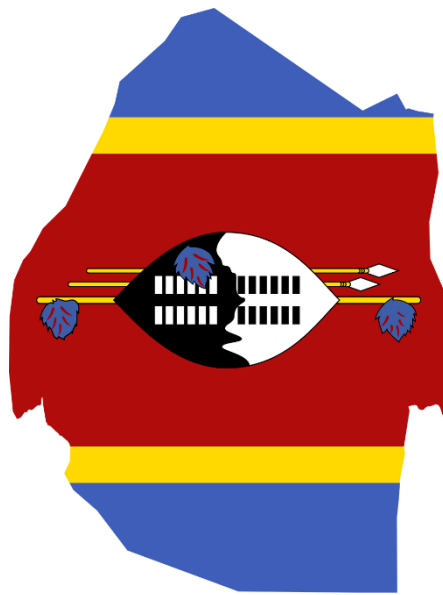


**KWALUSENI INKHUNDLA**  
**DRAFT WASTE MANAGEMENT PLAN**  
**MARCH 2021**



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## Introduction

The Kwaluseni Constituency (Inkhundla) is located in the central part of Eswatini and has an area of 28.45 km<sup>2</sup>. This constituency hosts the country's economically significant Matsapha Industrial Town and many of the informal and formal settlements located in the town's peri-urban area. Almost half of the constituency is Swati Nation Land (communal) whilst almost all of the title deed and Crown (government) land is found with the Matsapha municipality. There are four chiefdoms within the area, namely Mbikwakhe, Kwaluseni, Mhlane and Logoba. All the unplanned settlements are in the peri-urban area within Swati Nation Land.

The 2017 Population and Housing Census estimated a total population of 60,064 (resulting in a population density of 2,104 persons/km<sup>2</sup>). This represents an increase of 44% when compared to the 2007 population of 41,780. The population of the area under Swati Nation Land within Kwaluseni is estimated at 48,467, which represents just above 80% of the entire constituency population. Most of the population growth in this area is driven by the Mbabane-Manzini corridor as the core region centred on the Matsapha industrial estate. The recent census indicated that Kwaluseni recorded the highest percentage of people of ages 18 and above population (70.5%). The number of regular, collectives and homeless households were, respectively, found to be 24041, 1554 and one (totalling 25,596). The Matsapha Industrial site as well as Manzini and Mbabane corridor of economic activity are the major magnet for migrants from outlying rural areas and other smaller towns and villages. The job opportunities in and around Matsapha makes the town of Matsapha a key target area for rural migrants looking for a better life. This mushrooming of informal settlements in this area has put immense pressure on the land and the general environment resulting in inadequate infrastructure, particularly waste disposal facilities.

## Scope of work

The Integrated Waste Management Planning process consists of two phases; the first being an assessment of the status quo and a needs analysis, and the second consisting of future planning and the finalisation of an Integrated Plan.

- The Status Quo for Phase 1 consists of an assessment of the current status of waste collection systems and facilities, service delivery capacity and a needs analysis for each of these aspects.
- The Status Quo and Needs Analysis in conjunction with the projection for the area forms the platform for all planning activities and are included in the first sections of this document. The goals, objectives and targets are then identified and based on the options selected for implementation. An implementation programme is developed and cost estimates compiled.

The IWMP addresses the following:

- Development of Goals and Objectives.
- A Waste Generation Model.
- A Waste collection and infrastructure.
- Relevant Legislations.
- A Gaps and Needs Analysis.
- Identifying Recycle and Re-use Initiatives.
- Analysis on Applicable Legislation and Compliance Level
- Analysis of stakeholder responsibilities

### Aims and goals

The main goal of the IWMP is to optimize waste management by maximizing efficiency, and minimizing associated health and environmental impacts and financial costs; thereby improving quality of life of all Swati citizens and the globe as a whole. The intention is to incorporate a fully integrated waste management approach based on the waste management hierarchy as presented below. The hierarchy consists of options for waste management during the lifecycle of waste, arranged in descending order of priority.

Every household/tenant/business owner/establishment within Kwaluseni Inkhundla must apply the waste hierarchy in making decisions on how to manage waste. Waste avoidance and reduction is the first priority in using the waste hierarchy approach, followed by minimization and reduction of waste. Recovery, Re-using and recycling of waste involve reclaiming particular components or materials, or using the waste as energy. Treatment, remediation and disposal of waste are the least preferred resort.

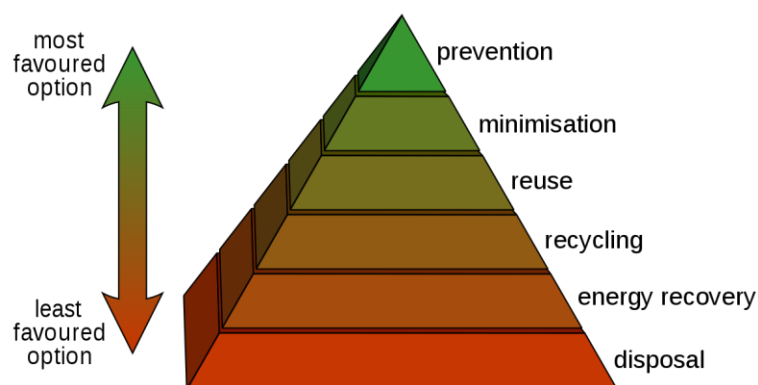


Figure 1 showing the waste hierarchy.

However, Kwaluseni's primary focus for this IWMP is the achievement of programs, activities and services that will go hand-in with the waste hierarchy. Also there is a set of broader social and economic objectives which the plan aims to achieve. In addition, the other main objectives for this IWMP are to:

- Establish waste management systems and facilities within Kwaluseni Inkhundla.
- Assess the current waste management system and highlight positive, as well as well as deficiencies in respect to waste management within Kwaluseni.
- To promote Small and Medium Enterprises in the waste sector deficiencies in respect to waste management within Kwaluseni.
- To increase education and awareness on integrated waste management.
- Institute a process of waste management aimed at pollution prevention and minimization of waste generation from source.
- Manage the impact of pollution by waste on the receiving environment.
- Manage waste in a holistic and integrated manner.
- Ensure sustainability of all services, programs/schemes and facilities which are aimed at improving waste management in the area.

### Background of IWMP

In terms of the National Solid Waste Management Strategy for Eswatini (NSWMS, volume 1 and volume 2) and the Waste Regulations Act of 2000, local authorities are required to develop Integrated Waste Management Plans (IWMP) and to submit such plans to the regulating authority (EEA) for review and approval.

The primary objective of the IWMP development for Kwaluseni is to integrate waste management methods and improve efficiency in the current waste collection services thus reducing environmental impacts across all sectors of the area including but not limited to;

- Kwaluseni households
- Kwaluseni commercial area
- Kwaluseni establishments

### Impacts of waste on the environment

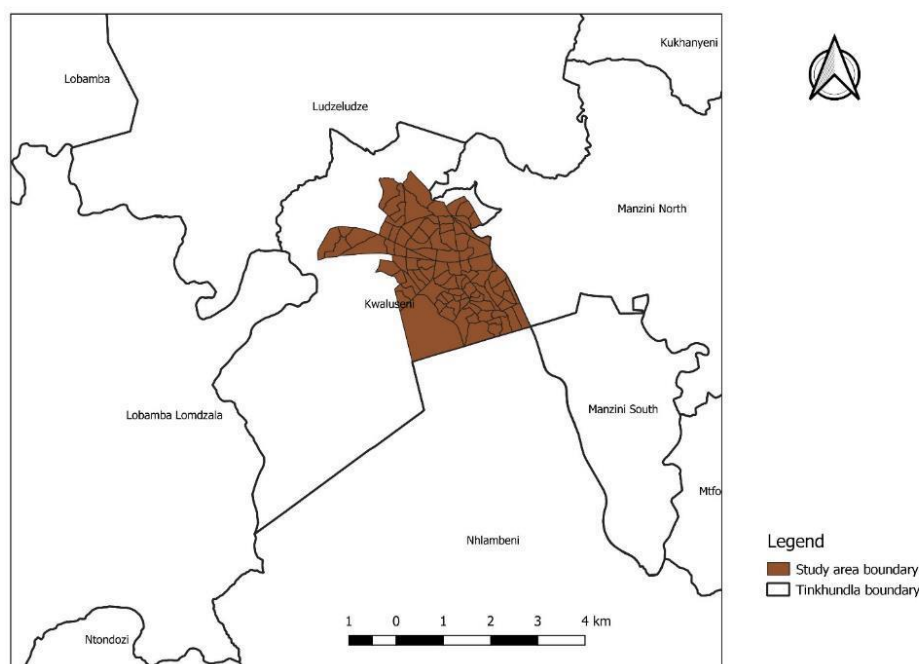
Generally, poor waste management in developing countries like Eswatini has resulted in many environmental, health and safety, and socio-economic problems. The uncontrolled dumping of municipal solid wastes coupled with the poor sanitation status have brought about serious pollution problems; from which contamination of both surface and ground water emanates. Impacts of waste on the environment are as follows;

- Indiscriminate waste disposal can negatively affect ecosystems and could change biomes if species are eradicated.
- Streams situated close to a waste disposal site can be contaminated by leachate generated by the landfill.

- Ground water can also be contaminated if leachate percolates through the ground into aquifers.
- Emissions from landfills and illegal burning of waste releases pollutants into the air; some of these pollutants are volatile organic carbons (such as dioxins and furans which could be harmful to health) and greenhouse gases (which have adverse effects to the environment).
- Land may be sterilised due to large volumes of waste disposed of on land.
- Hazardous waste poses a health and safety risk to life.
- Pathogens and viruses found in waste can pose a health risk.
- The disposal of waste both formally and informally changes the natural topography of land.
- Litter and illegal dumping is aesthetically unpleasant and releases odours and leads to urban decay.
- Waste placed in low lying areas could block or impede the flow of water which could result in flooding.

### Geographic area

The geographic area of Kwaluseni, is defined in the map below. The chiefdom is subdivided in 3 zones, namely; Kwaluseni, Logoba and Mhlane to which this IWMP is applicable.



### IWM Key Planning Responsibilities

The Environmental Management Act (EMA, 2002), Waste Regulations (2000) and the National Waste Management Strategy (NWMS, volume 1 and volume 2) allocates the following responsibilities for IWMPs:

- The Eswatini Environment Authority (EEA) must draft and promulgate regulations and guideline documents for integrated waste management planning for all waste types.
- Local Authorities must develop and submit plans for integrated waste management to the EEA for approval.

## Overview of relevant Policies and Legislation

The Waste Regulations Act, 2000, EMA, 2002 and the NSWMS obliges all local authorities including Malindza area to develop an IWM system. In order to achieve the policy objectives, the local authorities are required to develop and implement a local waste management plan which articulates strategies and initiatives for IWM. The IWMP has to translate policy objectives into practice and address the deficiencies and gaps in the areas waste management systems. Shown below is a brief overview of some of the policies and legislation related to local authorities IWMP.

### Eswatini Constitution (2005)

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

According to the Constitution, responsibility for waste management functions is to be devolved to the lowest possible level of government. Local authorities are assigned the responsibility for refuse removal, landfill sites and solid waste treatment and disposal. National government (MHUD) has the exclusive responsibility to ensure that local authorities carry out these functions effectively.

### Environmental Management Act (No. 5 of 2002)

The aim of the Act is to: reform the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development to provide for institutional arrangements and planning matters; to provide for national norms and standards for regulating the management of waste by all spheres of government; to provide for specific waste management measures; to provide for the licensing and control of waste management activities; to provide for the remediation of contaminated land; to provide for the national waste information system; to provide for compliance and enforcement; and to provide for matters connected therewith.

It further states that:

- everyone has the constitutional right to have an environment that is not harmful to his or her health and to have the environment protected for the benefit of present and future generations through reasonable legislative and other measures that:

- a. prevent pollution and ecological degradation;
- b. promote conservation: and
- c. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development;

### Waste Regulations, 2000

#### Functions of local authorities

1. Each local authority shall, within the local authority's jurisdiction-
  - Collect, or arrange for the collection of, all household waste at least once a week and ensure that it is disposed of at an approved facility;
  - Ensure that all waste is collected, transported and disposed of in accordance with these regulations;
  - Take all practical measures to promote and support the recovery of waste, particularly at the point at which it is produced;
  - Prepare management plans in accordance with regulation 31.
2. Each local authority shall report annually to the authority on the quantity of household, commercial, industrial, hazardous and clinical waste generated and disposed of within its area of jurisdiction and on the implementation of its waste management plan (Section 8).

### National Solid Waste Management Strategy, Volume 1 and Volume 2

The overall objective of this strategy is to reduce the generation of waste and the environmental impact of all forms of waste and thereby ensure that the socio-economic development of Eswatini, the health of the people and the quality of its environmental resources are no longer adversely affected by uncontrolled and uncoordinated waste management. The internationally accepted waste hierarchical approach of waste prevention/minimisation, recycle/reuse, treatment and finally disposal was adopted.

The strategy outlines the functions and responsibilities of all relevant government Agencies and where possible, firm plans and targets are specified. During the development of the strategy a number of priority strategic initiatives were identified which were categorised into short-term, medium-term and long-term. Action plans have been developed for the short-term initiatives for;

- **Integrated waste management planning:** Local authority will be responsible for the compilation of general waste management plans for submission to EEA.
- **Waste Information System:** Local authority will be responsible for data collection.
- **Waste Minimisation:** Local authority will implement and enforce appropriate national waste minimisation initiatives and promote the development of voluntary partnerships with industry.
- **Recycling;** Local authorities are to establish recycling centres and/or facilitate community initiatives.
- **Waste collection and transportation:** Local authorities are to improve service delivery and to take responsibility for the establishment and management of landfills.



### National Water Act no. 7 of 2003, as amended

The National Water Act contains a number of provisions that impact on waste management, including the disposal of waste in a manner which detrimentally impacts on a water resource, and the discharge of waste into a water resource. The Act allows the Minister responsible to make regulations for:

- Prescribing waste standards, which specify the quantity, quality and temperature of waste that may be discharged or deposited into or allowed to enter a water resource.
- Prescribe the outcome or effect, which must be achieved through management practices for the treatment of waste before it is discharged or deposited into or allowed to enter a water resource.
- Requiring that waste discharged or deposited into or allowed to enter a water resource be monitored and analysed according to prescribed mechanisms.

### The Public Health Act No. 5 Of 1969

The Public Health Act of 1969 provides measures for the promotion of health, for the rendering of health services and defines duties of certain authorities which render health services in the country. The Act sets out the duties and powers of local authorities. It provides that every local government is obliged to take measures to maintain its district in a clean and hygienic condition and to prevent the occurrence of any nuisance, unhygienic or offensive condition or any other condition, which could be of danger to the health of any person.

## Current status quo

### Waste generation and collection system

A detailed waste inventory conducted in 2003 for the Kwaluseni area (DANIDA, 2003) indicated that households generate 0.26 kg/capita/day (Table 1) which is comparable to values from other developing countries under similar circumstances. In the absence of more recent data, and comprehensive waste characterization studies in the country, it is assumed that the per capita waste generation as quoted by DANIDA (2003) is still relevant in 2021.

Table 1: Waste generation rates from the Kwaluseni area (source: Danida, 2003).

Waste Source	Waste generated (kg/capita/day)
Domestic/households	0.26
Shops/businesses	3.9
Schools	2.4
Clinics	8.2

A total of 424 homesteads and 134 local businesses spread over a two-week period were surveyed in 2018 within the three chiefdoms namely; Kwaluseni, Logoba and Mhlane for visual waste characterization at immediate source. In addition, a total of 653 waste collection and disposal points located in residential areas spread across the area were mapped and investigated. The results of the residential /domestic and business waste characterizations

from the immediate source and at communal waste collection points indicate that organic waste (including food), plastic, paper, metal and glass are the main types of waste generated in Kwaluseni. Other notable waste streams include disposable nappies, electronic waste and rubble. Based on the population of the area and the previous assessments in the area, the estimated waste generated is as shown in Table 2.

Table 2: Estimated waste generation from domestic and commercial sources in the Kwaluseni area.

Type of waste	Generated amounts (kg/month)		
	Domestic	Businesses	Total
Food waste (organics)	143,656.19	9,158.76	152,814.95
Plastic	120,973.63	7,712.64	128,686.27
Paper/paperboard	79,388.95	5,061.42	84,450.37
Metal	18,902.13	1,205.10	20,107.23
Textile	7,560.85	482.04	8,042.89
Glass	3,780.43	241.02	4,021.45
Other	3,780.43	241.02	4,021.45
Total	378,042.61	24,102	402,144.61

### Waste collection system and infrastructure

The Kwaluseni area waste management system is governed by the Inkhundla (Constituency) Council which comprises the following officers:

#### Statutory members

- Member of Parliament
- Constituency Headman (Indvuna Yenkhundla)
- Bucopho (one from each of the three Chiefdoms)
- Inkhundla Secretary

#### Employees

- Project Coordinator/ Banker
- Revenue Collectors (6, two each from each of the Chiefdoms)
- Waste Collectors (6, two each from each of the Chiefdoms)
- Chiefdom Witness
- Driver

The Kwaluseni Inkhundla Council is responsible for the deployment of a single tractor which was donated by the Eswatini Environment Authority. The tractor had its single-axle trailer modified for waste collection through the assistance of the Matsapha Municipality. (see Figure 2). The capacity of the trailer stands at 8.5m<sup>3</sup>. Furthermore, there is a policy which guides its operations including waste and revenue collection fees and logistics (see Annex A). However, it is important to note that the waste is disposed of at the Matsapha municipal landfill.



Figure 2: The Kwaluseni waste collection tractor in operation.

Records obtained from the Matsapha Municipality shows the amount of waste from the Kwaluseni community disposed of at the Matsapha Municipality sanitary landfill (Table 6) However, it was reported that there are other private waste collectors who illegally collect waste at night and those are responsible for illegal dumping in various parts of the area particularly at a site near Mhlaleni.

Table 3: Amount of waste from Kwaluseni disposed of at the Matsapha Landfill

	Kwaluseni Tractor	Private trucks/vans	Total (kg)
Amount of Waste	2,825,709	337,500	3,163,209
Total number of trips			526
Mean waste per trip			6014
Mean waste per month			137,531

Considering the generated waste amount of 402 tonnes per month vis-à-vis the collected waste of 137 tonnes indicates a collection efficiency of only 36% (See Table 5). Hence, an estimated total of 265 tonnes of waste are left uncollected each month. Furthermore, a review of the revenue collected by the Kwaluseni Council over the last 12 months (June 2017 to May 2018) indicates that, of the 20732 households present in the area, the total number of households served range from a minimum of 2423 to a maximum of 4174.

Type of waste	Generated amounts (kg/month)			
	Generated	Collected	Difference	Recycled/Reused
Food waste (organics)	152,814.95	52,261.71	-100,553.24	23,718.51
Plastic	128,686.27	44,009.86	-84,676.41	99,582.06
Paper/paperboard	84,450.37	28,881.47	-55,568.90	1,872.51
Metal	20,107.23	6,876.54	-13,230.69	1,025.42
Textile	8,042.89	2,750.62	-5,292.27	410.17
Glass	4,021.45	1,375.31	-2,646.14	650.92

Other	4,021.45	1,375.31	-2,646.14	205.08
Total	402,144.61	137,530.82	-264,613.79	27464.68

A total of 415 waste collection points were surveyed, a large majority (>95%) of which use bulk bags or garden bags for waste collection whilst the rest use drums or waste bins (typically 200 litres in size). The rest is disposed of directly into backyard pits. The sacks and bins/drums are normally placed outside within the premises whilst plastic bags for packaging groceries are also used for storing waste within homesteads. Very few people use refuse bags.

The sizes of these waste sacks range from 1m<sup>3</sup> to 2.3m<sup>3</sup> in size and are located within most of the homesteads and some business areas. These are bought by the residents themselves from companies within the Matsapha industrial site where they are normally used to store and transport chemicals, fertilizers and other industrial manufacturing inputs. These domestic waste collection sacks receive waste almost daily considering the clustered nature of the homesteads in the Kwaluseni area. Most notably, most of the sacks are in bad condition and/or poorly anchored and unprotected resulting in spillages particularly by dogs.

For a majority of the homesteads, waste is disposed of once a week into the sacks. Most notably though is the lack of waste collection infrastructure within the New village under Mhlane. This is evidenced by the high number of illegal dump sites scattered all over the area. However, the major providers of waste collection is identified as the Kwaluseni Constituency tractor, private trucks/vans, self (including landlord) and the Matsapha municipality. The findings indicate that the unreliability of the EEA-funded Kwaluseni tractor is swaying away current clientele towards the privately-hired or contracted trucks and vans, most of whom illegally dispose the waste in dumpsites in parts of the area, some in areas very distant from the neighbouring urban areas. This is creating a situation where waste from Kwaluseni is impacting areas far away from the source. It is near impossible to obtain information on the identity of the trucks and private vehicles being used to collect waste due to the illegal nature of their (predominantly) nocturnal operations. The kind of contracts entered into between individual homesteads and the waste collection providers (both the illegal and the Kwaluseni Constituency tractor) are largely informal and oral. Another significant consequence of the ineffective collection system is the resultant disposal of waste in backyards, where it is often burned and, to a lesser extent, buried. The currently recognized waste collection service provided by the Kwaluseni Constituency tractor is unreliable and inadequate. This is evidenced by the high number of backyard pits, illegal dumping sites and collection points which are overflowing with waste.

The current waste collection frequency is often ad-hoc as reflected by almost all (98%) of the respondents that there is no specific collection day. The waste is collected any day depending on the availability of the transport being used.

The existing infrastructure for waste collection at Kwaluseni could be summarized as follows:

- Poor road network and unpaved roads which become slippery even after slight rains, thus making the roads inaccessible for waste collection.

- The roads are too narrow to allow for easy manoeuvre of the tractor and large waste pickup trucks.
- Absence of road signage in almost all areas.
- Some of the designated waste pick up areas are not clear, save for the locals who know even those that are behind buildings.
- There is no systematic planning and provision of public waste disposal infrastructure.
- There is no proper setting up (anchoring and clamping) of the public waste bags/sacks, thereby resulting in spillages and tear.
- There is virtually no waste segregation at source.
- There is widespread illegal dumping in undeveloped plots, thickets, and streams and along footpaths.
- Problematic waste includes the part of non-biodegradable waste such as nappies and plastic bags.

### Waste fee policy

The Kwaluseni tractor disposes all the waste collected at the Matsapha Municipal landfill through an agreement entered into between the Kwaluseni Inkhundla and the Matsapha Town Board. The waste disposal fees at the Matsapha municipality landfill are as shown in Table 6.

Table 6: Matsapha municipal landfill waste disposal fees.

Waste Category	Cost Per Kg (Net Weight) Plus 14% VAT
General waste (Within urban boundaries)	E0.05 + 14% VAT
General waste (Outside urban boundaries)	E0.30 + 14% VAT
Industrial Dry Waste (non-hazardous dry solid waste)	E0.10 + 14% VAT
Garden Waste	E0.00
Builder's Rubble (Clean)	E0.00
Builder's Rubble (Mixed)	E0.10 + 14% VAT
Ash (Clean, dry and cold)	E0.00
Ash (dirty)	E0.10 + 14% VAT
Animal carcass (non-commercial)	E0.00
Condemned Items	E1.00 with MTC Vehicle; E0.50 with own vehicle + 14% VAT
Confiscated Condemn Items Penalty	E1.00 with MTC Vehicle; E0.50 with own vehicle + 14% VAT
Recyclables (going out)	E0.00
Use of weighbridge (by private entities)	E50.00 + 14% VAT
Healthcare waste incineration	E5.00 + 14% VAT
Healthcare waste transportation	E150.00/collection

However, the Matsapha Municipality currently charges the Kwaluseni community a special flat rate of E1, 500 per month for disposal of waste at the Matsapha sanitary landfill. This fee is paid at the Kwaluseni Council's convenience and is irrespective of the number of trips made. This fee covers both the Kwaluseni tractor and the other authorized private trucks.

When the waste management system was first introduced, each household had to pay E5.00 per month as refuse collection fee. However, this figure excluded tenant flats. The money was used towards meeting fuel expenses, paying the fees at the landfill disposal site, wages for the driver and the labourers. At least 1090 households were involved in this scheme. However, with time it became difficult to meet all the collection and disposal expenses. The current collection fees from the constituency are as shown in Table 10.

Table 7: Waste collection fees within the Kwaluseni area.

Collecting entity	Fee	
	Household	Business
Kwaluseni tractor	E10	E20
Private trucks/vans	E10 - 20	E20 – E150

As earlier mentioned, waste collection service is also carried out by individuals using their private vehicles who charge from E5 to E20 per household. This covers a limited number of households in comparison to the time when the service was coordinated by Inkhundla (Local Authority).

## Recycling

### 3.1. Recyclable waste generation

The amount of recyclable waste generated within the area is listed in Table 5.

#### Recycling industry and market prices

With regards to recycling, there is currently no formalized recycling programme within the Constituency. However, the Inkhundla Council has previously been approached by Envirowise, a recycling company, with a view of setting up a waste segregation system at homestead level. However, that did not take off due to disagreements within the Kwaluseni Council. Furthermore, the Swaziland (Eswatini) Association for Crime Prevention, Rehabilitation and Reintegration of Offenders (SACRRO), a government-backed NGO, has an interest in setting up a formal waste recycling system within the Kwaluseni Constituency. Currently, members of the Association are involved in individual efforts wherein they collect recyclable waste from dumpsites and other disposal facilities for sale to buyers within the Matsapha industrial area.

Interestingly though, approximately 28% of the respondents indicated that they reuse some of the waste material and are involved in some kind of recycling, albeit informally. Additionally, 30% of the respondents indicated that they are aware of recycling initiatives in the area, a majority of whom were individual waste pickers who sell to the bigger recycling companies or their middlemen within the Matsapha industrial site.

A list of recyclers operating within the Kwaluseni Constituency was compiled based on information collected from informant and the Matsapha Municipality. In Table 14 is a list of known recyclers.

Recycling of scrap metal is very active in the Matsapha Industrial area so much so that all the metal waste in the industrial estate is sold to the scrap metal merchants listed in Table 15. The scrap metal collection is well established and as a result no scrap metal is disposed in the Matsapha landfill. Even though there was no visible market for organic waste, Dlamini (2005) reports that most of the organic waste generated within the Matsapha Industrial estate was sold to animal feed manufactures and

very little is disposed in the landfill. Another list of licensed recyclers was also obtained from the SEA and they are listed below (Table 15).

The prices of the recyclables vary from one recycler to another albeit with small variations. Metals are more attractive in the market. Whilst plastics and organics are the dominant waste stream in the area, metals were the sought after due to their market price. Of all the recyclables, textiles were obtained freely from the local textile industries which makes it difficult to create a viable business for waste pickers.

Notably, the list of recyclers is also dominated by metal recyclers due to the attractive market prices of metal recycling. However, almost all of the recyclers could not divulge their budget/financial information as this was seen to be confidential information. Hence, such data could not be obtained. However, it was noteworthy that most of the recycling businesses could be classified as medium-scale to large-scale operations employing between 5 and 20 people and most of them export to neighboring South Africa (Table 15) and (until recently) subsequently to China. However, some of the bigger operations expressed concern that the overreliance on the Chinese market has had negative repercussions recently wherein the demand for some of the products dropped drastically. Some of the recyclers even stated that their liquidity is in jeopardy owing to the recent developments. Some of the markets that were indicated to be depressed included plastic pipes/hangers.

## Waste Management practices

### Waste Segregation, and storage

In line with this waste management plan every waste generated within Kwaluseni Inkhundla shall be segregated at source according to dry (recyclable) and wet waste. Every establishment within the Inkhundla shall provide two suitable waste receptacles for the reception and storage of waste produced within the premises, and shall ensure that such waste is deposited in these waste receptacles. Every household/tenant/business owner/establishment within the Inkhundla shall;

- a) Provide and use separate receptacles for the reception and storage of each of the following categories of waste which it produces;
  - i. Wet waste
  - ii. Dry waste
  - iii. Special waste
- b) Maintain all receptacles in good condition
- c) Ensure that receptacles are of durable material, secured and covered at all times except when waste is deposited or removed from the receptacle and are located so as not to cause nuisance or be unnecessarily offensive to the occupiers of adjacent plots.
- d) Every owner of a plot containing four or more commercial or residential units shall provide an enclosure for the storage of individual receptacles for all occupiers of the plot producing the same type of waste.



## Waste collection and transportation

No person shall collect and transport waste except under and in accordance with a permit issued by Kwaluseni Inkhundla and a special waste carrier license issued by the Authority.

A person wishing to obtain a waste collection and transportation permit shall submit a written application to the Inkhundla council and the application shall include the description of the type of waste which the applicant wishes to collect and transport, description of the container and vehicle to be used.

The Inkhundla Secretary shall advertise the expression of interest for local private waste collectors to collect waste from selected zones within the Kwaluseni Inkhundla. The Inkhundla Secretary/Inkhundla Council/EEA shall consider the application and prescribe the waste collection zone, type and capacity of vehicle, and any supporting equipment required from the applicant. An operation agreement will be entered into with approved private waste collector(s).

## Recycling

The Inkhundla shall establish three (3) Recyclable Collection Centers within the Inkhundla to facilitate the recovery of recyclables from individuals.

The Inkhundla shall establish an agreement with waste recyclers within the Matsapha area to collect recyclables from the RCCs.

The Kwaluseni Inkhundla shall encourage small private companies and individuals to recover recyclable materials.

## Disposal

All non-recyclable waste collected within Kwaluseni Inkhundla shall be disposed of at an approved disposal site.

## Record keeping

The waste management committee shall keep all records of waste handled.

The approved private waste collectors shall submit a copy of all records of waste handled to the waste management committee.

The Recyclable Collection Centre attendant shall submit a copy of all records of waste handled to the waste management committee.

## Payments

The Inkhundla council in consultation with EEA shall set the waste collection levy for each category of waste generators.

Every household/tenant/business owner/establishment with Kwaluseni Inkhundla shall pay the waste collection levy to Inkhundla revenue collectors.

## Enforcement

The Inkhundla council shall submit an application requesting for the designation of litter wardens to the Authority with full legal names of nominees and a color photo (head shot) of nominees.

Prior to the designation nominated individuals shall complete a training that covers the following aspects:

- i. Interpretation of Litter Regulations, 2011



- ii. Prohibition of littering
- iii. Procedure on handling litter offences
- iv. Enforcement and issuing infringement notices
- v. Self defence

Designated litter wardens shall process the handling of offences as per the Litter regulations, 2011.

Designated litter wardens shall process the collection of fines as per the Litter regulations, 2011.

### Reporting

The Inkhundla Council shall prepare regular technical and financial progress reports to the Authority on the project activities.

### Monitoring

The Authority shall monitor all the work, services and supplies which are executed as part of the project.

Key issues to be addressed	Actions	Strategic partners	Cost (E)	Indicators for success
Low public awareness	<ul style="list-style-type: none"> <li>• Annual awareness for traditional authorities (20 People).</li> <li>• Conduct annual door-door outreach (50 trainers/litter wardens).</li> <li>• Conduct quarterly community meetings.</li> <li>• Conduct quarterly awareness for the business community.</li> <li>• Conduct quarterly awareness for schools.</li> </ul>	<ul style="list-style-type: none"> <li>• EEA</li> <li>• MOH-EHD</li> <li>• REPS</li> <li>• Waste management committee</li> <li>• Bandlancane</li> <li>• Litter wardens</li> <li>• Business community</li> <li>• Faith based organizations</li> <li>• Schools</li> </ul>	<ul style="list-style-type: none"> <li>• 700</li> <li>• 7 000</li> </ul>	<ul style="list-style-type: none"> <li>• Annual awareness campaign conducted</li> <li>• Annual door-door outreach conducted</li> <li>• Quarterly community meetings conducted</li> <li>• Quarterly awareness campaign for business community conducted</li> <li>• Quarterly awareness campaign for schools conducted.</li> </ul>
<ul style="list-style-type: none"> <li>• Lack of willingness to enforce environmental</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct one(1) training on waste</li> </ul>	<ul style="list-style-type: none"> <li>• EEA</li> </ul>	<ul style="list-style-type: none"> <li>• 700</li> </ul>	<ul style="list-style-type: none"> <li>• Conducted one(1) training</li> </ul>

Key issues to be addressed	Actions	Strategic partners	Cost (E)	Indicators for success
<p>legislation by enforcement agencies.</p> <ul style="list-style-type: none"> <li>• Low prosecution of waste-related contraventions.</li> <li>• Lack of awareness of waste-related crimes.</li> </ul>	<p>legislation for (20) REPs Siteki Station and Mpaka Post</p> <ul style="list-style-type: none"> <li>• Conduct one (1) training on waste legislation for (10) Siteki Magistrate court.</li> </ul>	<ul style="list-style-type: none"> <li>• REPS</li> <li>• Judiciary officials</li> </ul>	<ul style="list-style-type: none"> <li>• 350</li> </ul>	<p>on waste legislation for (20) REPs Siteki Station and Mpaka Post</p> <ul style="list-style-type: none"> <li>• Conducted one (1) training on waste legislation for (10) Siteki Magistrate court</li> <li>• Increased number of prosecutions for waste related legislations</li> </ul>
<p>Resistance of innovation by some local authority members</p>	<ul style="list-style-type: none"> <li>• Annual awareness for traditional authorities (20 People).</li> </ul>	<ul style="list-style-type: none"> <li>• EEA</li> <li>• MOH-EHD</li> <li>• REPS</li> </ul>	<p>N/A (see public awareness)</p>	<ul style="list-style-type: none"> <li>• Annual awareness campaign conducted</li> <li>• Eliminated resistance from all members of the local authority</li> </ul>

Key issues to be addressed	Actions	Strategic partners	Cost (E)	Indicators for success
Inexistent waste management committee	<ul style="list-style-type: none"> <li>• Establishment of a spatially-inclusive sector-based waste management committee with (10 members)</li> <li>• Establishment of subcommittee from representing categories of waste generators.</li> </ul>	<ul style="list-style-type: none"> <li>• Local authority</li> <li>• EEA</li> </ul>	No cost	<ul style="list-style-type: none"> <li>• Established waste management committee for Malindza</li> </ul>
Inexistent litter wardens	Designate at least 50 litter wardens	<ul style="list-style-type: none"> <li>• EEA</li> <li>• Local authority</li> </ul>	E5000	<ul style="list-style-type: none"> <li>• At least 50 litter wardens designated</li> </ul>
Lack of training for waste management committee (10), litter wardens (50) and authorized persons (13) on waste-related issues	Conduct one training for the waste management committee, litter wardens and authorized persons	<ul style="list-style-type: none"> <li>• EEA</li> <li>• REPS</li> </ul>	E2800	<ul style="list-style-type: none"> <li>• At least 50 trained litter wardens</li> <li>• 10 trained members of the waste</li> </ul>

Key issues to be addressed	Actions	Strategic partners	Cost (E)	Indicators for success
				<p>management committee</p> <ul style="list-style-type: none"> <li>• 13 trained authorized persons</li> </ul>
Beaurecratic hindrances (i.e. long chain of command)	Establishment of a spatially-inclusive sector-based waste management committee with (10 members)	<ul style="list-style-type: none"> <li>• Local authority</li> <li>• EEA</li> </ul>	No cost	Established waste management committee for Malindza
Distance from recycling companies	<ul style="list-style-type: none"> <li>• Establishment of at least one recyclable collection centre</li> <li>• Establish relationships with recycling companies for collection of recyclables</li> </ul>	<ul style="list-style-type: none"> <li>• EEA</li> <li>• Matsapha town council</li> <li>• Local authority</li> <li>• Waste management committee</li> <li>• Recycling companies</li> </ul>	To be informed by RCC establishment plan.	<ul style="list-style-type: none"> <li>• At least one (1) RCC established.</li> </ul>
Non-existent waste collection system	<ul style="list-style-type: none"> <li>• Require every household within Kwaluseniarea to have a standard waste receptacle.</li> </ul>	<ul style="list-style-type: none"> <li>• Local Authority</li> <li>• Private waste management companies</li> </ul>	18 000	<ul style="list-style-type: none"> <li>• Availability of standard waste receptacles within every</li> </ul>

Key issues to be addressed	Actions	Strategic partners	Cost (E)	Indicators for success
	<ul style="list-style-type: none"> <li>• Explore waste transportation options (i.e self-service, third party contractor).</li> <li>• Exploring funding options for waste management.</li> <li>• Identify services that will require third party engagement.</li> </ul>	<ul style="list-style-type: none"> <li>• EEA</li> <li>• Matsapha town council</li> </ul>		<p>household in the Kwaluseni area.</p> <ul style="list-style-type: none"> <li>• Contracts with waste management service providers.</li> <li>• Availability of funding options for waste management</li> </ul>
Lack of technical expertise on managing disposal site.	<ul style="list-style-type: none"> <li>• Matsapha town council to provide technical expertise (MoU between Kwaluseni and STK for the management of the disposal site.)</li> </ul>	<p>Matsapha town council Local authority EEA</p>		<ul style="list-style-type: none"> <li>• Functional MoU between Kwaluseni and Siteki Town Council.</li> </ul>
Unavailability of waste records (actuals)	<ul style="list-style-type: none"> <li>• Development of waste management plan.</li> <li>• Conduct waste survey</li> </ul>	<ul style="list-style-type: none"> <li>• Local Authority</li> <li>• EEA</li> </ul>	200 000	<ul style="list-style-type: none"> <li>• Developed waste management plan</li> <li>• Waste survey report available</li> </ul>

Key issues to be addressed	Actions	Strategic partners	Cost (E)	Indicators for success
Lack of support infrastructure/equipment at the disposal site e.g. weigh-bridge, plant etc	<ul style="list-style-type: none"> <li>• Rehabilitation of the disposal site.</li> <li>• Engagement of potential stakeholders for co-funding</li> </ul>	EEA Matsapha town council ESWACCA Eswatini Railways Local Authority	500 000	<ul style="list-style-type: none"> <li>• Rehabilitated disposal site</li> <li>• Agreements with engaged potential stakeholders.</li> </ul>
Capacity of disposal site may be overburdened by numerous major waste sources e.g. local community, Siteki Town, SWACCA, Railway, mining (residential area) etc	<ul style="list-style-type: none"> <li>• Establishment of at least three (3) recyclable collection centers.</li> <li>•</li> </ul>	EEA Matsapha town council ESWACCA Eswatini Railways	Refer to RCC plan	<ul style="list-style-type: none"> <li>• Three (3) RCCs established.</li> </ul>
Behaviour change on waste recycling	<ul style="list-style-type: none"> <li>• Awareness raising campaigns.</li> <li>• Establishment of at least one (1) RCC</li> </ul>	EEA Siteki Town Council Local Authority	7 000	<ul style="list-style-type: none"> <li>• Awareness raising reports for campaigns conducted</li> <li>• one RCC established</li> </ul>
Emerging waste streams e.g from mining, household hazardous	<ul style="list-style-type: none"> <li>• Awareness raising campaigns.</li> </ul>	EEA Siteki Town Council	7 000	<ul style="list-style-type: none"> <li>• Awareness raising reports for</li> </ul>

Key issues to be addressed	Actions	Strategic partners	Cost (E)	Indicators for success
waste, power station, electronic waste etc	<ul style="list-style-type: none"> <li>Establishment of a temporal special waste storage site at RCC.</li> </ul>	Local Authority		campaigns conducted <ul style="list-style-type: none"> <li>Established temporal special waste storage site at RCC</li> </ul>
Potential conflict from different local authorities e.g. chiefdoms	<ul style="list-style-type: none"> <li>Waste management projects will be managed centrally at Inkhundla level</li> <li>Awareness raising campaigns</li> </ul>	RAs office Kwaluseni Inkhundla EEA Matsapha Town Council	N/A	<ul style="list-style-type: none"> <li>Evidence that conflicts were addressed</li> <li>Awareness raising reports for campaigns conducted</li> </ul>
Limited office term for local authority i.e. Inkhundla officials	<ul style="list-style-type: none"> <li>During elections the Inkhundla secretary and banker/project coordinator and <i>umsumpe</i>(area overseer) will be the interim persons responsible for waste management projects</li> </ul>	Kwaluseni Inkhundla	N/A	<ul style="list-style-type: none"> <li>Uninterrupted project activities during elections.</li> </ul>



Key issues to be addressed	Actions	Strategic partners	Cost (E)	Indicators for success
Lack of adequate land required for establishment of Recyclable Collection Centers.	<ul style="list-style-type: none"> <li>Leasing of land for RCCs.</li> </ul>	Kwaluseni Inkhundla	N/A	<ul style="list-style-type: none"> <li>Availability of land for the establishment of RCCs.</li> </ul>
High population (density) coupled with inaccessible households	<ul style="list-style-type: none"> <li>Explore waste transportation options (i.e private-service, third party contractor)</li> </ul>	Kwaluseni Inkhundla <ul style="list-style-type: none"> <li>Private waste management companies</li> <li>EEA</li> </ul>	N/A	<ul style="list-style-type: none"> <li>Contracts with waste management service providers.</li> <li></li> </ul>
Competition of buyback centres with recycling companies	<ul style="list-style-type: none"> <li>Partner with the recycling companies</li> </ul>	Kwaluseni Inkhundla Recycling companies Matsapha town council	N/A	<ul style="list-style-type: none"> <li>Partnership agreements with recycling companies.</li> <li>Significant quantities of recyclables collected</li> </ul>
No legislation on segregation	<ul style="list-style-type: none"> <li>Develop waste management plan as an extension of legislation</li> </ul>	Kwaluseni Inkhundla Matsapha Town Council EEA	100 000	<ul style="list-style-type: none"> <li>Developed waste management plan will incorporate fees structure</li> </ul>

Key issues to be addressed	Actions	Strategic partners	Cost (E)	Indicators for success
	<ul style="list-style-type: none"> <li>Apply different fees for segregated and non-segregated waste</li> </ul>			
Insufficient waste transportation vehicles	<ul style="list-style-type: none"> <li>Explore waste transportation options (i.e private-service, third party contractor)</li> <li>Exploring funding options for procurement of waste collection vehicle for Inkhundla</li> </ul>	Kwaluseni Inkhundla Matsapha Town Council EEA	N/A	<ul style="list-style-type: none"> <li>Contracts with waste management service providers</li> <li>Funding available for purchasing waste collection vehicle</li> </ul>
Only Inkhundla tractor waste actual records available	<ul style="list-style-type: none"> <li>Review of the MoU between Kwaluseni Inkhundla and Matsapha Town Council to accommodate private collectors in line with this ISWMP</li> </ul>	Kwaluseni Inkhundla MTC	N/A	<ul style="list-style-type: none"> <li>Reviewed MoU accommodating private collectors</li> </ul>
Absentee landlords and ever-changing tenants	<ul style="list-style-type: none"> <li>Inkhundla to trace absent landlords</li> <li>Enforcement of litter regulations.</li> </ul>	EEA Litter wardens Kwaluseni Inkhundla	N/A	<ul style="list-style-type: none"> <li>List with contacts of absent landlords available</li> <li>Infringement notices.</li> </ul>

Key issues to be addressed	Actions	Strategic partners	Cost (E)	Indicators for success
Potential for termination of disposal agreement with Matsapha Town Council	<ul style="list-style-type: none"> <li>• Promote segregation at source in order to reduce volumes of waste to be disposed of at the Matsapha sanitary landfill.</li> <li>• Establishment of 3 RRCs within Kwaluseni Inkhundla</li> <li>• Exploring potential for composting</li> </ul>	Kwaluseni Inkhundla Matsapha town council EEA	Refer to RCC plan	<ul style="list-style-type: none"> <li>• Decreased volumes of waste disposed of at the Matsapha landfill.</li> <li>• Three (3) RRCs established within Kwaluseni Inkhundla.</li> </ul>

## Roles and responsibilities

For a successful and sustainable IWMP implementation, the roles of stakeholders; in relation to waste management are outlined below. These roles and responsibilities are directly based on the requirements of the Constitution of Swaziland and other relevant legislation such as the Waste Regulations, EMA Act.

### Waste Management Committee.

The Waste Management Committee (WMC) is responsible for ensuring that the dedicated waste management staff services meet the requirements of the Plan and are compliant with the legislations of the country. The WMC is also responsible for the coordination of waste management activities to ensure integration. It is the responsibility of all staff to adhere to all relevant legislation and this Plan.

**The Ministry of Health:** the Kwaluseni Inkhundla will work with the ministry in terms of the Public Health Act.

**Royal Eswatini Police:** As part of its mandate, the REPS has a section dedicated to the enforcement of environmental laws. Also the REPS are responsible for ensuring safety during public and awareness raising campaigns.

**Eswatini Environmental Authority:** The governing body's duties include enforcement of all requirements in relation to protection of the environment. This includes ensuring compliance to waste regulations and other legislations discussed earlier in this document. Through collaboration with local governing bodies (Town Councils, Municipalities, Umphakatsi, etc) EEA's other mandate is to ensure that the public and citizens of the country are informed and educated on the requirements and strategies put in place in order to minimize the impacts of waste on the environment.

**Kwaluseni Inkhundla:** Have the responsibility to implement and continuously review this Plan and to ensure it sustainability.