity, governance arrangements, planning systems and accountability mechanisms to support effective implementation of the IWMP .Effective waste management requires clearly defined responsibilities, adequate human resources, appropriate technical expertise, sound financial planning and effective monitoring and reporting systems.

(I)Short-term targets

The Municipality will review institutional responsibilities and identify capacity gaps relating to personnel, equipment, technical expertise, planning, data management and enforcement. Waste-management data collection and reporting systems will be strengthened.

(II)Medium-term targets

The Municipality will improve staff capacity through appropriate training and skills development and strengthen coordination between relevant municipal departments and external stakeholders.

(III)Long-term targets

The Municipality will maintain a suitably capacitated and adequately resourced waste management function supported by effective governance, reliable data, appropriate financial planning and continuous performance monitoring.

5.8. Strategic Goal 8: Improved Data Management, Monitoring and Reporting

The Municipality will establish and maintain reliable waste-management information systems to support evidence-based planning, decision-making and performance monitoring. Accurate information regarding waste generation, collection, transportation, recycling, recovery, disposal and infrastructure capacity is essential for assessing progress towards IWMP targets.

(I)Short-term targets

The Municipality will establish baseline information and improve the collection, verification, storage and reporting of waste-management data.

(II)Medium-term targets

Waste data will be regularly analysed and used to evaluate service performance, identify deficiencies and inform infrastructure and operational planning.

(III)Long-term targets

The Municipality will maintain a comprehensive waste-management information system capable of supporting long-term planning, performance measurement, regulatory reporting and continuous improvement.

5.9. Strategic Goal 9: Financial Sustainability of Waste Management Services

The Municipality will promote financially sustainable waste-management services while ensuring that services remain equitable and accessible to communities. Financial planning should consider the full lifecycle cost of waste management, including collection, transportation, treatment, recycling, disposal, infrastructure maintenance, rehabilitation and environmental monitoring.

(I)Short-term targets

The Municipality will assess the financial requirements and cost structures associated with waste-management services and identify areas where operational efficiencies can be achieved.

(II)Medium-term targets

The Municipality will strengthen financial planning, budgeting and cost recovery mechanisms and investigate opportunities for partnerships, alternative funding mechanisms and revenue-generating resource-recovery initiatives.

(III)Long-term targets

The Municipality will strive to establish financially sustainable waste-management services capable of supporting ongoing service delivery, infrastructure maintenance, environmental compliance and future waste-management requirements.

5.10. Strategic Goal 10: Promotion of a Circular Economy

The Municipality will progressively transition from a traditional linear waste management approach towards a resource-efficient circular economy model.The circular economy approach recognises waste as a potential resource and seeks to retain materials and products within the economy through prevention, reuse, repair, recycling, recovery and other appropriate interventions.

(I)Short-term targets

The Municipality will identify opportunities for resource recovery, reuse, recycling and circular-economy initiatives within municipal operations and the broader community.

(II)Medium-term targets

Circular-economy principles will increasingly be incorporated into Municipal procurement, infrastructure planning, waste-management programmes and partnerships with private-sector and community stakeholders.

(III)Long-term targets

The Municipality will work towards a waste management system in which waste generation is minimised, materials are recovered and reused wherever feasible, and disposal to landfill is reserved primarily for residual waste that cannot reasonably be recovered or treated.

12. Implementation of the Strategic Targets

The achievement of the strategic goals and targets contained in the IWMP will require coordinated implementation by the Municipality and relevant stakeholders. Each strategic target should, where applicable, be supported by a clearly defined implementation programme identifying the responsible department or institution, required resources, estimated budget, implementation timeframe, performance indicator and means of verification. Progress against the targets should be monitored on a regular basis and reported through the appropriate Municipal planning and performance-management processes. The IWMP should be reviewed periodically to determine whether targets remain relevant and achievable and whether corrective measures are required. The implementation approach should recognise that the achievement of long-term waste-management outcomes is dependent on progressive improvement. Short-term interventions should therefore establish the foundation for medium-term improvements, while medium-term interventions should contribute directly towards the achievement of long-term strategic outcomes.

ACTION PLAN

The implementation action plan provides a structured framework for giving effect to the objectives, programmes and projects identified in the Integrated Waste Management Plan (IWMP). The action plan identifies the key implementation activities, responsible stakeholders, implementation timeframes, required human and capital resources, indicative budgets and performance indicators. It also incorporates measures aimed at waste minimisation, recycling, recovery and improved waste service delivery.

The action plan would be reviewed annually and updated where necessary to reflect changes in priorities, available resources, legislation, budgets and service delivery requirements.

No.	Implementation activity	Key actions	Responsible stakeholders	Human resources	Capital	Time frame	Indicative budget	Performance indicator
1.	Improve waste collection and service delivery	Identify service gaps; optimise collection routes; address illegal dumping and missed collections; improve collection schedules	Waste Management Unit	Waste management officials, supervisors, drivers, general workers	Refuse collection vehicles, bins, PPE, equipment	Year 1–5	To be determined annually through municipal budgeting	Improved collection coverage; reduction in missed collections
2.	Waste minimisation programme	Develop and implement waste minimisation initiatives targeting households, businesses and municipal operations	Waste Management Unit	Waste officer,	Awareness materials, weighing equipment, monitoring tools	Year 1–5	Annual operational budget	Waste minimisation programme implemented; reduction in waste generated
3.	Recycling and separation at source	Implement separation-at-source programmes; provide appropriate containers; support recycling initiatives and cooperatives	Waste Management Unit	Waste officers, project coordinators, community workers	Recycling bins/containers, collection vehicles, sorting equipment	Year 1–5	Project-dependent	Number of participating households; tonnes of recyclable material recovered
4.	Illegal dumping prevention and remediation	Map illegal dumping hotspots; conduct clean-up campaigns; strengthen monitoring and enforcement	Waste Management Unit	waste officials, general workers	Skip bins, trucks, signage,	Year 1–5	Annual operational budget	Reduction in identified illegal dumping sites and repeat incidents
4.	Public awareness and education	Conduct awareness campaigns on waste minimisation, recycling,	Waste Management Unit	Environmental education officers	Educational materials, signage, outreach resources	Year 1–5	Annual operational budget	Number of awareness campaigns; community participation

		illegal dumping and correct waste disposal practices						
5.	Waste infrastructure	Assess existing waste facility ,develop facility in accordance with appropriate legislation	PMU/ Waste Management Unit	waste specialists	storage areas, vehicles and licensed landfill site	Year 1–5	Project funding	Priority infrastructure projects completed
6.	Human resource capacity	Assess staffing requirements; address capacity gaps; provide training on waste management, compliance, data management and service delivery	Waste Management Unit	Waste management personnel, trainers, technical specialists	Training resources, IT equipment and software	Year 1–5	Operational budget	Staff capacity assessment completed; number of personnel trained
7.	Waste data	Improve waste data collection systems; record quantities collected, recycled, recovered and disposed; submit required reports	Waste Management Unit	Waste officer	South African Waste Information System /internal records	Year 1–5	Operational budget	Regular and reliable waste data reports produced
8.	Compliance and enforcement	Monitor compliance with applicable waste management requirements; undertake	Waste Management Unit	Waste officer	record-keeping systems	Year1 -5	Operational budget	Compliance inspections undertaken; corrective actions recorded

		inspections and implement corrective measures						
9.	Monitoring and review of IWMP implementation	Establish annual implementation review; assess progress against targets, budgets and indicators; update action plan where required	Waste Management Unit					

Human and Capital Resource Requirements

Successful implementation of the IWMP will require adequate human and financial resources. The Municipality should undertake a detailed resource assessment to determine the additional personnel, skills, vehicles, equipment and infrastructure required to implement the identified actions.

Human resource requirements may include waste management officials, environmental practitioners, project managers, data management personnel, inspectors, supervisors, drivers, general workers and administrative support.

Capital resource requirements may include refuse collection vehicles, waste containers, recycling infrastructure, PPE, monitoring equipment and information-management systems.

Budget and Financial Planning

The indicative budgets in the action plan should be refined during the Municipality's annual planning and budgeting process. Each priority action should be linked to an identified funding source, such as the Municipal operating budget, Municipal capital budget, grants, external funding, public-private partnerships or other lawful funding mechanisms.

The Municipality should prioritise activities that address critical service delivery gaps, statutory requirements, environmental risks and opportunities for waste minimisation, recycling, recovery and diversion from landfill.

Implementation Monitoring

Progress against the action plan should be monitored on an annual basis using the identified performance indicators. The Municipality should record:

- activities completed and outstanding;
- expenditure against approved budgets;
- human resources utilised;
- infrastructure and equipment procured;
- quantities of waste collected, recycled, recovered and disposed;
- improvements in waste service coverage;

- illegal dumping trends;
- community participation in waste minimisation and recycling initiatives; and
- challenges affecting implementation and proposed corrective measures.

The action plan should therefore form an integral part of the IWMP and should be used as the principal implementation and monitoring tool for translating the IWMP objectives and targets into measurable programmes and projects.

Stakeholder engagement and identification

Stakeholder	Interest in IWMP	Influence	Impact /exposure	Engagement
Municipal departments	High	High	High	Continuous engagements
Communities	Medium	High	High	Regular consultation
Recycling sector	High	High	High	Partnership engagement
Waste pickers	High	High	High	Inclusive consultation
Businesses	Medium high	Medium	High	Consultation and partnership
Environmental organisations	High	Medium	High	Consultation
Schools	Medium –high	High	High	Awareness /education
General public	Medium	Medium	Medium	Public participation

Stakeholders with high interest and high influence will receive particularly close and continuous engagement.

Consult stakeholders during the different IWMP stages

Stakeholder identification should not be a once-off activity. It should continue throughout the IWMP development process. A good process would be:

Stage 1 -Stakeholder engagement

Develop an initial stakeholder register and identify internal and external stakeholders.

Stage 2-Stakeholder analysis

Assess their interest, influence, potential impact, information requirements and preferred engagement methods.

Stage 3-Initial consultation

Engage stakeholders to identify waste –management problems, service gaps, priorities and opportunities.

Stage4-Informationgathering

Use questionnaires, interviews, workshops, focus groups, site visits and surveys to obtain stakeholder input.

Stage 5- Draft IWMP Consultation

Present the draft IWMP to relevant stakeholder and provide an opportunity for comments and recommendations

Stage 6-Incorporation comments

Document, assess and incorporate stakeholder inputs into the final IWMP

Stage 7- Implementation

Continue engagement with stakeholders during implementation, monitoring and reporting.

Stage 8 –Review and updating

Update the stakeholders register whenever the IWMP is reviewed ensuring that new stakeholders are included

Stakeholder Participation Process During the Development of the IWMP

The stakeholder participation process followed during the development of the Integrated Waste Management Plan (IWMP) is detailed and documented in the IWMP. The Municipality recognized stakeholder participation as an important component of the IWMP development process, as effective and sustainable waste management requires the involvement of Municipal structures, government authorities, communities, businesses, waste-management service providers, recycling and recovery stakeholders, civil society organizations and other interested and affected parties.

The stakeholder participation process was undertaken to ensure that relevant stakeholders were provided with an opportunity to obtain information regarding the development of the IWMP, identify and raise waste-management concerns, provide recommendations, comment on proposed strategic interventions and contribute towards the development of a practical and implementable waste-management plan.

As part of the process, relevant internal and external stakeholders were identified and considered during the preparation of the IWMP. Engagement was undertaken through appropriate consultation mechanisms, taking into consideration the nature and level of interest of the different stakeholder groups. Municipal departments and relevant officials were consulted on operational, institutional, financial, infrastructural and service-delivery matters. External stakeholders and members of the public were provided with opportunities to participate and raise issues relating to waste collection, illegal dumping, littering, recycling, waste minimisation.

Political Buy-In and Council Adoption of the IWMP

Political buy-in for the Integrated Waste Management Plan (IWMP) is demonstrated through the formal tabling of the IWMP before Council for consideration and adoption.

A Council meeting was convened during which the IWMP was tabled before Council. Council considered the IWMP and adopted it through a formal Council resolution. The Council resolution serves as documented evidence of political support and commitment towards the implementation of the IWMP and its identified waste management objectives, programmes and actions.

The adopted IWMP provides the framework for guiding the Municipality's waste management planning and service delivery, while the Council's resolution provides the necessary institutional and political endorsement for its implementation.

Evidence: The signed Council resolution confirming the tabling and adoption of the IWMP is attached as supporting evidence and should be included as an annexure to the IWMP.

Monitoring and Evaluation Framework

1. Purpose of the Monitoring and Evaluation Framework

The Municipality will establish and implement a comprehensive Monitoring and Evaluation (M&E) Framework to monitor progress in the implementation of the Integrated Waste Management Plan (IWMP). The purpose of the framework is to ensure that the programmes, projects, objectives and targets identified in the IWMP are implemented, monitored and reported on in a systematic and measurable manner.

Monitoring will provide an ongoing assessment of implementation progress, while evaluation will assess the effectiveness of the interventions and identify areas requiring improvement or corrective action.

The M&E Framework will be aligned with the Municipality's annual planning, budgeting and performance management processes.

2. Annual IWMP Implementation Reporting

The Municipality will prepare an annual IWMP Implementation Report to assess progress against the objectives, programmes, projects, targets and indicators contained in the IWMP.

A standard annual reporting template will be used to ensure consistency in reporting from one financial year to the next. The template will capture, as a minimum:

- IWMP objective/programme;
- planned activity;
- measurable target;
- performance indicator;
- baseline, where applicable;
- annual target;
- actual achievement;
- percentage progress;
- allocated budget;
- actual expenditure;
- responsible department/official;
- implementation status;
- challenges encountered;
- corrective actions;
- revised target/timeframe, where applicable; and
- supporting evidence.

The annual implementation report will form part of the Municipality's ongoing review of the IWMP and will inform the preparation of the following year's implementation priorities and budget.

3. Responsibility for Monitoring and Reporting

The Municipal Waste Management Unit, under the designated Waste Management official, will be responsible for coordinating the monitoring and reporting of IWMP implementation.

The designated official will be responsible for:

- maintaining the IWMP implementation monitoring schedule;
- collecting information from the relevant Municipal departments and service providers;
- maintaining records and supporting evidence of implementation;
- coordinating the completion of the annual IWMP reporting template;
- consolidating departmental inputs;
- assessing progress against approved targets and indicators;
- identifying implementation challenges and areas requiring corrective action;
- preparing the annual IWMP Implementation Report; and
- submitting the completed report through the appropriate municipal reporting structures.

Where implementation activities fall under other Municipal departments or external service providers, the relevant department or service provider will be responsible for providing accurate and timely information to the designated IWMP official.

4. Monitoring Indicators

The following key indicators will be used to monitor implementation of the IWMP

No.	**Key Performance Area**	**Measurable Indicator**	**Reporting Frequency**	**Responsible Official**
1.	Waste collection services	Percentage of households receiving scheduled waste collection services	Quarterly	Waste Management Official
2.	Waste minimisation /Recycling	Tonnes of waste minimised /recycled or prevented from entering the waste stream	Quarterly	Environmental official
3.	Illegal dumping	Number of illegal dumping sites identified and cleaned	Quarterly	Waste management team
4.	Public awareness	Number of waste awareness and education programmes conducted	Quarterly	Environmental official
5.	Waste infrastructure	Number of planned waste infrastructure projects completed	Annually	PMU/Environmental official
6.	Waste data management	Percentage of required waste data captured and reported	Quarterly	Environmental official
8.	Compliance	Number of waste management compliance inspections undertaken	Quarterly	Environmental official
9.	IWMP implementation	Percentage of planned IWMP actions implemented	Annually	Waste officer
10.	Capacity building	Number of relevant Municipal officials trained on waste management	Annually	Environmental official /EDTEA/External funders

5. Monitoring Schedule

Monitoring will be undertaken throughout the financial year, with progress reviewed at least quarterly. Information collected during the monitoring process will be consolidated into an annual IWMP Implementation Report.

The monitoring cycle will generally consist of the following:

Plan → Implement → Monitor → Report → Evaluate → Corrective Action → Review and Improve

Quarterly monitoring will allow the Municipality to identify delays, budget constraints, resource limitations and other implementation challenges before the end of the financial year.

6. Evaluation of IWMP Implementation

An annual evaluation will be undertaken to determine whether the planned IWMP activities and targets have been achieved and whether the implemented interventions are contributing towards the intended waste management outcomes.

The evaluation will consider:

- achievement against annual targets;
- progress towards the overall IWMP objectives;
- effectiveness of waste minimisation and recycling initiatives;
- improvement in waste service delivery;
- waste diversion and recovery performance;
- utilisation of allocated resources and budgets;
- institutional and human resource capacity;
- implementation challenges;
- stakeholder participation; and
- corrective actions required.

Where targets are not achieved, the responsible Department will provide reasons for non-performance and identify appropriate corrective measures.

7. Corrective Action and Continuous Improvement

Where monitoring and evaluation identifies underperformance or delays, corrective action will be recorded in the annual IWMP Implementation Report. Corrective actions will identify the responsible official/department, required intervention and revised timeframe.

The results of the annual monitoring and evaluation process will be used to improve implementation of the IWMP and to inform the Municipality's annual operational plans, budgets and future waste management priorities.

8. Record Keeping and Supporting Evidence

The Municipality will maintain appropriate records and supporting evidence for reported IWMP performance. Such evidence may include waste collection records, weighbridge records, recycling records, photographs, attendance registers, inspection reports, project progress reports, invoices, expenditure reports, community awareness records and other relevant documentation.

The records will be retained in accordance with the Municipality's applicable records management requirements and will be available for internal monitoring, management review and relevant reporting or assessment processes.

9. **Review of the IWMP**

The Monitoring &Evaluation Framework and IWMP implementation action plan will be reviewed annually to ensure that the indicators and targets remain relevant and measurable. Lessons learned from implementation will be incorporated into subsequent implementation cycles.

The annual review will therefore ensure that the IWMP remains a living planning instrument that responds to changing waste management needs, available resources and service delivery priorities.

10. Institutional Responsibility

The Municipality has an official within the Waste and Environmental Services function to coordinate IWMP monitoring and annual implementation reporting. The responsible official will work with relevant Municipal departments, finance, infrastructure, environmental management, performance management and service providers to ensure that the required information is collected and reported.

The designation of the responsible official should be confirmed through an internal Municipal directive, organisational structure.

6. COMPLIANCE AND ENFORCEMENT FRAMEWORK

Chapter 7 of NEMWA and NEMA (Act 107 of 1998) define the roles and powers of the Minister, MECs, and EMIs, particularly regarding:

- Preventing and remedying pollution;
- Rectifying non-compliance with NEMWA;
- Applying for High Court interdicts to prevent ongoing contraventions;
- Requesting Waste Impact Reports where waste licence violations are suspected;
- Outlining criminal offences and associated penalties (Sections 66–68).

The National Waste Management Strategy (as per Section 6(1)(e) of NEMWA) also requires the development of mechanisms to monitor and enforce compliance, a function deemed critical to the successful implementation of the Act.

6.1 Local Application and Integration

In terms of subsidiarity and regulatory authority:

- Where waste-related matters (e.g. public nuisance, cleansing) typically fall within the local municipality's competency, these must be addressed through municipal by-laws, in alignment with national legislation.
- The Department of Environmental Affairs is expected to promulgate norms and standards under Section 7(1) of NEMWA. The Municipality's by-laws should reference these, especially concerning:
- Operation and maintenance of general waste disposal sites;
- Reporting and record-keeping requirements.

6.1.1 Additional Considerations

- The by-laws should acknowledge and align with the Municipality's Indigent Policy for the provision of free basic services. Criteria for qualification should be clearly stated.
- Provisions from Chapter 4 of the National Domestic Waste Collection Standards should be incorporated into the by-laws. These address:
  Separation at source;
  Recyclable waste collection;
  Use of receptacles and bulk containers;
  Establishment of communal collection points;
- Frequency of collection services.

6.2 Illegal Dumping

Illegal dumping is a widespread issue throughout the municipal area, with particularly high occurrences in eDumbe and the Paulpietersburg areas. Many of these illegal dumping sites are located in and around informal settlements where waste disposal infrastructure is lacking.A notable proportion of the waste consists of disposable nappies, highlighting the urgent need for appropriate sanitation and waste services in these communities.

Due to the absence of formal waste collection systems in these areas, the Municipality is forced to collect illegally dumped waste at a significant and unplanned cost. However, the Municipality lacks the

necessary resources and budget to manage this waste effectively. Currently, there are no formalised strategies in place to prevent or address illegal dumping.

6.2.1 Proposed Interventions

To mitigate the problem, the following interventions are recommended:

1. Provision of Waste Skips:

- The Municipality should allocate budgetary provisions for the procurement of mass containers (waste skips).
- These skips should be strategically placed in high-risk areas and public open spaces where illegal dumping frequently occurs.
- Once filled, the skips should be emptied and the waste transported to the local waste disposal site

2. Enforcement and Community Reporting:

- Where illegal dumping continues next to designated skips, community members should be encouraged to document incidents (e.g., through photographs).
- Offenders should be fined in accordance with applicable by-laws or NEMWA provisions.
- The individual who reports the offence (with valid evidence) should be rewarded, as part of a broader incentive-driven community compliance initiative.

3. Community Education and Awareness:

- The Municipality recognises the critical need for public education regarding the negative impacts of illegal dumping on public health, the environment, and municipal resources.
- Targeted awareness campaigns should be rolled out, particularly in informal and underserved areas, to encourage responsible waste disposal and community participation.
- The Municipality is undertaking an initiative to increase environmental awareness. As part of this effort, war rooms and traditional councils are being visited to conduct environmental awareness sessions.

6.3 New and Future Developments

The only recent developments within the Municipality are Commercial, Mangosuthu Village and Tholakele. These areas have been successfully incorporated into the existing municipal waste collection service to ensure proper waste management and prevent illegal dumping.

At present, there are no additional new developments planned. However, the Municipality will continue to monitor future growth and ensure that any upcoming developments are integrated into the waste management system from the outset, in line with service delivery and environmental compliance standards.

6.4 Gaps and Needs Analysis

Following a situational analysis of waste management practices within the Municipality, several critical gaps and service delivery challenges were identified. Addressing these is essential for improving environmental health, regulatory compliance, and service efficiency. The key needs are summarised below:

Insufficient Waste Disposal Infrastructure

- Many areas, especially informal settlements, lack adequate waste collection and disposal facilities, leading to widespread illegal dumping.

Lack of Formalised Strategies for Illegal Dumping

- No structured or enforced strategy currently exists to prevent or respond to illegal waste disposal.

Inadequate Budget and Resources

- The Municipality does not have sufficient financial or human resources to expand or maintain consistent waste collection services across all areas.

Non-compliance with Waste Legislation

- The local waste disposal site is not currently operated in accordance with the Minimum Requirements for Waste Disposal by Waste Disposal Site (1998), resulting in legal non-compliance.

Unfinalised Waste Management By-Laws

- Although draft by-laws exist, they have not been gazetted. This limits enforcement capabilities and weakens regulatory oversight.

Limited Public Awareness and Education

- There is a lack of community education on proper waste disposal practices, recycling, and the impacts of illegal dumping.

Need for Waste Skips in High-Risk Areas

- Strategically placed mass containers or waste skips are required in areas where illegal dumping is prevalent.

Capacity Gaps in Compliance and Monitoring

- There is a need for other municipal staff responsible for compliance, monitoring, and enforcement.

6.5 Performance of the Municipality

The Municipality has demonstrated progress in its waste management service delivery, with a 4.2% increase in coverage to both general households and indigent residents within the municipal area. This reflects a positive effort to expand access to basic services.

However, several challenges continue to affect the overall performance and sustainability of waste management services:

- The Municipality has jurisdiction over one waste disposal site, located in Paulpietersburg, which is currently not authorised in terms of relevant environmental legislation.
- There are ongoing shortages in both staff and operational equipment which hampers the

Municipality's ability to provide consistent and efficient waste services.

- The absence of gazetted Municipal By-Laws means that the Municipality lacks a formal regulatory framework to enforce waste management practices. The by-laws must be urgently updated to address all elements of the waste management hierarchy, as required by the National Environmental Management: Waste Act (NEMWA).

6.6 Conclusion

While the Municipality has made notable progress in expanding waste services, particularly to vulnerable communities, significant gaps remain. Addressing these—particularly in infrastructure, staffing, legal compliance, and planning—will be essential to achieving a sustainable and legally compliant waste management system. The overall performance of the Municipality can be considered progressive, yet with substantial room for improvement.

7. DESIRED END STATE

7.1 Introduction

As part of the development of the Integrated Waste Management Plan (IWMP) for the Local Municipality, seven focus areas have been identified. These focus areas are informed by the Gaps and Needs Analysis outlined in the previous section and are aligned with the national vision for sustainable waste management.

For each focus area, a Desired End State has been defined to guide the Municipality toward improved service delivery, regulatory compliance, and environmental sustainability.

It is essential that the Desired End State aligns with the National Waste Management Strategy (NWMS) and the waste management hierarchy adopted by the South African government. This hierarchy prioritises waste handling practices in the following order:

- Waste Avoidance
- Waste Minimisation
- Waste Re-use
- Waste Recycling
- Waste Treatment
- Waste Disposal

These principles will serve as the foundation for setting measurable goals and actions in the IWMP.

7.2 Strategic Planning Timeframes

To effectively implement and monitor progress toward the Desired End State, the following timeframes are recommended for each strategic priority

7.3 Safe and Proper Disposal of Waste

This focus area addresses the development, upgrading, and legal compliance of waste disposal infrastructure within the Municipality. It includes the licensing of disposal facility, the identification of new infrastructure needs, and the improvement of operational and environmental practices at waste disposal sites.

The goals under this focus area are aligned with the principles of the National Environmental Management:

Waste Act (NEMWA) and the Minimum Requirements for Waste Disposal by Landfill (1998).

Key objectives include:

- Ensuring legal authorisation and licensing of all existing and future waste disposal sites;
- Upgrading existing facilities to comply with environmental and operational standards;
- Reducing environmental and health impacts caused by poor disposal practices;
- Improving site management through trained personnel and proper equipment;
- Implementing regular monitoring, covering, and maintenance of waste sites.

The table below outlines the Desired End State for Waste Disposal Infrastructure in the Municipality:

Objective	***Desired end /state***	***Time frame***
Licensing of disposal site (Paulpietersburg)	Waste disposal site fully licensed in terms of Section 45 of NEMWA	Immediate (1 year)
Upgrade of waste disposal site infrastructure	Site equipped with proper access control, daily cover practices, drainage, and fencing	Short term (2-3 years)
Compliance with environmental regulations	Full compliance with DWAF Minimum Requirements and NEMWA provisions	Medium-term (3–5 years)
Addressing operational issues (e.g., reclaimers)	Reclaiming activities managed or formalised; site safety improved	Short-term (2–3 years)
Daily waste covering and vector control	Standard operating procedures in place for covering waste and controlling vectors	Immediate (1 year)
Personnel training and site supervision compliance	Staff trained and competent in safe landfill operations and environmental compliance	Short-term (2–3 years)

Table 9 : Summary of the Desired End State for Waste Disposal Infrastructure in the Municipality

6.4 Effective and Efficient Delivery of Waste Services

The delivery of waste collection services within the municipality has been hindered by several infrastructure shortcomings. These challenges include inadequate waste receptacles, the rapid growth of new residential and commercial developments, the existence of unserviced areas (particularly informal settlements), and outdated or inefficient route planning systems.

To address these issues, a comprehensive evaluation has been conducted. This assessment identifies gaps in service delivery and highlights areas for improvement. The goal is to implement targeted interventions that will ensure all households and businesses have access to regular and reliable waste collection services, thus promoting public health, environmental sustainability, and compliance with national waste management standards.

Key focus areas include:

Upgrading and expansion of waste collection infrastructure, including the provision of appropriate waste bins and skips in both residential and public areas.

- Integration of new housing and industrial developments into the existing waste management framework at the planning and implementation stages.
- Formalisation and servicing of previously unserved areas, ensuring equitable access to municipal waste services.
- Modernization of route planning, including the use of GIS-based logistics software to optimize collection routes, reduce fuel consumption, and minimize missed collections.

Below is Table 10, which outlines the Desired End State for waste collection within the municipality:

Focus Area	*Current status*	*Desired end state*	*Action required*
Waste receptacles	In sufficient in many public and residential areas	Adequate, strategically placed bins in all serviced areas	Procure and distribute standardized bins; install in key locations
New Developments	Not fully integrated into waste collection routes	All developments included in waste service plans	Update planning protocols; liaise with developers
Unserved Areas	Limited or no waste collection	Full waste service coverage, including informal settlements	Extend service contracts; engage communities
Route Planning	Inefficient and manually executed Digitally optimized,	cost-effective collection routes	Implement GPS-based route systems; train personnel
Community Awareness	Limited participation and awareness in waste separation	High community involvement and compliance	Launch public education campaigns; promote recycling initiatives
Monitoring and Evaluation	Lacking real-time data and performance tracking	Real-time service monitoring and responsive issue resolution	Deploy waste collection monitoring systems; conduct regular audits

Table 10: Desired End State for Waste Collection in the Municipality

This desired framework aligns with broader municipal goals of sustainable urban development, environmental stewardship, and public service delivery enhancement. By addressing these infrastructural and logistical challenges, the municipality can significantly improve the efficiency and equity of its waste management system.

6.5 Effective and Efficient Delivery of Waste Services: Resource Extension

In order to improve waste management service delivery, it is essential to assess and address deficiencies in personnel, financial, and equipment resources.

To meet current and future service delivery demands, a comprehensive resource development strategy is required. This involves evaluating the adequacy of existing resources, identifying funding gaps, and implementing appropriate organisational structures and procurement plans. Furthermore, enhancing staff capabilities through training and professional development is vital to improving service efficiency.

Key objectives include:

- Human Resource Development: Ensuring there are enough trained staff to manage operations, from collection to landfill management.
- Financial Sustainability: Aligning available budgets with strategic goals and exploring alternative funding mechanisms (e.g. public-private partnerships, donor support).
- Equipment Upgrade and Maintenance: Replacing aging fleet vehicles, acquiring modern waste management tools, and establishing preventative maintenance schedules.

Below is Table 11, which outlines the Desired End State for resource extension in the municipality:

Resource Area	***Current Status***	***Desired end state***	***Actions required***
Personnel	Inadequate staffing; limited training	Adequately staffed with skilled and trained personnel	Recruit more staff; implement continuous training and development programs
Financial Resources	Budget constraints, limited long-term planning	Sustainable funding and budget alignment with service needs	Develop multi-year budgets; explore external funding sources
Waste Collection Equipment	Ageing and insufficient vehicles and tools	Modern, efficient, and well-maintained fleet and equipment	Procure new equipment; establish maintenance schedules
Operational Efficiency	Low productivity due to lack of automation or poor logistics	Streamlined operations supported by proper tools and systems	Implement logistics software; review workflows
Infrastructure Investment	Lack of investment in support infrastructure (e.g. depots)	Adequate support infrastructure in place for service delivery	Build/upgrade depots, maintenance yards, and equipment storage facilities
Organizational Structure / Restructure waste management unit; improve inter-department coordination	Fragmented or outdated management structures Clear	responsive organizational structure supporting waste services	Restructure waste management unit; improve inter-department coordination

Table 11: Desired End State for Resource Extension in the Municipality

By achieving the desired end state outlined above, the municipality will be better positioned to deliver waste services that are both efficient and environmentally responsible. An integrated approach to resource planning—incorporating human capital, financial management, and operational tools—will ensure the long-term sustainability of waste service delivery.

6.6 Waste Minimisation

Effective waste minimisation is a critical component of sustainable municipal waste management. It reduces the volume of waste requiring disposal, conserves natural resources, and extends the life of landfill sites. This section will focuses on strategies that can be implemented to reduce waste generation at the source and improve recycling and reuse within the municipality.

Key strategies for waste minimisation include:

- Separation and Collection at Source: Encouraging households, businesses, and institutions to sort waste into recyclables, organics, and general waste at the point of generation.
- Outsourcing of Reclamation Activities: Partnering with private recyclers and informal waste pickers to collect, sort, and process recyclable materials, thereby creating employment opportunities and increasing efficiency.
- Development of Localized Collection Points: Establishing recycling drop-off zones and community buy-back centers to improve access to waste diversion infrastructure, especially in areas with limited municipal service coverage.
- Public Awareness and Education: Conducting regular outreach and education campaigns to promote waste minimisation practices among residents and businesses.

Below is Table 12, which outlines the Desired End State for Waste Minimisation in the municipality:

Focus area	***Current status***	***Desired end state***	***Action required***
Source Separation	Limited or no separation at household or business level	Widespread adoption of waste separation at source	Roll out colour-coded bins; educate public; provide incentives
Reclamation and Recycling	Recycling largely informal and unregulated	Formalized, efficient recycling system with third-party partners	Partner with private recyclers; support informal reclaimers
Collection Points	Few designated recycling sites	Accessible and well-managed collection/recycling points in each ward	Establish drop-off centers; integrate with Municipal depots
Community Awareness	Low public awareness of recycling benefits	Informed and active public participation in minimisation initiatives	Run ongoing awareness campaigns; collaborate with schools and NGOs
Legislative Compliance	Limited enforcement of waste minimisation practices	Full compliance with National Waste Management Strategy and regulations	Align by-laws with national policy monitor and report progress
Organic Waste Diversion	Most organic waste sent to dumpsite	Composting of organics at household, community, or municipal scale	Provide compost bins; develop municipal composting projects

Table 12: Desired End State for Waste Minimisation in the Municipality

By implementing these strategies, the municipality can significantly reduce the environmental impact of its waste, improve landfill management, and move toward a circular economy. Waste minimisation not only reduces disposal costs but also contributes to job creation in the recycling and reclamation sectors.

6.7 Compliance with Legislative Requirements

Illegal dumping remains one of the most pressing environmental and service delivery challenges facing municipalities. It leads to health hazards, environmental degradation, increased service delivery costs, and public dissatisfaction. Addressing this issue requires a strong commitment to compliance with national and local waste legislation, particularly as outlined in:

- The National Environmental Management: Waste Act (Act 59 of 2008)
- Municipal by-laws on waste management
- The OHS Act 85 of 1993, in relation to environmental health and safety

This section focuses on the identification of illegal dumping hot spots, development of public awareness and enforcement campaigns, revision of by-laws, and adjustment of waste collection strategies to reduce opportunities for unlawful waste disposal.

Key components of the strategy include:

- Mapping and monitoring high-risk areas where illegal dumping frequently occurs.
- Community education and anti-dumping campaigns, particularly in informal settlements and peri-urban areas.
- Strengthening by-laws to include harsher penalties and clear enforcement mechanisms.
- Improving waste services in vulnerable areas to reduce the demand for illegal dumping.
- Deployment of enforcement officers, surveillance systems, and collaboration with community watch structures.

Focus Area	Current status	Desired End state	Action required
Illegal Dumping	Hot Spots Multiple unmanaged sites across the municipality	All hot spots identified, mapped, and monitored Conduct regular inspections	establish GIS mapping tools
Clean-up Campaigns	Infrequent, reactive responses to illegal dumping	Regular, well-funded, community-driven clean-up programs	Partner with NGOs, ward committees, and local schools
Anti-dumping Campaigns	Limited public awareness and education	Active public participation in anti-dumping awareness efforts	Run multimedia campaigns; distribute educational materials
By-law Enforcement	Weak enforcement; outdatedor insufficient regulations	Strong, updated by-laws with active enforcement	Review and revise municipal by-laws; impose stricter fines
Waste Collection Strategy	Inconsistent or inadequate service in high-risk areas	Reliable collection service that discourages illegal dumping	Expand coverage; increase collection frequency in known problem zones
Community Reporting Systems	No formal channels for public to report dumping	Easy-to-use systems for public reporting and municipal response	Set up hotlines, mobile apps, and ward-based response teams

Table 13 :Desired End State for the Management of Illegal Activities in the Municipality

By striving toward the desired end state outlined above, municipalities can foster cleaner environments, promote legal compliance, and reduce the financial and environmental burden of

illegal dumping. These actions will also align local governance with South Africa's broader environmental sustainability goals and public health regulations.

6.8 Waste Information System (WIS)

An efficient Waste Information System (WIS) is essential for improving waste management operations, enhancing transparency, informing policy decisions, and ensuring compliance with national waste legislation—particularly the National Waste Information System (SAWIS) as required under the National Environmental Management: Waste Act (Act 59 of 2008).

This section highlights the importance of developing and maintaining a robust WIS at the municipal level. The system should enable effective record-keeping, data analysis, performance monitoring, and information sharing among all relevant stakeholders including municipal departments, service providers, recyclers, and community organisations.

Objectives of the Municipal Waste Information System include:

- Collecting accurate data on waste generation, types, volumes, collection routes, and disposal methods.
- Reporting mandatory data to provincial and national systems (e.g. SAWIS).
- Improving decision-making through real-time analytics and historical data tracking.
- Enhancing interdepartmental cooperation and stakeholder communication.
- Supporting enforcement, budgeting, and strategic planning.

Focus Area	Current status	Desired end state	Actions required
Data Collection	Manual or inconsistent data collection methods	Standardised and automated waste data collection across all sectors	Implement electronic data capture tools, train municipal staff
Record Keeping	Poor or fragmented records across Departments	Centralised and secure digital record-keeping system	Develop municipal WIS database; conduct regular data audits
Integration with SAWIS	Limited or no integration with national systems	Full compliance and integration with SAWIS reporting requirements	Align data categories with SAWIS; ensure timely reporting
Stakeholder Collaboration	Minimal data sharing between stakeholders	Transparent data access and collaboration across departments	Set up stakeholder forums; create secure access portals
Monitoring and Reporting	Infrequent or reactive reporting	Real-time monitoring and periodic reporting on waste performance	Generate monthly/quarterly reports; link to service KPIs
Public Access and Awareness	No public interface or waste information visibility	Publicly accessible dashboard for basic waste stats and updates	Create web-based dashboard; publish reports on municipal Website
Decision Support	Lack of reliable data for planning and budgeting	Data-driven decision-making in planning, budgeting, and procurement	Use WIS data in IDP and budget development;

			integrate GIS for spatial analysis

Table 14: Desired End State for Waste Information System in the Municipality

Benefits of a Functional WIS:

- Enables evidence-based planning and budgeting.
- Improves regulatory compliance at local and national levels.
- Facilitates community accountability and transparency.
- Supports early detection of operational inefficiencies and illegal activities.
- Strengthens data-driven policy development for waste minimisation, recycling, and infrastructure investment.

Developing a reliable Waste Information System is not only a legislative requirement but a strategic tool that underpins the effective and sustainable delivery of waste services in the municipality. The success of the WIS depends on strong leadership, cross-sector collaboration, and the integration of modern digital tools.

6.9 Education and Awareness

Education and public awareness are essential for the long-term success of any municipal waste management strategy. Without active participation from residents, businesses, schools, and other stakeholders, efforts to improve waste collection, minimise illegal dumping, and increase recycling will be limited in effectiveness.

This section emphasizes the importance of rolling out consistent and targeted education and awareness campaigns at both community and stakeholder levels. These campaigns should focus on topics such as waste separation at source, the impact of illegal dumping, recycling practices, and the benefits of responsible environmental behavior.

Key objectives include:

- Promoting community-level behavior change around waste disposal and environmental hygiene.
- Educating school learners and youth to build a foundation of lifelong environmental responsibility.
- Engaging strategic stakeholders (e.g. local businesses, waste collectors, informal reclaimers, NGOs) in ongoing dialogue and cooperative actions.
- Using a variety of platforms such as community meetings, radio, social media, posters, and school events to maximise outreach.

Focus Area	Current status	Desired end state	Actions required
Community Education	Limited outreach and inconsistent messaging	Informed communities actively participating in proper waste practices	Community awareness sessions to be conducted in war rooms and at traditional councils, targeting key people of influence
School Programmes	Few or no structured waste education activities in schools	Environmental awareness integrated into school curricula	Partner with Department of Education; provide

			teaching materials and workshops
Stakeholder Engagement	Weak coordination among stakeholders	Regular, coordinated engagement on waste management strategies	Hold quarterly stakeholder forums and feedback sessions
Media and Communications	Limited use of communication channels	Active use of radio, posters, flyers, social media, and local Events	Develop multilingual campaigns and branded educational materials
Recycling Awareness	Low public knowledge about recycling options	High public participation in recycling and separation at source	Educate on bin colour coding, recyclable materials, and drop-off centres
Anti-Dumping Campaigns	Poor understanding of environmental and legal consequences	Widespread rejection of illegal dumping practices	Run anti-dumping awareness days; display fines and reporting contact info
Monitoring and Feedback	No system for measuring public awareness levels	Ongoing tracking of public knowledge and behavior	Conduct surveys, gather community feedback, and adjust strategies as needed

Table 15: Desired End State for Education and Awareness in the Municipality

Long-Term Impact of Education and Awareness:

- Greater public ownership of environmental issues.
- Reduced littering and illegal dumping.
- Increased recycling and proper disposal behaviours.
- Enhanced partnerships between the municipality and its communities.
- Support for other waste management interventions such as separation at source and WIS.

Education is a powerful tool that, when used effectively, can transform waste management from a service burden into a shared community responsibility. Strategic and ongoing investment in awareness campaigns is essential for the long-term sustainability of municipal waste systems

7 GOALS AND OBJECTIVES

The following sections outline the goals and targets identified and the possible alternatives for each.

7.1 ***Waste Disposal Infrastructure***

7.1.1 **Goal 1: Improve and develop infrastructure to comply with legislative requirements and municipal needs.**

Targets:

1. Ensure that waste disposal sites in the Municipality is licensed and comply with legislative requirements.

7.1.1.1Target 1: Ensure that waste disposal site in the Municipality are licensed and comply with legislative requirements

Current Status

- The Municipality has jurisdiction over only one waste disposal site: the Paulpietersburg Waste Disposal Site.
- Located approximately 2.5 km south-east of Paulpietersburg.
- The site is currently not licensed.
- In terms of the National Environmental Management: Waste Act (NEMWA), the site must either:
  Be licensed under Section 45 of NEMWA, or
  Undergo formal closure procedures.

Operational Challenges

- Non-compliance with the Minimum Requirements for Waste Disposal by Landfill (Second Edition, 1998).
- Site is not fenced, leading to uncontrolled access.
- Uneducated personnel result in inefficient or inappropriate site operations.
- Reclaimers operate on-site without regulation, interfering with daily activities.
- The site is not covered daily, resulting in:

Wind-blown litter

Vectors (e.g., rats, insects)

Dust and odours

- No dedicated waste management equipment is available on-site

Required Actions

1. Apply for licensing of the Paulpietersburg site in accordance with Section 45 of NEMWA.
2. Assess the feasibility of closure.
3. Upgrade operations to meet the Minimum Requirements for Waste Disposal by Landfill, including:
   - *Installing perimeter fencing to control access.*
   - *Training staff on operational procedures and legal compliance.*
   - *Regulating reclaiming activities through formal arrangements or cooperative models.*
   - *Implementing daily covering of waste to mitigate litter and environmental nuisances.*
   - *Procuring basic operational equipment, such as compactors or bulldozers.*
4. Conduct a compliance audit to identify further areas of concern and to support the licensing process.

Possible Alternative

- Enter into inter-municipal agreements to share infrastructure and operational resources.

Alternative: Outsourcing of Waste Management at the Paulpietersburg Waste Disposal Site

Overview

One potential solution to address the operational inefficiencies and compliance issues at the Paulpietersburg waste disposal site is the outsourcing of its management to a qualified private service provider.

Rationale

- Current municipal operations face significant challenges due to a lack of trained personnel, equipment, and regulatory compliance.
- Privatization could introduce professional expertise, resource investment, and operational efficiency that the Municipality may currently lack.
- Outsourcing has the potential to improve service quality and ensure compliance with environmental legislation and the Minimum Requirements for Waste Disposal by Landfill.

Required Process: Section 78 Assessment

Before proceeding with outsourcing, the Municipality is legally required to conduct a Section 78 (S78) service delivery assessment, in accordance with the Municipal Systems Act (2000).

Purpose of the Section 78 Assessment

- To evaluate all available service delivery mechanisms, including:
  - *Internal municipal delivery*
  - *Public-private partnerships (PPPs)*
  - *Outsourcing to private companies*
  - *Inter-municipal service arrangements*
- To determine the most cost-effective, sustainable, and appropriate approach for delivering waste management services.

Key Objectives of the Assessment

- Ensure efficient, affordable, and economical waste management services.
- Promote long-term sustainability and regulatory compliance.
- Enhance accessibility and service quality to the community**.**

Benefits of Outsourcing

- Access to specialized waste management knowledge and resources.
- Improved compliance with environmental regulations.
- Reduction in illegal dumping, litter, and operational hazards.
- Possibility of integrating waste reclaimers into a more formalized recycling or waste separation program.

Next Steps

Initiate a Section 78 Assessment, including stakeholder consultations, cost-benefit analysis, and risk assessment.

If outsourcing is recommended:

- *Develop tender specifications for a private waste management operator.*
- *Implement a transparent procurement process.*
- *Ensure contractual performance monitoring, including regular reporting, compliance checks, and community feedback mechanisms.*

Analysis of Alternative: Outsourcing Waste Disposal Site Operations

Cost Implications

- A Section 78 (S78) service delivery assessment is a mandatory prerequisite before any outsourcing decision can be made.
- The estimated cost of conducting this assessment is R1 200,000.00.
- The cost-benefit ratio of outsourcing cannot be conclusively determined until the assessment is completed.
- Recommendation: Allocate R1 200,000.00 in the upcoming municipal budget to fund the S78 assessment and enable informed strategic decision-making.

Potential Benefits of Outsourcing

While the full advantages will be verified through the S78 study, preliminary anticipated benefits include:

1. *Reduced Operating Costs*

Private operators may run the site more efficiently through economies of scale and specialized expertise.

2. *Reduced Capital Expenditure*

The Municipality will not need to invest in plant and equipment, as these are typically provided by the contractor.

3. *Reduced Operational Expenditure*

Fewer municipal staff required on-site, lowering salary costs and associated employment overheads.

4. *Improved Site Operations*

Enhanced compliance with legislative and environmental standards.

Better site management, equipment availability, waste compaction, covering, and overall cleanliness.

Risks & Considerations

- Initial investment required with no guarantee of outsourcing being the preferred outcome.
- The contracting process must be carefully managed to avoid long-term liabilities or underperformance.
- Stakeholder engagement, especially with informal reclaimers and municipal workers, will be critical.

Conclusion

Outsourcing has the potential to significantly improve the effectiveness and cost-efficiency of the Paulpietersburg waste disposal site. However, a Section 78 assessment is essential to validate these assumptions and guide an evidence-based decision. The Municipality should plan for this expenditure as a strategic investment in long-term service improvement.

7.1.1.2 Legal Requirements / Framework

Waste disposal facility must be licensed in accordance with Section 45 of the National Environmental Management: Waste Act (NEMWA).

This section mandates that:

- Existing and new landfill sites must operate under a valid waste management license.
- Facility failing to comply are subject to regulatory enforcement, including possible closure, fines, or legal proceedings.

Compliance with NEMWA ensures that environmental and public health risks are minimized through proper site planning, design, and operational management.

7.1.1.3 Resources and Finances

To implement Goal 1, the following funding sources may be considered:

Municipal Budget

- Direct funding allocations should be planned annually for compliance-related upgrades, site management, and personnel training.

Municipal Infrastructure Grant (MIG)

- These grants may support infrastructure upgrades such as fencing, purchasing of yellow fleet, access roads, weighbridges, and stormwater control systems.

National Government Funding Cycle

- Funding is allocated on a three-year rolling cycle.
- Municipalities must submit business plans to access available funds via their respective District Municipalities.
- Timely submission of project proposals aligned with national and provincial priorities increases the likelihood of funding approval.

7.1.1.4 Implications of Inaction on Strategic Goal 1

Failure to implement the necessary infrastructure improvements and legal compliance measures will have significant environmental, health, and legal consequences, including:

Environmental Impacts

- Contamination of underground water resources due to leachate and inadequate containment.
- Increased air and soil pollution from uncovered waste, wind-blown litter, and odours.

Health and Safety Risks

- Poorly managed waste sites pose serious health hazards to workers, reclaimers, and surrounding communities.
- Risk of injuries, disease outbreaks, and infestation by pests or vectors.

Legal and Regulatory Risks

- Operating an unlicensed landfill site is a violation of NEMWA, which could lead to:
  Enforcement actions by the Economic Department of Tourism, Environmental Affairs (EDTEA)
  Fines, site closure, and possible litigation against the Municipality.

7.2 Waste Collection

7.2.1 Goal 2: Provide Effective Waste Collection

Effective waste collection is essential to maintaining public health, cleanliness, and environmental quality within the Municipality. The following targets are aimed at improving and expanding waste collection services in a sustainable and equitable manner.

Targets and Strategic Actions

7.2.1.1 Target 1: Maintain current service delivery to all areas within the Municipality and extend service delivery to all indigent populations where possible.

Strategic Actions:

- Conduct a service coverage audit to identify underserved or unserved areas.
- Prioritize extension of services to indigent households, informal settlements, and rural communities.
- Leverage existing municipal resources to improve efficiency before major infrastructure investments

7.2.1.2 Target 2: Effectively plan to extend service delivery to any new developments within the Municipality.

Strategic Actions:

- Align waste collection planning with the Municipality's spatial development framework (SDF) and land use planning.
- Integrate waste service requirements into the approval processes for new residential, commercial, and industrial developments.
- Ensure developer contributions (where applicable) include provisions for waste collection infrastructure.

7.2.1.3 Target 3: Conduct a transportation study to identify and optimise collection routes and number of service points.

Strategic Actions:

- Undertake a logistics and route optimisation study to:

Minimise fuel and vehicle maintenance costs.

Improve frequency and reliability of service.

Reduce travel time and environmental impact.

- Use GIS mapping and route planning software to identify ideal locations for service points, skip bins, and vehicle turnaround areas.
-

7.2.1.4 Target 4: Establish receptacle requirements within the Municipality and supply the receptacles to residents in order to optimise collection efforts.

Strategic Actions:

- Conduct an assessment of receptacle needs by area type (e.g., urban, rural, high-density).
- Establish standards for receptacles (size, colour coding for recyclables, durability).
- Develop a phased rollout plan to distribute bins or bags to households and businesses.
- Include community education on proper receptacle use to support participation and reduce contamination

7.2.1.4.1 Key Considerations for Receptacle Selection:

I. **Cost**:

- *Wheelie bins* have a higher upfront cost than plastic bags but offer greater durability and long-term savings.

II. **Size**:

- Receptacle size should be based on average household waste volumes and collection frequency.
- Maximum size for standard household bins: 240 litres.
- Less-than-weekly collection is not advised due to health risks in South African conditions.

III. **Pollution**:

- Plastic bags can contribute to environmental degradation if not reused or properly disposed of.

IV. **Compatibility**:

- Receptacles must be compatible with collection vehicle types.
- Wheelie bins should be introduced as existing vehicles are replaced with compatible models.
- Compactor trucks may be unsuitable for certain waste types (e.g., recyclables or low-compaction materials).

V. **Handling & Suitability**:

- Bins must be easy to handle, safe (no sharp edges), and easily cleanable.
- High-density or sloped areas may require alternative receptacle types despite adequate road access.

VI. **Vermin and Vector Control**:

- Receptacles must be sealed, waterproof, and leachate-resistant to prevent the entry of vermin and flies, and to minimise environmental contamination.

VII. **Durability**:

- Receptacles should be resistant to mechanical damage and animal-proof, as domestic and wild animals can damage bins when scavenging.

VIII. **Availability**:

- Receptacles should be readily available in the commercial market at competitive prices to ensure cost-efficiency for both the Municipality and residents.

IX. **Number of Receptacles**:

- Allocation should consider household size and waste generation. A standard number of bins may be provided per household, with options for additional bins at the household's expense.

7.2.2 Technical Specifications for Domestic Waste Receptacles:

1. **Distinction Between Waste Types**:
    - Receptacles for recyclable and non-recyclable waste must be clearly distinguishable (e.g., by colour, labelling).
2. **Design and Performance Standards** (for non-recyclable household waste):
    - Fit for safe and hygienic storage.
    - Prevents environmental pollution and health hazards.
    - Rigid, durable, and resistant to tipping, spillage, and leakage.
    - Intact and free from corrosion or excessive wear.
    - Covered to prevent access by animals and insects, and to avoid windblown litter.
    - Maximum volume: 240 litres.

7.2.3 Responsibilities and Operational Guidelines:

1. **Resident Responsibilities**:
    - Households are responsible for maintaining the hygiene and safekeeping of their bins.
    - Receptacles must not be used for any purpose other than temporary storage of household waste.
2. **Service Provider/Municipality Responsibilities**:

- Must return emptied receptacles to the same household from which they were collected.
- In areas using returnable bins, households must mark receptacles to assist in correct returns.

3. **Special Provisions for Vulnerable Groups**:
    - Elderly and disabled residents should be offered the option of using smaller or more manageable receptacles, where appropriate.

This structured guidance provides a strong foundation for an effective and equitable receptacle policy.

7.2.4 Bulk Containers

In areas where bulk containers are determined to be the most suitable receptacle type—due to high waste volumes, communal collection needs, or space constraints—the same general standards as outlined for individual receptacles must apply. In addition to these baseline standards, the following specific requirements must be observed:

Design and Safety Requirements:

1. **Standards Compliance**:
    - Bulk containers must meet the same requirements regarding durability, hygiene, vermin control, and environmental safety as smaller household receptacles.
2. **Safety Features**:
    - All bulk containers must be fitted with reflectors to enhance visibility and prevent accidents, especially during night-time or low-visibility conditions.
3. **Accessibility**:
    - Where appropriate, bulk containers should be installed next to raised platforms or designated loading zones to ensure ease of access for both waste depositors and collection vehicles.

7.2.5 Operational and Community Considerations:

7.2.5.1 Waste Transfer Systems:

- In cases where bulk containers are used for domestic waste, a formalised household waste transfer system must be implemented to move waste from individual homes to the central container.
- This system may include door-to-container collection services, ideally operated by local community contractors, to maximise job creation and economic inclusion.

Skip Use Limitation:

- Skips are specifically designed for the collection of bulky, heavy waste such as construction debris or dense garden waste that will not be windblown during transportation.
- Skips are not suitable for the collection of domestic waste unless fitted with appropriate containment features, such as secure covering nets, to prevent littering and environmental nuisance.

7.2.5.2 Communal Collection Points

Communal collection points are designated and clearly marked areas where households—particularly in dense or informal settlements—can deposit their waste for scheduled collection by the Municipality.

These points serve as vital nodes in areas where door-to-door collection is impractical due to space constraints, informal road layouts, or other operational limitations.

Design and Operational Requirements:

The Municipality must ensure that all communal collection points are:

- Clean and well-maintained at all times to prevent environmental degradation and health hazards.
- Monitored regularly to prevent illegal dumping, vandalism, or misuse.

Receptacle Standards for Communal Points:

- Receptacles placed at communal collection points must:
- Be securely covered to prevent windblown litter and access by vermin or animals.
- Be user-friendly, allowing safe and convenient use by children, elderly persons, and people with disabilities.

Location and Access Criteria:

Collection points must:

- Be easily accessible to collection vehicles, ensuring efficient and regular waste removal without damage to public infrastructure or vehicles.
- Be designed to encourage separation of waste at source, through clear signage and provision of differentiated bins or compartments for recyclables, non-recyclables, and organic waste.

Properly managed communal collection points contribute to inclusive service delivery, improved public health, and the efficiency of municipal waste operations, particularly in areas not yet serviced by individual household collection.

7.2.5.3 Frequency of Collection

While waste minimisation is strongly encouraged, the frequency of waste collection must be sufficient to prevent:

- Illegal dumping
- Nuisances such as odours and overflowing bins
- Health hazards caused by accumulated waste and attraction of vermin

The following minimum collection frequencies are recommended based on best practices and South African environmental and public health conditions:

1. Non-Recyclable Waste:

- Must be collected at least once per week from all households and service points.

- Less frequent collection poses significant health risks in South Africa's hot climate due to the rapid decomposition of organic waste.
- The frequency may be adjusted based on waste volumes and bin size, but must not fall below the minimum standard.

2. Recyclable Waste:

- Should be collected at least once every two weeks.
- Coordination with industry users of recyclables (e.g. recyclers, material recovery facilities) is necessary to optimise costs and avoid congestion at transfer stations and recycling depots.
- Frequency may be increased in areas with high recycling participation or limited storage space.

3. Communal Collection Points:

- Waste must be collected within 24 hours of receptacles being reported as full.
- Collection must occur at pre-determined regular intervals to avoid overflow, odour, and vermin.
- Monitoring systems and community reporting mechanisms should be implemented to ensure responsiveness.

4. Bulk Containers:

- Must be collected immediately upon reaching full capacity or within 24 hours of being reported as full, whichever comes first.
- Minimum frequency of collection must be once per week, regardless of usage levels, to avoid health and safety concerns.

7.2.5.4 Factors Influencing Collection Frequency:

The optimal collection frequency may vary depending on the following:

1. **Bin Size and Waste Generation Rates**

- Larger bins and low-volume generators may require less frequent collection, but minimum standards must be upheld.

2. **Collection Area Characteristics**

- Type of service model in place (e.g. kerbside, communal)

3. **Types of vehicles and equipment used**

- Distances between collection points and disposal or processing sites (to manage fuel and transport costs)

4. **Climatic Conditions**

- High temperatures, as experienced across much of South Africa, accelerate waste decomposition, making weekly or more frequent collection of non-recyclable waste essential.

7.2.6 Legal Requirements / Framework

The Municipality has a legal and constitutional obligation to provide equitable waste collection services to all households within its jurisdiction, regardless of income level, geographic location, or settlement type.

To fulfil this mandate, the Municipality must comply with the following national and local legislative frameworks:

1. Compliance with National Standards

- The Municipality must adhere to the National Domestic Waste Collection Standards developed by the Department of Forestry, Fisheries and Environment (DFFE).
- These standards provide guidance on minimum service levels, collection frequency, receptacle specifications, and equitable access to services.
- Where applicable, these standards should be incorporated into the Municipality's Waste Management By-laws to ensure enforceability and regulatory alignment.

2. Indigent Policy Alignment

- In accordance with the Municipality's Indigent Policy, residents who are unable to afford basic services must be provided with free basic refuse removal services.
- The financial implications of servicing indigent households must be considered in the municipal budgeting process, with shortfalls (not covered by the Equitable Share) accounted for to ensure sustainable service delivery.

3. Recommended Collection Models

- Weekly kerbside waste collection is recommended for all formal households within the Municipality.
- In densely populated or informal settlements that are not easily accessible by large municipal vehicles, a community-based waste collection system is advised. This involves the employment or contracting of local residents to:
    - Collect household waste door-to-door, and
    - Transport it to a centralised communal collection point.

- From these collection points, the Municipality can then transport the waste to a licensed waste disposal facility, such as the Paulpietersburg waste disposal site, ensuring proper and lawful disposal.

The implementation of a legally compliant, socially inclusive, and operationally effective waste collection system is critical for achieving the Municipality's service delivery and environmental health objectives.

7.2.7 Resources and Finances

The Municipality's funding for waste collection services primarily derives from:

- The municipal budget, and
- The Equitable Share, which provides financial support to offer free basic services to indigent households.

Organizational Capacity

- The current staff complement and organizational structure within the Waste and Environmental Management Department are considered adequate to maintain waste collection services for existing households and service points.
- Should future population growth or new developments create an increased demand that exceeds current service capacity, the Municipality will expand its organizational resources accordingly to ensure continued effective service delivery.
- All staffing and operational adjustments will remain fully compliant with the National Environmental Management: Waste Act (NEM:WA) and related regulations.

7.2.8 Implications of Inaction on Strategic Goal 2: Provide Effective Waste Collection

Failure to act on Strategic Goal 2 will have significant negative consequences, including but not limited to:

- **Non-compliance with National Policy:**
  The Municipality will be in contravention of the National Policy on the Provision of Basic Refuse Removal Services to Indigent Households, which mandates that all indigent households must receive waste collection services. Non-compliance may result in legal challenges, sanctions, or withholding of government grants and support.
- **Public Health Risks:**
  Ineffective or insufficient waste collection increases the risk of waste accumulation, leading to environmental pollution, vector-borne diseases, and unhygienic living conditions, particularly in vulnerable communities.
- **Environmental Degradation:**
  Uncollected waste can contaminate soil, water sources, and air, contributing to broader environmental harm and negatively impacting the Municipality's sustainability goals.
- **Community Dissatisfaction and Social Unrest:**
  Poor waste management services disproportionately affect indigent and informal settlements, leading to community dissatisfaction, loss of trust in local government, and potential social unrest.

- **Increased Long-Term Costs:**
  Delays in maintaining and expanding waste collection services can result in escalating costs over time, including higher expenses for clean-up operations, healthcare, and environmental remediation.

7.3 Resource Extension

7.3.1 Goal 3: Provide an Effective and Cost-Efficient Waste Management Service

To ensure sustainable and efficient waste management services, a strategic extension and optimization of key resources is essential. This involves strengthening human, fleet, and financial resources to improve service delivery and customer satisfaction.

Targets:

1. ***Effective Structure and Extension of Human Resources***

- Conduct workforce analysis to identify current gaps and future needs.
- Recruit and train personnel to meet operational demands and improve service delivery.
- Restructure management and field staff roles to enhance efficiency and accountability.

2. ***Extend and Maintain Waste Collection Fleet for Service Delivery***

- Expand the fleet in line with geographic and population growth.
- Implement a preventative maintenance schedule to reduce downtime and repair costs.
- Invest in modern, fuel-efficient, and environmentally friendly vehicles.

3. ***Effective Financial Management for Waste Management***

- Implement robust budgeting, monitoring, and reporting systems.
- Ensure transparency and accountability in the allocation and utilization of funds.
- Explore external funding and partnerships to supplement local resources.

4. ***Implement Improved Tariff Model***

- Develop a fair and transparent tariff model based on service categories and waste generation levels.
- Conduct community consultations to ensure the model is socially acceptable and economically viable.
- Regularly review tariffs to reflect operational costs and inflation.

5. ***Decrease Non-Payment of Tariffs***

- Strengthen billing systems and customer database accuracy.
- Launch awareness campaigns highlighting the importance of paying for waste services.
- Implement enforcement mechanisms, including penalties for non-payment and incentives for timely payment.

7.3.1.1 Target 1: Effective Structure and Extension of Human Resources

To ensure the delivery of efficient and reliable waste management services, it is essential that the Municipality addresses its current staffing limitations and plans for future personnel needs. The following recommendations aim to strengthen the human resource base within the Waste and Environmental Management Department:

Key Recommendations:

i. **Develop and Maintain a Detailed Organogram**

- Compile a comprehensive organogram of all waste management personnel, clearly outlining reporting lines, roles, and responsibilities.
- Immediately fill any existing vacancies to ensure continuity of service delivery.
- Conduct a needs assessment to determine if additional positions are required based on service demand and operational goals.
- Update the organogram accordingly and prioritize the recruitment process for newly identified positions.

ii. Assess and Address Staffing Capacity Gaps

- The current organizational capacity and staff complement within the Waste and Environmental Management Unit is insufficient to meet service delivery standards.
- A capacity audit should be undertaken to assess operational gaps, workforce load, and performance limitations

iii. Implement Targeted Training and Skills Development

- Implement Targeted Training and Skills Development
- For general labourers and lower-level staff: In-house training is recommended, as existing municipal staff possess the necessary experience and skills.
- For specialized roles such as compactor operators, supervisors, or technical staff: External experts should be engaged to provide specialized training and certification.
- Develop a training plan and budget to support continuous staff development, aligned with occupational health and safety standards and operational efficiency.

iv. Sustainability and Retention

- Improve working conditions and offer professional development opportunities to retain trained personnel.
- Introduce recognition programs to incentivize performance and reduce turnover.

7.3.1.2 Target 2: Extend and Maintain Waste Collection Fleet for Service Delivery

A reliable and well-maintained waste collection fleet is critical to ensuring effective, efficient, and uninterrupted waste management services. Currently, the Municipality faces a significant shortage of functional vehicles and equipment for disposal operations, severely impacting service delivery.

Key Issues Identified:

- The Municipality owns only a limited number of waste management vehicles.

- The existing fleet is insufficient, with a lack of appropriate equipment for disposal activities.
- Servicing delays and absence of a structured replacement strategy further hinder operational efficiency.

Recommendations:

Fleet Expansion and Optimization

- Procure additional vehicles tailored to specific waste types (e.g., recyclable vs. non-recyclable) and collection methods.
- Select vehicles based on:
    - Type of waste (recyclable vs. non-recyclable)
    - Geographic area and terrain
    - Collection method (manual, mechanized, or hybrid)

Vehicle Replacement and Procurement Plan

- Develop and implement a vehicle replacement plan to systematically retire old and inefficient vehicles.
- Allocate sufficient budget for annual procurement of new vehicles to accommodate growth in serviced areas.

Operational Standards and Maintenance

- Enforce a preventive maintenance schedule to ensure the reliability and roadworthiness of the fleet.
- All waste vehicles must:
    - Be used exclusively for waste collection
    - Be enclosed or covered to prevent windblown litter
    - Be cleaned regularly to address hygiene and health concerns
- Non-compatible or multi-use vehicles must be phased out to maintain service integrity.

Collaboration and Coordination

- Strengthen collaboration with the Fleet Management Section and external service providers to reduce vehicle downtime.
- Improve turnaround time for vehicle servicing and repairs to ensure consistent operations.

Alternative Service Delivery Models

- Explore and pilot outsourcing waste collection in selected zones to improve capacity and service quality.
- Consider community-based waste collection models to engage local stakeholders, create employment, and enhance collection in underserved or informal areas.

Alternative 1: Outsourcing of Waste Collection

In light of the Municipality's current resource constraints and operational inefficiencies in waste collection, outsourcing presents a potential alternative to improve service delivery. A detailed analysis is necessary to determine the financial and operational viability of this option.

S78 Assessment Requirement

In accordance with the Municipal Systems Act (2000), any decision to outsource municipal services requires the Municipality to conduct a Section 78 (S78) assessment. This process evaluates the impact of outsourcing on service delivery, cost, and governance.

- Estimated Cost of Study: R1 3000,000.00

- Recommendation: The Municipality should make provision in its annual budget for the S78 study in order to assess the cost–benefit and legal implications of outsourcing waste collection services.

Potential Benefits of Outsourcing Waste Collection:

Reduced Operating Costs

- Private contractors may operate more efficiently, potentially reducing the overall cost of service delivery.

Lower Capital Expenditure

- The Municipality may avoid the high costs of procuring and maintaining waste collection vehicles and equipment.

Reduced Operational Expenditure

- Outsourcing can result in lower staffing and related costs (salaries, training, benefits), especially for specialized roles.

Improved Service Delivery

- Professional waste management companies may provide higher-quality, consistent services with better fleet and workforce management.

Key Considerations Before Outsourcing:

- Completion of a legally compliant S78 assessment.
- Clear definition of service level agreements (SLAs).
- Transparent procurement and contractor oversight mechanisms.
- Risk mitigation for potential service disruptions or non-performance.

Alternative 2: Community-Based Waste Collection Models

As an alternative to fully municipal or outsourced waste collection, Community-Based Waste Collection Models (CBWCMs) offer an inclusive, cost-effective, and employment-generating approach, especially in underserved and informal settlement areas.

This model empowers local communities to take part in the waste management value chain while relieving pressure on municipal resources.

Overview of the Model:

Community groups, cooperatives, or small enterprises are engaged—often under municipal supervision—to conduct household waste collection in designated areas. The Municipality may provide basic equipment, training, and logistical support, while these groups carry out door-to-door waste collection services.

Benefits of Community-Based Models:

- Job Creation and Local Economic Development

- Empowers local residents by creating micro-enterprises or cooperatives.
- Helps reduce unemployment in vulnerable communities.

Improved Service in Hard-to-Reach Areas

- Often more effective in informal settlements or dense areas where municipal trucks cannot easily access.

Cost-Effective Implementation

- Reduces reliance on large, capital-intensive fleet investments.
- Can lower operational and maintenance costs.

Community Ownership and Awareness

- Builds a sense of responsibility and participation in waste management.
- Enhances environmental awareness and behaviour change at grassroots level.

Implementation Requirements:

Identification and Mobilization of Community Stakeholders

- Involve local leaders, CBOs, youth groups, and women's groups.

Capacity Building

- Provide training on health and safety, waste handling, record keeping, and basic business skills.

Municipal Oversight and Support

- Provide uniforms, trolleys, gloves, and waste bags as starter kits.
- Define clear performance standards and reporting requirements.

Payment and Incentive Mechanisms

- Explore opportunities for recyclables recovery as an additional income stream.

Key Considerations:

- Requires continuous municipal coordination, support, and quality control.
- Must be formalized through MoUs or contracts to avoid exploitation or service gaps.
- Success depends heavily on community buy-in, training, and reliable payment mechanisms.

7.3.1.3 Target 3: Effective Financial Management for Waste Management

Robust financial management is essential for ensuring the sustainability and efficiency of municipal waste management services. Currently, many municipalities face challenges in budgeting, revenue collection, and resource allocation, which impact service delivery and infrastructure development. To overcome these challenges, the Municipality must strengthen its financial planning, monitoring, and expenditure controls specific to waste services.

Key Recommendations:

1. **Establish Ring-Fenced Budgeting for Waste Services**
   - Create a separate cost centre for waste management within the municipal budget.
   - Ensure that funds generated through waste tariffs and grants are exclusively allocated to waste-related operations and infrastructure.
2. **Improve Budget Planning and Forecasting**
   - Develop multi-year financial plans for waste services that align with service delivery expansion, fleet upgrades, and staffing needs.
   - Factor in inflation, fuel costs, equipment maintenance, and planned capital projects.

3. **Enhance Revenue Collection and Tracking**

- Strengthen integration between the waste management department and municipal billing systems to ensure accurate revenue collection and allocation.
- Track revenue streams from user fees, tariffs, and recycling initiatives to assess financial performance and trends.

4. **Monitor and Control Expenditures**

- Implement strict controls on operational and capital spending to avoid wastage and misallocation of funds.
- Conduct regular internal audits of procurement and spending on waste services.

5. **Explore Additional Funding Sources**

- Identify and apply for national and provincial grants or donor funding related to environmental services and sustainability.
- Explore public-private partnerships (PPPs) or Extended Producer Responsibility (EPR) models to supplement municipal resources.

6. **Implement Transparent Reporting**

- Prepare and publish periodic financial reports (quarterly/annually) on waste management expenditure, performance against budget, and revenue collection.
- Promote accountability and public trust through transparent disclosure.

7. **Capacity Building in Financial Management**

- Train finance and waste department personnel in cost accounting, grant compliance, financial analysis, and reporting tools relevant to municipal services.

7.3.1.4 Target 4: Implement Improved Tariff Model

A well-designed tariff model is essential to ensure the financial sustainability of waste management services. The current tariff structure may not reflect the true cost of service delivery, nor does it fully incentivize payment or cost recovery. An improved model should be equitable, transparent, and aligned with service levels and user affordability.

Key Objectives:

- To recover the actual cost of waste management services.
- To encourage responsible waste generation and disposal behaviour.
- To improve payment compliance through fair and understandable charges.

Recommended Actions:

1. **Conduct a Comprehensive Tariff Review**
   - Assess the current tariff model against actual service costs (staffing, fleet, fuel, maintenance, landfill operations).
   - Compare with best-practice models used in similar municipalities.
2. **Design a Tiered or Differentiated Tariff Structure**
   - Introduce a tiered system where tariffs vary based on:
   - Type of service (e.g. frequency, location)
   - Volume or weight of waste generated

- Customer category (residential, commercial, industrial)
- Provide lower tariffs for low-income or indigent households, with subsidization clearly define

3. **Align Tariffs with Cost of Service Delivery**

   - Ensure that the tariff model reflects full cost recovery, including operational, maintenance, and capital costs.
   - Factor in inflation, future infrastructure needs, and environmental compliance costs.

4. **Engage the Community and Stakeholders**
   - Conduct public consultation processes to promote transparency and gather feedback on proposed tariff changes.
   - Clearly communicate how tariffs are calculated and how revenues are used to improve services.

5. **Incorporate Waste Reduction Incentives**

   - Consider implementing a "pay-as-you-throw" model to encourage waste minimization.
   - Provide discounts or rebates to households that separate recyclables or participate in municipal recycling initiatives.

6. **Ensure Annual Review and Adjustment**

   - Review the tariff model annually during the municipal budgeting cycle.
   - Adjust tariffs in line with service delivery changes, economic conditions, and cost fluctuations.

7. **Integrate with Billing and Collection Systems**

   - Ensure the improved tariff model is effectively integrated into the municipal billing system.
   - Regularly update customer databases to reflect accurate billing based on property size, usage, or category.

8. **Implement Stronger Enforcement Mechanisms**
   - Introduce fair but firm debt collection processes, including final notices, payment plans, and service restrictions (where legally permissible).
   - Consider integrating waste charges into property rates to improve recoverability**.**

7.3.1.5 Target 5: Decrease Non-Payment of Tariffs

Non-payment of waste management tariffs significantly undermines the financial sustainability and operational efficiency of municipal waste services. Improving payment compliance is essential to maintaining service quality, expanding coverage, and investing in critical infrastructure.

Challenges Identified:

- High levels of non-payment, particularly in low-income or informal areas.
- Lack of understanding or awareness about the importance of paying for waste services.
- Perception of poor service delivery leading to unwillingness to pay.

Strategic Recommendations:

1. **Improve Billing Accuracy and Customer Data**
   - Conduct a full audit of the waste services customer database to correct inaccuracies in account details and property information.

- Ensure billing reflects actual service provision and is aligned with the improved tariff model.

2. **Enhance Customer Awareness and Engagement**
    - Launch educational campaigns to explain the link between service delivery and tariff payment.
    - Use municipal website/social media to build public trust and accountability**.**

3. **Introduce Incentives for Timely Payment**
    - Offer small discounts, rebates, or loyalty points for consistent, on-time payments.
    - Recognize and reward compliant households and businesses through community engagement initiatives**.**

4. **Support Indigent Households**
    - Ensure that registered indigent households are correctly classified and subsidized through an approved indigent policy.
    - Provide partial or full subsidies while still encouraging responsible use and separation of waste.

5. **Leverage Technology for Payment Convenience**
    - Offer multiple payment platforms, including mobile money, online payments, and local pay points.
    - Use SMS or email alerts for reminders and account updates.

6. **Monitor Collection Rates and Target Interventions**
    - Track payment compliance by ward or customer category.
    - Direct targeted interventions (e.g. door-to-door campaigns, community meetings) in areas with persistently low collection rates.

7.3.1.6 Target 5b: Reduce Non-Payment of Tariffs

To ensure the financial sustainability of waste management services, improving the payment rate of service tariffs is essential. Currently, formal households and businesses that receive waste management services are billed monthly, typically along with their electricity accounts. This allows for penalties to be enforced relatively easily through the suspension of services in cases of non-payment. However, in practice, this approach presents administrative challenges and is often time-consuming to implement.

The expansion of service delivery to additional areas may further increase the risk of non-payment by residents. One potential solution is the implementation of a pre-paid system, similar to the model used for electricity services. Such a system could be coupon-based, allowing users to purchase service vouchers in advance for a specific month.

A drawback of this approach is that non-payment, and the resulting disruption of services, could lead to an increase in illegal dumping within the municipality. It is therefore recommended that any pre-paid system be implemented alongside robust strategies aimed at preventing illegal dumping.

Additionally, the Municipality may consider recovering a portion of lost revenue through the national Equitable Share allocation, which can provide some financial relief in cases of non-payment.

1. Legal Requirements and Framework

Section 24 of the Constitution of the Republic of South Africa (Act No. 108 of 1996) guarantees every individual the right to an environment that is not harmful to their health or well-being. In line with this, Schedule 5B of the Constitution delegates the responsibility for waste collection and disposal to local government.

The delivery of Municipal services is further defined in the Municipal Structures Act (Act No. 117 of 1998) and the Municipal Systems Act (Act No. 32 of 2000), which collectively outline the powers and responsibilities of Municipalities in providing basic services, including waste management.

In addition to these foundational legal instruments, the National Environmental Management: Waste Act (Act No. 59 of 2008) imposes further obligations on municipalities. These include the provision of containers for recyclable materials, the establishment and maintenance of a waste information system, and the development of integrated waste management plans.

For example, if the Municipality does not offer garden waste removal, the by-laws must specify how residents should manage this waste stream. Furthermore, they must provide for the issuance of permits to private entities or individuals who deliver waste services on behalf of the municipality, ensuring adequate oversight and compliance.

Importantly, the by-laws must support the implementation of the national waste management hierarchy. This may include requirements such as source separation of certain waste types and their disposal at designated drop-off centres.

2. Resources and Finances

A range of financial resource options has been identified to support the implementation of the recommended waste management initiatives. These include:

- Municipal Budget: Although the municipal budget is the primary funding source, it is often constrained by limited resources, which may impact the scope and speed of implementation.
- Municipal Infrastructure Grant (MIG) or Special Municipal Infrastructure Fund: These grants, made available by the National Government, can be accessed through a three-year funding cycle. Municipalities are required to develop and submit comprehensive business plans to District Municipalities for approval and allocation of funds.
- Equitable Share Allocation: This unconditional grant from the National Government is intended to support municipalities in delivering basic services. A portion of the Equitable Share should be allocated toward subsidising refuse removal tariffs, particularly for indigent households or under-resourced communities.

By leveraging a combination of these funding mechanisms, municipalities can enhance the financial sustainability of waste management services while promoting equitable service delivery across all communities.

3. Implications of Inaction on Strategic Goal 3

Failure to implement Strategic Goal 3 will significantly hinder the municipality's ability to provide essential waste management services. Effective financial management and sustainable income generation are critical to supporting all components of waste management planning and service delivery.

Without adequate action, the municipality will continue to face mounting pressure from the growing demand for waste collection services, despite having limited financial and human resources. In response, municipalities often resort to excessive use of overtime work to meet service demands. However, this approach poses several challenges:

- Non-compliance with Financial Regulations: Municipal financial legislation imposes strict limits on overtime expenditure. Excessive overtime may result in budget overruns and financial mismanagement.
- Violation of Labour Laws: Labour regulations stipulate the maximum allowable hours of overtime per worker. Continued reliance on overtime can lead to legal non-compliance, worker fatigue, and potential labour disputes.

To address these risks, the Municipality must strike a balance between service delivery expectations and available resources. This requires innovative planning and optimization of collection routes and schedules. By improving operational efficiency, the municipality can reduce its dependency on overtime while maintaining service quality and compliance with legal and financial frameworks.

7.4 Waste Minimization

7.4.1 Goal 4: Reduce Waste Disposed of at Landfills

To reduce the volume of waste deposited at landfill sites, the municipality must actively promote waste minimization strategies. Two key targets have been identified:

targets:

1. Formalize and encourage recycling activities
2. Promote waste minimization at source

7.4.1.1 Target 1: Formalize and Encourage Recycling Activities

To maximize recycling efforts within the municipality, it is recommended that formal partnerships be established with key players in the waste recycling sector. These partnerships should include both industry stakeholders and local recycling enterprises or cooperatives.

The Department of Forestry, Fisheries and the Environment (DFFE) has already entered into agreements with several industry bodies representing key waste streams, including plastics, glass, waste tyres, and PET. The Municipality is encouraged to engage with the DFFE and private recycling companies to support and expand the local implementation of these national recycling agreements.

By formalising recycling activities and integrating them into the broader waste management strategy, the municipality can significantly reduce the volume of waste sent to landfill while supporting job creation and environmental sustainability.

7.4.1.2 Target 2: Encourage Waste Minimisation

In line with national and global best practices, encouraging waste minimisation at the source is a critical component of reducing the volume of waste sent to landfills. Waste minimisation not only conserves valuable landfill airspace but also reduces the environmental impact associated with waste collection, transportation, and disposal.

To effectively promote waste minimisation within the municipality, the following strategies are recommended:

- **Public Awareness and Education Campaigns:**
  Develop and implement sustained awareness campaigns to educate residents, businesses, and institutions about the importance of reducing waste generation. Campaigns should focus on practical actions such as reducing single-use items, buying in bulk, reusing materials, and composting organic waste at home.
- **Promotion of Source Separation:**
  Encourage households and businesses to separate recyclables, organic waste, and general waste at the point of generation. This can be supported through the provision of colour-coded containers and clear guidelines on what materials fall into each category.
- **Support for Home and Community Composting:**
  Promote composting of garden and food waste by providing training, compost bins, or incentives for households and communities. This will help reduce the volume of organic waste entering the formal waste stream.
- **Partnerships with the Private Sector:**
  Engage retailers, manufacturers, and packaging producers to adopt eco-friendly product

designs and promote the use of recyclable or biodegradable packaging. Incentivize businesses that actively reduce waste at source.

- **Policy and By-Law Integration:**
  Incorporate waste minimisation principles into municipal by-laws and policies to ensure long-term commitment and regulatory support. This may include mandatory separation at source, restrictions on certain types of packaging, or incentives for waste reduction.

By embedding waste minimisation into all levels of municipal planning and community engagement, the municipality can foster a culture of sustainability and significantly reduce the burden on its waste management infrastructure.

7.4.2 Legal Requirements and Framework

The promotion of waste minimisation must be underpinned by a robust legal and regulatory framework. In accordance with the National Environmental Management: Waste Act (Act No. 59 of 2008), municipalities are required to incorporate the principles of the waste management hierarchy—which prioritises waste avoidance, reduction, reuse, recycling, recovery, and disposal—in their local waste management strategies.

To support this, municipal by-laws should be updated to:

- Clearly reflect the waste management hierarchy as a guiding principle;
- Mandate source separation of waste, where feasible;
- Enable enforcement mechanisms for non-compliance with waste minimisation practices;
- Support and regulate alternative waste treatment methods (e.g., composting, recycling initiatives);
- Define roles and responsibilities for both the municipality and waste generators, including households, businesses, and institutions.

By formalising these requirements through updated and enforceable by-laws, the municipality can strengthen its ability to reduce landfill dependency, ensure compliance, and promote a sustainable, circular approach to waste management.

7.4.3 Resources and Finances

The successful implementation of waste minimisation initiatives requires adequate financial planning and resource mobilisation. Several funding sources and mechanisms have been identified to support these efforts:

- **Municipal Budget:**
  The municipal budget remains a primary source of funding for waste management initiatives. However, limited municipal funds may constrain the scope and speed of implementation. Prioritisation of key waste minimisation projects is essential to maximise impact within existing financial limits.
- **Municipal Infrastructure Grant (MIG) or Special Municipal Infrastructure Fund:**
  These grants, provided by the National Government, are available through a three-year funding cycle. To access these funds, municipalities are required to submit detailed business plans to their respective District Municipalities. These grants can be utilised for infrastructure projects such as the development of recycling drop-off centres, composting facilities, or waste sorting stations.
- **Revenue from the Recycling Market:**
  Capital generated through the sale of recyclables (such as paper, plastics, glass, and metals) can serve as an additional revenue stream. Establishing partnerships with recycling

companies and formalising collection and resale systems can enhance the municipality's ability to recover costs and reinvest in further waste minimisation initiatives.

By leveraging a combination of internal funding, external grants, and market-based income, the municipality can establish a more sustainable and financially resilient approach to waste minimisation.

7.4.4 Implications of Inaction on Strategic Goal 4

Failure to implement Strategic Goal 4—to reduce waste deposited at landfill—will have significant environmental, regulatory, and operational consequences for the municipality.

Firstly, the municipality will not be in compliance with the National Environmental Management: Waste Act (NEMWA), Act No. 59 of 2008, which requires the adoption and implementation of the waste management hierarchy. This non-compliance may expose the municipality to legal risks, penalties, or reduced access to national funding mechanisms.

Secondly, continued reliance on landfilling without waste minimisation efforts will result in the rapid depletion of available dump site airspace. The development of new landfill site is both costly and environmentally sensitive, requiring complex licensing processes and long lead times. Overburdened landfills also pose increased risks of environmental pollution, including soil and groundwater contamination.

In addition, failure to promote recycling and waste reduction initiatives represents a lost opportunity for job creation, revenue generation, and community involvement in sustainable waste practices.

In summary, the lack of action on Strategic Goal 4 will:

- Undermine compliance with national legislation;
- Shorten the operational lifespan of existing landfill sites;
- Increase long-term waste management costs;
- Contribute to environmental degradation; and
- Forfeit potential economic and social benefits linked to recycling and waste recovery.

Proactive implementation of waste minimisation strategies is therefore critical for long-term sustainability and regulatory compliance.

7.5 Management of Illegal Activities

7.5.1 Goal 5: Minimise/Prevent Illegal Activities Targets:

1. Develop an Illegal Dumping Management Strategy
2. Improve removal of illegally dumped waste

7.5.1.1 Target 1: Develop an Illegal Dumping Management Strategy

Illegal dumping remains a persistent challenge within the municipality. This issue is often linked to inadequate refuse removal services or a general lack of public awareness regarding proper waste disposal options. While improved service provision may reduce the incidence of illegal dumping, a comprehensive and proactive strategy is essential for long-term prevention and control.

It is therefore critical that the municipality develops and implements a dedicated Illegal Dumping Management Strategy. This strategy should address the root causes of illegal dumping, identify priority areas for intervention, and outline specific enforcement and community-based solutions.

Key elements of the strategy should include:

1. By-Law Development and Enforcement

- Municipal waste by-laws must clearly prohibit illegal dumping.
- Provision should be made for the issuance of spot fines and penalties to offenders caught dumping waste in unauthorised areas.
- Enforcement will be more feasible in serviced urban areas; however, resource limitations may restrict broader enforcement capacity.

2. Community Awareness and Involvement

- Public education campaigns should be launched to raise awareness about the negative impacts of illegal dumping and inform residents of legal disposal options.
- Introduce incentive schemes, such as discounts on waste service fees or public recognition for clean and well-managed neighbourhoods.

3. Provision of Waste Disposal Infrastructure

- Install domestic waste skips or establish refuse drop-off stations at strategic locations across the municipality, especially in areas lacking formal waste services.
- Skips should be serviced regularly (e.g. monthly or as needed) to ensure cleanliness and continued use.
- Strategic placement of these skips can significantly reduce the incentive to dump waste illegally, particularly in peri-urban and rural fringe areas.

4. Integrated Approach

- The most effective approach will be a combination of enforcement, infrastructure, and community participation. This integrated model not only deters illegal dumping through penalties but also empowers communities and provides accessible alternatives for waste disposal.

5. Policy and Strategy Support

- Develop supporting policies and action plans to align the Illegal Dumping Management Strategy with the municipality's broader waste management and environmental goals.
- Ensure inter-departmental collaboration and adequate budget allocation for implementation.

7.5.1.2 Target 2: Improve Removal of Illegally Dumped Waste

While prevention of illegal dumping remains the primary objective, the municipality must also prioritize the efficient and timely removal of waste that has already been dumped illegally. Accumulated waste not only degrades the environment but also poses serious health risks and contributes to negative public perceptions of municipal service delivery.
To improve the removal of illegally dumped waste, the following measures are recommended:

1. Mapping and Monitoring of Illegal Dumping Hotspots

- Conduct a baseline assessment to identify frequent dumping sites across the municipality.
- Develop and maintain a GIS-based illegal dumping hotspot map to assist with planning, prioritization, and reporting.

2. Scheduled Clean-Up Operations

- Establish a routine clean-up schedule targeting identified hotspots, with a focus on high-risk or high-visibility areas.
- Where resources allow, integrate these operations into the existing waste collection and street cleaning teams to maximise efficiency**.**

3. Rapid Response Teams

- Create dedicated clean-up crews or rapid response teams equipped and trained to respond promptly to newly reported illegal dumping incidents.
- These teams should operate under a clearly defined protocol for safety, documentation, and waste sorting (e.g. recyclables vs. hazardous waste).

4. Collaboration with Community Structures

- Partner with local community groups, ward committees, and civil society organisations to facilitate local clean-up events and assist in maintaining public spaces.
- Promote community pride and ownership of shared spaces to discourage repeat dumping.

5. Monitoring and Evaluation

- Maintain a record-keeping system for all clean-up activities, including volume and type of waste removed, location, frequency, and associated costs.
- Use this data to assess trends and adjust strategies accordingly.

6. Budgeting and Resource Allocation

- Allocate specific budget lines for illegal dumping clean-ups, including labour, equipment, and waste transportation costs.
- Where feasible, seek support from district municipalities, provincial departments, or public-private partnerships to supplement limited municipal resources.

By improving the removal of illegally dumped waste, the municipality will demonstrate visible progress in waste management, restore environmental quality, and build public trust—while supporting broader goals of sustainability and compliance with national environmental legislation.

7.5.1.3 Legal Requirements and Framework

Section 24 of the Constitution of the Republic of South Africa (Act No. 108 of 1996) guarantees every individual the right to an environment that is not harmful to their health or well-being. Illegal dumping directly violates this constitutional right by contributing to environmental degradation, health hazards, and the deterioration of public spaces.

To uphold this right and ensure effective environmental governance, municipality is legally obligated to:

- Prevent illegal dumping through the enforcement of municipal waste management by-laws;
- Ensure that by-laws include clear provisions prohibiting illegal dumping, specify applicable penalties, and outline enforcement procedures;
- Establish compliance monitoring and legal enforcement mechanisms aligned with the National Environmental Management: Waste Act (Act No. 59 of 2008), which mandates responsible waste management by all stakeholders.

The legal framework supports the development of a comprehensive Illegal Dumping Management Strategy and empowers municipality to take administrative and legal action against individuals or entities who engage in unlawful disposal of waste.

By strictly enforcing these legal provisions, the municipality will not only deter illegal dumping but also affirm its commitment to environmental justice and public health protection.

7.5.1.4 Resources and Finances

The successful implementation of illegal dumping prevention and response initiatives requires adequate financial planning and the mobilisation of diverse funding sources. Several options have been identified to support the municipality's efforts:

- **Municipal Budget:**
  The municipal budget is the primary funding source for waste management operations, including illegal dumping prevention and clean-up activities. However, limited funds may constrain the municipality's ability to fully implement all recommended actions. Prioritisation and phased implementation may be necessary in the short term.
- **Municipal Infrastructure Grant (MIG) or Special Municipal Infrastructure Fund:**
  These grants are administered by the National Government on a three-year funding cycle. To access these funds, municipalities must submit comprehensive business plans through their District Municipality. MIG funds can support the development of waste infrastructure such as drop-off sites, provision of waste skips, procuring of TLB ,and the establishment of monitoring and enforcement systems.

To ensure optimal use of available resources, the municipality should also explore the following complementary strategies:

- Cost-sharing with District or Provincial Government Departments;
- Public-private partnerships for clean-up and infrastructure provision;
- Community-based initiatives where neighbourhood groups participate in monitoring and minor clean-up efforts, thereby reducing municipal labour costs.

A clear financial plan aligned with the Illegal Dumping Management Strategy will enhance the

municipality's ability to respond effectively, improve compliance, and maintain clean and healthy environments.

7.5.1.5 Implications of Inaction on Strategic Goal 5

Strategic Goal 5 aims to minimise and prevent illegal waste-related activities, particularly illegal dumping. Failure to implement this goal will have several significant consequences:

1. **Weak Enforcement Capacity:**
   Without a dedicated strategy and supporting actions, municipal officials will be unable to effectively enforce waste management regulations, including those set out in the municipality's by-laws. This weakens the municipality's authority and undermines its ability to ensure compliance.

2. **Increase in Illegal Dumping:**
   A lack of enforcement and public accountability will likely lead to a rise in illegal dumping incidents, resulting in environmental degradation, public health risks, and increased clean-up costs.

3. **Strain on Limited Resources:**
   Currently the Municipality is facing staff shortages will impact negatively to monitor and manage illegal dumping across the entire jurisdiction without structured support systems in place.

4. **Missed Opportunities for Community Engagement:**
   Without the implementation of community-based reporting systems or awareness campaigns, the municipality will lose the opportunity to involve residents in actively preventing and reporting waste transgressions. This community partnership is critical to supplementing municipal oversight.

In conclusion, inaction on Strategic Goal 5 will severely undermine the municipality's ability to maintain a clean, safe, and legally compliant environment. Proactive steps—including enforcement, infrastructure provision, and resident involvement—are essential to ensuring long-term success in managing illegal waste activities.

7.6 Waste Information System

7.6.1 Goal 6: Capacity Building through Information Sharing Targets:

1. Develop and maintain a waste information system.
2. Contribute to Inter-Municipal Waste Information Workshops.

7.6.1.1 Target 1: Develop and Maintain a Waste Information System

The primary objective under this target is to develop and sustain a comprehensive Waste Information System (WIS). This system will serve as a centralised platform for the systematic recording, management, and analysis of waste-related data within the municipality.

A well-designed WIS will enable:

- Accurate record-keeping of waste generation, collection, treatment, and disposal across all sectors;
- Informed, data-driven decision-making to optimise waste management planning and resource allocation;
- Compliance with reporting obligations as required by relevant provincial environmental authorities;
- Enhanced monitoring of waste streams including general, hazardous, medical, and special waste categories.

Importantly, the system must incorporate all waste produced by medical facilities and funeral parlours, ensuring proper tracking and management of potentially hazardous medical waste, in line with national health and environmental regulations.

The costs associated with developing and implementing the WIS will vary depending on factors such as the complexity of the municipality's waste infrastructure, the scope of data to be captured, and the technological solutions employed. Considerations should include software procurement or development, staff training, ongoing maintenance, and data security measures.

The successful deployment of a Waste Information System is a critical step toward enhancing municipal capacity, improving transparency, and supporting sustainable waste management outcomes

7.6.1.2 Target 2: Contribute to Inter-Municipal Waste Information Workshops

The municipality actively contributes to and participates in Inter-Municipal Waste Information Workshops.

These workshops serves as a valuable forum for:

- Exchanging best practices, innovative approaches, and lessons learned in waste management;
- Discussing common challenges and potential joint solutions;
- Enhancing regional consistency in reporting, data collection, and regulatory compliance;
- Strengthening relationships and coordination among municipalities within the district.

While the submission of quarterly waste management reports to other local municipalities is another potential option, interactive workshops are the preferred method as they facilitate direct engagement, problem-solving, and capacity-building through dialogue.

These quarterly meetings will be attended by all local Municipalities within the Zululand District together with a representative from KZN EDTEA

By participating in these sessions, the municipality not only contributes to regional knowledge development but also positions itself to benefit from the collective expertise and support of its peers—thereby improving the overall quality and effectiveness of local waste management services

7.6.1.3 Legal Requirements and Framework

In accordance with the National Environmental Management: Waste Act (NEMWA), Act No. 59 of 2008, and the associated National Waste Information Regulations (promulgated under Section 69(1)(y) and (ee)), any person or entity—including municipalities—conducting a listed waste management activity must comply with specific reporting obligations.

These obligations include the following:

- Municipalities operating or overseeing waste disposal facilities listed in Annexure 1 of the Regulations (particularly those that dispose of more than 150 tons of waste per day) are legally required to register on the South African Waste Information System (SAWIS).
- Once registered, municipalities must report on:

    The types of waste being managed or disposed of;

    The sources of the waste (e.g. residential, industrial, healthcare, etc.);

    The quantities of waste, reported in tons.

These legal requirements are aimed at standardising waste data reporting nationally and enabling government to effectively monitor, plan, and regulate waste management practices across the country.
To remain compliant, the municipality must ensure that its Waste Information System (WIS) is compatible with SAWIS reporting requirements and that all relevant staff are trained and authorised to fulfil these duties accurately and consistently

7.6.1.4 Resources and Finances

The successful development and implementation of a functional Waste Information System (WIS), as well as active participation in inter-municipal information-sharing initiatives, require appropriate financial support. The following funding option has been identified:

Municipal Budget:
The Municipal budget is the primary funding source for implementing waste information management systems. However, due to existing budgetary constraints, the municipality may face limitations in allocating sufficient funds to support system development, staff training, data reporting, and intergovernmental collaboration. Careful prioritisation and phased implementation may be necessary in the short term.
To mitigate financial constraints, the municipality should also consider:

- Seeking technical support or funding partnerships from the provincial government or national entities such as the Department of Forestry, Fisheries and the Environment (DFFE);
- Exploring potential integration of WIS development costs into existing Municipal Infrastructure Grant (MIG) or capacity-building initiatives;
- Leveraging cost-effective or open-source digital tools where feasible.

7.6.1.5 Implications of Inaction on Strategic Goal 6

Strategic Goal 6 focuses on capacity building through information sharing. Failure to implement this goal will significantly impact the municipality's ability to plan, monitor, and deliver effective waste management services.

If a Waste Information System is not developed and maintained:

- Municipal personnel will lack accurate and timely data, impairing their ability to make informed decisions on waste service planning, budgeting, and resource allocation.
- The municipality will fail to comply with the legal reporting obligations outlined in the National Waste Information Regulations, potentially leading to administrative or regulatory consequences.
- Without active participation in inter-municipal forums, the municipality will miss opportunities for capacity development, collaboration, and the adoption of best practices.

Ultimately, the absence of reliable waste data and structured knowledge exchange will hinder service performance, reduce transparency, and impair long-term planning, thus undermining broader waste management and environmental sustainability goals.

7.7 Education and Awareness

7.7.1 Goal 7: An Educated Community that is Aware of the Principles of Responsible Waste Management

Target:

1. Build Community Awareness

7.7.1.1 Target 1: Build Community Awareness

The Municipality does not have a formal community awareness programme focused on informing residents about responsible waste management practices. The existing approach is largely top-down and reliant on enforcement mechanisms, such as penalties for non-payment of waste service tariffs. However, long-term success in areas such as recycling, waste minimisation, and illegal dumping prevention requires the active participation and cooperation of the community.

To foster a culture of environmental responsibility, it is essential that residents are regularly informed and engaged through targeted awareness campaigns. These initiatives should communicate the benefits of recycling, the environmental and health impacts of illegal dumping, and the importance of waste reduction.

Proposed Community Awareness Strategies:

Awareness-building can be achieved through a multi-channel communication approach, including:

- **Notices and Advertisements:** Use municipal newsletters to disseminate waste-related information.
- **Public Demonstrations and Roadshows:** Organise events in high-traffic areas where residents can observe demonstrations and receive information on waste separation and reuse.
- **Municipal Social Media and Website Updates:** Leverage digital platforms to reach a broader audience and promote campaigns in real-time.

Integrated Campaign Components:

To make the campaign inclusive, practical, and engaging, the Municipality should implement one or more of the following awareness initiatives:

- **A. Educational Site Visits:** Organise tours for schools, community groups, and businesses to visit recycling or waste processing facilities.
- **B. School and Crèche Programmes:** Deliver age-appropriate presentations and activities to embed environmental values from a young age.
- **C. Community Clean-up Campaigns:** Host clean-up days with competitions and rewards for participation and performance.
- **D. Performing Arts Awareness:** Use local drama groups or youth clubs to communicate waste messages through plays, music, and dance.
- **E. Waste-to-Craft Workshops:** Teach community members how to repurpose waste into marketable crafts and household items.
- **F. School Recycling Hubs:** Encourage the creation of on-site recycling centres and reuse of materials for art, gardening, and educational tools.

8. FUNDING / RESOURCES AND FINANCES

In order to effectively implement the strategic goals and targets outlined in the Integrated Waste Management Plan (IWMP), the Municipality will be required to secure adequate funding from a combination of internal and external sources. These resources are critical for ensuring the sustainability, scalability, and success of waste management programs and infrastructure.

Internal Funding Sources:

- **Municipal Operational and Capital Budgets:**
  The Municipality's own budget allocations can support routine operations, awareness campaigns, and minor infrastructure needs. However, internal funds are often limited due to competing service delivery priorities and fiscal constraints.

External Funding Sources:

To supplement internal resources, the Municipality should actively pursue funding and partnerships from national departments, development finance institutions, and international donors. Possible sources include:

- **Municipal Infrastructure Grant (MIG):**
  For funding bulk infrastructure related to waste management, such as landfill upgrades, drop-off centres, and transfer stations.
- **Department of Forestry, Fisheries and the Environment (DFFE):**
  Through various programs and partnerships, including support for recycling, green economy initiatives, and integrated waste management systems.
- **Department of Public Works (DPW):**
  Support via the **Expanded Public Works Programme (EPWP)**, which encourages labor-intensive methods for infrastructure projects and can provide temporary employment in clean-up and awareness campaigns.
- **Industrial Development Corporation (IDC) – Green Energy Fund:**
  Provides funding for projects aligned with **green economy and circular economy principles**, including waste-to-energy and sustainable recycling businesses.

Recommendations:

- Develop project-specific business plans aligned with donor priorities and government funding criteria.
- Assign or appoint a dedicated resource mobilization or fundraising unit within the Municipality to identify, apply for, and manage external funding.
- Consider forming public-private partnerships (PPPs) for infrastructure development and service provision.
- Monitor and report on funded project outcomes to ensure accountability and build credibility for future funding applications.

A proactive and diversified funding strategy will enable the Municipality to achieve its waste management goals while fostering innovation, community engagement, and environmental sustainability.

9. Recommendations

9.1 Goal 1: Improve and Develop Infrastructure to Comply with Legislative Requirements and Municipal Needs

Objective:

To ensure that the Municipality has adequate, compliant, and sustainable waste management infrastructure to meet the needs of the community and fulfil national and provincial legislative obligations.

9.1.1 Targets:

1. Upgrade and maintain existing waste management infrastructure (e.g. landfills, transfer stations, drop-off sites).
2. Develop new infrastructure where required to accommodate waste growth and service expansion.
3. Ensure all infrastructure complies with the minimum standards set out in the National Environmental Management: Waste Act (NEMWA) and associated regulations.

9.1.2 Strategic Actions:

- Conduct an infrastructure audit to assess the current condition and capacity of all waste facilities.
- Prioritise infrastructure upgrades required to meet licensing and environmental compliance.

- Construct or establish waste transfer stations in underserved areas to reduce illegal dumping and improve service delivery.
- Develop and equip recycling drop-off centres to promote source separation and waste minimisation.
- Ensure that all infrastructure development incorporates environmentally sustainable design principles and supports the goals of the waste management hierarchy.

9.1.3 Legal Framework:

- National Environmental Management: Waste Act (No. 59 of 2008)
- Requires municipalities to provide adequate waste management infrastructure and ensure its operation within legal and environmental standards.
- Municipal Systems Act (No. 32 of 2000) and Municipal Structures Act (No. 117 of 1998)
- Outline municipal service delivery obligations, including waste infrastructure development and maintenance.
- Minimum Requirements for Waste Disposal by Landfill (DFFE guidelines)
- Sets standards for design, operation, and monitoring of waste disposal sites.

9.1.4 Resources and Finances:

Funding for infrastructure improvement and development may be sourced from:

- Municipal Capital Budget
- Municipal Infrastructure Grant (MIG)
- Department of Forestry, Fisheries and the Environment (DFFE)
- Public-private partnerships (PPPs)
- Development agencies and international donors

9.1.5 Implications of Inaction:

- Failure to improve and develop appropriate waste infrastructure will lead to:
- Continued non-compliance with national legislation and risk of environmental degradation;
- Increased operational inefficiencies and higher long-term costs;
- Overloaded or illegal disposal sites posing public health and safety risks;
- Reduced public trust and dissatisfaction with service delivery.

9.2 Goal 2: Provide Effective Waste

Collection Objective:

To ensure consistent, reliable, and efficient waste collection services for all households, businesses, and institutions within the municipal area, thereby improving public health, environmental quality, and compliance with national standards.

9.2.1 Targets:

1. Extend waste collection services to un-serviced and underserved areas.
2. Improve efficiency and reliability of existing waste collection routes.
3. Reduce waste collection backlogs and frequency of complaints.

4. Promote waste separation at source to enhance collection effectiveness and support recycling efforts.

9.2.2 Strategic Actions:

- Conduct a service gap analysis to identify areas not currently receiving regular waste collection services.
- Review and optimise collection schedules and routes using geographic and demographic data to improve operational efficiency.
- Procure or upgrade waste collection vehicles and equipment, ensuring regular maintenance for fleet reliability.
- Implement a monitoring and reporting system for collection performance and resident feedback.
- Introduce dual-stream or multi-stream collection systems (where feasible) to separate recyclables from general waste at point of collection.
- Collaborate with local cooperatives or private service providers to expand coverage, especially in informal or rural areas.

9.2.3 Legal Framework:

- National Environmental Management: Waste Act (No. 59 of 2008):
  Requires municipalities to ensure the provision of waste collection services in a manner that is environmentally sound and accessible to all.

- Municipal Systems Act (No. 32 of 2000):
  Mandates municipalities to deliver services equitably and sustainably to all communities within their jurisdiction.

- Waste Collection Standards (DFFE guidelines):
  Outlines acceptable frequencies, performance levels, and safety standards for municipal waste collection services
  .

9.2.4 Resources and Finances:

Funding and resource support for effective waste collection may include:

- Municipal Operational Budget
- Municipal Infrastructure Grant (MIG)
- Equitable Share allocations
- Department of Public Works (EPWP) – for community-based labor support
- Partnerships with private waste service providers and local cooperatives

9.2.5 Implications of Inaction:

- Failure to improve and expand waste collection services may result in:
- Increased illegal dumping and littering, leading to environmental pollution and public health hazards.
- Community dissatisfaction and loss of confidence in municipal service delivery.
- Non-compliance with legal obligations, potentially resulting in penalties or intervention.

- Escalating operational costs due to inefficiencies and emergency interventions.

9.3 Goal 3: Provide an Effective and Cost-Efficient Waste Management Service

Objective:
To ensure that waste management services are delivered efficiently, sustainably, and at a reasonable cost to the Municipality and its residents, while maintaining high service standards and legislative compliance.

9.3.1 Targets:

1. Improve revenue collection and reduce non-payment of waste service tariffs.
2. Optimise operational costs through improved planning and resource management.
3. Explore alternative waste service delivery models to reduce long-term costs.
4. Implement a system to track service delivery performance and financial efficiency.

9.3.2 Strategic Actions:

- Integrate waste service billing with water and electricity accounts to streamline revenue collection.
- Enforce penalties for non-payment through existing credit control policies and explore legal mechanisms for service suspension in cases of persistent default.
- Investigate the feasibility of a prepaid system for waste services, similar to prepaid electricity, to improve payment rates in select areas.
- Monitor and control overtime expenditure by optimizing waste collection schedules and staffing plans.
- Consider outsourcing or public-private partnerships (PPPs) in non-core areas to reduce municipal operational burdens and improve service reach.
- Regularly review tariff structures to ensure cost recovery while maintaining affordability for low-income households.

9.3.3 Legal Framework:

- **National Environmental Management: Waste Act (No. 59 of 2008):**
  Encourages the provision of sustainable and affordable waste services, including financial viability and efficiency.
- **Municipal Finance Management Act (No. 56 of 2003):**
  Regulates expenditure, budget planning, and cost-efficiency in all municipal services.
- **Municipal Systems Act (No. 32 of 2000):**
  Requires municipalities to ensure financially sustainable service delivery through proper revenue collection mechanisms.

9.3.4 Resources and Finances:

- Funding and resource options for implementing cost-efficiency measures include:
- Municipal Operating Budget – to cover essential service delivery functions.
- Equitable Share – to subsidize waste tariffs for indigent households.
- Municipal Infrastructure Grant (MIG) – for infrastructure investment to improve operational efficiency.

- Technical and advisory support – from DFFE, National Treasury, and private sector consultants to identify cost-saving innovations.

9.3.5 Implications of Inaction:

- The Municipality will face financial strain due to poor revenue collection and increasing service delivery costs.
- There will be continued inefficiencies, including excessive overtime, vehicle maintenance issues, and staff fatigue.
- Service quality may decline, resulting in dissatisfaction, health risks, and increased illegal dumping.
- The Municipality risks non-compliance with financial and service delivery regulations.

9.4. Goal 4: Decrease Waste Deposited on Landfill

Objective:
To reduce the volume of waste sent to landfill by promoting waste minimisation, recycling, and the implementation of alternative waste treatment methods, in alignment with the national waste management hierarchy and sustainability objectives.

9.4.1 Targets:

1. Formalize and encourage recycling activities across the Municipality.
2. Promote and implement waste minimisation practices at household, commercial, and institutional levels.

9.4.2 Strategic Actions:

- Establish formal agreements with recycling companies and industry bodies to support local recycling efforts.
- Collaborate with the Department of Forestry, Fisheries and the Environment (DFFE) to align with existing Extended Producer Responsibility (EPR) agreements for plastics, glass, tyres, and PET.
- Support the establishment of community-based recycling centres and cooperatives, particularly in informal or rural areas.
- Encourage waste separation at source through education campaigns, accessible drop-off facilities, and clear municipal guidelines.
- Promote composting of organic waste through community gardens and home composting initiatives.
- Include recycling and minimisation activities in municipal tenders and service contracts, where applicable.

9.4.3 Legal Framework:

- National Environmental Management: Waste Act (No. 59 of 2008):
- Mandates the implementation of the waste management hierarchy, prioritizing reduction, reuse, and recycling over disposal.
- Requires Municipalities to provide receptacles for recyclables and integrate waste minimisation into their waste planning processes.
- Municipal By-laws:

- Should be updated to reflect waste minimisation and recycling requirements, including source separation and obligations for households and businesses.

9.4.4 Resources and Finances:

- Funding sources to support waste diversion from landfill may include:
- Municipal Budget (noting existing financial constraints)
- Municipal Infrastructure Grant (MIG) or Special Municipal Infrastructure Fund
- Capital income from recyclable materials recovered and sold through municipal or cooperative channels
- Private sector partnerships through EPR schemes and industry recycling initiatives
- Support from development agencies or donors for pilot projects and infrastructure (e.g. sorting centres, composting units)

9.4.5 Implications of Inaction:
If Goal 4 is not pursued:

- The Municipality will not comply with the principles of the National Environmental Management: Waste Act (NEMWA) or national waste reduction targets.
- Dumpsite site will reach capacity more rapidly, increasing pressure on municipal budgets for new licensed landfill development and environmental compliance.
- Airspace optimization at existing dumpsite will be compromised, increasing operational and environmental risks.
- Opportunities for economic development through recycling (e.g., job creation, SMME support) will be lost.
- Illegal dumping may increase due to limited alternatives for waste diversion.

9.5 Goal 5: Minimise / Prevent Illegal Activities

Objective:
To reduce and ultimately eliminate illegal dumping and other waste-related transgressions by implementing preventative strategies, strengthening enforcement, and engaging communities in monitoring and compliance.

9.5.1 Targets:

1. Develop and implement an Illegal Dumping Management Strategy.
2. Improve the timely removal and management of illegally dumped waste

9.5.2 Strategic Actions:

- Develop an Illegal Dumping Management Strategy that includes proactive monitoring, enforcement, and clean-up procedures.
- Strengthen municipal by-laws to include clear penalties for illegal dumping and other unlawful waste-related activities.
- Introduce a system for issuing spot fines to offenders within serviced areas.
- Launch community awareness programmes to educate residents on legal disposal methods and the environmental, health, and social impacts of illegal dumping.
- Place waste skips in high-risk areas to provide accessible legal alternatives.

- Ensure rapid response and clean-up of identified illegal dumping sites to discourage recurrence.

9.5.3 Legal Framework:

- **The Constitution of the Republic of South Africa (Act No. 108 of 1996):**

Section 24 guarantees the right to an environment that is not harmful to health or well-being.

- **National Environmental Management: Waste Act (No. 59 of 2008):**

Obligates municipalities to prevent unlawful waste disposal practices and enforce compliance.

- **Municipal Waste Management By-laws:**

Must clearly define penalties, procedures for enforcement, and community obligations related to illegal dumping.
Should include regulations for un-serviced waste streams (e.g. garden waste) and private service providers.

9.5.4 Resources and Finances:

Funding for implementation may be sourced from:

- **Municipal Operational Budget**
- **Municipal Infrastructure Grant (MIG)** for infrastructure such as skips or drop-off points
- **Department of Public Works (EPWP)** for community-based clean-up teams
- **Support from the Department of Forestry, Fisheries and the Environment (DFFE)** for policy and community initiatives
- **Potential donors** for other initiatives

9.5.5 Implications of Inaction:

Illegal dumping will escalate, leading to environmental degradation, blocked drainage systems, pest infestations, and negative health outcomes.

The Municipality may face non-compliance with environmental laws and loss of public confidence.

Increased operational costs will result from repeated clean-ups of the same sites.

Community morale and cleanliness will decline, making it harder to enforce responsible waste behavior in the future.

If Goal 5 is not implemented:

 Consequences of Not Implementing Goal 5

1. Increased Risk of Crime and Misconduct

- Theft, fraud, harassment, corruption, or other illegal activities may go undetected or unpunished.
- Criminals may exploit weak or nonexistent controls.

2. Damage to Reputation

- Negative media coverage or public backlash can harm trust and credibility.

- Loss of stakeholder confidence (e.g., clients, customers, investors, parents, users, etc.).

3. Legal Consequences

- Fines, penalties, or lawsuits due to non-compliance with laws and regulations.
- Criminal liability for individuals or the organization.

4. Financial Loss

- Costs related to theft, fraud, property damage, or legal proceedings.
- Potential loss of funding, sponsorship, or business opportunities.

5. Unsafe or Toxic Environment

- Stakeholders (e.g., employees, students, community members) may feel unsafe or unsupported.
- Increased absenteeism, low morale, or resignations.

6. Loss of Control and Accountability

- Difficulty tracing responsibility when things go wrong.
- Culture of impunity may develop, where people believe they can break rules without consequences.

7. Decreased Compliance with Broader Regulations

- Failure to implement preventative measures can also lead to violations in areas like health & safety, cybersecurity, or data protection.

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9.6 Goal 6: Capacity Building Through Information Sharing

Objective:

To strengthen individual and organizational abilities by promoting the open exchange of knowledge, skills, and best practices. This fosters continuous learning, innovation, and resilience across the organization or community.

Why It Matters:

- Knowledge is a powerful resource that grows when shared.
- Shared information enhances collective problem-solving, decision-making, and adaptability.
- It builds long-term sustainability by empowering people to work more effectively and independently.

9.6.1 Key Strategies:

1. Encourage Peer-to-Peer Learning

- Host workshops, seminars, mentoring programs, and community of practice groups.
- Facilitate regular team discussions or knowledge-sharing sessions.

2. Promote Open Communication

- Establish a culture where asking questions and sharing insights is valued.
- Recognize and reward those who actively contribute knowledge.

3. Document Lessons Learned

- After projects, conduct debriefs and compile lessons to avoid repeating mistakes and replicate successes.
- Use feedback loops to refine systems and processes.

4. Leverage External Networks

- Collaborate with external partners, experts, and institutions.
- Participate in conferences, webinars, and training sessions.

9.6.2 Success Indicators:

- Increased staff confidence and skill levels.
- Reduced dependency on external consultants or support.
- Greater innovation and faster problem-solving.
- Better performance across departments or teams.

9.6.3 Implications of Inaction

If Not Implemented:

Knowledge silos may form.
Staff capacity remains low or stagnant.
Repetition of past mistakes due to lack of shared lessons.
Missed opportunities for innovation and growth.

9.7 Goal 7: An Educated Community That Is Aware of the Principles of Responsible Waste

9.7.1 Management

This goal focuses on building public knowledge and engagement in sustainable waste practices. It supports long-term environmental stewardship by empowering individuals and groups with the information and tools they need to reduce, reuse, recycle, and properly dispose of waste.

Objectives

1. Increase public awareness of the environmental, social, and economic impacts of waste.
2. Promote responsible consumer behavior through targeted campaigns and training.
3. Support behavioral change through ongoing access to clear, accurate waste management information.

9.7.2 Strategies

- **Community Workshops & Seminars**

  Conduct regular events on composting, recycling, and hazardous waste disposal.

- **Educational Campaigns**

  Use social media to share practical waste reduction tips and the importance of the "3Rs" (Reduce, Reuse, Recycle).

- **Visual Aids and Signage**

  Use signage in public spaces, including recycling bins with infographics, to reinforce correct disposal practices.

9.7.3 Key Performance Indicators (KPIs)

- % increase in public awareness (via surveys)
- Number of participants in educational programs
- Reduction in contamination rates in recycling streams
- Number of schools with integrated waste education
- Social media reach and engagement on waste-related content

Supporting documents