

ELIAS MOTSOLEDI LOCAL MUNICIPALITY



INTEGRATED WASTE MANAGEMENT PLAN

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List of Acronyms

CMIP	Comprehensive Municipal Infrastructure Plan
DEA	Department of Environmental Affairs
DWA	Department of Water Affairs
DWAF	Department of Water Affairs and Forestry
LEDET	Limpopo Economic Development Environment and Tourism
EMLM	Elias Motsoaledi Local Municipality
EIA	Environmental Impact Assessment
G-IWMP	Guidelines for Integrated Waste Management Plan
IDP	Integrated Development Plan
IWMP	Integrated Waste Management Plan
IWMS	Integrated Waste Management System
MEC	Member of the Executive Council
MSA	Municipal Systems Act (Act No. 32 of 2000)
MGP	Municipal Growth Points
EMLM	Elias Motsoaledi Local Municipality
NEMA	National Environmental Management Act
NEMWA	National Environmental Management: Waste Act No 59 of 2008
NWMS	National Waste Management Strategy
PGP	Provincial Growth Points
SANS	South African National Standards
SAWIC	South African Waste Information Centre
SDF	Spatial Development Framework
STATS SA	Statistics South Africa
TLC	Transitional Local Council
WIS	Waste Information System
WMO	Waste Management Officer

Executive Summary

The Elias Motsoaledi Local Municipality (formerly Greater Groblersdal Local Municipality) is located in the Sekhukhune District Municipality of Limpopo province, South Africa and the seat of Elias Motsoaledi Local Municipality in Groblersdal. The Elias Motsoaledi Local Municipality (EMLM) was established in 2000 as a category B municipality as determined in terms of the municipal structures act (1998). The EMLM has a collective executive system as contemplated in section 2(a) of the Northern Province Determination of Types of Municipalities Act (2000).

The EMLM is predominantly rural with a high unemployment rate resulting in high poverty levels and is linked with many other places through shared environmental, social and economic systems and structures. The most apparent of these links are with neighbouring and nearby municipalities across Sekhukhune District Municipality. The EMLM is also integral to the Provinces of Limpopo and Mpumalanga and has significant development potential in sectors such as agriculture (both horticulture and livestock), tourism and mining.

The municipality is rural with mainly agricultural land. The structure of this municipality is characterized by two urban concentration and seven rural concentration points. These are explained below:

- Groblersdal is urban and is regarded as a provincial growth point
- Roosenekal is urban and is regarded as the municipal growth point
- Motetema is rural and is regarded as the municipal growth point
- Monsterlus is rural and is regarded as the municipal growth point
- Ntwane is rural and has a population concentration
- Elandslaagte is rural and has a population concentration
- Sephaku is rural and has a population concentration
- Moteti/Zoetsmelkfontein is rural and is regarded as a local service point
- Walkraal is rural and is regarded as a local service point

The EMLM measures approximately 3782.5 km² in size and is divided into 31 wards and five traditional authorities.

INTRODUCTION

Historical Overview in the development of IWMPs

An IWMP is a high-level strategic document that looks broadly at the waste management offering within a defined area and if necessary, proposes further steps that the responsible authority might consider taking to achieve a comprehensive integrated waste management service. The development of the plan included the following steps:

- Background study
- Status quo analysis
- Establishing strategic objectives and priorities
- Gap analysis
- Development of goal, objectives and strategies

Information presented enables the reader to gain an understanding of the waste management practices within the context of EMLM. The National Waste Management Strategy provides a set of goals that municipalities must achieve in the next five years in order to give effect to the Waste Act. It contains an action plan with various targets to be achieved by municipalities in the next five years until 2020.

Goal 1: Promote recycling and recovery of waste

Goal 2: Ensure the effective and efficient delivery of waste services

Goal 3: Ensure that legislative tools are developed to deliver on the Waste Act and any other applicable legislation

Goal 4: Sound budgeting and financing of waste management services

Goal 5: Ensure the safe and proper disposal of waste

Apart from being a legal requirement, in terms of the National Environmental Management:

Waste Act, 2008 (Act No. 59 of 2008)[NEMWA], the IWMP is intended for use as a sector plan within the WRDM's upcoming IDP revision, where it is to inform municipal planning and budgeting around waste management within the Municipality. The overarching intention is to ensure that waste management planning within the Municipality is sustainable, practical, implementable and acceptable to all key role players and parties expected to implement the plan.

The primary objectives of NEMWA are to protect health, well-being and the environment by providing reasonable measures for the following:

- Minimising the consumption of natural resources
- Avoiding and minimising the generation of waste
- Reducing, reusing, recycling and recovering waste
- Treating and safely disposing of waste as a last resort
- Preventing pollution and ecological degradation
- Securing ecologically sustainable development while promoting justifiable economic and social development
- Promoting and ensuring the effective delivery of waste services
- Remediation of land where contamination presents or may present, a significant risk of harm to health or the environment, and
- Achieving integrated waste management reporting and planning.

LEGISLATIVE REQUIREMENTS

National Legislation

Key national legislation includes:

- The Constitution of the Republic of South Africa (Act 108 of 1996), which sets out the environmental mandate as well the different roles and responsibilities of the different spheres of government.
- The National Environmental Management Act (NEMA), Act 107 of 1998 is framework legislation that covers the broad environmental management principles which form the basis for all other subsidiaries environmental legislation.
- The National Environmental Management: Waste Act (NEMWA), 2008 is a subsidiary act of the NEMA, which regulates the management of all waste within South Africa as well as defines the different roles and responsibilities of the different spheres of government while implementing this mandate.

- The National Health Act, (Act 61 of 2003) includes waste management as one of the functions of an Environmental Health Officer in terms of its explanation of “municipal health services”.
- The Municipal Structures Act (Act 117 of 1998) delineates the powers and functions of different categories of municipalities. In terms of this Act, district municipalities have powers and functions relating to the integrated, sustainable and equitable social and economic development of the district. This role should be performed by ensuring integrated development planning for the district as a whole, building the capacity of local municipalities to perform their functions, exercising local municipal powers where capacity is lacking, and promoting the equitable distribution of resources between the local municipalities in its area. The Act further reiterates the functions of local municipalities as contained in the Constitution excluding the ones referred to as district functions. This includes the provision of waste collection and disposal services and cleansing.
- The Municipal Systems Act (Act 32 of 2000) defines the alternative approaches that may be employed in delivering municipal services and the processes to be followed when such alternatives are considered. The need for integrated planning and performance monitoring of both external and internal mechanisms of service delivery are emphasised in the Systems Act. The Act further mandates communities to be encouraged to participate in strategic decision making relating to service delivery.

Other Relevant National Legislation

Other legislation having relevance to waste management include the following:

- National Environmental Management: Air Quality Act (Act 39 of 2004)
- National Water Act (Act 36 of 1998)
- Occupational Health and Safety Act (Act 85 of 1993)
- Hazardous Substances Act (Act 15 of 1973)
- Minerals and Petroleum Resources Development Act (Act 28 of 2002)
- Disaster Management Act, 57 of 2002
- Physical Planning Act (Act 125 of 1991)
- Development Facilitation Act (Act 67 of 1995)
- The Division of Revenue Act (Act 5 of 2002)
- Municipal Finance Management Act (MFMA), 56 of 2003
- National Treasury: Environmental Fiscal Reform Policy, 2006
- Strategic Framework for Sustainable Development in South Africa, 2006

National Standards and Regulations

- The National Environmental Management: Waste Act (Act No. 59 of 2008) stipulates that standards are required to “give effect to the right to an environment that is not harmful to health and well-being of the people”.
- The Waste Information Regulations (Notice 430 of 2009) give effect to section 60 of NEMWA and regulate the procedure and criteria for the submission and processing of applications to register on the national Waste Information System (WIS).
- The Waste Tyre Regulations (No 31901 of 2009, Gazette No R9032) are designed based on Section 24C of ECA, (Act No. 73 of 1989). This design is intended to regulate the handling, storage and disposal of used tyres.

National and Provincial Policies and Strategies

- Integrated Pollution and Waste Management Policy (IP&WM): Environmental legislation, including pollution, has historically been fragmented. The IP&WM Policy thus ensured integration in pollution control. This policy formed the basis on which the NEMWA came into being.
- National Waste Management Summit: Polokwane Declaration: This declaration was adopted in 2001, and states optimistically that the goal is to reduce waste generation and disposal by 50% and 25% respectively by 2012 and to develop a zero-waste strategy by the year 2022.
- National Policy on Thermal Treatment of General and Hazardous Waste: The national Department of Environmental Affairs (DEA) developed a Policy for thermal treatment of waste to advocate the government’s position on thermal waste treatment as an acceptable waste management option in 2009. The Policy outlines the conditions and requirements for establishing and operating thermal treatment technologies in the country.
- National Waste Management Strategy: The strategy is binding on all organs of the state in all spheres of government and will be reviewed every five years. The targets as currently set in this strategy for the year 2015 are used as a benchmark for the targets set in this plan.
- National Cleaner Production Strategy: The National Cleaner Production Strategy has been formulated as a result of the Johannesburg Plan of Implementation for Sustainable Consumption and Production document. The strategy strongly emphasises waste minimisation, re-use and recycling, especially within industry. The main focus of Cleaner production is preventative rather than the end of pipe treatment.

- **Development of a core set of Environmental Performance Indicators:** The purpose of the indicators is to provide Municipalities with a voluntary 'toolkit' to assess their performance in terms of the environment. Indicators of importance to this task include waste generation rates, waste reduction, and waste services related issues.
- **Local Government Turnaround Strategy:** The Department of Cooperative Governance and Traditional Affairs identified worrying trends undermining local government service delivery. To renew the vision of the developmental local government, a turnaround strategy was devised to facilitate differentiated and targeted support to local government.
- **Minimum Requirements:** The then Department of Water Affairs and Forestry (DWAF), having a concern for the protection of the water resources of South Africa and at the time being responsible for permitting of waste facilities developed a 3-part series of documents commonly referred to as the 'Minimum Requirements'. The first edition was published in 1994, followed by the 2nd edition, which superseded the 1st edition in 1998.

Local-level legislation

Waste By-laws: The existing Elias Motsoaledi Local Municipality Waste by-laws are currently outdated and needs revision. The by-laws should be revised to give effect to the Constitution, the principles of NEMA and the NEMWA.

The role of a Waste Management Officer

The Waste Management Officer (WMO) designated in terms of Section 10 (3) of NEMWA, is responsible for ensuring that the dedicated waste management staff and the services provided by these staff meet the requirements of the Policy and are compliant with the legislation of South Africa. The WMO is also responsible for the coordination of waste management activities to ensure integration. It is the responsibility of all staff to adhere to all relevant legislation, including the IWM Policy, and this Plan.

IWMP PROCESS

The National Waste Management Strategy (2011) allocated the following responsibilities for IWMP:

- The National Department of Environmental Affairs (DEA) will draft and promulgate regulations and guideline documents for integrated waste management planning for all waste types.
- The Provincial environmental departments will develop hazardous waste management plans and prepare provincial environmental and waste management plans that

incorporate the IWMP's submitted by the local government and industry. These will be submitted to the Central Executive Committee for approval, which will facilitate inter-provincial coordination, particularly concerning planning for facilities for the treatment and disposal of waste.

- The local government will develop and submit plans for integrated general waste management to the respective provincial environmental departments.
- Waste management plans for industrial waste that is disposed of at private and/or dedicated disposal facilities, will be prepared by the developers/owners and submitted to the respective provincial environmental departments.

SCOPE OF WORK

Geo-Environmental and Technical Services was appointed by Elias Motsoaledi Local Municipality to develop an Integrated Waste Management Plan (IWMP).

Defining the geographical area

The Elias Motsoaledi Local Municipality (formerly Greater Groblersdal Local Municipality) is located in the Sekhukhune District Municipality of Limpopo province, South Africa and the seat of Elias Motsoaledi Local Municipality in Groblersdal. The Elias Motsoaledi Local Municipality (EMLM) was established in 2000 as a category B municipality as determined in terms of the municipal structures act (1998). The EMLM has a collective executive system as contemplated in section 2(a) of the Northern Province Determination of Types of Municipalities Act (2000).

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The municipality evolved as an amalgamation of the former Moutse Transitional Local Council (TLC), Hlogotlou (TLC), Tafelkop, Zaaiplaas, Motetema and other surrounding areas in the year 2000. The municipality is named after the struggle hero Elias Motsoaledi who was sentenced to life imprisonment on Robben Island with the former president of the Republic of South Africa, Nelson Mandela. The municipal borders Makuduthamaga Local Municipality in the south, Ephraim Mogale Local Municipality in the east, Greater Tubatse Local Municipality and Mpumalanga's Dr JS Moroka, Thembisile Hani, Steve Tshwete, Emakhazeni and Thaba Chweu local municipalities.

It is situated about 180 km from Polokwane, 135 km from Pretoria and 150 km from Nelspruit. The municipality is the third smallest of the five (5) local municipalities in Sekhukhune District, constituting 27, 7% of the area with 3,668,334 square kilometres of the district's 13,264 square kilometres. Land ownership is mostly traditional and the municipality is predominantly rural with about sixty-two settlements, most of which are villages.

The Groblersdal Magisterial District, Roosenekal and Laersdrift are pivotal to the economic growth of the municipality. Moutse Magisterial District population and its economic activities include the settlements in the western part of the Elias Motsoaledi Local Municipality. The settlements in the northeastern parts of the municipal area are located in the Hlogotlou and surrounding areas. It should thus be borne in mind that these four magisterial districts do not only form part of the Elias Motsoaledi Local Municipality but also partly comprises adjacent local municipalities. It does however indicate the economic structure and characteristics of different parts of the EMLM.

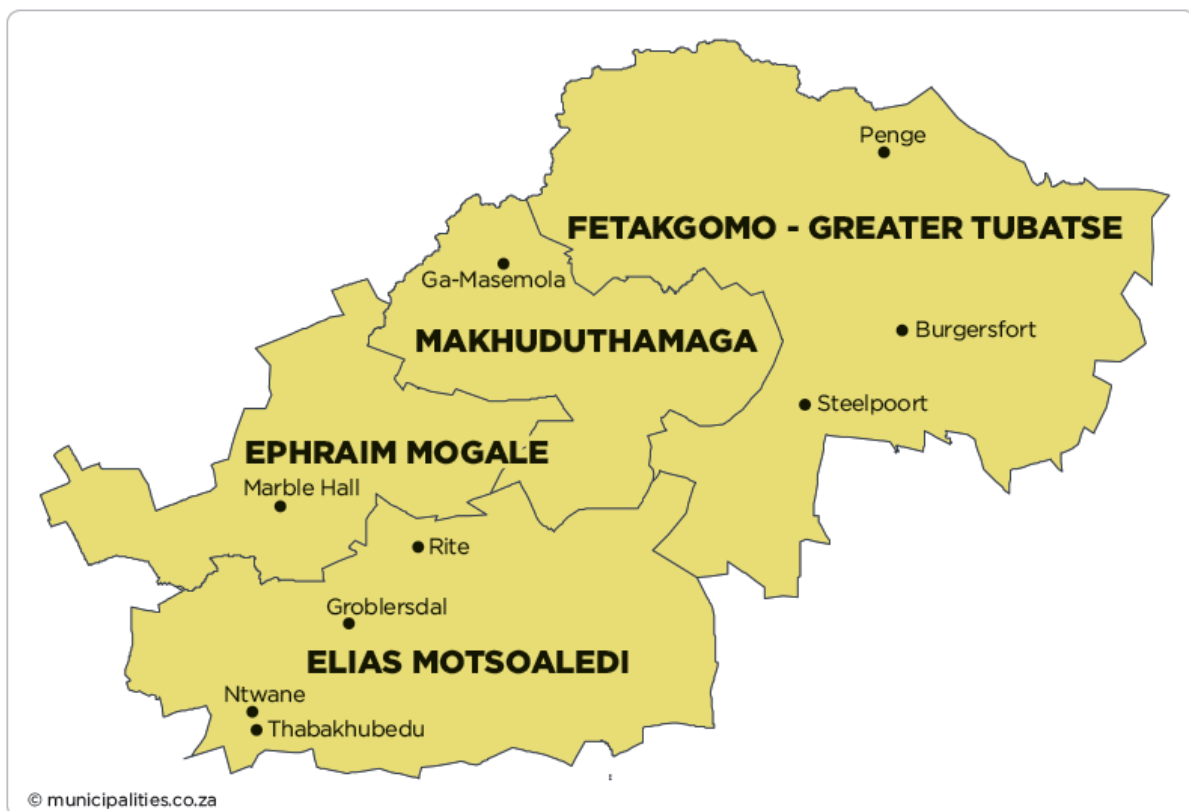


Figure 1: boundaries of the municipality

SITUATIONAL ANALYSIS

Demographic Analysis

In this section, an overview is provided of the important socio-economic indicators and trends of the EMLM highlighting issues of concerns in terms of challenges that the municipality currently experiences. As a basis of reference, the municipality has considered the demographic information that was provided by the Stats SA census 2011 and Stats SA community survey 2016 respectively.

Regional Context

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Population Distribution and Trends Analysis

The population of the municipality is 268 256 which shows a population increase of about 7, 58% as compared to the 2011 population figures. The growth of the population from 249 363 in 2011 could be attributed to natural growth and job opportunities and the overall growth in economic activities in the municipal area. The population growth between 2011 and 2016 means 0.9% of the people are aged 0-14 years old and 3.2% of people are aged 15-65 years old. The sex ratio indicates that for every 100 females there are 87 males.

Table 1: The population growth in the Elias Motsoaledi Local Municipality

Population	2011	2016	% Increase
Females	133 860	143 123	6.92%
Males	115 503	125 133	8.34%
Total	249 363	268 256	15.26%

Table 2: Population by ethnic group¹

Ethnic Groups	Percentage (%)
Black	97.6
Coloured	0.2
Indian/Asian	0.1
White	2.1
Total	100%

¹ Source: STATS SA, 2016 Community survey

Table 3: Population by age group

Age	Females	Males
0 – 4	6.3%	6.4%
5 – 9	6.1%	6,2%
10 – 14	5.7%	5,7%
15 – 19	7.2%	7,0%
20 – 24	5.7%	6,2%
25 – 29	5.4%	5%
30 – 34	4.1%	3,6%
35 – 39	3.0%	2,0%
40 – 49	2.3%	1,7%
50 – 54	2.2%	1,6%
55 – 59	2.2%	1,2%
TOTAL	1.7%	1.2%

Table 4: Household by Ethnic and Gender Group

Population group	Females	Male	Total Group
Black African	34 111	30 339	64 450
Coloured	106	34	140
Indian or Asian	0	78	78
White	470	1 220	1 690
Other	-	-	-
Total	34 688	31 671	66 359

There are 53.7% females and 46.3% males within the Municipality. There is a large segment of youth (under 19 years) which comprises 47.9% of the total population. The young population is common in many developing countries. Therefore, there is increased pressure on the delivery of Housing, Social Facilities and Job Creation within the Municipality.

Household Distribution

The average household size of 4:1 person has been influenced by the fact that approximately (38, 7%) of households have two (2) or fewer occupants. This phenomenon could be as a result of several factors including incorrect baseline data or that younger people have set up their own homes but this is contrary to the statistics concerning age which reflects that there is a large segment of youth (under 19 years) which comprises 47.9% of the total population.

Table 5: Household size

Household size	Number 2011	Number 2016
1	14 294	15 524
2	9 045	10 015
3	7 774	9 402
4	7 756	9 268
5	6 401	7 739
6	5 073	5 513
7	3 438	3 111
8	2 380	2 214
9	1 574	1 405
10+	2 517	2 169
Total	60 251	66 359

Economic Perspective

There are certain opportunities because of the spatial landscape within the municipal area. Groblersdal is a provincial growth point and a number of important arteries connect it with other towns (i.e. Middelburg, Marble Hall, Bronkhorstpruit and Stofberg) through the N11 and R25. These arteries can create social and economic viability and diversified development in the area. Also, as per the provision of the Groblersdal Town Planning Scheme (2006), other economic opportunities could flourish in co-existence with agriculture as the main economic base. It is possible to use the area for industrial purposes and this poses business opportunities. That in turn could lead to job creation for the local community. This will improve the quality of life of the people within the Elias Motsoaledi Local Municipality.

Furthermore, there are strategically located parcels of land in close proximity to already existing developments. Most of the latter parcels of land are underutilised or not used at all. With the utilisation of this land, the surrounding settlement will benefit. The construction of the De Hoop Dam is also likely to unleash spatial opportunities that will benefit both Elias Motsoaledi and Greater Tubatse municipalities. The dam will improve water provision to mines and settlements. Mining could then flourish and it will co-exist with human settlement.

The municipality has a great opportunity to grow economically, socially and infrastructural through investment opportunities. The focus areas are in the sectors as stated:

- Mining
- Agricultural land
- Tourism opportunities
- Land for development

With regards to business development, Groblersdal, Dennilton, Monsterlus and Tafelkop are the main business nodes within EMLM. The remaining business development occurs mainly scattered along arterial routes or within settlement areas.

METHODOLOGY

This report was informed by a literature review of all existing information provided by the Elias Motsoaledi Local Municipality and a stakeholder consultation process that included both internal and external stakeholders. The following platforms were used to communicate and get input from a wide range of stakeholders throughout the duration of the study.

The following methodology was followed for the status quo investigation:

- All relevant records and documents were obtained for the purposes of the study.
- Relevant officials from the Municipality were interviewed.
- Areas in the study area were visited to obtain first-hand knowledge and information about the existing status of the waste management service rendered.
- The municipal area was assessed with consideration of waste generation, a summary of collection volumes, existing collection systems, equipment, personnel and landfill status. The status quo was completed based on the findings per the assessment undertaken.
- The current waste management practices were evaluated against the principles contained in the waste management hierarchy and waste management aspects were evaluated, from the points of generation all the way through to end disposal/ landfill.

The Status Quo Report compiled for the IWMP indicated the planning context within which the greater IWMP for the EMLM was formulated, as well as additional legislative frameworks that needed to be considered when undertaking the compilation of an IWMP.

STATUS QUO ANALYSIS

Groblersdal and Roosenekal Licensed Landfill Sites

The integrated waste management plan is meant to ensure that waste is collected, reused, recycled or disposed of without causing harm to human health or damage to the environment, including water, air, soil, plants or animals; causing a nuisance through the noise, odours, or anything adversely affecting rural or urban areas or areas of special interest. The Elias Motsoaledi Local Municipality has two general waste licenced sites, namely Groblersdal and Roosenekal landfill sites.

The following types of machinery are available and used to assist with effective and efficient service on site:

- Landfill site Compactor
- Bulldozer
- Tipper truck
- High pressure blower
- Car wash machine and 40m Horse pipe

There is also a weighbridge that helps with the capturing and recording of the client's data such as vehicles registration number, type of waste, the volume of waste per tons and record them into the system so that the information will assist the municipality to report waste volume to SAWIS. There is daily compaction and covering materials to control odour, vermin and vectors and spreading of waste. Only non-recyclable materials are compacted and covered daily. Building rubble is used for cell construction and covering of materials. Garden waste is managed separately when seasons change it decomposes, and local farmers and private clients come to collect it for garden and agriculture use.

The Groblersdal landfill site is situated on portion 179 of Farm Loskop Suid 53 JS, in Groblersdal Town. The landfill site covers the following area as per the coordinates below:

Table 6: Groblersdal Landfill site coverage

Corners of the Landfill site	Latitude	Longitude
A	25 ⁰⁹ '22.07"	29 ⁰²⁵ ' 29.17"
B	25 ⁰⁹ ' 20.2"	29 ⁰¹⁴ ' 43.66"
C	25 ⁰⁹ ' 17.93"	29 ⁰²⁵ ' 34.93"
D	25 ⁰⁹ ' 16.09"	29 ⁰²⁵ ' 37.27"

The collection of waste within the Elias Motsoaledi Local Municipality is outsourced to the external service providers. The areas with waste refusal services are Motetema, Monsterlus, Elandsdoorn, and Tambo.

The initial Waste Management Licence number is 12/4/10-A/15/GS1, and later updated to the Waste Management Licence Variation number is 12/4/10/8-A/10/S1-A1.

Table 7: The Status quo of Waste Management Services at Elias Motsoaledi Local Municipality:

Numbers of households receiving a weekly refuse removal service.	Provision of weekly refuse removal services	5516 households	Waste is being collected in Groblersdal, Roossenekal, Motetema and Hlogotlou as per schedule.
Number of businesses and industries receiving refuse removal services	Provision of refuse removal service	493 businesses and industries receiving refuse removal service	Waste is being collected from businesses and industries (once, three times a week or daily depending on the nature of the business).
Street cleaning and litter picking	To pick up litter daily from main roads and CBD	Litter picking is conducted daily on main roads & CBD	Litter picking is being done as per schedule
Number of bulk containers (skip bin) rented	To clean bulk containers to prevent nuisance	28 (skip bins) bulk containers are being rented to business and government institution 02 Self compressed containers	Bulk containers are collected once per week or as required
Number of skip bins distributed for public gatherings/ requested by clients	To ensure that refuse is being disposed of in a safe manner	07 skip bins were distributed	Skip bins were distributed as requested by the clients and the ward councillor
Number of bulk containers placed to reduce illegal dumping	To clean bulk containers to prevent nuisance	18 bulk containers distributed	Collected once per week or as required

Hlogotlou Waste Transfer Station

Elias Motsoaledi Local Municipality has one waste transfer station at Hlogotlou. Hlogotlou waste transfer station license is number 12/0/10/-A/1/GS2, G:C: B-. It is located on the farm Paardelplaats, 135 JS. The license authorises the storage and/or transfer of general waste to a landfill site.

Table 8: Hlogotlou Waste Transfer Station area coverage

Number of corners	Latitude	Longitude
A	25.03652 ⁰	29.73425 ⁰
B	25.03802 ⁰	29.73430 ⁰
C	25.03731 ⁰	29.73510 ⁰

The Department of Environmental Affairs donated five self-compressible waste containers to the Municipality. Two are based at the waste transfer station, one at a hospital in Dennilton and the remaining two containers serve as spares, which could be used at a transfer station if build in future. There is, however, illegal dumping taking place outside of the transfer station. This could be attributed to the fact that the station was not in use for 3 years after the license was issued. The community is therefore continuing to dump waste illegally, and the municipality could put financial fine notices to prevent it.

Current Systems in Use For Disposal Of Waste

Waste and waste residues that cannot be recycled or further treated need to be disposed of in an environmentally, hygienically and safe manner. Guidelines for waste disposal was prepared by the DWAF, which should be consulted for determining requirements for disposal systems (DWAF, 1998). Although the most common form of disposal is landfilling, other disposal systems include:

- Garden refuse disposal facilities, including composting and wood chipping facilities;
- Building rubble disposal facilities, where it is reprocessed as fill or cover material;

Table 9: Average non-recyclable waste collected per month

Type of Waste	Weight (Tons)
General waste	412.6
Garden Waste	51
Rubble	271.23
TOTAL	734.83

Table 10: Average recyclable waste collected per month

Type of Waste	Weight (Tons)
Boxes, paper, plastic and coke	40.2
Bricks	0
Metals	5.4
Glass/ bottles	2.96
TOTAL	48.56

Economics and Financing of Waste Management

The financial and economic situation is critical in the selection and adoption of the various elements of integrated waste management.

At present, most domestic waste management comprises waste collection and disposal, and limited recycling. The focus of integrated waste management is moving from disposal to waste prevention/minimisation and recycling. An assessment should be made of the financial viability of waste minimisation, recycling and treatment.

Establish the current costs for each of the existing waste management systems

The current costs as per information provided by the Municipality includes the following:

Expenses	Amount
Personnel costs (wages, salaries)	R10 066 836
Transport (fuel, repair)	R548 034.94
Operating and maintenance costs (electricity, water)	R456 018
Administration and staff training	R344 721
Environmental Impact Abatement and penalties	R500 000
Interest and depreciation	R 686 880
TOTAL COST	R18 784 409.94

SUMMARY OF SITUATION ANALYSIS

Prepare a summary situation analysis based on the collected background information

The problems, needs and requirements should be prioritised and any deficiencies in the present waste management system identified, and various alternatives are given, where appropriate. The information should be critically analysed to establish the basis for the preparation of waste management strategic objectives and the compilation of IWM plans.

Operational Challenges

The Groblersdal and Roosenekal landfill sites are licensed to accept general waste but hazardous waste is sometimes illegally dumped. It is, therefore, necessary for the Municipality to consider getting a disposal site for hazardous waste.

The landfill sites are managed by the service providers to ensure the effective and efficient operation of the sites, however, the Roosenekal landfill site was not operational for some time because it did not have a service provider. The Municipality has since appointed the service provider to look after the landfill operation and management.

According to the landfill sites license conditions, there is supposed to be internal and external audits conducted, and this has not been the case. Illegal dumping seems to be rife within the Municipality. There is a Waste Transfer Station at Hlogotlou, but there is illegal dumping taking place next to it. The municipality has put the skip bin to assist with the littering of the waste around the area.

There is another illegal dumping taking place at the old quarry in Tafelkop, and another one in Luckau. To try to minimise the spread of illegal dumping, the awareness campaigns should be initiated and enough provisions of the skip bins.

Waste Recycling and Reuse

“Recycling of waste refers to the separation at source of recyclable materials from the general waste stream and the reuse of these materials. The objectives are to save resources as well as reduce the environmental impact of waste by reducing the amount of waste disposed at landfills. To meet these objectives, waste separation at source is proposed, as the quality of recyclable materials is higher when separated at source. Besides, recycling has the potential for job creation and is a viable alternative to inform salvaging at landfills, which is undesirable due to the problems of health and safety associated with “salvaging” (National Waste Management Strategy, 1999).

Recyclable materials are separated by recyclers and collected by different recycling companies and individuals. As it is, there is a private company that is doing the collection of recyclable materials at the Groblersdal Landfill site. Once they have enough load then the materials are transported to big recycling companies in Gauteng Province.

Waste recycling is a potential job creator if it could be formalised and adopted by the Municipality. The recycling forum should be established, and the names of the people in the forum would be captured in a database that could be used for capacity building through recycling workshops.

Waste Minimization

The municipal council has an obligation under the waste management framework to promote a waste minimization policy. The focus is mainly to divert as much waste from landfill as possible. There are several ways in which waste reduction and recycling can be encouraged which includes the following:

- By-laws that ban recyclable material including garden waste being disposed of in landfill site
- Provision of smaller refuse receptacles
- User pays refuse collection
- Easily accessible drop off centres
- Education and community based social marketing programmes that promote recycling. For recycling to succeed, socioeconomic factors such as economic growth, population growth and the value, size of recyclables and distance of recycling markets must be considered in a waste minimisation strategy.

Criteria for Elias Motsaedi Municipality adopting waste minimisation policy should be influenced by the Polokwane resolution which advocates "Zero waste to landfill by 2022" The declaration also emphasises the need to reduce generation and disposal by 50% and 25% respectively by 2012.

The development of waste minimisation policy for the Municipality shall be the key to accurate data on the current generation and recovery of waste which will enable the municipality to make a proper assessment on whether it can meet the target set Polokwane declaration on the 28th September 2001.

Waste Minimisation Programs

The Municipality should embark on the initiatives below, in an attempt to minimise waste going into landfills.

- Drop-off and Buyback centres
- Waste exchange
- Source reduction
- Cleaner production
- Reclaiming at landfill sites
- Composting

Separation

The introduction of separation at source for waste should be considered based on the following:

- Development of By-laws, which allows the municipality to implement waste separation at source.
- Implementation of education and awareness programmes.
- Introduction of tariff reduction incentives to consumers who separate their waste at the source

ESTIMATE FUTURE WASTE GENERATION RATES, QUANTITIES AND CHARACTERISTICS

Future waste trends, in terms of quantities, qualities and characteristics, for the planning period, should be estimated using the information collected on the domestic waste generation rates per capita for each socio-economic category, the population, population distribution, and commercial and industrial waste generation rates.

Table 11: Projections of non-recyclable waste generation quantities, weight in tons

Waste Types	Waste generated per month	Waste generated per year	Waste generation in 5 years
General Waste	412.6	4 992	24 960
Garden Waste	51	612	3 060
Rubble	271.23	3 254.76	16 273.8
TOTAL	734.83	8 817.96	44 089.8

Table 12: Projections of recyclable waste generations quantities, weight in tons

Waste Types	Waste generated per month	Waste generated per year	Waste generated per 5 years
Boxes, paper, plastic and coke	40.2	482.4	2 412
Bricks	0	0	0
Metals	5.4	64.8	324
Glass/ bottles	2.96	35.52	177.6
TOTAL	48.56	582.72	2 913.6

Table 13: The population growth in the Elias Motsoaledi Local Municipality

Population	2011	2016	2021	2026
Females	133 860	143 123	228 996.8	366 394.88
Males	115 503	125 133	225 239.4	405 430.92
Total	249 363	268 256	454 2366.22	771 852.8

Table 14: Financial projections for waste management services for the year 2026

Waste: Variable Expenses	The expense incurred in 2021	Expense projection for 2026
Personnel costs (wages, salaries)	R10 066 836	R15 100 254
Transport (fuel, repair)	R548 034.94	R822 052.41
Operating and maintenance costs (electricity, water)	R456 018	R684 027
Administration and staff training	R344 721	R517 081.5
Environmental Impact Abatement and penalties	R500 000	R750 000
Interest and depreciation	R 686 880	R1 030 320
TOTAL COST	R18 784 409.94	R18 903 734.91

IDENTIFICATION AND PRIORITISATION OF NEEDS

Before embarking on the implementation of a specific integrated waste management plan, the needs must be identified and prioritised.

Waste prevention and minimisation:

There is a need to pay attention to the following:

- Increased awareness and understanding of benefits and methodology of waste minimisation;
- Lack of appropriate incentives or legislation;
- Additional waste data;
- Training and educational courses in waste minimisation;
- Waste prevention and minimisation centres and clubs to be established.

Waste collection and transportation systems:

For the efficient and widespread collection of waste, the following should be considered:

- Waste Management By-law should be implemented and enforced
- Funding for additional resources

Waste recycling:

The implementation of waste recycling initiative should focus on the following:

- Evaluation of source separation versus mixed-waste collection;
- Collection of recyclables from commercial, institutional and industrial establishments; introduction of such initiative should start in schools by providing them with separate waste bins which are clearly marked
- Material drop-off and buy-back centres;
- Organic waste composting programs and facilities through the establishment of cooperatives;
- Establishment of waste recycling centres and clubs.

Waste disposal facilities:

The Municipality has enough space at the current 2 waste disposal facilities. The only challenge is that the Groblersdal landfill site was licensed before the new Environmental legislation was implemented and needs to be updated to comply with the new legislation.

What is also required at this stage is to focus on the following:

- Increased capacity-building education and public awareness;
- Manage and reduce waste picking at landfill sites, phase out completely in long term;
- Prevention of illegal dumping of health care waste, hazardous waste and sewage sludge at disposal facilities;
- Phasing out of informal salvaging at landfills and co-disposal of hazardous waste

CONCLUSION AND RECOMMENDATIONS

Waste Refusal Coverage

The areas with waste refusal services are Groblersdal, Roosenekal, Motetema, Monsterlus, Elandsdoorn, and Tambo. There is a need for the Municipality to have full coverage of a waste collection service in future.

1. Ensuring adequate planning of resources to deliver waste management services
2. Rolling out of waste collection services to the un-serviced areas
3. Establish waste recycling initiatives like buy-back centres which can have positive impacts on the reduction of the volume of waste going to landfill and the establishment of SMMEs in the waste management which can promote entrepreneurship amongst residents
4. Making projections of future waste quantities to ensure that provision is made for future waste service delivery

Education and Awareness

The municipality conducts environmental awareness and cleaning campaigns quarterly with the target being school children, and also does ad-hoc environmental awareness to business and street vendors.

Department of Environmental Affairs Green Deeds personnel assists mainly through door-to-door environmental awareness campaign and cleaning of illegal dumps within municipal jurisdiction on weekly basis.

Regulatory Compliance

The municipality currently uses national legislation for regulatory compliance since its current waste by law is outdated. It was developed in the past and came into effect in 1983. The Municipality should embark on the process of reviewing and updating this outdated waste and environmental management by law. The EIA of the Waste Management Authorisation of the Roosenekal Landfill site should be updated to comply with NEMWA, the latest regulation.

Tariffs for Refuse Removal

The Municipality aims to recover the expenses associated with the rendering of the service provided, and where feasible, generate a modest surplus as determined in each annual budget. Such surplus shall be applied in relief of property rates or for the future capital expansion of the service concerned, or both.

The municipality shall develop, approve and at least annually review an indigent support programme for the municipal area. This programme shall set out the municipality's cost recovery policy in respect of the tariffs which it levies on registered indigents and the

implications of such policy for the tariffs which it imposes on other users and consumers in the municipal region.

In line with the principles embodied in the Constitution and other legislation pertaining to local government, the municipality may differentiate between different categories of users and consumers regarding the tariffs which it levies. Such differentiation shall however at all times be reasonable and shall be fully disclosed in each annual budget.

The municipality's tariff policy shall be transparent, and the extent to which there is cross-subsidisation between categories of consumers or users shall be evident to all consumers or users of the service in question. It further undertakes to ensure that its tariffs shall be easily explainable and understood by all consumers and users affected by the tariff policy concerned. The municipality also undertakes to render its services cost-effectively to ensure the best possible cost of service delivery.

Desired End State

The desired end state reflects on the programmes that the Municipality should embark on, to come closer to the Polokwane Declaration. The Table below reflects the key initiatives that will be implemented in the next 5 years.

Table 15: Reporting on implementation, monitoring and review over 5 years

Activities	Year 1	Year2	Year 3	Year 4	Year 5
Update the EIA of the Roosenekal Landfill site to comply with NEMA	❖				
Finalisation of the Waste Management Bylaw	❖				
Separation of waste at source in the local schools	10%	20%	40%	80%	100%
Establishment of Waste Transfer Station at Moutse village			❖		
Distribution of refuse containers (Skip bins) in all wards	20%	40%	60%	80%	100%
Development of Hazardous Landfill site					❖

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