ULUNDI LOCAL MUNICIPALITY

" The City of Heritage "

ULUNDI MUNICIPALITY

# INTERGRATED WASTE MANAGEMENT PLAN

## 2025 - 2030

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ACRONYMS

| | |
|---|---|
| CBD | Central Business District |
| DEA | Department of Environmental Affairs |
| IDP | Integrated Development Plan |
| LM | Local Municipality |
| IWMP | Integrated Waste Management Plan |
| NDWCS | National Domestic Waste Collection Standards |
| NWMS | National Waste Management Strategy |
| PSC | Project Steering Committee |

# 1 Introduction

This report serves as the 3rd generation Ulundi Integrated Waste Management Plan for 2025-2030 The National Environmental Management: Waste Act 59 of 2008, as amended (NEM:WA) requires that municipalities develop IWMPs to ensure proper waste management planning. The primary objective of an IWMP is to integrate and optimize waste management planning by maximizing efficiency, minimizing associated environmental and financial costs and to improve the quality of life of citizens (DEA, n.d.). This is especially important given the current situation where there are many socioeconomic challenges being experienced, such as low economic growth, high fuel and transport costs, inequality, poverty, high unemployment levels, housing shortages, high rates of informal settlement growth, load shedding and high rates of crime and violence (including gender-based violence), as well as pressures linked to climate change.

Although the Ulundi municipality has made several improvements in terms of waste management, several challenges exist. Some notable waste management challenges include limited waste management infrastructure, low levels of compliance at waste management facilities (WMFs), high levels of illegal dumping, limited landfill airspace, lack of budgets prioritised and ring-fenced for waste management, shortage of experienced and qualified waste managers, low levels of governance, political interference, and escalating waste management costs. Waste management is closely linked with environmental pollution and climate change, since improper waste disposal contributes to surface and groundwater pollution and greenhouse gas (GHG) emissions. Overcoming these challenges requires an integrated approach to waste management. The National Waste Management Strategy, 2020 (NWMS) notes that municipalities still favour a collection and disposal approach to waste management and that these municipalities find it difficult to implement an integrated waste management system as per the waste management hierarchy. The NWMS promotes the waste management hierarchy and circular economy as key principles for waste management, while focussing on socio-economic development which is equitable, inclusive, sustainable and environmentally sound. It aims to address the role of vulnerable groups in the informal waste economy and to support and address the skills gap of women, youth and people with disabilities in the circular economy. The Ulundi IWMP will be aligned to the NWMS as well as other key strategic documents, which informed the desired-end state for integrated waste management in the municipality.

## 1.1 Scope of the IWMP

This IWMP covers the geographical area of Ulundi Local Municipality (LM)which is one the five LMs, other four LMs being eDumbe, Abaqulusi, Nongoma and uPhongolo, constituting the Zululand District. It is located on the southern boundary of the Zululand District Municipality in the north-eastern part of KwaZulu-Natal. The municipal areas is approximately 3,250 km2 in extent and includes the towns and settlements of Ulundi, Nqulwane, Mahlabathini, Babanango, Mpungamhlophe and Ceza as well as nine Traditional Authorities of Buthelezi, Mbatha, Mpungose, Ndebele, Nobamba, Ximba, Zungu, Nsimbi, Buthelezi-Emphithiphithini. It consists of 24 wards. The Ulundi LM is the administrative centre and seat for the Zululand District Municipality and a well-equipped airport.

The largest part of its area is rural and underdeveloped. Approximately half of the Municipal area consists of commercial farms and the area supports a substantial agricultural community. The town of Ulundi represents the only urban centre in the Ulundi LM area and accommodates approximately 40,000 people.

The town of Ulundi is situated on the R66 which connects Ulundi directly to Nongoma in the North and Melmoth to the south, then leading to the N2 which connects the town to the coastal cities. The town of Ulundi is the only formal urbanised node and houses all formal (first economy) economic activities within the municipality. The areas surrounding the town of Ulundi are characterised as large, densely populated tribal areas with an informal settlement pattern. These areas are completely reliant on Ulundi for employment, goods and services. Due to the high population density, concentration and service demands, large sections of these tribal areas can be classified as emerging urban settlements

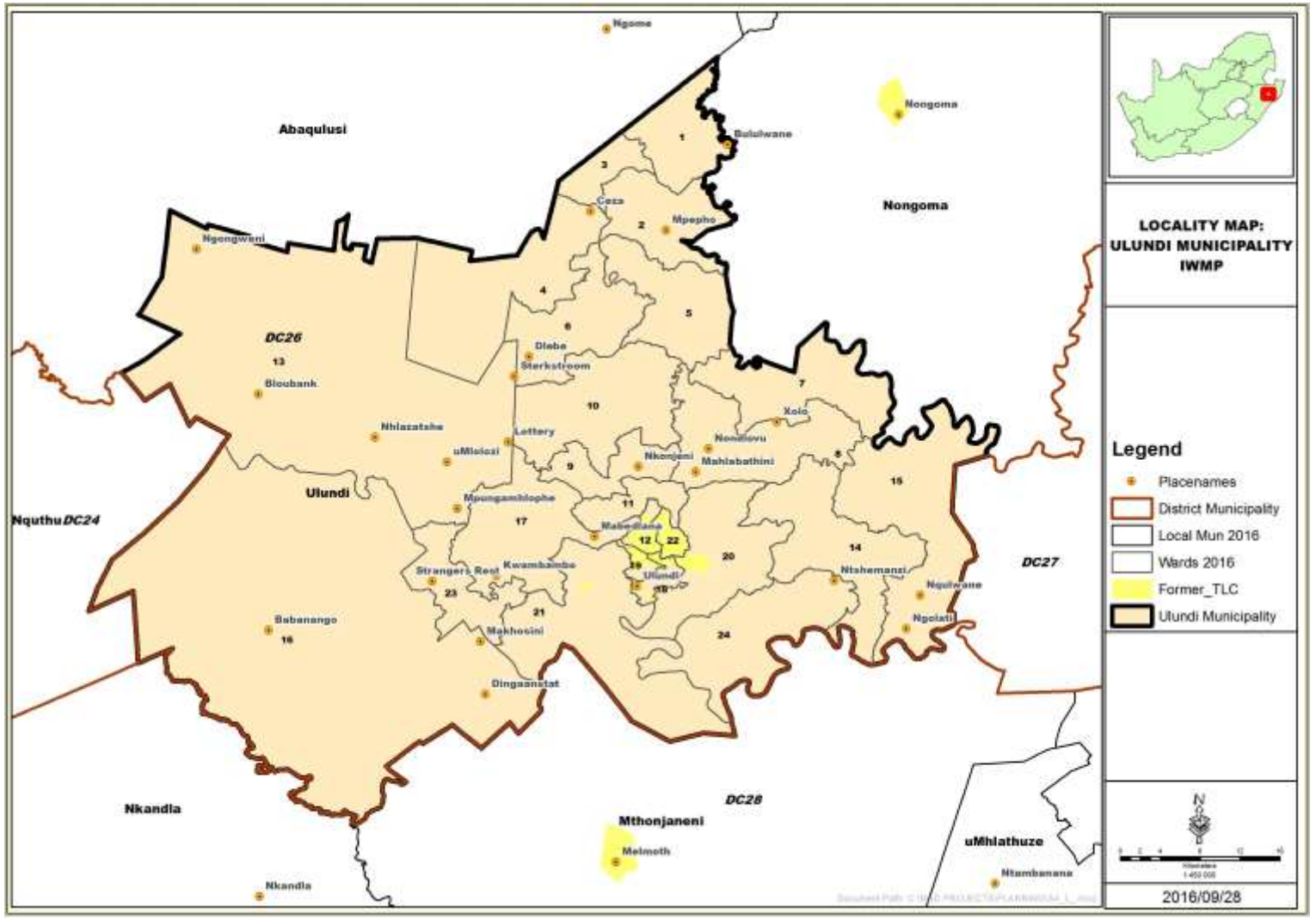



**Figure 1 : Map of Ulundi Municipality**

## 1.2 Background and Purpose of the Integrated Waste Management Plan

As Ulundi aims to move away from end of pipe solutions integrated waste management is becoming more important. Integrated waste management incorporates the waste management hierarchy by considering direct impacts e.g. transportation, collection, treatment and disposal of waste, and indirect impacts e.g. use of waste materials and energy (Turner and Powell, 1991; Korhonen et al, 2004 in Seadon, 2006).

The 1st generation Integrated Waste Management Plan Ulundi Municipality was adopted by Council in 2017 aimed to provide strategic direction for integrated waste management over the short-, medium- and long-term. Furthermore, it aimed to facilitate the implementation of the NEM:WA and the NWMS (2011), to improve waste management in the municipality. As per the NEM:WA, IWMPs must be reported on annually to ensure implementation of activities. To ensure that IWMPs remain relevant, they should be reviewed ideally every 5-years in alignment with the municipal Integrated Development Plan (IDP) cycle.

## 1.3 Method and Approach

The DEA guidelines for the development of Integrated Waste Management Plans have been used to inform the approach of the IWMP 2025-2030. The IWMP planning process used during the development of the IWMP is as per the DEA IWMP guideline document. It encompasses the following:

**Situational Analysis**: The Ulundi IWMP includes a Situational Analysis, which provides an overview of the socio-economic situation in the municipality as well as waste management information relating to e.g. generation and composition, diversion, disposal, compliance and institutional arrangements.

**Desired End-state:** The IWMP includes a vision for waste management in the municipality as well as strategic goals and objectives to achieve this


**Figure 2 : IWMP Planning process**

vision. The desired end-state aligns to key policies including the global Sustainable Development Goals (SDGs), the National Development Plan 2030 (NDP), the NWMS (2020) and relevant provincial policies.

**Identifying, Evaluating and Selecting Alternatives:** The establishment of a project steering committee, working group and thorough public participation to identify, evaluate and select alternatives that respond to identified waste management gaps and needs.

**Implementation Plan:** The IWMP includes an action plan with activities and timeframes.

**Monitoring and Review:** The implementation of the IWMP must be reported on annually. This includes reporting to the national Department of Forestry, Fisheries and the Environment (DFFE), formerly the Department of Environment, Forestry and Fisheries (DEFF). The IWMP will be reviewed and updated every five years.

# 2 Policies and legislation informing the desired end-state for waste management

The desired-end state for waste management is informed by various global, national and provincial level policies.

## 2.1 The Waste Management Hierarchy

Waste generated must be collected and transported for waste recycling, re-use and recovery before disposal (Figure 3). The waste management hierarchy recognises that there is no single approach to managing all waste and ranks the various waste management options from most preferred to least preferred (Figure 3). The disposal of waste is considered the least preferred method, whereas waste reduction and prevention are most preferred.


**Figure 3: The waste management Hierarchy (Source : DEFF,2020)**

Since prevention is the most preferred waste management option, it is a key aspect to the Waste Management Hierarchy. The NWMS, 2020 highlights several factors which may hinder waste prevention.

- Lack of environmental awareness amongst consumers and producers with respect to product design, raw material selection, manufacture, use and end of life.
- Perception that products containing recycled or re-use content is inferior compared those produced from virgin materials.
- The convenience and low cost of landfilling as a waste management option.
- Lack of incentives to motivate waste prevention measures in manufacturing.
- Lack of data on waste streams; and
- Commercial pressure to shorten innovation and product development cycles.

The aforementioned issues need to be addressed to prioritise waste prevention. A shift towards a circular economy could provide benefits in terms of waste reduction, encouraging innovation and the design of products with a longer lifespan.

## 2.2 Circular Economy

Developing economies can secure the benefits offered by the green economy by approaching economic growth from a sustainability perspective (PAGE, 2019). According to the DEFF (n.d.), the green economy refers to two inter-linked developmental outcomes for the South African economy:

- Growing economic activity, which leads to investment, jobs and competitiveness in the green industry sector, and
- A shift in the economy towards cleaner industries and sectors i.e. the circular economy Figure 4.


**Figure 4 :Relationship between waste, circular and green economies and sustainable consumption and production (SCP)**

The circular economy contrasts the "take-make -waste" linear economic model and aims to decouple growth from consumption of finite resources (Ellen Macarthur Foundation, 2017) (Figure 5). Principles of the circular economy include designing out waste, keeping materials in use and regenerating natural systems (CSIR, 2021). A circular economy model minimises the need to extract virgin materials and emphasises the importance of building a secondary resources economy around the beneficiation of waste (DEA&DP, 2016).


**Figure 5 : The circular economy model (Source: UNIDO,2017)**

The circulation of materials within the circular economy is depicted in Figure 6 as biological (left) and technical cycles (right). The biological cycle incorporates the use of technology in which

biodegradable materials are returned to the biosphere e.g. anaerobic digestion, composting and biogas recovery. The technical cycle entails keeping products and materials in circulation through processes such as re-use, repair, refurbishing and recycling.

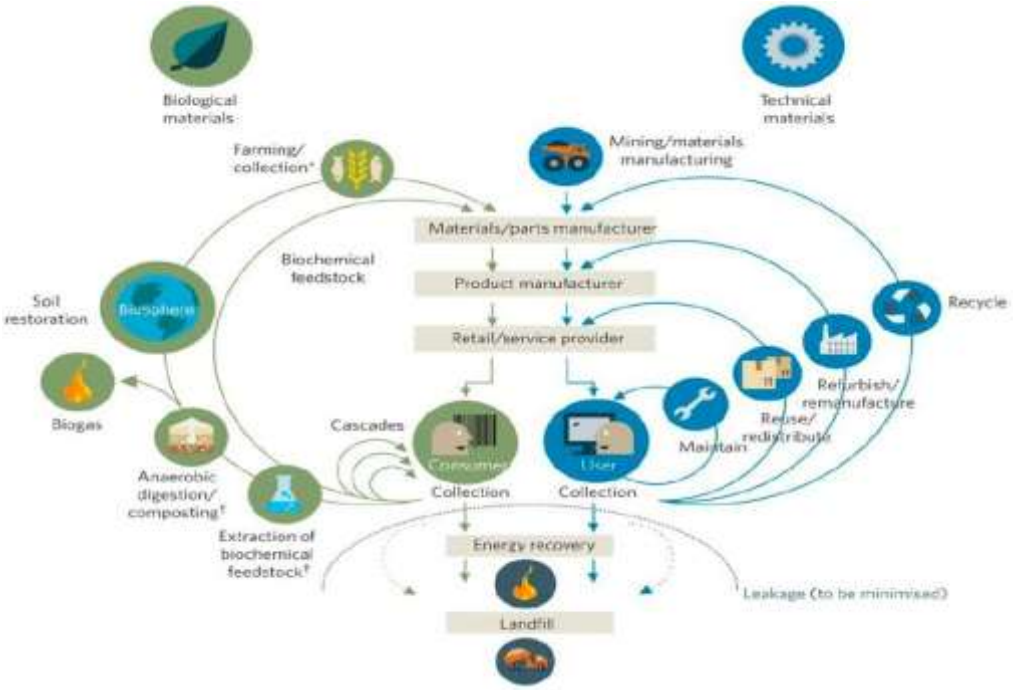



**Figure 6 : Biological and Technical cycles of the circular economy (Source: Ellen Macarthur Foundation)**

The NEM:WA promotes the circular economy and has a provision for Extended Producer Responsibility (EPR), with the aim of reducing waste through minimisation, re-use and recycling. EPR is the commitment made by a producer to facilitate a reverse collection mechanism and recycling of end of life, post-consumer waste. The objective is to circle it back into the system to recover resources embedded in the waste. The Department aims to assist national government with the implementation of EPR in the province as well as stimulate and provide support to the refurbishment sector.

## 2.3 National Policy

### 2.3.1 The Constitution

The South African Constitution Act (No. 108 of 1996) is the supreme law of the land. The environmental rights is set out in Section 24 of the Constitution's Bill of Rights which states that: Everyone has the right:

1. to an environment that is not harmful to their health or well-being; and
2. to 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.

### 2.3.2 National Development Plan 2030 (NDP)

The NDP maps out the vision of the country with the key objective to reduce poverty and inequality in South Africa by 2030, by creating jobs, addressing spatial transformation, the expansion of infrastructure and building environmental sustainability and resilience. The NDP specifically recognises the need to focus on gender equality, the youth and people with disabilities as transversal issues cutting across all its overarching goals. It outlines an approach to waste management which includes investment in consumer awareness, green product design, recycling infrastructure and waste-to-energy projects, which would result in significant strides to becoming a zero-waste society.

### 2.3.3 National Environmental Management: Waste Act

The National Environmental Management (NEM): Waste Act (2008) states that the DEA, the provincial departments of environment, and municipalities are responsible for the development of IWMPs, the Act also states the necessity of IWMPs (Chapter 2, section 11). The NEMWA further states that any IWMPs developed must be approved by the MEC and included in the relevant region's IDP.The NEMWA outlines the requirements to rank and class waste as priority wastes or not, recycling of waste, waste storage and transport, waste management licenses, and waste processing and disposal. The Act also lists offenses and relevant fines. Offenses include:

- The improper manufacture, transport, recycling, or selling of priority waste;
- Operation without a waste management licence, or failure to comply with waste license in operation;
- The unlawful and/or unsafe manner of disposal of waste that is detrimental to health and/or the environment; and
- The failure to submit waste management reports.

The NEM: Waste Act also stipulates the appointment of Waste Management Officers, whose responsibilities include the monitoring and compliance of waste management services.

The local municipality is currently non-compliant with the Act in a number of respects, including:

- Monitoring of waste and the submission of waste management reports; and
- Licensing of waste management facilities, particularly a landfill.

### 2.3.4 National Waste Management Strategy (NWMS),2020

The NWMS places emphasis on the waste management hierarchy and moving towards a circular economy. The three strategic pillars identified are waste minimisation, effective and sustainable waste services and compliance, enforcement and awareness. The NWMS has the following outcomes:

- Prevent waste, and where waste cannot be prevented ensure 40% of waste diverted within 5 years; 55% within 10 years; and at least 70% within 15 years leading to zero waste going to landfill.
- all citizens live in clean communities with waste services that are well managed and financially sustainable.
- and mainstreaming of waste awareness and a culture of compliance resulting in zero tolerance of pollution, litter and illegal dumping.

The NWMS specifically focuses on vulnerable groups by:

- Addressing the role of vulnerable groups, waste pickers and the informal sector and supporting women, youth and people living with disabilities in the circular economy; and
- Addressing the skills gap within the sector with a special focus on women, youth and people living with disabilities.

### 2.3.5 DWAF Minimum Requirements for Landfill

The DWAF Minimum Requirements for Landfills (2nd Edition) provide the applicable waste management standards that must be met for the operation of landfills1. These standards include waste disposal practices, which environmentally are acceptable and can be assessed. The objectives of setting minimum requirements are to:

- Prevent water pollution and contamination to ensure the integrity of South Africa's water and ground water resources.
- Maintain standards for the handling, treatment, storage, and disposal of waste to consistently protect human health and the environment from possible harm.
- A systematic and nationally uniform approach to waste management within landfills; and
- Establish internationally acceptable waste management practices.

[1] (DWAF, 1998)

The municipality does not have a licenced landfill site, currently waste is transported to Richards Bay for disposal.

### 2.3.6 National Domestic Waste Collection Standards

It is imperative that acceptable, affordable and sustainable waste collection services be rendered to all South Africans. The NEM: Waste Act and National Domestic Waste Collection Standards (NDWCS) were put into place to redress past imbalances in the provision of waste collection services. Equitable waste management services must be provided to all people living in the jurisdiction of the municipality and by-laws must be developed to ensure that the standards are met. The NDWCS recognises that different levels of service may be delivered depending on cost efficiency and practicality and proposes the following:

- The disposal of refuse at particular sites (other than landfill sites), supervised by a waste management officer, in rural and sparsely populated areas.
- The transport and storage of refuse at a central point accessed by the local community in areas that are of medium settlement density.
- The establishment of organised refuse transfer stations to collect from central collection points and/or kerbside sites in high density settlements; and
- Mixture of (b) and (c) above for the medium to high density settlements.

The NDWCS further states that separation of refuse at source of generation (i.e. households) is to be encouraged, and communities are to be involved in the recycling process. The municipality must provide an enabling environment for households to recycle domestic waste and co-operate with the recycling sector to ensure that facilities are provided where recyclables can be dropped-off for collection by service providers. Furthermore, receptacles for the storage of non-reusable and non-recyclable waste must be easily distinguishable from those for the storage of recyclable waste and must be fit for purpose. Bulk containers must also be clearly marked and where appropriate be placed next to a platform for ease of access. It is noted that skips are not designed for the collection of domestic waste unless appropriate measures can be put in place to prevent litter being blown from the skips.

Communal collection points must be clearly demarcated areas with appropriate receptacles where household waste can be deposited for collection by the service provider or municipality. The collection points must be easily accessible for waste collection vehicles, and must be kept tidy at all times. Receptacles must be covered so as to prevent windblown litter and be user friendly to allow even children and disabled persons to safely deposit waste. Waste deposited at communal collection points must be collected within 24 hours of receptacles being reported as full or at regular intervals

so as not to attract vermin and increase health risks. Bulk containers must be collected once filled up or within 24 hours of being reported as full, but not less than once a week. Non-recyclable waste must be removed at least once a week and recyclable waste removed at least once every two weeks. Removal must be coordinated with industry (the users of the recyclables) to minimise costs and the clogging of space at transfer stations and depots. Provision is made for free receptacles to be distributed to indigent households who qualify for a rebated service.

There are no rural waste collection points in order to extend waste services to rural areas.

### 2.3.7 Basic Refuse Removal Services to Indigent Households

The National Policy for the Provision of Basic Refuse Removal Services to Indigent Households (October 2010) provides for the provision of free basic refuse removal for indigent/impoverished households. The policy defines the basic refuse removal service level as per the National Domestic Waste Collection Standards described in Section above. The policy outlines the appropriate levels of service for settlement densities as follows:

- Frequent and reliable formal collection and disposal of solid waste to a landfill is required to be provided for a density of more than 40 dwelling units per hectare (high density);
- Communal collection and formal disposal of household refuse and litter is required to be provided for a density of 10-40 dwelling units per hectare (medium density); and
- Designated on-site disposal of general household waste is required in areas with a density of less than 10 dwelling units per hectare (low density.

The policy further specifies that in medium and high-density areas the most appropriate frequency of collection is:

- At least once a week for purely biodegradable domestic waste but on-site composting should be promoted;
- At least once a month for recyclable materials in rural areas; and
- At least once fortnightly for recyclable materials in urban areas.

In addition, the policy outlines the municipalities responsibilities related to receptacles and these include:

- The municipality must provide appropriate free receptacles for refuse storage;
- The number of free receptacles provided per household should be calculated based on the number of individuals residing in the household; and
- The municipality should devise appropriate strategies to maintain a constant and consistent supply of such free receptacles.

Currently the municipality only provide waste to the urban residents and the rural population does not receive any waste collection.

### 2.3.8 Health Act

Sections 20(1) (a) and Section 20(1) (b) of the National Health Act (Act 63 of 1977) state that:

- "every local authority shall take all lawful, necessary and reasonably practicable measures to maintain its district at all times in a hygienic and clean condition."
- "every local authority shall take all lawful, necessary and reasonably practicable measures to prevent the occurrence within its district of any nuisance, unhygienic condition, offensive condition or any other condition dangerous to the health of any person."

The Public Hospitals within Ulundi have appointed a service provider to manage the collection of hazardous medical waste from hospitals and clinics across the Ulundi municipal area. There has been little outreach to residents in relation to the proper disposal of medicines and other hazardous waste, and as a consequence it is likely that some of these wastes are collected in the general household waste stream.

### 2.3.9 Housing Act, Section 9(1) (a) (ii) (Act 107 of 1997)

Section 9(1) (a) (ii) of the Housing Act (Act 107 of 1997) states that "every municipality must, as part of the municipality's process of integrated development planning, take all reasonable and necessary steps to ensure that conditions not conducive to the health and safety of the inhabitants of its area are prevented or removed."

Within the parameters and constraints described above, the Ulundi LM has not managed to provide a reasonable level of waste management services, particularly to rural and informal areas and in general the old taxi rank and littering is evident in certain sections of the certain the urban areas

### 2.3.10 Water Services Act

Section 73(1)(j) of the Water Services Act stipulates Measures to Conserve Water in terms of which a water services institution must take reasonable measures to prevent any substance other than uncontaminated storm water to enter –

- Any storm water drain; or
- Any watercourse, except in accordance with the provisions of the National Water Act, Act 36 of 1998; and
- A water services institution must take reasonable measures to prevent storm water from entering its sewerage system.

Some of the water courses within Ulundi are contaminated with refuse being dumped within those water courses. It is therefore important that waste is managed in a manner that ensures water resources are not contaminated by illegal dumped waste.

### 2.3.11 Municipal Waste Policies and Bylaws

There is no policy currently in existence within the Municipality. The required policies for the management waste management operation will include the following:

- The Integrated Waste Management Plan
- Waste Management by-law
- Tariff structure policy
- Indigent Policy

The Municipality have an IDP for the financial year 2015/16. The need for the development and implementation of the IWMP has been indicated in the IDP. The appointed service provider is in the process of preparing the Ulundi Municipal IWMP and Waste Management By-laws.

# 3 Situational Analysis

The objective of this section is to accurately present the current status quo of current waste management activities for ULM and provide an analysis of the key issues. Effective municipal waste management planning needs to be based on accurate socio-demographic information, an analysis of the composition and quantities of the municipal waste stream, and an accurate picture of the state, scope and institutional arrangements for existing waste services and facilities. A key challenge facing the local municipality is the lack of effective information systems for waste management activities. This has acted as a constraint in developing the situational analysis of the current status quo of waste management within the municipality and will be addressed in greater detail during the gap analysis and needs assessment.

The Situational Analysis will be as per the stipulation of Section 12 of the Waste Act (2008) which states that this section should cover the following:

- A description of the population and development profiles of the area to which the plan relates.
- An assessment of the quantities and types of waste that are generated in the area.
- A description of the services that are provided, or that are available, for the collection, minimisation, re-use, recycling, and recovery, treatment and disposal of waste, and
- The number of persons in the area who are not receiving waste collection services.

## 3.1 Socio-economic Profile

Waste generation is influenced by socio-economic factors such as population growth, employment levels, economic development and urbanisation. As more people move from rural to urban areas for economic opportunities, the greater their participation in the economy, which in turn leads to an increase in their material consumption. An increase in consumption may result in an increase in waste generated by households, leading to a demand for waste services. Decision-makers need to collect data on these socio-economic factors for planning purposes and to determine current and future waste quantities.

* Demographic data used below extracted from STATS SA census 2022

### 3.1.1 Population Overview

**Table 1 : Ulundi population size**

| Name | Population Census 1996-10-09 | Population Census 2001-10-09 | Population Census 2011-10-09 | Population Census 2022-02-02 |
|---|---|---|---|---|
| Ulundi | 171,206 | 189,013 | 188,317 | 221,977 |

Ulundi LM contributes approximately 23% to the total district population(Zululand). It has the third largest population after Abaqulusi and Nongoma in the district. Ulundi LM estimated population of around 221,977 people Stats SA 2022. In 2011, the population of Ulundi was 188 317, Ulundi's population growth rate has been relatively modest, around 1,2% annually in recent years. This moderate growth is influenced by rural-urban migration patterns, as some residents move to larger urban centres like Durban or Johannesburg for employment opportunities, while others settle in the area due to government employment and agricultural activities.

### 3.1.2 Population Projection

If the current growth trend continues, Ulundi's population could reach approximately 220,000–230,000 within the next decade (by 2034). Factors like economic development, infrastructure improvements, and rural migration patterns will influence these projections. This will have implications on service delivery, social facilities and human settlements. An increasing population also creates a threshold for varying intensities of development and provides human capital to support economic development.

### 3.1.3 Gender Ratio

According to Stats SA, there are 120,583 females which are more than 101 394 males in Ulundi LM. This (having more females than males) may be attributed to the possibility of males seeking employment outside Ulundi area in areas such as Vryheid, Richards Bay, Durban and Johannesburg.

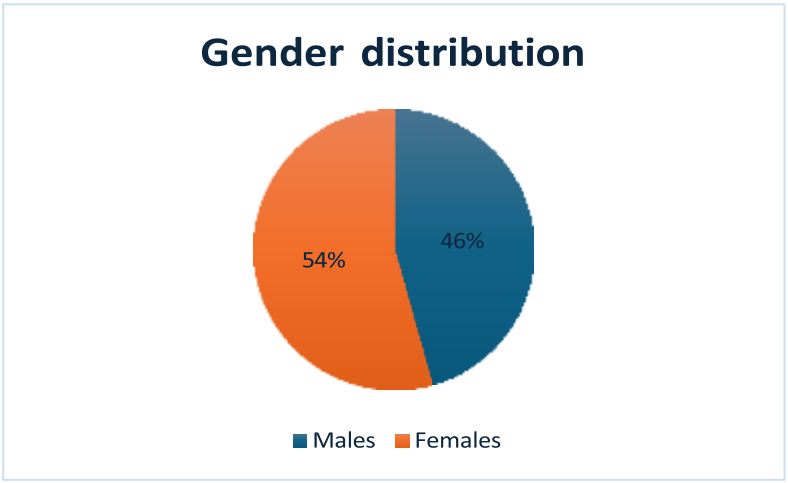
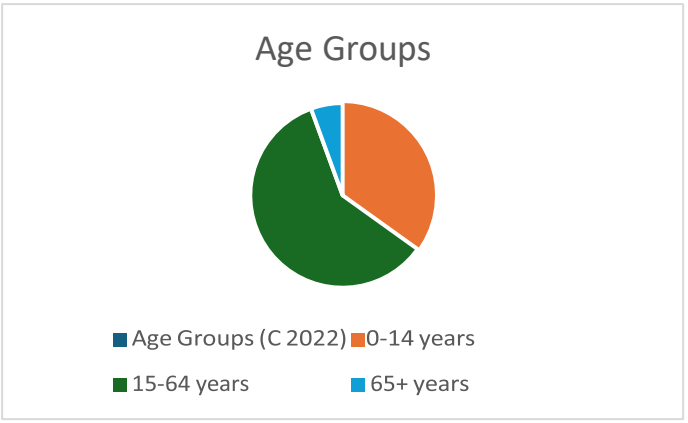



**Figure 7 : Ulundi Gender Distribution**

### 3.1.4 Age




The population age cohort under 15 has been increasing in the district, while in the Ulundi Municipality, it has been fluctuating. In Ulundi Municipality, the age cohort under 14 decreased in 2011 and increased in 2020. For the cohort aged 15-64, the district's cohort has been increasing since 2001, while the Ulundi Municipality's has been fluctuating. In Ulundi Municipality, the age cohort 15-64 decreased in 2001 and increased in 2022. An increase in the age cohort over 64 has been observed in the district since 2001, while in the Ulundi Municipality, it has been fluctuating. In Ulundi Municipality, the age cohort over 65 decreased in 2011 and increased in 2022.

### 3.1.5 Age Distribution

The age profile within the Municipality is largely characterized by youth. Approximately 45% is economically dependent (under 20 years of age) and is a representation of mostly the children still attending school. 6% of the population is over 65 years, indicating that there an economically inactive population, who are low earners and depend on pensions. The combination of youth and elderly can be an indication of high levels of dependency. In addition, the needs of the youth puts more pressure on the provision of educational facilities and employment opportunities in the area.

There is consistent decrease in the number of people per age category from 20 years and older. This indicates that the pyramid structure, as depicted in the graph, illustrating a narrowing trend among individuals aged 20 years and older.

The population is becoming older. It is typical of developing countries. Further, the age distribution also indicates a reduction in the age categories of 5 years to 19yrs. What is however interesting to note is the number of persons in the age category 0 to 4 years (from

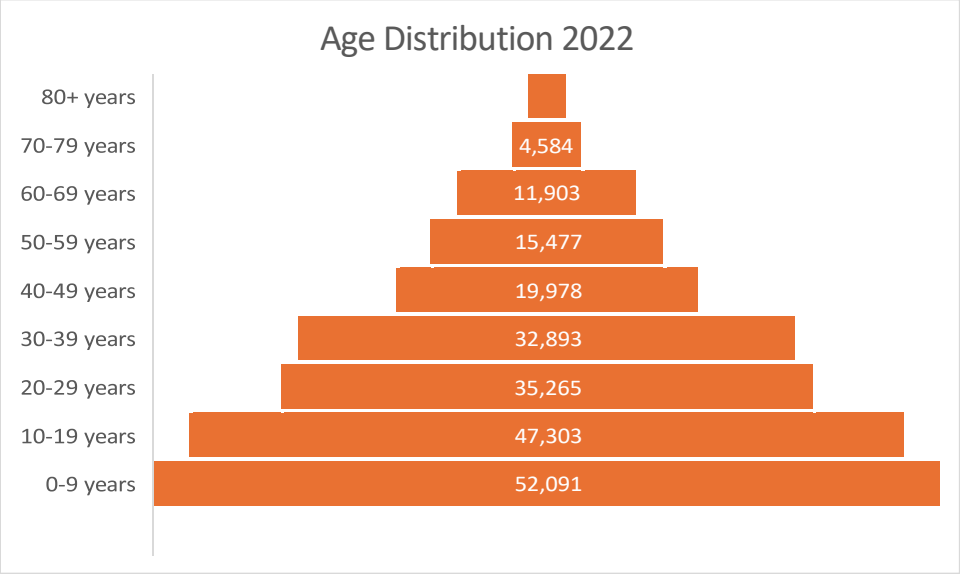



**Figure 8 : Age Distribution**

### 3.1.6 Population Group

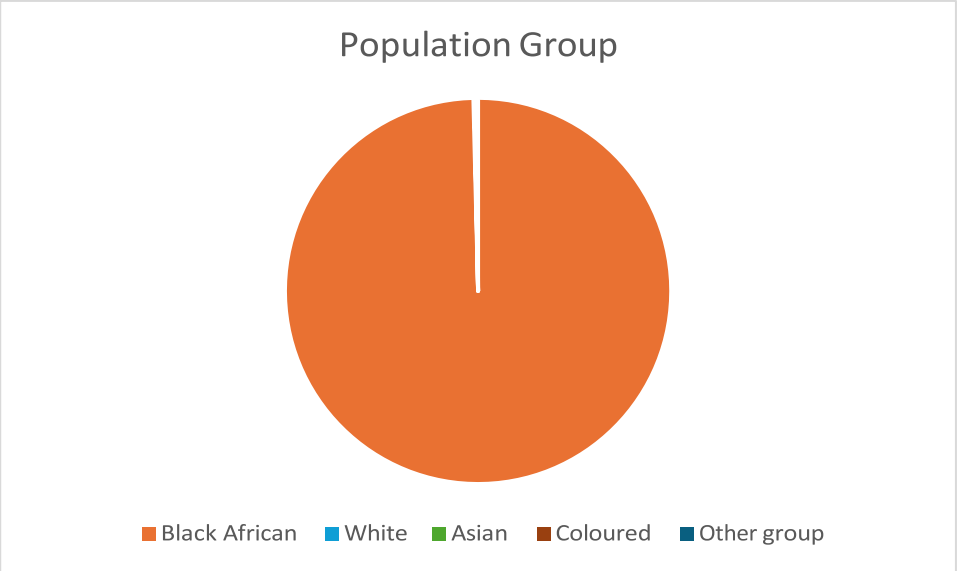



**Figure 9: Population Group**

### 3.1.7 Employment

Income levels are very low; nearly 40% of households have no income. Unemployment levels are very high, with only 12.5% of the total population being formally employed. Youth unemployment is a major concern, with many young people lacking the skills or opportunities to enter formal employment. The lack of industrial and major commercial developments limits job creation.

### 3.1.8 Household Income

Approximately 4 492 (13%) households have no access to an income, whilst 22 427 (61%) receive an income less than R 3200 a month. About 26% is categorised as households earning a monthly income above R 3 200, unspecified (1 household) and not applicable (21 households).

## 3.2 Services

### 3.2.1 Water Service

The levels currently differ across the Municipality, predominantly based on a rural/urban split. The service levels are shown on the Maps overleaf. In general, urban areas have water services equal to or higher than, and many rural areas have either no water services or these services do not meet, the compulsory national standards determined in terms of Section 9(1)(a) of the Water Services Act, 1997. The potential service levels for water include Communal supply at the minimum prescribed levels listed – this service level is the 'basic' supply; Controlled volume supply – this would include yard tanks that are filled daily or low-pressure connections either as yard or house connections;

Uncontrolled volume supply – these are usually high-pressure connections either as yard taps or house connections.

### 3.2.2 Sanitation

There are various levels of service in terms of sanitation services. There are the formally established urban areas, in the case of the Municipality it would be Ulundi CBD, Mahlabathini, Babanango etc. These areas have a higher level of service with full water borne sewerage networks that discharge into a wastewater treatment works (WWTW). In some cases, households may have on-site septic tanks or alternatively conservancy tanks that are emptied periodically by a vacuum tanker which in turn discharges the wastewater into a WWTW. A greater part of the rural areas that do not have a high level of water supply service rely on on-site VIP, which is defined as a basic level of service. The rural areas that have not yet benefited from a government sponsored sanitation program rely on substandard pit toilets.

## 3.3 Settlement Patterns

The Ulundi municipal area is approximately 3,250 $km^2$. Currently, the municipality has an estimated population of 205 762. The town of Ulundi represents the only urban centre with a population of approximately 40 000 people. The settlement pattern shows that there is high population concentration in the Ulundi town and densely populated peri-urban area surrounding ten town and along the main route R66 and P700. Further settlements concentrations include:

- Nqulwane in the eastern part of the municipality, largely as the result of the location of Okhukho coal mine in that area;
- Babanango, which developed as a result of agriculture and forestry
- Denny Dalton / Mpungamhlophe, which developed as a result of R34 and rail infrastructure; and
- Ceza to the north which developed in response to the establishment of supportive land uses such as a hospital, clinic and other related social support services in the area. It is also situated in the road network system (R66, R33, R34, P700, P701 etc). It is therefore a connection and concentration point for people and activities

Land ownership in the western part of the municipality is private and is mainly being used for agriculture and forestry. The eastern part of the municipality is Ingonyama Trust land and is used for rural settlement purposes in a scattered, low density pattern, as well as for subsistence farming

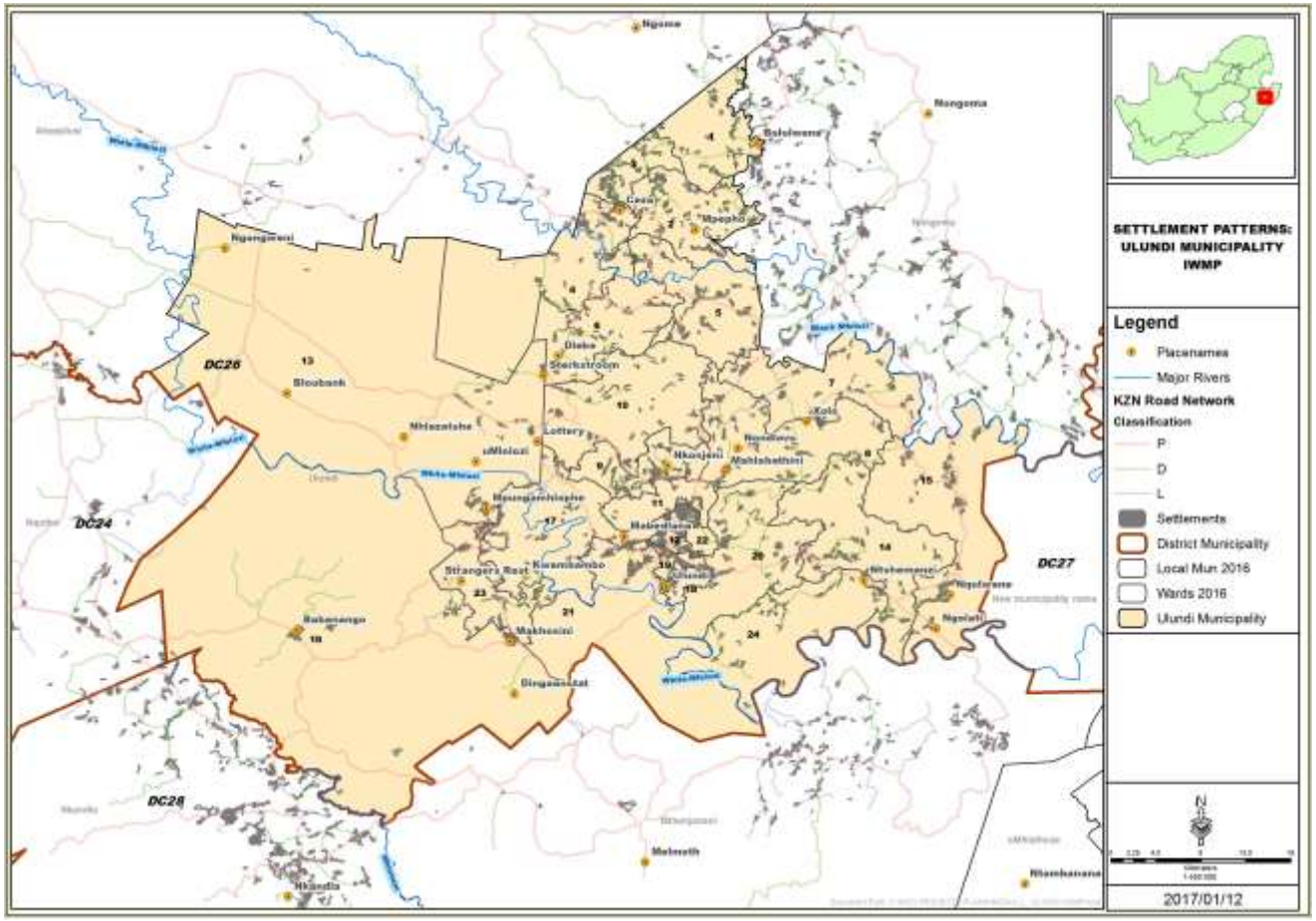



**Figure 10: Settlements Patterns**

## 3.4 Overview of Waste Management in Ulundi

Within an integrated waste management system, there are various system elements, which include generation and separation, collection, transfer and transport, treatment and disposal, reduction, re-use, recycling and recovery as indicated below. The municipality still focus on disposal, which does not align with the waste management hierarchy.


**Figure 11 : The solid integrated waste management system**

The status quo of waste management will be discussed as follows:

- Waste Data
- Waste Generation
- Collection, Transfer and Transport
- Treatment and Disposal
- Waste Minimisation
- Waste Minimisation Initiatives to Support Diversion
- Waste Management Infrastructure
- Governance
- Waste Jobs

### 3.4.1 Waste Data

Accurate waste information is essential for waste management planning and to provide an understanding of the quantities and types of waste being generated, disposed of, and diverted. Municipalities and industry are required to report waste disposal and diversion data on the provincial Integrated Pollutant and Waste Information System (IPWIS) on a monthly basis. The data is then uploaded to the national South African Waste Information System. In cases where waste management facilities (WMFs) do not have weighbridges to ensure accurate reporting the departments waste calculator and Gate Control Sheet is used for estimations.

Currently, there are no accurate records of waste generated within Ulundi LM or of the waste disposed of in a landfill site in Richards Bay. It is therefore challenging to quantify the precise waste generated within Ulundi municipal area. An attempt has been made, below, to quantify the waste generated within Ulundi area.

### 3.4.2 Waste Generation

**Waste Generation Estimates:** the average waste generation rate is estimated to be around 0.5 to 0.7 kg per person per day. This figure is lower than urban areas due to fewer commercial and industrial activities.

**Total Daily Waste Generation:** Based on the population estimate of 200,000 people, the total waste generated in Ulundi is approximately 100 to 140 tons per day.

### 3.4.3 Waste Collection, Transfer and Transport

Waste collection and transportation is an integral component of waste management service provision. A significant portion of waste management costs is associated with the provision of waste collection and transport services. Although the municipality may be effective at delivering waste collection services, they may not be doing so efficiently. The high cost of waste collection coupled with limited financial resources available to many municipalities, require municipalities to operate efficiently. Efficiency refers to internal operations and involves maximizing the outputs i.e. waste collection services, with the available resources e.g. time, vehicles, staff, financial resources. Some municipalities are undertaking waste collection using aged vehicles, which may be more prone to breakdowns, thereby affecting operational costs and service delivery.

Efficiency of waste collection services can be improved by ensuring a proactive approach is taken to maintenance and replacement of vehicles.

#### 3.4.3.1 Municipal Waste Collection

Waste is collected from residential areas, streets, public open spaces, commercial and industrial premises, hospitals and clinics, government institutions, schools, community halls, sport grounds, parks and municipal premises. According to the Statistic South Africa (2011), approximately 7 225 of households are provided by waste management services while 28 884 of households do not receive waste management services. Waste management services are limited to urban areas, rural and informal areas do not receive such services (Ulundi, IDP, 2015/16). The discrepancy in the provision of waste management services may cause residents in the informal and rural area to dump their refuse in the illegal sites or even burn them and that may have negative environmental impacts. The following waste types are known to be generated within Ulundi municipal area:

- Household waste
- Business waste
- Farm waste
- Medical waste

#### 3.4.3.2 Household and domestic waste

Refuse is collected from residential premises, streets, public open spaces, commercial and industrial premises, hospital and clinic premises, government institutions, schools, community halls, sports grounds, parks and municipal premises by the Municipality in accordance with a weekly collection schedule. Two external service providers have been contracted by the Municipality to collect refuse on a daily basis from the Ulundi CBD and taxi rank and from Babanango Town and township twice a week respectively. Street cleaning (litter picking, sweeping, and cleaning of ablution facilities) is done on a daily basis in the CBD. Approximately 6 992 households receive a communal waste collection service. Between 1996 and 2001 and between 2011, 2016 and 2022 there has been a significant decrease in the number of households who had their own or a communal refuse dump. What is encouraging also to note is that there has been more than a 50% decrease in the number of households, between 2011, 2016 and 2022, who had no method of rubbish disposal. Also noteworthy, is that the number of households which have their refuse removed by the municipality increased between 2016 and 2022.

**Table 2 : Refuse removal**

| REFUSE REMOVAL YEAR | 2001 | 2011 | 2016 | 2019 | 2022 |
|---|---|---|---|---|---|
| Removed by local authority/private company | 6 640 | 7 227 | 6 402 | 6807 | 6 992 |
| Communal/Own refuse dump | 19 196 | 23 802 | 28 708 | 28 391 | 23 801 |
| No rubbish disposal | 7 940 | 3 750 | 1 838 | | 3 750 |

The Municipality leased three new refuse trucks in 2023 to undertake its refuse removal responsibility; these trucks have been finaced in terms of a full maintenance lease and suitably qualified drivers for the vehicles appointed. Five teams have been established within the municipal staff to undertake refuse removal in its designated area of responsibility.

#### 3.4.3.3 Business Waste

The Ulundi town which is the main service and administrative centre, within Ulundi LM, comprise of different complexes (Ithala Complex, ABSA Complex, King Senzangakhona Complex and Ezulwini Complex). These centers generate domestic waste which is stored at the respective complexes' deposit and is collected by the private companies to the landfill site in Richards Bay. Ulundi town consists of shops such as Spar, PEP and Game stores, Hardwares, petrol filling stations. Most of the waste generated in the town center involves packaging and cartons from retails shops. Most of the waste generated can be recycled if separated from the source of generation.

#### 3.4.3.4 Building waste

Building waste consists of building rubble from construction, spoil material from road construction activities, renovation and demolition projects. Such waste often contains concrete, wood, asphalt, gypsum, metal, brick, and plastic, as well as salvaged building components such as doors, windows, and plumbing fixtures. In some instances, building waste may also contain hazardous material such as paint, chemicals etc., which need to be attended to by the Municipality.

Currently there are no dedicated builder's rubble sites within Ulundi LM. There is a need for the Municipality to start planning for using the rubble, which can include using building rubble to fill borrow pits and eroded areas. The municipality could also explore opportunities for reusing rubble back into the construction industry and also recycling material such as tar/asphalt from resurfacing projects instead of disposing these waste materials.

**Figure 12 : Rubble from a hotspot in Unit D**

#### 3.4.3.5 Farm waste

Approximately half of Ulundi area comprises of commercial farms and the area supports a substantial agriculture community. Agricultural producers and farms generate a variety of waste including some hazardous waste through the use of fertilizers and pesticides, the largest portion will be organic. Resident farm workers have waste generating profiles similar to those in rural settlements but are effectively on private land. Therefore, farm areas dispose their own waste and municipal waste services are not being provided to these areas.

#### 3.4.3.6 Medical Waste

Health services are provided and coordinated at the District Office of KwaZulu-Natal Department of Health located within Ulundi LM. The Municipality has four hospitals, Thulasizwe MDR TB Hospital, Ceza District Hospital, Nkonjeni District Hospital and St Francis Psychiatric Hospital. The two District Hospitals have 19 fixed clinics to whom they provide a referral service. There are five mobile clinics, two are linked to Nkonjeni District Hospital, two are linked to St Francis Psychiatric Hospital and one to Ceza District Hospital.

Campus Waste is contracted to collect the medical waste from public hospitals on different scheduled days. For example at Nkonjeni District Hospital, Campus Waste collects medical waste every Thursday. The medical waste collected from these public hospitals is incinerated in Pinetown. The hospitals keep detailed records on site showing the type of waste collected from clinics, volumes and what Campus Waste collected. There are no measures within the municipality on dealing with household medical waste and it is likely that medical waste from households is

collected and disposed off together with the domestic waste. In terms of the legislation generators of hazardous and medical waste are responsible for its storage, collection, treatment, transportation and disposal. The municipality plays a monitoring role of making sure waste disposal is done according to stipulated standards.

Several clinics were schedules to be constructed within Ulundi area. In instance that these clinics are indeed constructed, there should be plans for LM to monitor medical waste management form these clinics.

#### 3.4.3.7 Street Sweeping

Street sweeping and litter picking happens within Ulundi town. There are two shifts (day and night shift) responsible for street sweeping. Streets are swept on daily basis. There is no litter picking in the residential areas hence some of the areas are polluted with litter.

### 3.4.4 Waste management status and backlogs

Refuse removal is currently limited to the urban areas of the Municipality; this service is not available to the existing informal settlements and rural areas, however Hospitals are covered by Ulundi Municipality. As a consequence, the majority of the population disposes of their own refuse in informal dump sites, probably by burning it which impacts negatively on the sustainability of the environment. The municipality is collecting waste in all formal settlements around Ulundi, CBD and in all three hospitals (Nkonjeni, Ceza and Thulasizwe). These formal settlements are in ward 12, 18, 19, 8, 21 (Mandleni), 22 and ward 16. The remaining 17 wards do not have access to waste removal service. All the residents of low income housing projects are not charged for refuse collection. These include houses located in Babanango, Ulundi Unit K, and Ulundi Unit L. Three big refuse skips have been provided for communal disposal. These are located in the following areas:

- Sishwili area along R66
- Next to the Airport along P700
- Mboshongweni area

Furthermore, the community of Mkhazane constructed a small cage for the disposal of nappies and that cage is emptied once a week.

### 3.4.5 Municipal Waste Collection Fleet

The municipality has three Rear End Loader (REL) compactor trucks which are leased from IRS. It is understood that these trucks have been financed in terms of a full maintenance lease.


**Figure 13 : Municipal Fleet**

### 3.4.6 Waste treatment and Disposal

#### 3.4.6.1 Waste Treatment

The NEM:WA defines waste treatment as follows "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"

#### 3.4.6.2 Waste Disposal

The majority of households, particularly those in the informal and rural areas, do not receive waste management services. These households often use their own dump sites or probably burn waste within their yards which impacts negatively on the sustainability of the environment. The municipality collects waste from urban areas and transport the waste into the transfer station located on a site owned by the Zululand District Municipality but managed by the Ulundi LM. The waste is then transferred to Richards Bay in terms of the service level agreement entered between the LM and the external service provider. Ulundi LM does not have a landfill site. The Municipality owns a small licensed Landfill site in Babanango to cater for the Babanango community and this landfill only accepts general/domestic waste and the building rubble

The Department of Environmental Affairs conducted an audit in 2020. The audit outcome indicated that it will be impossible for the site to comply with all the conditions attached to the licence and the department intended to issue a notice in addressing its findings. The municipality decided to resume a closure process and consultants have been appointed to conduct an EIA process and apply for the closure licence of the Babanango landfill site.

#### 3.4.6.3 Illegal Dumping

The illegal dumping of waste is widespread throughout the municipality. Although the volumes of waste from illegal dumping have yet to be fully quantified, the overall budget required for its clean-up ensures that it is a high priority for the municipality, who spend significant amounts annually on clean-up operations. Illegal dumping also forms a large portion of the waste-related complaints received by municipalities .Builder rubble and general domestic waste constitute most of the waste dumped illegally. During windy conditions, illegally dumped waste often gets scattered across large tracts of land and finds its way to the ocean. Common causes of illegal dumping range from people not wanting to pay disposal fees, too many people using the same wheelie or disposal bin, the misuse of wheelie bins for carting other materials, the inaccessibility of the waste bins and other receptacles for purposes of disposal, amongst others.

**Figure 14 : A view of the illegal dumbing sites**

It is worth mentioning that some of the illegal waste occurs within water resources thus contributing to water pollution.

**Figure 15 :: Water resources contaminated by waste**

### 3.4.7 Waste Minimisation

The NWMS, 2020 highlights waste minimisation as one of its key strategic pillars, with focus being placed on minimising the impact of waste and especially plastic packaging on our coasts, rivers, wetlands and our human settlement environments, by amongst others, diverting waste away from landfill; increasing re-use, recycling, recovery and alternative waste treatment; and maximising the role of the waste sector in the circular economy. The strategy further mentions two key focus areas namely waste prevention and managing waste as a resource (DEFF, 2020).

There are several drivers for waste re-use, recovery and recycling in the province, which includes:

- Limited landfill airspace
- Growing cost of landfilling
- Policy e.g. landfill disposal restrictions, EPR Regulations

Despite the above drivers, disposal is still largely favoured over other waste management methods. The diversion rates in the province are elaborated on in the following sections:

#### 3.4.7.1 Waste Minimisation Initiatives to Support Diversion

Buy-back centres are depots where waste collectors can sell their recyclable waste. The Ulundi LM has one buy back centre located at Princess Magogo Street in Ward 12. The buy-back centre is operated by a private company called Elam Investment. The presence of the buy-back centre has created job opportunities for entrepreneur who operates and manages the buy-back centre, as well as sorters and balers who accept the recyclable waste from the different waste collectors. It is only the paper, plastic bottles, plastic packets, cans (steel and aluminium) and cardboards that are sold to the Ulundi buy-back centre. The plastics are taken to Planet Care in Durban and Pietermaritzburg,

the cardboards; white paper; and newspapers are taken to Mondi in Mandeni. There is no market for the glass bottles and metals. Some households keep the glass bottles and sell them directly to the recycling companies.


**Figure 16: Recyclables at the Ulundi Buy-back Centre**

Recyclable waste originates from activities of economic agents such as households, businesses and government. Waste produced from these sources is collected either through formal or informal sector activities. There is, however, no data on the buy–back centre and its linkage to the formal (Municipality, Government Departments, NGO's and private companies) and informal sector (street waste pickers, individuals using bakkies, landfill waste reclaimers). There is a need for formal waste minimisation campaigns within Ulundi LM for education and awareness generation with the public.

### 3.4.8 Waste Management Infrastructure

#### 3.4.8.1 Landfills

The conditions are summarised below:

| Issue | Impacts |
|---|---|
| Broken perimeter fences | • Unauthorized waste pickers enter the grounds of the facility and trespass on the waste body.<br>• Spread of windblown litter.<br>• Facility footprint creep which results in illegal disposal of waste outside of the permitted perimeter. |
| Lack of stormwater management channels (Recent audits conducted has indicated that the water management at many facilities have improved.) | • Stormwater becomes contaminated when encountering the waste body.<br>• Contaminated stormwater not contained within the footprint of the facility. |
| The lack of cover material. | • Disposed waste becomes windblown causing numerous nuisances such as blocked/clogged sewage and water channelling systems.<br>• Aesthetic nuisances at most WDFs. |
| Access control at facilities are lacking | • Volumes of incoming waste, and the checking of the waste entering the landfill are also lacking at many at WMFs.<br>• |
| Lack of groundwater monitoring at facilities | • If water quality is not monitored, it could create conditions which could lead to significant and prolonged environmental impacts.<br>• |
| Detection of landfill gas | • Methane gas detected above range at some facilities. Unless captured by a gas recovery system, methane. generated by the WDF is emitted directly through the landfill cover surface.<br>• At facilities where the percentage methane is above 5% at any monitoring point, there is a risk of explosion and fire. Sources of ignition should be avoided, such as smoking or fires at the landfill. Municipalities should also check for the ingress of water at the affected facility, as organic waste that breaks down in anaerobic conditions produces methane. |

#### 3.4.8.2 Transfer Station / Drop-of-centres

Currently, there are no drop-off centres and there is one transfer station located in Ward 18. A transfer station is a facility with a designated receiving area where waste collection vehicles discharge their loads. The waste is often compacted, then loaded into larger vehicles (usually transfer trailers, but intermodal containers, railcars, and barges are also used) for long-haul

shipment to a final disposal site—typically a landfill. The presence of a transfer station provides an opportunity for the screening of waste prior to disposal.

Waste screening has two components: separating recyclables from the waste stream and identifying any wastes that might be inappropriate for disposal (e.g. hazardous wastes or materials or infectious waste). Identifying and removing recyclables reduces the weight and volume of waste sent for final disposal and, depending on local recycling markets, might generate revenue. Screening for inappropriate wastes is more efficient at the transfer station than the landfill.

**Figure 17: Waste transfer station**

The setting of Ulundi Transfer Station limits opportunities for recycling initiatives because the area is not enclosed. During rainy times, recyclables such as cardboards and papers can get wet. Rodents and birds can pose a problem as the transfer is not enclosed. It is not clear as to how long

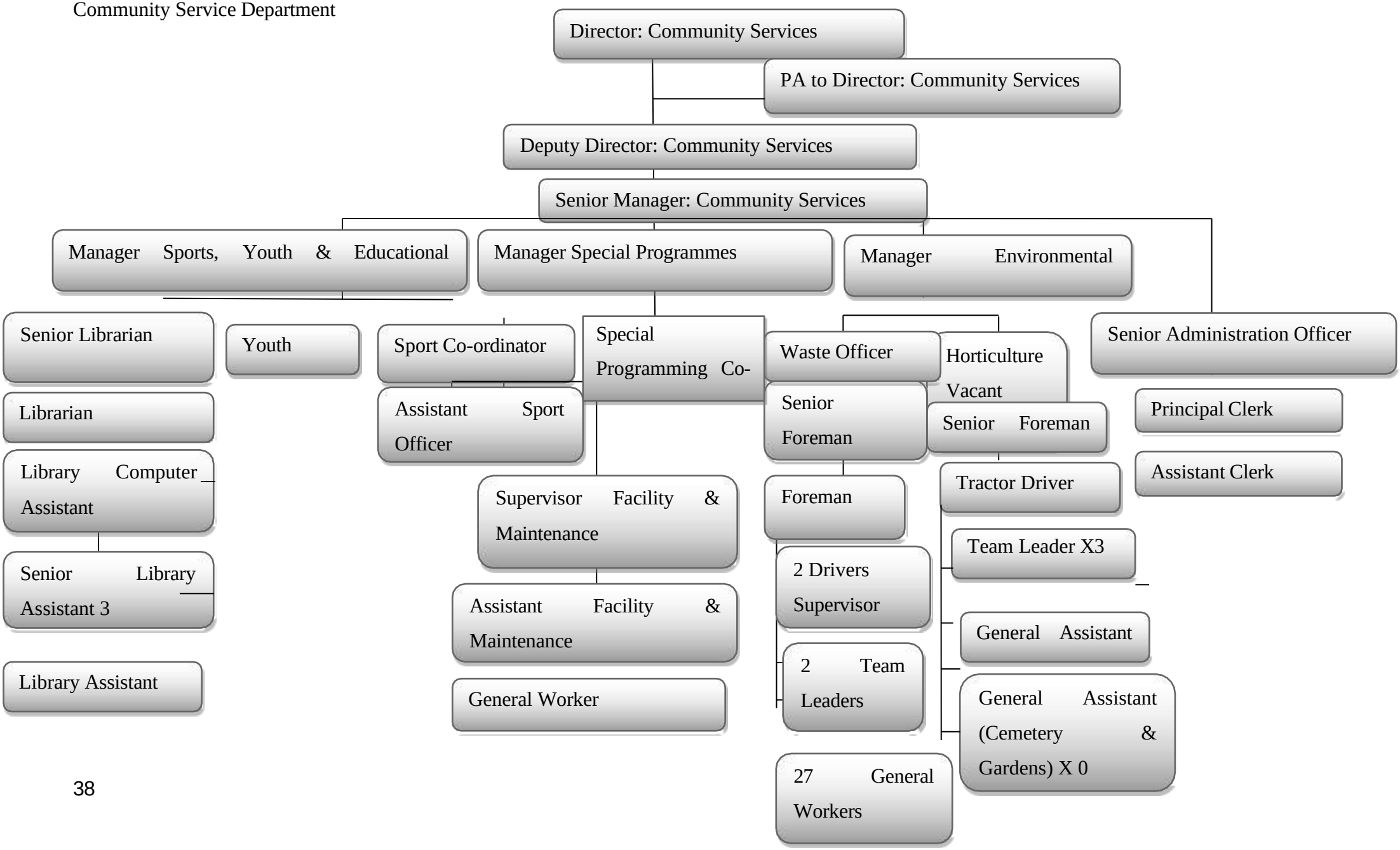
the waste stored on transfer station before being transferred to land fill site in Richards Bay. There are on-site records of waste coming in and going out of the Ulundi transfer station.

### 3.4.9 Waste Management Strategies, Systems and Practices

#### 3.4.9.1 Institutional Framework of the Waste Sector

Municipal waste collection and transportation falls under the Community Service Department, Figure 8 depicts the departmental structure and number of personnel:

Community Service Department



### 3.4.10 Waste management Cost

An exercise to collect accurate data, analyze trends, and implement cost-saving strategies while boosting revenue through sustainable initiatives will be conducted and it will incude an analysis of the following.

1. **Revenue**:
    - Sources: Service fees, government grants, recycling income.
    - Focus: Ensure timely billing, explore new revenue streams, and monitor trends.
2. **Capital Expenditure (CapEx)**:
    - Includes: Vehicle procurement, facility development, IT systems.
    - Priorities: Plan long-term investments, seek funding opportunities, and reduce OpEx through sustainable technology.
3. **Operating Expenditure (OpEx)**:
    - Covers: Staff wages, fuel, maintenance, landfill/disposal fees.
    - Efficiency: Optimize collection routes, reduce overtime, and invest in training and automation.

The cost of transporting refuse from the transfer station to the Richards Bay escalated significantly when the service fee of the current contract with the service provider was reviewed in March 2011 – the refuse removal from Ulundi Transfer Station to Uthungulu contract budget cost the Municipality about R5 658 000.00 in the 2023 / 2024 financial year alone.

### 3.4.11 An Analysis of the Extent of Implementation of the 2017 IWMP

**Goal 1 - Successful Implementation of and Review of the IWMP from a legislation and regulatory framework**

| | Main Activities | Sub-activities | Approximate Budget | Timeframe | Progress to date |
|---|---|---|---|---|---|
| Legislation and Regulations | Development of the municipal IWMP | Adopt IWMP | R 00 | 2017/18 | IWMP was adopted and endorsed in 2017 |
| | | Review IWMP, in terms of the progress in achieving the Goals, annually as per Waste Act requirements. | R 30 000.00 to review IWMP annually and report to the province. | 2017-2021 | The municipal IWMP has been developed and it is annually reviewed internally |
| | Development of the waste by-laws | Ensure that bylaws are gazetted | R 00 | 2017/18 | The by-laws have been developed and have been gazetted. |
| | | WMO is to report quarterly to the District on compliance with the waste collection standards and free basic refuse collection standards | R 00 | 2017-2021 | The Municipality seats in the district pollution and waste management forum. |
| | | WMO is to report quarterly to the District on monitoring and enforcement of municipal waste management by-laws. | R 200 000 | 2017-2021 | |
| | | Ensure that sufficient, dedicated staff are in place to enforce the by-laws:<br>LM to capacitate the WMO to qualify as an EMI | R 30 000 | 2018/19 | The manager for the Waste Section was employed in June 2018. The section is fully functional with the following positions filled: Waste Officer, Foreman, Team Leader and thirty-five (35) General Workers |

**Goal 2- Implement and review the waste management plan from an organizational and institutional perspective**

| | Main Activities | Sub-activities | Approximate Budget | Timeframe | Progress to date |
|---|---|---|---|---|---|
| Institutional and Organisational Needs | Capacity Building through enrolling in relevant waste management courses | Waste management-related courses & training | R 30 000 | 2017/18 | Twenty (20) awareness campaigns were conducted between July 2018 and June 2019 |

**Goal 3 - To provide an appropriate, affordable and sustainable waste collection service to all people within the Ulundi LM**

| | Main Activities | Sub-activities | Approximate Budget | Timeframe | Progress to date |
|---|---|---|---|---|---|
| Waste Collection and Delivery Needs | Extending services to currently un-serviced areas | Mapping areas that are currently un-serviced<br><br>Develop and implement a waste collection strategy which will include:<br>• Defining service levels for different settlement types; and<br>• Extending the existing waste collection service in terms of the waste collection standards | R 00<br><br>R 1 000 000 | 2017/18<br><br>2017/2021 | The collection of refuse in rural areas has commenced with the two (2) pilot areas in Ward 12 (Sishwili Area) and Ward 19 (Mbhoshongweni Area) where each area has 1 skip for communal disposal.<br><br>A budget of R8 548 936 has been made available for waste management |
| | | Undertake a schedule and route | R 20 000 | 2017/2021 | |

| | Main Activities | Sub-activities | Approximate Budget | Timeframe | Progress to date |
|---|---|---|---|---|---|
| | | analysis<br>Reschedule and reroute to make collection more effective<br>Inform residents of new route and schedule | | | |
| | | Provide sufficient refuse bags to residents on a weekly basis | R 600,000 | 2017/2018 | |
| | | Identify areas to place bins and skips because of the extension of services | R 00 | 2017/18 | Areas identified |
| | | Determine the number of bins required | R 00 | 2017/18 | |
| | | Purchase bins and skips required | R 600 000 | 2017/2018 | |
| | | The LM to lease fleet for waste management | R 1,4 000 000 | 2017/18 | The municipality has procured the relevant fleet for refuse collection |
| Waste Information System | Develop and implement a record-keeping system | Establish an effective, regular reporting system | R100,000 | 2017/2021 | |
| | | Establish a database<br>Regularly update database | R 00 | 2017/2021 | |
| | Ensure that the waste information system feeds into the government WIS (waste information system) and meets | Waste information system feeds into the government WIS (waste information system) | R 00 | 2017/2021 | |

| | Main Activities | Sub-activities | Approximate Budget | Timeframe | Progress to date |
|---|---|---|---|---|---|
| | the requirements of the National waste management strategy | | | | |

**Goal 4 -To implement sustainable recycling within the Ulundi LM giving due consideration to social, environmental and economic factors**

| | Main Activities | Sub-activities | Approximate Budget | Timeframe | Progress to date |
|---|---|---|---|---|---|
| Waste Minimization and Recycling | Develop and implement a record-keeping system | Establish an effective, regular reporting system | R 100 000 | 2017/21 | |
| | | Develop and implement a monitoring and evaluation system | R00 | 2017-2021 | |
| | | Ensure that the waste information system feeds into the government WIS (waste information system) and meets the requirements of the National waste management strategy | R00 | 2017-2021 | 408,15 Tons of recycled waste between July 2019 and January 2020 |
| | Develop a municipal recycling policy | Implement the recycling policy | R 50 000 | 2017/2018 | The recycling policy has been developed and is implemented. |
| | Develop and implement an interim strategy to separate waste at the source point | Identify and assess existing recycling entrepreneurs and enter into agreements with them | R 00 | 2017/18 | Twenty-five (25) Schools participate in recycling initiatives at schools and have active environmental committees. Sustainable jobs through recycling: Staff |

| | | | | | |
|---|---|---|---|---|---|
| | | - Work with the groups/companies to supply accurate records for monitoring purposes<br>-Coordinate the workshop with recyclers | R 30 000 | 2017/18 | employed at the recycling centre 12 and Beneficiaries (Recyclers 60) |
| | Waste recycling campaigns | Community Awareness Programmes on benefits of recycling | R 200 000 | 2017-2021 | Twenty ( 20) awareness campaigns were conducted between July 2019 and January 2020 |

**Goal 5 - Ensure sufficient long-term waste disposal capacity that is environmentally (including legislation) and publicly (socially) acceptable**

| | Main Activities | Sub-activities | Approximate Budget | Timeframe | |
|---|---|---|---|---|---|
| Waste Disposal Issues | To have the safe and appropriate disposal of collected solid waste | Identify a site for the establishment of a landfill | R0.00 | 2017/18 | The business plan to source the funding has been developed and is in place |
| | Detailed closure plan | Detailed closure plan and rehabilitation for the dumpsite, this includes the short-term operational | R 150 000 | 2017/2021 | |
| | | Identify, close and rehabilitate illegal dumping sites | R 500 000 | 2017/2021 | |
| | Construction of Ulundi Municipal landfill site | Build and erect infrastructure | R 21 000 000 | 2017/2021 | |

**Goal 6 - Ensure that the population within Ulundi LM are informed and made aware of waste management issues in general and of the IWMP and that all stakeholders are empowered to meet their responsibilities of integrated waste management**

| | Main Activities | Sub-activities | Approximate Budget | Timeframe | |
|---|---|---|---|---|---|
| Waste Education, Awareness and Information Dissemination | Develop and implement programme/s to educate and empower the community on waste management issues | Workshop all councillors on waste management | R 50 000 | 2017/18 | Flyers have been developed for education purposes on how to manage domestic waste.<br>About 20 schools participated in an Environmental awareness competition in June 2017.<br>29.2 % of the Ulundi LM population has been exposed to information and been made aware of the waste management and waste management planning issues within the LM and the programme is ongoing.<br>Green Deeds programme commenced in January 2020 to among other things conduct an educational campaign on waste management. |
| | | Community Awareness Programme on illegal dumping. | R 250 000 | 2017-2021 | |
| | | 2017/18 – developing a<br>2019/20 – Roll-out campaign to include 40% of schools<br>2020/21 – Roll-out campaign to include 60% of schools<br>2021/22 – Roll-out campaign to include 80% of schools | R 250 000: Learning and promotional material | 2017- 2022 – | |

**Goal 7 - Ensure sustainable financing for waste management service**

| | Main Activities | Sub-activities | Approximate Budget | Timeframe | |
|---|---|---|---|---|---|
| Financial Resource Needs | Undertake full cost accounting audit of waste budget, targets and short to medium-term expenditure | Conducting a full cost accounting for waste management within the LM | Utilize existing resources | 2017/18 | |
| | | Develop appropriate tariffs based on full cost accounting and required expansions of waste management | Utilize existing resources | 2018/19 | 100 % of waste management costs are recovered through waste tariffs. |
| | | Revise tariffs on annual basis based on waste volumes and requirements | Utilize existing resources | 2017-2021 | Tariffs are reviewed at the beginning of every financial year |

# 4 Gaps and Needs

The objectives of the gaps and needs analysis is to compile a summary of identified waste management gaps and needs in the province that must be addressed to achieve the desired-end state for waste management.

Sources of gaps include:

- An analysis of the extent of implementation of the IWMP 2017-.
- Situational Analysis.
- Consultation and engagement with internal and external stakeholders.

## 4.1 Gaps Identified in Terms of the Implementation of the IWMP 2017

The following activities were not implemented in the IWMP 2017-Activities that are still relevant will be included in the IWMP 2025-2030 implementation plan.

**Table 3 : Activities that were included in the IWMP 2017- and not implemented**

| | |
|---|---|
| Goal 1 - Successful Implementation of and Review of the IWMP from a legislation and regulatory framework | WMO is to report quarterly to the District on monitoring and enforcement of municipal waste management by-laws. |
| Goal 3 - To provide an appropriate, affordable and sustainable waste collection service to all people within the Ulundi LM | Undertake a schedule and route analysis |
| | Reschedule and reroute to make collection more effective |
| | Inform residents of new route and schedule |
| | Provide sufficient refuse bags to residents on a weekly basis |
| | Identify areas to place bins and skips because of the extension of services |
| | Determine the number of bins required |
| | Purchase bins and skips required |
| Goal 5 - Ensure sufficient long-term waste disposal capacity that is environmentally (including legislation) and publicly (socially) | Detailed closure plan |

| | |
|---|---|
| acceptable | |
| Goal 7 - Ensure sustainable financing for waste management service | Undertake full cost accounting audit of waste budget, targets and short to medium-term expenditure |

## 4.2 Gaps Identified from the Situational Analysis

| CATEGORY | IDENTIFIED GAPS |
|---|---|
| Waste Information | • Lack of reporting on IPWIS and accuracy of reporting in certain areas of the Province from public and private sectors.<br>• The availability of waste characterization info and the accuracy of the data.<br>• Challenges in the capturing of certain beneficiation/ recycling/ diversion activities.<br>• Improved information management capacity at municipal level. |
| Waste Education and Awareness | • General lack of education and awareness on waste management and a lack of strategies to implement such awareness programs.<br>• Councillors, faith-based organization leaders, local artists etc. can play a major role in creating waste awareness campaigns.<br>• More targeted waste awareness initiatives that will speak and reach different groups. |
| Waste Collection and Transportation | • Poor service delivery in certain areas.<br>• Integration, training and support of waste salvaging / waste pickers.<br>• The age of waste fleet vehicles and the lack of maintenance and replacement plans.<br>• Refuse collection statistics only report on account holders. |
| Circular Economy | • Value of recycling is too low. How to value waste as a resource?<br>• Accessibility to waste streams that can be used in existing processes.<br>• Lack of knowledge on benchmarked or alternative, sustainable waste management solutions amongst industry professionals.<br>• More focus on uncommon waste streams in the private sector i.e. foundry sand, brine, paint sludge.<br>• Promote the implementation of separation at source and recycling programmes that go beyond pilots and specific areas.<br>• A strong focus on the approaches to waste separation and diversion and how it can be mainstreamed.<br>• Improved communication and engagement between PROs and Municipalities in planning to implement EPR effectively and the role of provinces must be fleshed out i.e. expand on our compliance monitoring role. Improve rate of registration and payment of EPR fees. Eliminate free-riders.<br>• Biomass economies as a way to reduce organics in landfills.<br>• Need to address materials specification and green procurement to drive markets and create demand for remanufactured products.<br>• Diversion options and alternatives for rural areas where recycling markets are too far (e.g. Central Karoo District).<br>• Assist with the development of projects for the waste economy business cases. |

| | |
|---|---|
| Waste Management Infrastructure | • Widespread illegal dumping.<br>• Lack of priority given to compliance at landfills.<br>• Reducing climate change emissions from landfills or capturing of gases for use.<br>• Regionalization of waste management services.<br>• Lack of adequate waste infrastructure and land for new waste management infrastructure within the urban area.<br>• Dependencies on other key role players, government departments for infrastructure such as rail.<br>• More emphasis should be placed on sustainable funding and sustainable funding mechanisms towards waste infrastructure. |
| • Governance & Institutional Arrangements | • High costs associated with landfill closure and rehabilitation.<br>• Lack of organic waste management plans received from municipalities and poor quality of these plans. Plans to be integrated with IWMPs.<br>• More collaboration/ knowledge sharing events and partnerships are needed.<br>• Ability of municipalities to be able to fully finance the waste management service.<br>• The setting of criteria for more specific job descriptions for appointing competent waste managers.<br>• Some Municipal by-laws are not aligned to NEM:WA. Municipalities are requested to consider the draft Model By-law developed by DEA&DP.<br>• Waste performance indicators imbedded in IDPs linked to budgets. |

## 4.3 Prioritisation of Needs Based on Gap Analysis

Priority needs based on the gaps identified are indicated below:

- Accurate and consistent (reliable) waste data from industry and municipalities.
- Targeted waste education and awareness programmes, which include various role-players.
- Improved access to waste collection services, specifically in underserviced areas.
- Improved promotion of prevention, reduction, re-use and recovery of waste to support a circular economy.
- Integrated waste management infrastructure for recovery, treatment and disposal and an increase in compliance with waste management legislation.
- Strengthened governance and partnerships, and ensuring sustainable financial management
- Respond to the needs of women and other vulnerable groups.

## 4.4 Desired End State

The desired end state entails identifying priorities and goals that ULM wishes to attain with regards to Waste Management. The goals and objectives of an IWMP are used to address potential shortcomings or necessary improvements identified during the gaps and needs analysis. Goals are

long-term aspirations for waste management, while objectives are more focused, measurable targets which, if implemented correctly, will allow the municipality to reach the identified goals.

Municipal Current Objectives on waste.

Compliance with:

- Current Licenses and permits
- National Environmental Management: Waste Act (59/2008): National Norms and Standards for the sorting, shredding, grinding, crushing, screening, or baling of general waste, 2017
- National Environmental Management: Waste Act (59/2008): National Norms and Standards for the storage of waste, 2013
- National Environmental Management: Waste Act (59/2008): Waste Classification and Management Regulations, 2013

# 5 SETTING STRATEGIC GOALS, TARGETS, AND INDICATORS

The information collected on the historical and present waste management situation as well as the desired end state for the environmentally sound management of waste will be the basis of the Strategic Goals for the municipality's IWMP to be developed. The Strategic Goals will also be based on the relevant waste legislation, regulations, policies including the National Waste Management Strategy 2020 taking into consideration the waste management hierarchy principles that put emphasis on diversion of waste from Landfill Disposal as much as possible, towards its use where possible.

An implementation plan for the municipality's IWMP will also be developed. The waste management strategic goals and objectives formulated for the ULM will be aligned to the National Waste Management Strategy 2020 pillars which are a consolidation of the goals that were in the 2011 NWMS and also incorporate (i) mainstreaming of principles of National Waste Management Strategy 2020, (ii) integration of waste pickers in the municipal waste planning process and (iii) best practices and principles of circular economy.

The following are the pillars of the National Waste Management Strategy 2020:

- Pillar 1 of NWMS 2020: Waste Minimization
- Pillar 2 of NWMS 2020: Effective and sustainable waste services
- Pillar 3 of NWMS 2020: Compliance, Enforcement and Awareness

The IWMP strategic goals will concentrate on the areas of concern mentioned below:

- **Waste Service Delivery Operations** (e.g., Street cleaning, Refuse Removal, clearance, and prevention of illegal dumping and littering of waste). This focuses among others on waste management planning, integrate IWMPs and implementation of the EPR and the circular economy in identified waste streams like the packaging industry. This also emphasizes safe management of hazardous household wastes, waste collection including separation at source.
- **Ensure proper and environmentally sound Waste Disposal.** The focus is reduction of littering and illegal dumping, awareness and community participation as well as ensuring municipal landfill sites and all other waste management facilities comply with the licensing requirements. This also focuses on promotion of compliance and awareness.
- **Provision of mechanisms and infrastructure to encourage Waste Minimisation and Diversion from landfills** (Transfer Stations, Material Recovery Facilities etc.). The intention of this is among others to minimize waste impact by diverting waste away from landfills, increase reuse, recycling, recovery including maximizing the role of the waste sector in the circular economy. Among others, the focus areas are creation of a conducive environment for waste minimization programmes, building sustainable partnerships with government and non-government role players including advancing waste as a resource.
- **Encourage participation of various stakeholders** including the communities in ensuring proper management of waste. In addressing this priority, awareness campaigns through various means e.g., media, outreach and clean-up campaigns in communities and schools including building stakeholder partnerships to raise awareness on waste management issues.
- **Circular waste economy**, the South African Government has recognized the circular economy as a means for inclusive economic growth, job creation and sustainable environmental practices (DEFF,2020). The waste sector is one of the sectors that presents a great opportunity to transition towards a circular economy. The South African waste legislation supports transition towards a circular economy. The National Waste Management Strategy (NWMS) of 2020 focuses on the circular economy, and specifically on "'closing the loop' between resource extraction and waste disposal by the application of waste avoidance, reuse, repair, recycling, and recovery throughout the economic cycle to minimise waste and reduce demand for virgin materials as production inputs" (DEFF, 2020).

The situation analysis of the current solid waste management in the municipality provides a basis for the Municipality to formulate objectives and subsequently strategies that address the prioritised needs identified in the IWMP. The following objectives are meant to give answers to what the

municipality intends to achieve with its management of solid waste. The strategies outline how this is to be achieved, what means will be used and what methods will be applied.

## 5.1 Strategic Goals, Targets, And Indicators

In order to align the goals with the NWMS (2020), the following goals were formulated:

| ULM IWPM Goal | NWMS, 2020 Strategic Pillars |
|---|---|
| Goal 1 **Encourage Recycling and Waste Recovery:** Focus on waste diversion through recycling and recovery initiatives. | **Waste Minimization** |
| **Goal 2 Enhance Waste Service Delivery:** Ensure waste services are delivered effectively and efficiently. | **Effective and sustainable waste services** |
| **Goal 3 Strengthen Legislative Frameworks:** Develop legal tools to implement the Waste Act and related legislation. | **Compliance, Enforcement and Awareness** |
| **Goal 4 Optimize Budgeting and Financing:** Promote sound financial planning for waste management services. | **Effective and sustainable waste services** |
| **Goal 5 Ensure Safe Waste Disposal:** Prioritize the proper and secure disposal of waste. | **Compliance, Enforcement and Awareness** |
| **Goal 6 Promote Education and Awareness:** Increase public knowledge and awareness of waste management practices. | **Compliance, Enforcement and Awareness** |
| **Goal 7 Ensure Compliance and Enforcement:** Uphold and enforce regulations to achieve waste management goals. | **Compliance, Enforcement and Awareness** |

# 6 IWMP Implementation Instruments

To ensure that the IWMP is effectively implemented, the partnerships, legislative instruments, economic instruments, and a financial plan appropriate for the IWMP need to be established.

## 6.1 Legislation, Policy Guidelines, Norms and Standards

The policy environment relevant to this IWMP is described in section 1.4 of this plan, *Policy and Legislation*. Of particular importance in terms of providing guidelines to the Ulundi in terms of acceptable levels of service delivery and minimum standards are the following:

I. The National Domestic Waste Collection Standards (January 2011), provide guidance in relation to acceptable levels of service taking into account the challenges faced in service delivery to low and medium density rural settlements. The standards provide guidance on separation at source, collection of recyclables and drop-off centers, household waste receptacles, bulk containers, communal collection points, frequency of collection, collection vehicles, and communication and awareness;

II. The National Policy for the Provision of Basic Refuse Removal Services to Indigent Households specifies the free basic refuse removal service level for indigent households. This includes the provision of appropriate receptacles and specifies the need to maintain an up-to-date, audited register of indigent households, which will be used to inform national to local fiscal transfers in terms of the equitable share and Municipal Infrastructure Grant;

III. The DWS Minimum Requirements for Disposal to Landfill is in the process of being replaced by the Waste Classification and Management System, which will update the standards for classifying waste and specifying appropriate transport, treatment and disposal options for each category of waste, including revised standards for the management of landfills;

IV. The Waste Management and Classification System will be aligned with the South African Waste Information System (SAWIS). All waste service providers, including municipalities, are required to report on waste flows through the online SAWIS portal. The South African Waste Information Centre (SAWIC) offers training workshops on SAWIS;

V. The Consumer Protection Act stipulates that produces and retailers of products that cannot safely be disposed of as general domestic waste must put in place systems to allow consumers to return the used products at the point of sale for safe treatment and disposal;

VI. The Department of Environmental Affairs has drawn up model waste management by-laws for local municipalities, which can easily be repurposed by particular local municipalities, to ensure that they comply with this requirement of the Waste Act. By-laws must deal with littering and illegal dumping, incorrect use of communal dump sites and drop off points, a failure to reduce and recycle, any unhealthy or unsafe practices (such as the burning of waste) and pollution of the air or water courses;

VII. The Department of Environmental Affairs has drawn up guidelines for the development of Integrated Waste Management Plans (IWMPs) which local municipalities can use, in conjunction with the strategic framework provided by this District IWMP, to develop their local IWMPs in compliance with the Waste Act;

VIII. The South African Local Government Association (SALGA) has drawn up a Good Practice Guide to Waste Transfer Stations, Material Recovery Facilities and Buy-back Centers for local government; and

IX. The Waste Act specifies the requirement for all municipalities to appoint Waste Management Officers to coordinate waste management activities and to monitor compliance with relevant legislation and policy.

## 6.2 Partnerships

The district and local municipalities within the district can make use of partnerships with other public sector entities and Departments to build capacity and reduce the financial burden of equipment and salaries in relation to waste management. Several opportunities exist in relation to the Department of Environmental Affairs, including funding job creation projects involving waste through the Department's Environmental Protection and Infrastructure Programme (EPIP), which is used to implement Extended Public Works Projects.

The categories of partnerships include:

- **Public-public partnership:** This can be a partnership (between a District Municipality and local Municipalities) for collaborating on waste services such as on the establishment of a regional waste disposal facility or in instances where local Municipalities have limited capacity to provide the delivery of waste services.
- **Public-private partnership:** for collaborating on financial assistance for waste services, establishment of waste management facilities, establishment of separation at source and other waste management initiative i.e., development and management of waste disposal facilities, establishment and management of MRFs, transfer stations and recycling facilities.
- **NGO/Community Based Organizations (CBO's)**: partnership with the Municipality in order that they may participate or carry out awareness and education campaigns and programs

The following provides a snapshot of how these partnerships could work, as well as indicates the various aspects that STLM could partner on with the identified stakeholders.

- **Public-private partnership:** could be formed by calling for proposals from interested parties to indicate how they are going to deliver a certain aspect to waste management. Once the tender has been concluded and the Municipality should sign the memorandum of understanding (MOU) in order that the conditions contained in the MOU should be met. The Municipality could decide to play the oversight role while the service provider will be responsible for the delivery of the service. Some of the service could include carrying out

recycling initiatives through Co-operatives (Co-ops), private company or through a community-based waste collection method etc.

- **Leases**: in this type of partnership, the Municipality would lease land to Co-ops or a private company to establish a buyback centre in order to carry out recycling.
- **Privatisation: of a waste collection service** i.e., transportation aspect to the service/transfer of ownership whereby a driver-owner scheme could be in place, this entails the owner of the truck being the actual driver that provides the service on behalf of the Municipality.
- **Joint ventures:** in a wide variety of areas such as in operating a waste disposal site, or in the constitution of a waste disposal facility where a private company would be responsible for the project or certain aspect thereof

## 6.3 FUNDING MECHANISMS

Financing of waste management services is dependent on accurate costing of the required services. The full cost of waste service provision is seldom understood by both municipal officials as well as the general public. This results in waste management services often being under budgeted and/or communities' reluctance to pay the rightful cost of the service. Tariffs should cover the costs of providing the services, but the charges are often set below actual costs. Currently the ULM tariffs provides opportunities for cross subsidisation between different waste management functions but disregards the actual costs of providing a specific service. Below are some of the interventions that can be implemented:

- Undertake on a full cost accounting exercise for waste management services to include aspects of collection, transportation, landfill, street cleansing, fee collection, debt payment and depreciation.
- Implementing recycling programmes will reduce the disposal costs and generate revenue for the municipality. The cost accounting exercise referred to above could include the costs of these recycling programmes against their gains in terms of real monetary returns as well as cost savings relating to increased landfill life span through saved air space.
- Increasing the service charges to correlate with the actual costs maybe a challenge to low-income groups, given the current backlog specifically to those areas. The concept of Pay-as-you-throw may then be a better approach, where the service charge is proportional to the waste produced per household.

The implementation of this IWMP can necessitate both capital and operational costs which can be funded through potential avenues listed below sources, including:

- Own funding Tariffs Rates
- Consolidated Municipal Infrastructure Programme (CMIP)
- Equitable share Donor funding Carbon credits financial institution (e.g., DBSA)
- Product revenue Public-private partnerships Provincial and National government allocations
- National to local fiscal transfer mechanisms, such as MIG grants;
- The Green Fund;
- The Jobs Fund; and
- EPWP programmes.
- Donor funding

# 7 ULUNDI IWMP Implementation Plan

The implementation plan for the Ulundi IWMP is based on the reality that the local municipality have real capacity constraints because of their small size and constrained revenue base. To achieve economies of scale, it is essential that the district is proactive in providing technical capacity and strategic direction to the local municipality.

The sections below outline the implementation plan in terms of projects and programmes structured around the goals and objectives specified above. The Implementation plan provides recommendations for activities, delivery targets and delivery milestones as well as time frames and responsibilities regarding.

The implementation plan is intended to provide an indicative framework of implementation steps for each of the objectives identified in the IWMP. As such, the timeframes and costs associated with achieving each objective will need to be adjusted to accordingly to the availability of external finance and to suit changing circumstances and capacities within the local municipality. Equally, the exact division of responsibilities may change over time, and may vary.

## Goal 1: Promote recycling and recovery of waste (Waste Diversion and separation at source)

| Objectives | Activity | YI 2025 | Y2 2026 | Y3 2027 | Y4 2028 | Y5 2029 | Responsibility | Budget |
|---|---|---|---|---|---|---|---|---|
| Develop strategies for promoting Separation at source | Update the municipal recycling policy that was developed in 2018. | .X | | | | | ULM | 80 000.00 |
| | Roll out separation at source in urban residential | | X | X | X | | ULM | 100 000.00 |
| | Roll out separation at source in semi-suburban areas | | | | X | X | ULM | 100 000.00 |
| Prevent and minimize organic waste generation | Promote home composting and establish a collection system for organic waste through education and awareness | | | | X | X | ULM | 50 000.00 |
| Motivate behaviour change of all waste generators Encourage consumers to buy sustainable products including re-usable products (avoid single use products), durable products and products with recyclable content<br>Implement a take-back system | Education and awareness | X | X | X | X | X | ULM | 100 000.00 |
| Waste picker integration | Identify and register the waste pickers. | X | X | | | | ULM | |
| | Provide support to 25 informal waste pickers with infrastructure, PPE and training | | X | X | | | ULM | 20 000.00 |
| | Provide support to 50 informal waste pickers with infrastructure, PPE and training | | | | X | X | ULM | 50 000.00 |
| | Continue with the recycling partnerships established | X | X | X | X | X | ULM | |

## 7.1 Goal 2 Enhance Waste Service Delivery

| Objectives | Activity | YI 2025-2026 | Y2 2027 | Y3 2028 | Y4 2029 | Y5 2030 | Responsibility | Budget |
|---|---|---|---|---|---|---|---|---|
| Progressively expand access to waste services to at least a basic level of services. | The collection of refuse in rural areas has commenced with the two (2) pilot areas in Ward 12 (Sishwili Area) and Ward 19 (Mbhoshongweni Area) where each area has 1 skip for communal disposal | X | X | X | X | X | ULM | 250 000.00 |
| | Develop waste management service standard<br>• Defining service levels for different settlement types | X | X | X | X | | | 50 000.00 |
| | Implementation of the waste management service standard. Extending the existing waste collection service in terms of the waste collection standards | | X | X | X | | ULM | |
| | Undertake a schedule and route analysis<br>Reschedule and reroute to make collection more effective<br>Inform residents of new route and schedule | X | X | X | X | X | ULM | |
| | Provide sufficient refuse bags to residents on a weekly basis | X | X | X | X | X | ULM | |
| | Identify areas to place bins and skips because of the extension of services | | X | X | X | X | ULM | |
| | Purchase bins and skips required | | X | X | X | X | ULM | 250 000.00 |
| Develop and implement a record-keeping system | Establish an effective, regular reporting system | | X | X | X | X | ULM | |
| | Establish a database | | X | X | X | X | ULM | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Regularly update database | | | | | | | |
| | Waste information system feeds into the government WIS (waste information system) | | X | X | X | X | ULM | |

## 7.2 Goal 3 Strengthen Legislative Frameworks

| Objectives | Activity | YI 2025-2026 | Y2 2027 | Y3 2028 | Y4 2029 | Y5 2030 | Responsibility | Budget |
|---|---|---|---|---|---|---|---|---|
| Development of legislative tools | Review bylaws | | | x | | | ULM | |
| | Develop an organic waste diversion plan | | X | X | | | ULM | 20 000.00 |
| | Implementation of the developed legislative tools | | | X | X | X | ULM | 200 000.00 |
| | WMO is to report quarterly to the District on compliance with the waste collection standards and free basic refuse collection standards | X | X | X | X | X | ULM | |

## 7.3 Goal 4 Optimize Budgeting and Financing

| Objectives | Activity | YI 2025-2026 | Y2 2027 | Y3 2028 | Y4 2029 | Y5 2030 | Responsibility | Budget |
|---|---|---|---|---|---|---|---|---|
| Sound budgeting and financing of waste management services | Conduct full cost accounting for waste services | X | | | | | UML | |
| | Review and implement tariffs based on full cost accounting and required expansions of waste management | | X | | | | UML | |

## 7.4 Goal 5 Ensure Safe Waste Disposal: Prioritize the proper and secure disposal of waste.

| Objectives | Activity | YI 2025-2026 | Y2 2027 | Y3 2028 | Y4 2029 | Y5 2030 | Responsibility | Budget |
|---|---|---|---|---|---|---|---|---|
| Ensure municipal landfill site and waste management facilities comply with the license, permits and norms and standard conditions. | Identify a site for the establishment of a landfill. The business plan to source the funding has been developed and is in place | X | X | | | | ULM | |
| | Construction of Ulundi Municipal landfill site | | | | X | X | ULM | |
| | Detailed closure plan and rehabilitation for the dumpsite, this includes the short-term | X | X | | | | ULM | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | operational | | | | | | | |
| | Ensure compliance of waste management facilities by 30% | X | X | | | | ULM | 300 000.00 |
| | Ensure compliance of waste management facilities by 50% | | | X | | | ULM | |
| | Ensure compliance of waste management facilities by 80% | | | | X | X | ULM | |

## 7.5 Goal 6 Promote Education and Awareness: Increase public knowledge and awareness of waste management practices.

| Objectives | Activity | YI 2025-2026 | Y2 2027 | Y3 2028 | Y4 2029 | Y5 2030 | Responsibility | Budget |
|---|---|---|---|---|---|---|---|---|
| Ensure education and awareness for internal and external stakeholders' development | Conduct 20 education and awareness campaigns Community programmes. | X | X | X | X | X | ULM | 100 000.00 |
| | Evaluation and monitoring | | X | X | X | | ULM | 20 000.00 |
| | Identify and train 29 waste awareness ambassadors | | | X | | | ULM | 20 000.00 |

## 7.6 Goal 7 Ensure Compliance and Enforcement: Uphold and enforce regulations to achieve waste management goals.

| Objectives | Activity | YI 2025-2026 | Y2 2027 | Y3 2028 | Y4 2029 | Y5 2030 | Responsibility | Budget |
|---|---|---|---|---|---|---|---|---|
| Full compliance with legislations (waste act and other legal documents such as by-laws, plans, permits etc) | Train additional EMIs and peace officers for the municipality to monitor compliance and enforce By-laws and other legal documents | | | | X | X | ULM | 50 000.00 |
| | Enforce By-laws and other legal documents | | X | X | X | X | ULM | |
| | Enforce By-laws and other legal documents | | X | X | X | X | ULM | |

# 8 Monitoring, Evaluation and Reporting.

## 8.1 Reporting

The reporting on the implementation of the IWMP is a requirement that is encapsulated in Section 13 (3) of the Waste Act which states that annual performance reports prepared in terms section 46 of the Municipal System Act must contain information on the implementation of the municipal IWMP. In line with this requirement, the information set out in paragraphs (a) to (j) is as follows:

the extent to which the plan has been implemented during the period;

the waste management initiatives that have been undertaken during the reporting period;

the delivery of waste management services and measures taken to secure the efficient delivery of waste management services, if applicable;

the level of compliance with the plan and any applicable waste management standards;

the measures taken to secure compliance with waste management standards;

the waste management monitoring activities;

the actual budget expended on implementing the plan;

the measures that have been taken to make any necessary amendments to the plan;

in the case of a province, the extent to which municipalities comply with the plan and, in the event of any non-compliance with the plan, the reasons for such non-compliance: and

any other requirements as may be prescribed by the Minister.

Therefore, the municipality will report on the following issues annually to meet the requirements of Section 13 on NEMWA:

- Resource situation: budget allocations
- Human resources: Vacancies, skills, and training;
- Payment for services: Tariff setting and collection thereof
- Rates of generation of waste, verified by the waste information system
- Registering of facilities on WIS and reporting.
- Reporting to provincial and national environmental departments.
- Illegal dumping and littering: amounts cleared and the costs involved.
- Legislation, regulations, and by-laws are in place.
- Complaints regarding poor waste management

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## 8.2 Compliance And Monitoring

The ULM determines whether it has complied with the above requirements on reporting on the implementation of its IWMP. Has it produced the required annual performance reports which states how far it is with regards to attaining the goals and targets as per the IWMP

### 8.2.1 Monitoring And Review

Monitoring and evaluation will be undertaken using the framework provided by the Logical Framework and the Implementation Plan. The Logical Framework provides an evaluation framework in the form of indicators and targets that are measurable, realistic and time bound.

The implementation plan, which includes a detailed list of activities, approximate budgets and timelines, provides a means of monitoring progress towards the objectives of the IWMP. Mitigating measures and appropriate interventions should be taken if the IWMP process falls behind in reaching its goals to bring implementation back on track. Annual monitoring is required to ensure that the implementation of the IWMP is on track; thereafter the IWMP should then be reviewed after five years.

Monitoring activities that should be undertaken include:

- General operational issues: These include budget allocations, human resources, waste generation rates, tariff payments, and establishment of a waste management system;
- Waste prevention and minimisation (e.g., annual reports of waste minimisation programmes and projects regarding the installation of buy-back centers and garden sites; and information exchange and the establishment of waste minimization records);
- Collection and transportation (e.g., annual reports on the implementation of collection and transportation services and payment received, as well as annual reports regarding the establishment of transfer stations and collection points and drop-off sites);
- Reuse, Recycling and Recovery (e.g., annual reports on waste reuse, recycling and recovery programmes and projects; information exchange between stakeholders; stakeholder forums coordinating new reuse and recycling and recovery activities); and
- Treatment and disposal (e.g., registration and licensing of waste treatment facilities, auditing of waste treatment facilities by district and provincial authorities, environmental performance and impact, and record keeping and training at disposal sites).

The Logical Framework should be reviewed on an annual basis, and adjusted as required, with these adjustments being followed through in the implementation plan. Local municipalities must submit

annual reports regarding waste management and activities in accordance with Section 13 of the NEMA: Waste Act (59 of 2008).

## 8.3 Review of IWMPs

The main objective for reviewing the IWMP is to ensure that it is implemented successfully. An IWMP is to be reviewed every five years in line with the IDP requirements. Apart from reviewing the IWMP every five years the annual performance reports also act as a reviewing mechanism wherein the Municipality evaluates its progress and take steps in ensuring that it does not lack behind in reaching the goals and targets set out in the implementation plan.