environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Ga-Segonyana Local Municipality
Integrated Waste Management Plan

2014-2019

November 2013

Prepare by Zenande Leadership and Linkd Environmental Services

Table of Contents

Table of Figures

List of Tables

List of Acronyms

CMIP	Consolidated Municipal Infrastructure Program
COGHSTA	Co-operative Governance, Human Settlements and Traditional Affairs
DEA	Department of Environmental Affairs
DEAT	Department of Environmental Affairs and Tourism
DM	District Municipality
DWAF	Department of Water Affairs and Forestry
EMI	Environmental Management Inspector / Inspectorate
EPWP	Expanded Public Works Programme
IDP	Integrated Development Plan
IWMP	Integrated Waste Management Plan
JTGDM	John Taolo Gaetsewe District Municipality
LED	Local Economic Development
LM	Local Municipality
MEC	Member of the Executive Council
MIG	Municipal Infrastructure Grant
MIIU	Municipal Infrastructure Investment Unit
MRF	Materials Recovery Facility
MSP	Municipal Services Project

NEMWA	National Environment Management Waste Act
NDWCS	National Domestic Waste Collection Standards
NWMS	National Waste Management Strategy
PET	Polyethylene Terephthalate
SAPS	South African Police Service
SAWIC	South African Waste Information Centre
SAWIS	South African Waste Information System
SMME	Small, Medium and Micro Enterprises
TLB	Tractor loaders backhoes
WMO	Waste Management Officer

1. Introduction

Ga-Segonyana Local Municipality originated as a cross-boundary municipality between the North-West and Northern Cape Provinces. It was established in the year 2000 through the amalgamation of Kuruman and Mothibistad Municipalities and includes sections of the Bophirima District Municipality. The process of amalgamation of the cross-boundary municipalities started in 2006, and the official handing over by the various departments was finalised in April 2007.

There are 33 residential areas divided into thirteen (13) wards, and the council consists of 13 Ward Councillors and 12 proportional representative (PR) councillors. 80% of the population stay in rural villages. These areas are also administered through a traditional authority system with two senior Traditional leaders, chiefs and headmen.

Currently has a population of 93651 with a population growth rate of 2.85 p.a. Furthermore an unemployment rate of 33.70% and youth unemployment rate of 43.20%. 9.70% of the Ga Segonyana citizens over the age of 20 have no schooling qualifications, 9.90% has obtained higher education and 9.70% has a matric.[1]

There are 26816 household in this area with an average household size of 3.40. Out of these households 42.70% are female headed households, 81.00% are formal dwellings and 65.70% own their own households.

Kuruman is the main town of the area and is known as the "Oasis of the Kalahari". Kuruman is situated on the Namaquari route, forming part of the main route between Gauteng, Namibia and Cape Town, via Upington.

[1] Municipal website

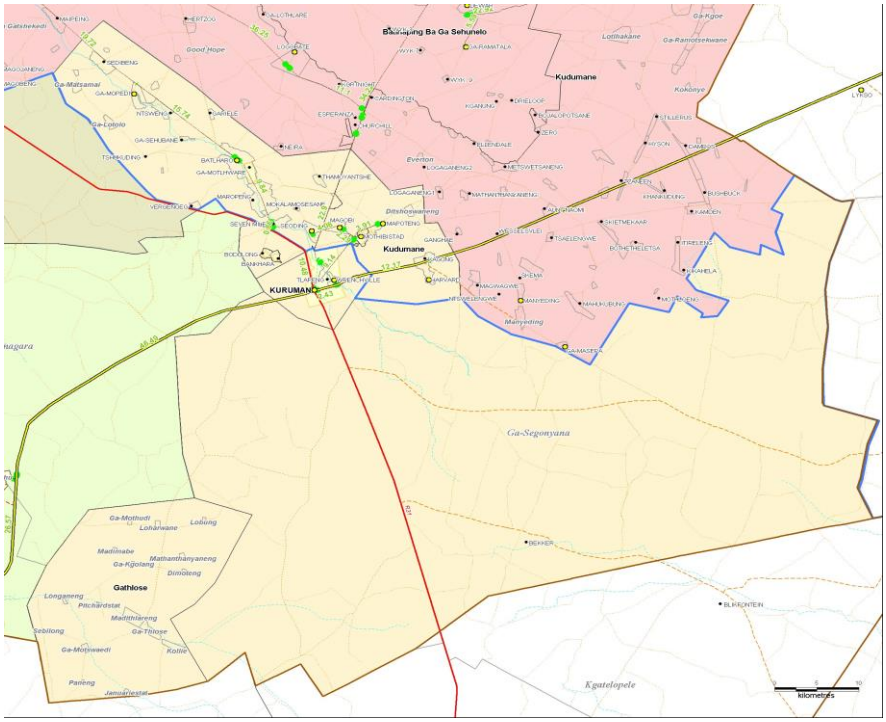


Figure 1 : Location of Ga-Segonyana

In terms of the National Environmental Management Act: Waste Act, 2008 (No: 59 of 2008)[2], all government spheres are required to develop and implement an Integrated Waste Management Plan (IWMP). The IWMP has been developed in line with international, national and provincial legislation and policies.

The IWMP aims to give effect to the objectives of the National Environment Management Waste Act (NEMWA), as well as to the National Waste Management Strategy (NWMS)[3]. It therefore, aims to manage waste in a holistic and integrated manner that maximises efficiency, minimises health and environmental impacts, and is cost effective. The objectives expressed in the NEMWA are:

a) *to protect health, well-being and the environment by providing reasonable measures for—*

   i. *minimising the consumption of natural resources;*

   ii. *avoiding and minimising the generation of waste;*

   iii. *reducing, re-using, recycling and recovering waste;*

   iv. *treating and safely disposing of waste as a last resort;*

[2] NEMWA

[3] National Waste Management Strategy, 2011

v. *preventing pollution and ecological degradation;*

vi. *securing ecologically sustainable development while promoting justifiable economic and social development;*

vii. *promoting and ensuring the effective delivery of waste services;*

viii. *remediating land where contamination presents, or may present, a significant risk of harm to health or the environment: and*

ix. *achieving integrated waste management reporting and planning;*

b) *to ensure that people are aware of the impact of waste on their health, well-being and the environment;*

c) *to provide for compliance with the measures set out in paragraph (a); and*

d) *generally, to give effect to section 24 of the Constitution in order to secure an environment that is not harmful to health and well-being.*

Apart from being a legal requirement, in terms of NEMWA, the IWMP is intended for use as a sector plan, to inform municipal planning and budgeting related to waste management within the Ga-Segonyana LM. The overarching intention is to ensure that waste management planning within the Ga-Segonyana LM is sustainable, practical, implementable and acceptable to all key role players and parties expected to implement the plan.

1.1. The integrated waste management planning process

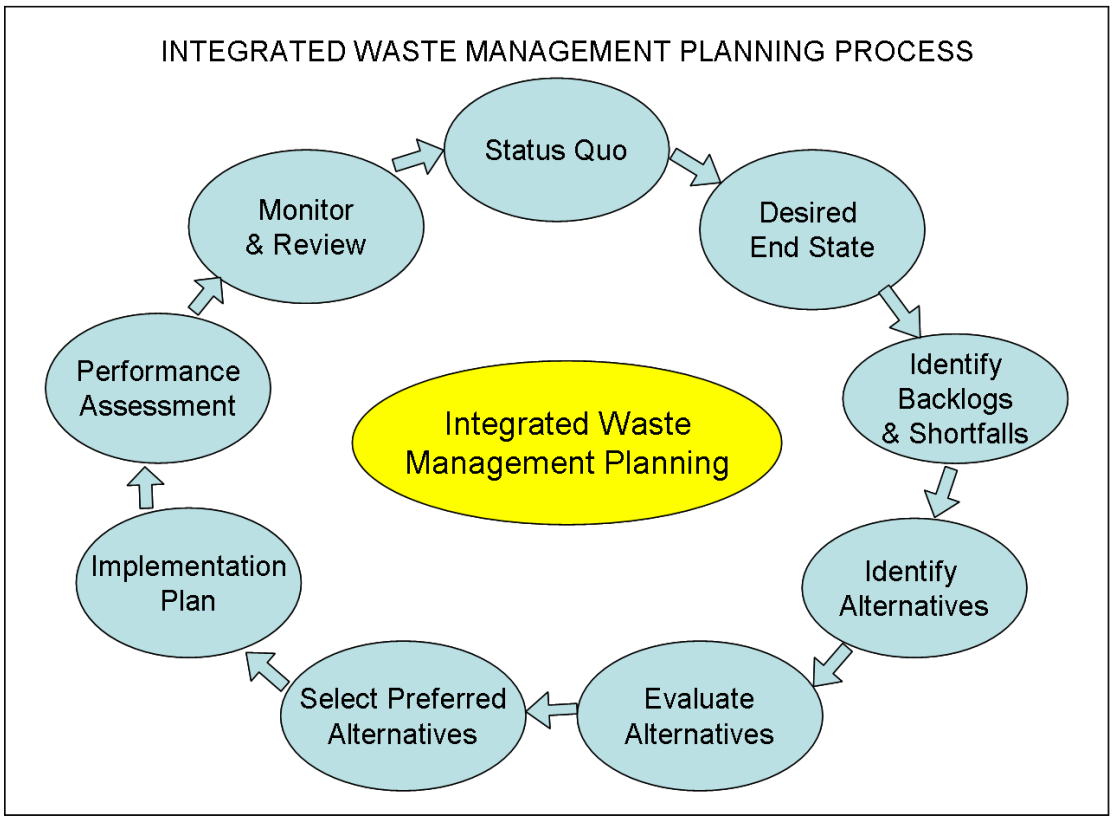
The development of an effective and efficient IWMP requires a prescribed set of steps, which need to be followed. Each step involves actions that are related to the next subsequent step in the process.

The development process for IWMPs is cyclical in nature, to be repeated every five years to allow for continuous improvement. The process consists of the following steps, depicted graphically in Figure 2 below:

1. Situational Analysis
2. Gaps and Needs Analysis;
3. Setting of aims, objectives, targets, and policies;
4. Identification, evaluation, and selection of alternative methods and approaches to achieve aims, objectives, and targets;
5. Development of projects and programmes to reach the set objectives;
6. Implementation of IWMP;
7. Evaluation and monitoring of projects and programmes within the IWMP;

8. Conduct and draft annual performance plans regarding goals and implementation of IWMP; and
9. Periodic review and improvement of the IWMP.

Figure 2 : IWMP process



Source: National framework guideline for the development of integrated waste management planning

1.2. Policy and Legislation

The concept of socially and environmentally sustainable development is enshrined in the South African Constitution (Act 108 of 1996). The failure to conserve and sustainably use limited natural resources jeopardises our common future. The South African Constitution 1996 (Act No. 108 of 1996) is the overarching law with which every piece of legislation must comply, including those guiding waste management. In terms of section 24 of the Constitution, it is a fundamental right for all the land's citizens to have access to a healthy environment. Effective waste management is a key aspect of a healthy environment and in response to this requirement; the Department of Environmental Affairs and Tourism (DEAT) drafted and adopted the National Environmental Management: Waste Act 2008 (NEMWA), which provides the legislative framework for waste management. The South African Constitution (Act 108 of 1996) places the responsibility of refuse removal, refuse dumps, and solid waste disposal with local municipalities and requires both district and local

municipalities (which comprise the local governance sphere) to actively plan roles and bare responsibilities for waste management and the provision of waste collection services.

Statutory requirements of the National Waste Management Strategy (2011) regulations related to the collection of waste include:

- The national policy for the provision of basic refuse removal services to indigent households, which provides for free refuse removal services for the impoverished; and
- The national domestic waste collection standards (enacted in February 2011), which aim to provide a uniform framework within which domestic waste should be collected in South Africa.

An integrated approach to waste management, governed by the appropriate legislation, is a fundamental imperative in the quest to protect the environment and this, therefore, includes the equitable provision of waste management services to the residents of Ga-Segonyana LM. A brief summary of the relevant legislation pertaining to waste management, that needs to be considered in the development of an IWMP, is provided below:

1.2.1. Constitution of the SA, Bill of Rights

The South African Constitution states (Chapter 7 section 152) that local governments are to have the following goals:

- Sustainable service delivery;
- Social and economic development;
- Promotion of a safe and healthy environment; and
- Involvement of local communities and organisations in issues of governance

It is the responsibility of local municipalities to assemble the administrative and financial capacity to realise the above goals.

The Constitution stresses the protection of the environment through conservation and the mitigation of pollution and land degradation. In terms of the Constitution, Ga-Segonyana local municipality is not delivering waste management services to all residents including indigents.

1.2.2. National Environmental Management: Waste Act

The NEMWA states that the DEA, provincial departments of environment and municipalities are responsible for the development of IWMPs and stresses the necessity of IWMPs (Chapter 2, section 11). The NEMWA[4] further states that any

[4] Waste management, as recognised in the NEM: Waste Act is also governed by the following pieces of legislation – the National Water Act (Act 36 of 1998); Hazardous Substances Act (Act 15 of 1973);

IWMPs developed must be approved by the MEC and included in the local municipality and relevant region's IDP.

The NEMWA also stipulates the designation of Waste Management Officers (WMOs), whose responsibilities include the monitoring and compliance of waste management services.

Ga-Segonyana LM does not comply with the NEM: Waste Act in the following areas:

- The regular production of IWMPs;
- Licensing and permitting of Landfills;
- Illegal dumping, which is unsafe and is detrimental to health and the environment

1.2.3. National Waste Management Strategy

The National Waste Management Strategy (NWMS) was gazetted in May 2012, with the overall objective of reducing waste generation and its impact on the environment. This, in turn, would ensure sound socio-economic development and a healthy population and environmental resources would no longer be adversely affected by uncontrolled and uncoordinated waste management.

The NWMS adopts the internationally accepted waste management hierarchy approach, which supports the NEMWA. The waste management hierarchy, to be adhered to by all branches of government, describes how the generation of waste should firstly be reduced, if waste reduction is not possible, and then the waste should be re-used. If re-use is not possible, then it must be recycled. If recycling is not possible then waste-to-energy methods should be considered. Disposal is the last resort.

The waste management hierarchy (Error! Reference source not found.) illustrates the options for waste management arranged in descending order of priority. All stakeholders must apply the waste management hierarchy in making decisions on how to manage waste, with waste avoidance and reduction being the first priority followed by re-use and recycling. When the landfill site eventually reaches capacity, it is proposed that a policy of remediation is adopted, to ensure that the land is eventually rehabilitated.

Local governance structures (district and local municipalities) are required to build capacity, ensure effective leadership, and be responsible for financial considerations regarding waste management within their respective domains. The NWMS specifically mentions the local government functions and responsibilities in relation to waste management as follows:

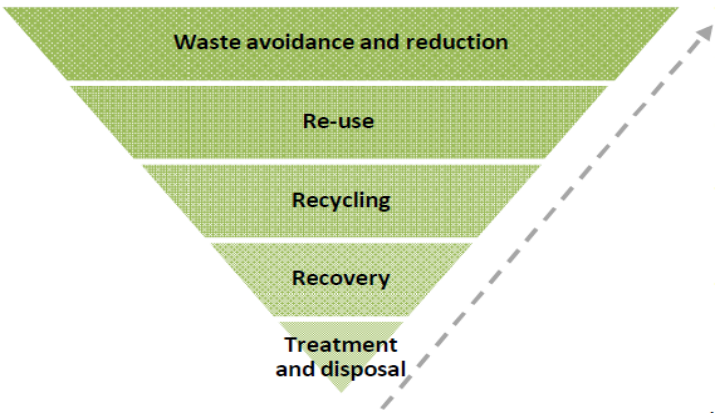
Advertising on roads and Ribbon Development Act (Act 21 of 1940); and the Occupation and Safety Act (Act 85 of 1993).

- Refuse removal and collection;
- Management for solid waste disposal;
- Cleansing of streets;
- The implementation of the waste management hierarchy; Build capacity to meet the mandate;
- Regulate waste disposal sites;
- Provide waste collection services (including to impoverished households);
- Improve efficiency regarding waste management (including financial operations);
- Designation of waste management officers (particularly at the local municipality level);
- Monitor waste; and
- Report on implementation and performance of IWMPs

The Ga-Segonyana LM does not comply with the NWMS in a number of fundamental areas and require assistance to meet their mandates. The following areas are the points of non-compliance:

- Waste monitoring according to the waste classifications system of the South African Waste Information System (SAWIS);
- The production of data for implementation into the SAWIS;
- The implementation of the waste management hierarchy;
- Cleansing of streets;
- The equitable provision of waste collection services;
- Implementation reports regarding IWMPs; and
- The appointment of waste management officers and monitors.

Figure 3 : Waste Management Hierarchy



Source: NWMS, 2011

1.2.4. DWAF Minimum Requirements for Landfill

Although the licensing of waste disposal sites is now accomplished in terms of Chapter 5 of the Waste Act (2008), the DWAF Minimum Requirements for Landfills

(2nd Edition) provide the applicable waste management standards for the operation of landfills. These standards include waste disposal practices that are environmentally acceptable and can be assessed. The reasons that minimum requirements are set 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;
- Have a systematic and nationally uniform approach to waste management within landfills; and
- Establish internationally acceptable waste management practices.

Ga-Segonyana LM is in breach of the minimum requirements by using an unauthorized landfill. No known systems are in place for the recycling of domestic hazardous waste such as used oil and it presumably ends up in the sewer, street or is otherwise disposed of in the landfill, thus exacerbating the contamination of the landfills.

1.2.5. National Domestic Waste Collection Standards

It is imperative that acceptable, affordable and sustainable waste collection services are rendered to all South Africans. The NEMWA – National Domestic Waste Collection Standards (NDWCS) were put into place to redress past imbalances in the provision of waste collection services. Ga-Segonyana LM must use these standards when implementing the IWMP. 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:

a) The disposal of refuse at particular sites (other than landfill sites), supervised by a waste management officer, in rural and sparsely populated areas;
b) The transport and storage of refuse at a central point accessed by the local community in areas that are of medium settlement density;
c) The establishment of organised refuse transfer stations to collect from central collection points and/or kerbside sites in high density settlements; and
d) A 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 the facilities are provided where recyclables can be dropped off. Service

providers can then collect these recyclables. 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, 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 the service provider or municipality to collect. The collection points must be easily accessible for waste collection vehicles; and must be kept tidy at all times. Receptacles must be covered to prevent litter being windblown. They must be user friendly to allow even children and disabled persons to deposit waste safely.

Waste deposited at communal collection points must be collected within 24 hours of receptacles being reported as full. Alternatively, it must be collected at regular intervals so as not to attract vermin and increase health risks. Bulk containers must also be collected once full 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 must be made for free receptacles to be distributed to indigent households who qualify for a rebated service.

1.2.6. Basic Refuse Removal Services to Indigent Households

The National Policy for the Provision of Basic Refuse Removal Services to Indigent Households (January 2011) provides for free basic refuse removal for indigent/impoverished households. The policy defines the basic refuse removal service as per the National Domestic Waste Collection Standards described 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 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 to be provided for a density of 10-40 dwelling units per hectare (medium density); and
- In areas with a density of less than 10 dwelling units per hectare (low density) general household waste can be disposed of in designated areas.

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 every two weeks 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.

Most communities do not consider the provision of skips as a 'service'. Where this alternative is unavoidable, the municipality should ensure that the refuse is collected and placed in the skip, as part of the service. Skips must be serviced frequently to avoid littering or dumping.

1.2.6. 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" and "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 amounts of illegal dumping and excessive amounts of littering occurring throughout the Ga-Segonyana LM have resulted in occurrences of nuisances, unhygienic and unclean conditions.

1.2.8. Housing Act

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."

1.2.9. Water Services Act

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

- Any storm water drain;
- 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.

1.3 Methodology

This report was informed by a literature review, which provided the background information then a series of stakeholder consultation processes, outlined in detail below.

1.3.1 Literature review

To ensure delivery of appropriate and relevant outputs, cognisance was taken of existing work undertaken by the John Taolo Gaetsewe District Municipality (JTGDM) and the Ga-Segonyana Local Municipality in the areas of waste management services delivery. The Integrated Waste Management Plan (IWMP) developed in 2004 by the Ga-Segonyana LM was used and a review was undertaken of all relevant national and provincial legislation, policies, standards, regulations, guidelines and other documents, relevant to the scope of the IWMP.

1.3.2 Stakeholder engagement

The purpose of stakeholder consultation process was to:

- Ensure buy-in and ownership of the IWMP by the relevant stakeholders;
- Gather information on successes and failures of existing plans and practices;
- Gain insights into the existing operations and plans regarding waste management initiatives; and
- Facilitate capacity building and awareness raising.

The following platforms were used to communicate and get input from a wide range of stakeholders throughout the duration of the study.

Focused interviews with:

- District waste manager; and
- Head waste management officer for the Ga-Segonyana Local Municipality.

Stakeholder workshops which included:

- Two stakeholder workshops held at the district , where the situational analysis was presented and further information was obtained;
- A comment and response list from these workshops, which was noted, and local knowledge, perceptions and needs were taken into account to ensure that the IWMP is acceptable to all, while being practical and sustainable; and

Draft reports, which were made available to all for comment.

2 Situational Analysis/Status Quo

A situational analysis was conducted in the John Taolo Gaetsewe District Municipality and its local municipalities, including the Ga-Segonyana LM. The status quo study assessed the district and local municipal area in relation to various service categories as well as service delivery in each of the towns in the Municipality.

The Status Quo compiled for the IWMP provided an indication of the planning context within which the IWMP for the Ga-Segonyana LM was formulated. The situational analysis is a detailed summary of information obtained through:

- Interviews with key stakeholders and representatives within LM;
- Ground auditing compliance on waste management practices within the LM as per statutory requirements;
- A review of all available background information, guidelines and development frameworks pertaining to waste management practices within the LM; and
- A consultative workshop in which the situational analysis was discussed and verified.

The Status Quo Report set the platform for the completion of all subsequent stages of the integrated waste management planning for the Ga-Segonyana LM IWMP.

The following sections contain a discussion regarding the status quo of the Ga-Segonyana LM.

2.1.1 Demographic data

2.1.1.1 Population size and growth

According to the Stats SA 2011 census, the total population residing within the ***Ga-Segonyana Local Municipality*** is estimated at 93,651 with an annual population growth rate of 3.02% during the years 1996 to 2011 (Table 1 and

Figure 4). The population of Ga-Segonyana Local Municipality increased from 61,967 to 70,392 during 1996 to 2001, which resulted in an annual population growth rate of 3.3% during that period. The population increased from 70, 39 to 93,651 during the period of 2001 to 2011, reflecting an annual population growth rate of 3.3%. The Local Municipality of Ga-Segonyana has experienced a positive growth trend for 15 years.

Table 1: Population growth rate

Total population	Annual Population Growth Rate

1996	2001	2011	1996-2001	2001-2011	1996-2011
61 967	70 392	93 651	2.72%	3.3%	3.02%

Source: Statistics South Africa, 2011

Table 2: Race group distribution

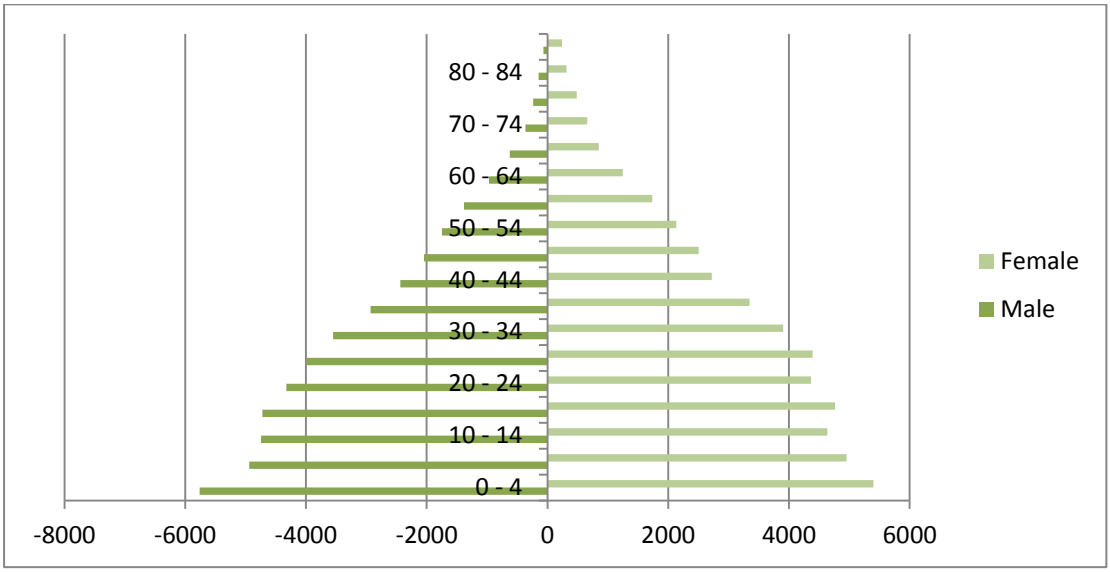
Group	Ga-Segonyana	John Taolo Gaetsewe
Black African	87.0%	79.4%
Coloured	7.6%	12.8%
Indian/Asian	0.4%	0.4%
White	4.6%	6.6%
Other	0.4%	0.8%

Source: Statistics South Africa, 2011

Figure 4 : Population size - 1996, 2001, 2011

Source: Statistics South Africa 2011

Figure 5: Population pyramid



Source: Statistics South Africa 2011

2.1.1.2 Age and gender distribution

There is a slight gender imbalance within the population of Ga-Segonyana Local Municipality, with 51.9% of the population being female as of 2011 (Table 3). The municipality has experienced a positive growth trend in both its male and female populations. The young population, 0-19 years of age, comprise 42.6% of the population (Figure 5) while the adult population constitutes 53.1% of the population; and the elderly population comprises 4.3% of the total population. Ga-Segonyana Municipality has a working age population that comprises 63.2% of the total population.

Table 3: **Distribution of the population by functional age groups**

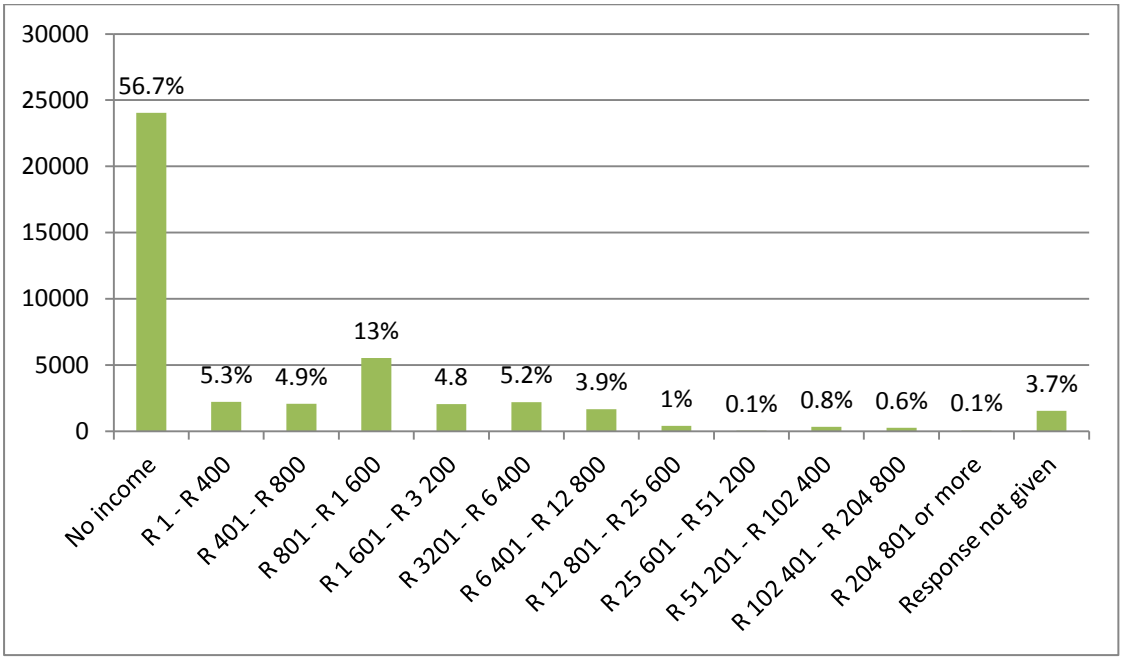
Age	1996			2001			2011		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-14	11 308	11 212	22 519	12 527	12 358	24 885	15 451	14 989	30 440
15-64	16 604	20 123	36 727	19 645	22 928	42 573	28 109	31 117	59 226
65+	875	1 454	2 328	1 046	1 888	2 934	1 434	2 551	3 985

Source: Statistics South Africa, 2011

2.1.1.3 Socio-economic profile

The main economy activity of Ga-Segonyana is based on mining and agriculture, (both commercial and subsistence), with tourism and commercial sectors contributing to a vibrant economy centred in Kuruman.Figure 6 represents a survey of income levels done within the Ga-Segonyana Local Municipality carried out among the 15 – 65 years old members of the population in 2007. The percentage of the surveyed population that does not receive an income is 56.7%. Of the surveyed population, 33.2% earn an income from R1 – R6400. A combined 5% of the surveyed population earn an income between R6401 – R51200. Those earning greater than R51201 comprise 1.5% of the surveyed population. However, the majority of the working population receive no income indicating a high unemployment rate within the municipality.

Figure 6 : Income levels



Source: Statistics South Africa, 2011

Table 4 Economic Status figures for Ga-Segonyana LM

	Employed	Unemployment Rate	Discouraged Work Seeker	Not Economic Active	Remaining Population
Ga-Segonyana	21.3% (19940)	10.8% (10154)	4.2% (3895)	26.9% (25238)	36.8% (34424)
John Taolo Gaetsewe DM	22.9% (14608)	8.2% (6173)	4.4% (3656)	27.6% (21453)	36.9% (29041)

Source: Statistics South Africa, 2011

2.1.1.4 Education level

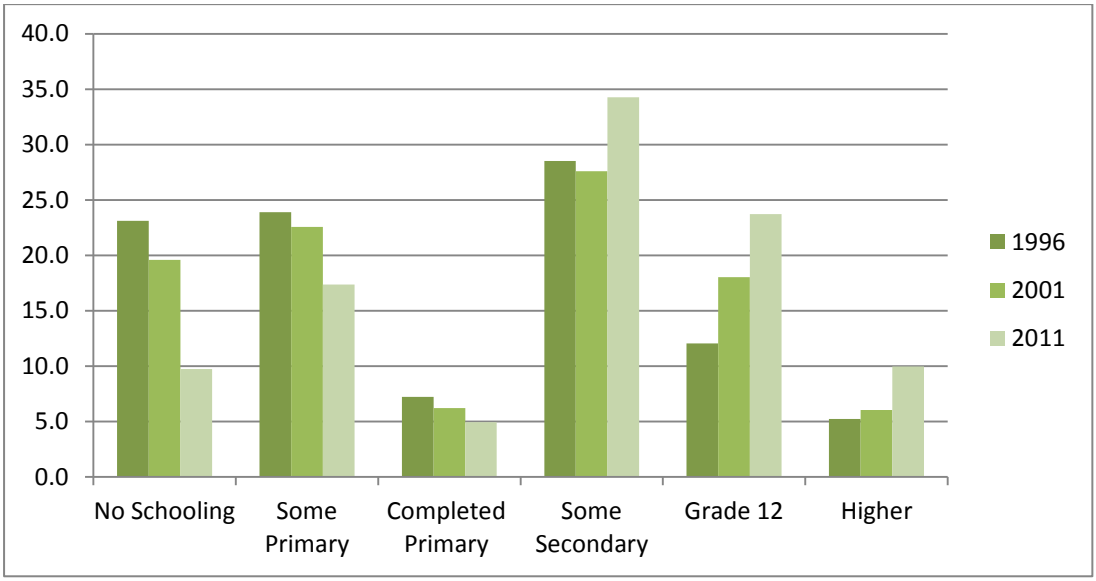
The table below shows the distribution of the population aged 20 years and older by level of education attained for the years 1996, 2001, and 2011 (Table 5 and Figure 7). The percentage of the population that received no schooling has decreased by 13.4% from 1996 to 2011, with 9.7% of the surveyed population having received no formal education. The number of those who have only obtained primary school education has decreased by 2.3% during the period of 1996 to 2011, causing this figure to drop to 4.9%. There has been an increase in the number of those attaining grade 12 passes. In 1996, the percentage of those attaining grade 12 passes was at 12%. Whereas the percentage in 2011 increased to 23.7%; indicating that the literacy level is on the rise. Similarly, those above the age of 20 acquiring tertiary level degree and diplomas has nearly doubled, from 5.2% to 10% of the surveyed population.

Table 5: Level of Education

Education	1996			2001			2011		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
No Schooling	3 238	3871	7 109	3 360	3 851	7 210	2 315	2 809	5 124
Some Primary	3 258	4 091	7 349	3 753	4 559	8 312	4 173	4 952	9 124
Completed Primary	879	1 345	2 224	1 012	1 275	2 287	1 150	1 441	2 590
Some Secondary	3 678	5 094	8 772	4 525	5 629	10 154	8 652	9 363	18 015
Grade 12	1 596	2 110	3 706	2 801	3 833	6 633	5 721	6 753	12 474
Higher	813	794	1 607	929	1 290	2 218	2 273	2 968	5 241

Source: Statistics South Africa 2011

Figure 7 : Education level of adult population – 1996, 2001, & 2011



Source: Statistics South Africa, 2011

2.1.2 Service Delivery

2.1.2.1 Water

The total number of household and yard connections is about 6,488. Roughly, 61% of households have access to a basic level of water service within the municipality (Table 6 and Figure 8). The majority, 57.8%, of the households within the municipality have access to piped water between 200m to 1km walking distance from their residence. Households with piped water within their dwelling or yard comprise 37.5% of the number of households. Those households that have to walk more than a kilometre or have no access to piped water comprise 3.1% and 1.6% respectively.

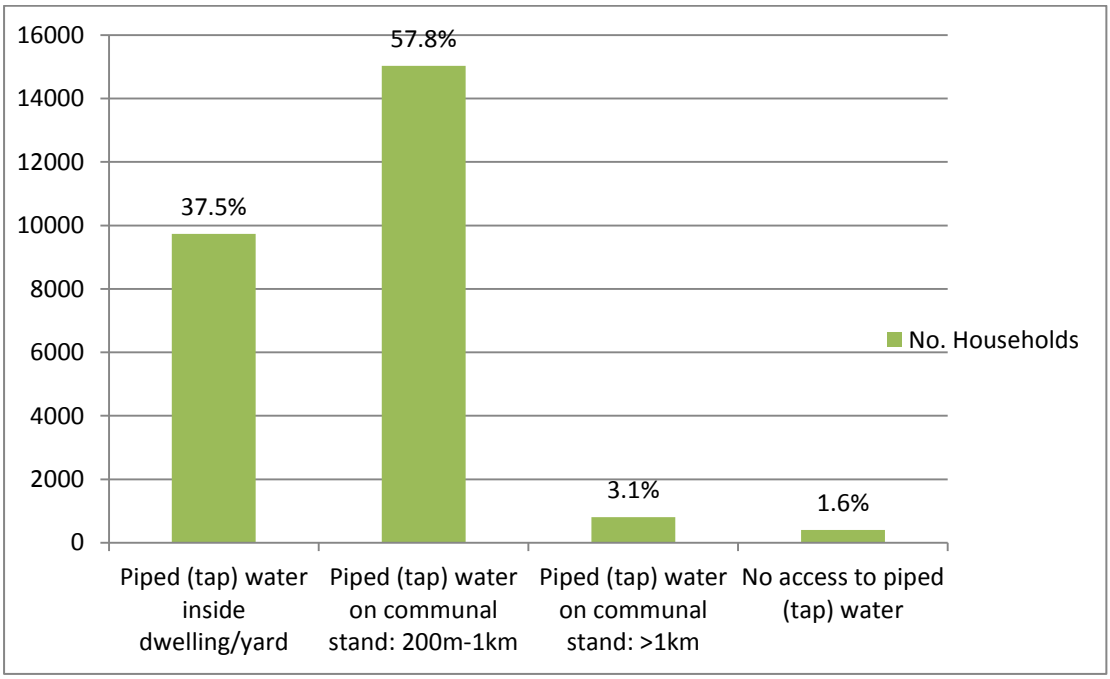
Table 6: **Number of households with access to piped water**

	No. Households	Percentage
Piped (tap) water inside dwelling/yard	9738	37.5
Piped (tap) water on communal stand: 200m-1km	15034	57.8
Piped (tap) water on communal stand: >1km	809	3.1

No access to piped (tap) water	404	1.6

Source: Statistics South Africa 2011

Figure 8: Household access to piped water



Source: Statistics South Africa 2011

2.1.2.2 Sanitation

Currently only 60% of households have access to sanitation. The number of households that have access to flush toilets, connected to either sewerage or septic tank systems, comprises 26.2% as of 2011 (Table 7 and Figure 9). Households that use either chemical latrines or bucket toilets comprise 1% and 1.7% of the total number of households respectively. The majority of households within the Ga-Segonyana Local Municipality use pit latrines for sanitation; this comprises 57.8% of the total number of the households. A combined 13.3% of the households either have no access to sanitation or have to use other means for sanitation.

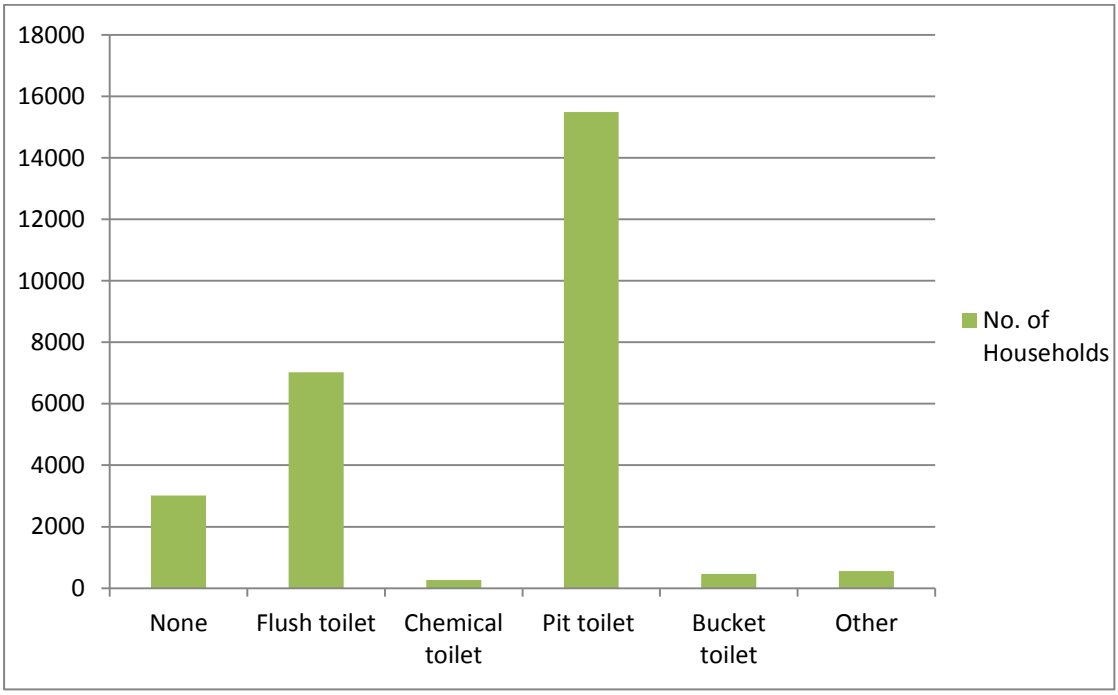
Table 7: **Access to sanitation, 2011**

	No. of Households	Percentage
None	3017	11.3
Flush toilet	7026	26.2

Chemical toilet	262	1.0
Pit toilet	15489	57.8
Bucket toilet	463	1.7
Other	558	2

Source: Statistics South Africa 2011

Figure 9: Access to sanitation



Source: Statistics South Africa 2011

2.1.2.3 Electricity

The vast majority of ***Ga-Segonyana LM's*** households have access to electricity for their cooking, heating and lighting needs – 85.6%, 63.3% and 91,2% respectively (shows gas and wood sources of fuel are used in cooking by 5.1% and 5.3% of households respectively. The second largest, 18.5%, heating source used within the Ga-Segonyana LM is wood. Candles are used by 7.2% of households for lighting purposes.

Table 8 shows gas and wood sources of fuel are used in cooking by 5.1% and 5.3% of households respectively. The second largest, 18.5%, heating source used within the Ga-Segonyana LM is wood. Candles are used by 7.2% of households for lighting purposes.

Table 8: Energy sources per household**.**

Energy Source	Cooking	Heating	Lighting
Electricity	85.6%	63.3%	91.2%
Gas	5.1%	2.2%	0.2%
Paraffin	3.2%	2.4%	0.8%
Solar	0.2%	0.2%	0.4%
Candles	0%	0%	7.2%
Wood	5.3%	18.5%	0%
Coal	0.1%	0.3%	0%
Animal Dung	0.1%	0.2%	0%
Other	0%	0%	0%
None	0.3%	12.9%	0.2%

Source: Statistics South Africa, 2011

2.1.2.4 Waste Management Services

As of 2011, approximately 3,787 households, (14.1%) have no access to a rubbish dump or garbage removal services (Table 9). 17.6%. of households have access to waste removal services provided by the municipality. The majority (67.9%) of the households use communal dumps to dispose of their waste.

Table 9**:** Garbage removal by household - 1996, 2001, 2011

Removed by local authority/private company			Communal/Own refuse dump			No Rubbish dump		
1996	2001	2011	1996	2001	2011	1996	2001	2011
2 925	3 512	4 714	9 038	12 212	18 195	1 039	1 439	3787

Source: Statistics South Africa, 2011

2.1.3 Waste Management Strategies, Systems and Practices

2.1.3.1 General appearance

Within the town of Kuruman, the streets are kept clean from litter and refuse, and waste is stored and then transported aesthetically and in a healthy manner.

However, within townships (such as Mothibistad) and along transport routes close to settlement, refuse and waste is deposited on the roadside and in open areas.

2.1.3.2 Waste re-use and recycling

As far as can be observed, there are no programmes or initiatives within the municipality for recycling. However, there is a company that re-uses and recycles waste from the Kuruman Landfill site.

2.1.3.3 General Waste collection

Currently, waste collection service is only delivered in three wards (namely Wards 1, 3, and 13), which have access to waste management services. The remainder of the municipality's residents do not receive waste management services. This is due to a lack of financial and capital resources within the municipality. There are six trucks in operation within the local municipality. Four of these are used to collect general waste, and of these, three are old vehicles. Two of the trucks are used to collect garden refuse. Residences and businesses buy their own refuse bags for temporary storage. General waste is collected daily and garden waste is collected when the volumes warrant a collection. The municipality collects waste daily in the urban areas as well as in the centre of Kuruman. The municipality provides waste collection to about 4 900 households in three wards. The municipality does not provide any waste collection services to the 30 villages outside of the town and peri-town areas.

2.1.3.4 Organic and rubble waste collection

Garden refuse is collected by prior arrangements and costs additional fees. The residents are obliged to dispose their garden refuse at the landfill site if arrangements are not made with the municipality. There is extensive illegal dumping of garden waste taking place in the municipality. At the Kuruman Landfill site rubble is used as cover for other waste, however the residents must collect and transports the rubble to the landfill site themselves.

2.1.3.5 Hazardous and medical waste collection

The medical waste from the private clinics within the municipality is collected by Millennium Waste Management (Pty) Ltd. However, residents constantly mix medical and hazardous waste with the general waste.

2.1.3.6 Waste Management Facilities

There are no waste management facilities such as material recovery facilities, buyback centres or waste transfer stations.

2.1.3.7 Waste Disposal

There is one licensed landfill site (Kuruman Landfill) which is about 5km from the urban area of Kuruman. The management of the landfill has been outsourced to

Uhuru Company. There is no compaction of waste at the landfill site. The machinery present at the Kuruman Landfill site consists of one tractor and a loading vehicle which is in disrepair. The SDF of the Ga-Segonyana LM (2007) does not set out any concrete waste management objectives, other than the conversion of the Wrenchville Landfill to a refuse transfer station.

The table below summarises the status of the landfill.

Table 10: The status of the Kuruman landfill

Position of site:	The landfill is situated Northwest of Kuruman
Permit:	Yes
Year issued:	1994
Classification of site:	Class 2
Type of Operation (end – tip, trench, cell):	Cell
Estimated size of site:	4 ha
Estimated remaining life of site:	2 years**
Volumes per day, week or month:	Volumes are not measured
Is cover material available?	Yes material is available. Cells are not covered on a daily basis. Cover is placed only after completion of a phase.
Is drainage sufficient?	No
Is there access control?	There is a spotter at the site, but access control is lacking.
Is the site fenced?	Yes
Operating hours:	Mon to Fri 07:30 –18:00 Sat & Public Holidays 08:00 – 17:30
Type of equipment used on site:	Compactor

2.1.3.8 Waste Volumes

By using the Department of Environmental Affairs' (DEA) domestic waste determination per capita guidelines (DEA – Guidelines for the development of IWMPs, 2011) it is possible to calculate the estimated volumes of domestic waste generated for each of the John Taolo Gaetsewe municipalities. Refer to Table 11 below.

Table 11: Estimate of domestic waste volumes

Municipality	Average Income Level	Projected Waste Volumes

Ga-Segonyana	78% - Low Income 11% - Middle Income 11% - High Income	20463.94 Tons
Assumptions	Population: *Ga-Segonyana = 93,651*	Per Person Per Year: *Low Income = 149.65kg* *Middle Income = 270.1kg* *High Income = 470.85kg*

2.1.4 Planning frameworks

2.1.4.1 Integrated Waste Management Plan

In the 2004 IWMP the main waste management challenges faced by the municipality were identified as:

- The roll out of services to the rest of the community;
- Illegal dumping;
- Inability to develop waste management by-laws as well as their implementation;
- The lack of a waste information system (a key to better integrated waste management system);
- Shortage of adequately trained personnel;
- Inadequate funding of the waste management unit;
- Inability to manage outsourced components of waste management services;
- Inability to manage waste disposal sites according to the permit conditions where they exist; and
- Little public participation, education, and awareness on integrated waste management.

The IWMP stated that the above challenges cannot be overcome at a municipal level and recommended that the DEA needs to strategically intervene. It was also noted that it is imperative that focus be given to capacity development as well as resource allocation, to assist in the war against waste. The IWMP further states that the municipality will take all reasonable and practical actions within its control to facilitate the achievement of the adopted targets of National Government. These targets being of 50% reduction of generation of waste and 25% reduction in the amount of waste disposed of in South Africa by the end of the year 2012, or in as practical a time frame as can reasonably be achieved.

The Ga-Segonyana LM's IWMP subscribes to the principles of the waste hierarchy (waste avoidance and minimisation), ecologically sustainable development, efficiency and economy of scale. The municipality intends pursuing the reduction of waste

within its parameters of control in the most appropriate sustainable and expeditious way. The municipality will rely on integration, supporting facilities, and infrastructure development in partnership and co-operation with the provincial and national government. The process will be open and transparent to all parties including government, business and the community at large with a focus on consultation and consensus.

The IWMP was never implemented due to financial constraints.

2.1.4.2 Integrated Development Plan

A public needs assessment was conducted for the 2012-2016 municipal Integrated Development Plan (IDP) and the table below highlights the needs identified and level of priority.

Table 12: **IDP Needs assessment**

SERVICE DELIVERY	CURRENT STATUS	BACKLOG	SOURCE OF FUNDING
WATER	Household and Yard connections: 6488. 61% households have access to basic level	Connections are done by request. In fills need to be done in new extensions	DWA/ Community
ENERGY	Majority of households have access to electricity Insufficient Bulk Electricity	Newly developed households & businesses	DWA / MIG
SANITATION	Currently (60%) households have access to sanitation (Growing rate of households)	No bucket systems. 2500 UDS needs to be replaced. About 15,800 below RDP level (pit latrine)	DMR / MIG
REFUSE COLLECTION	All household in wards 1,3 & 13 have weekly door to door refuse collection	No refuse collection for wards 2, 4-12	Municipal
HOUSING:	RDP programmes are implemented as funds are allocated. No rental programmes are implemented	4460 RDP houses	COGHSTA

The IDP took note of the 2004 IWMP and explains that "*the programme did a full analysis on waste generation; waste processing and land fill sites within Ga-Segonyana. These results were then transferred to various proposals in order to*

improve waste management within the Municipality. Some of these proposals, like improve management of the land fill site, are currently being implemented by the Municipality".

The Ga-Segonyana LM IDP of for 2012/2013 noted that the Kuruman Landfill is reaching the end of its life span prematurely, due to higher volumes of waste being disposed of, because of the low level of recycling that occurs within the municipality. The 2012/2013 IDP further suggests the following provisions to extend the life of the Kuruman Landfill:

- Development of a Buy-Back Centre (for recyclable waste);
- Establishment of recycling awareness campaign;
- Development of recycling projects through LED office;
- Development of the Landfill site Committee for the daily running of the landfill site;
- Ensure a non-polluted and safe environment;
- Development of a new landfill site;
- Licensing of landfill sites; and
- 72% of all households to have access to weekly refuse removal by 2014

There exists the need for the Ga-Segonyana LM to extend refuse collection services to the other wards and to indigents.

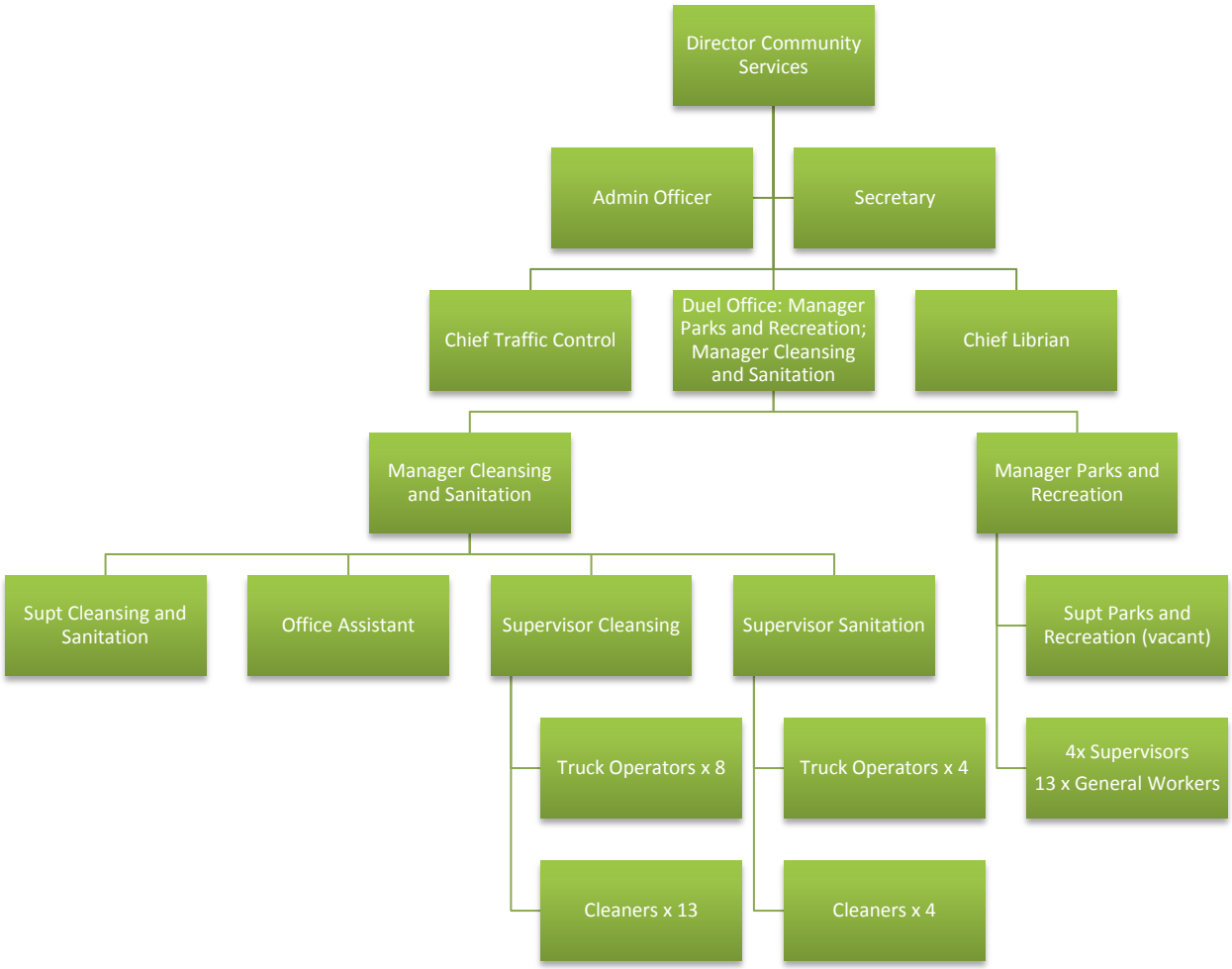
2.1.4.3 Spatial Development Framework

The Spatial Development Framework (SDF) of the Ga-Segonyana LM (2007) does not set out any concrete waste management objectives, other than mentioning the conversion of the Wrenchville Landfill to a refuse transfer station.

2.1.5 Institutional arrangements and organisational structures

The waste management unit of the Ga-Segonyana LM comprises 33 personnel. There is one waste manager, one supervisor, one deputy supervisor, six drivers, and 24 general workers. Figure 10 illustrates the Ga-Segonyana LM's organogram.

Figure 10 Ga-Segonyana LM Organogram



3 Gaps and needs analysis

The existing waste management practices of the municipality were evaluated and deficiencies, needs, and requirements identified to ensure that the 2013/2018 IWMP aligns with local, provincial and national waste management policies. The gaps and needs analysis was informed by the *Situational Analysis* conducted in April 2013.

3.1 Gaps

The municipality is largely rural in character with widely dispersed human settlements, leading to uneven delivery of waste collection services. In wards that fall outside urban areas, there is generally no access to waste management services and refuse is dumped informally.

The following gaps have been identified :

- Lack of waste management facilities (waste transfer stations, drop-off centres, buy-back centres, etc.);
- Lack of small businesses providing waste collection and recycling;
- Lack of community involvement in waste collection and recycling;
- Poor recording and monitoring of waste;
- Lack of a WIS; and
- Lack of financial and institutional capacity to implement the IWMP.

The sparse settlement pattern remains the biggest obstacle in the provision of waste management services.

3.2 Needs

The following needs have been identified:

i. The establishment of landfill site and other waste management facilities that are accessible to both urban and rural areas;
ii. Compliance of landfill sites with the Minimum Requirements for Disposal by Landfill site.
iii. Improvement of operation and management at landfill sites.
iv. The encouragement of recycling throughout the municipality. Recycling needs to be performed on an individual and business level, where beneficial partnerships are established;
v. The formalisation of waste minimization strategies
vi. Development of buy-back centres and material recovery facilities
vii. Enhanced waste collection;
viii. The municipality need to comply with various legislation linked to waste management;
ix. To formalise waste record keeping at all waste management facilities;
x. Implement and dissemination of information into a WIS;

xi. Development of strategies to reduce illegal dumping;
xii. Increase and maintain collection fleet;
xiii. Development of communal collection and drop-off points;
xiv. There is a need to ensure the sustainable funding for waste management activities;
xv. Effective awareness raising campaigns and capacity building programmes of municipal staff and communities ; and
xvi. Implementation of the National Domestic Waste Collection Standards.

The specific detail regarding the various needs is reflected below.

3.2.1 Landfill sites

This relates to the development, upgrading and legalisation of disposal infrastructure. This includes the identification of new infrastructure required, the permitting of existing unlicensed facilities, and the upgrading of the current infrastructure as well as the improvement of management practices at the various locations

3.2.2 Recycling and Waste Minimization

If separation at source is undertaken throughout the municipality, the life of landfills can be dramatically increased and illegal dumps effectively reduced. A study on the character of the waste generated within the municipality will allow for more effective planning for recycling initiatives. Composting should be encouraged amongst individuals, within communities and local government; community garden sites can be encouraged and the parks and gardens unit encouraged to turn municipal organic waste into compost.

Community based recycling and awareness programmes must be developed to engender a culture of recycling. Partnerships must be established and strengthened to promote increased involvement of all relevant stakeholder groups in sustainable recycling programmes. The informal recycling sector should be given support to ensure that people already operating in the recycling sector are provided with a sustainable means of income.

It is important that the local municipality provide an enabling environment for recycling and provide the facilities to enhance and support recycling initiatives. Suitable, marked receptacle must be provided to residents in semi-urban and urban areas and at waste management facilities so that waste can be easily sorted.

The LM, as the authority, should take the lead in supporting recycling and should operate in a manner that demonstrates their commitment to facilitating waste minimisation and recycling by ensuring that the public are aware and that the relevant facilities and mechanisms are in place.

3.2.3. Enhanced waste collection

A feasibility study needs to be done on the most inclusive waste collection service that can be offered in the municipality. Equipment must be fit for purpose and routes planned to ensure that the equipment is used optimally. Free basic services must be provided for indigent households; the indigent register must be regularly updated to ensure that the free basic service subsidies can be claimed.

In areas where settlements are widely dispersed and door-to-door collection is not possible, well-managed communal dumpsites must be established with proper waste recycling and reclamation facilities in place. This will allow municipal vehicles to collect recyclable waste periodically in line with the amount of recyclables produced.

3.2.4. Waste data capture and management

Given the limitations of sourcing data the municipality needs to undertake a waste survey to determine the actual waste generation rates and types within the region. Waste type and volume record keeping should be introduced at each waste management facility. A regional WIS is required. The South African Waste Information Centre (SAWIC) has a standard WIS that should be accessed by both the District Municipality and the Ga-Segonyana LM. The South African Waste Information System (SAWIS) should then be rolled out to all local municipalities. The national Waste Information Centre provides training on this system and the provincial department should facilitate access to the system and training to use the system.

3.2.3 Waste disposal

Waste disposal must be properly managed, all of the disposal facilities will need to be licensed in terms of the Waste Act and must be managed to ensure compliance with the Act and the licensing conditions. If the management of these facilities are outsourced, suitable service providers with a good track record must be selected and a clear and binding contract drawn up and signed, which will hold the service provider accountable. The municipality must therefore manage the contract.

3.2.4 Awareness raising and capacity building

Without the support of the community, waste minimisation and waste management programmes will be ineffective. Communities need to understand the programmes being introduced by the municipality and need to participate in recycling initiatives. They also need to participate in keeping their own environments clean and litter-free. Education, awareness campaigns and capacity building programmes need to be developed, implemented and enhanced for all stakeholder groups – especially for those in rural communities. Schools and other institutions can play an important role in raising awareness and getting people involved in clean up and recycling campaigns. Community groups can be formed to monitor the management of the licensed dumps and landfills.

In the Ga-Segonyana LM a number of private companies engage in recycling and purchase recyclables, particularly scrap metal recycling. There was a general perception amongst stakeholders that more could be done to leverage the job

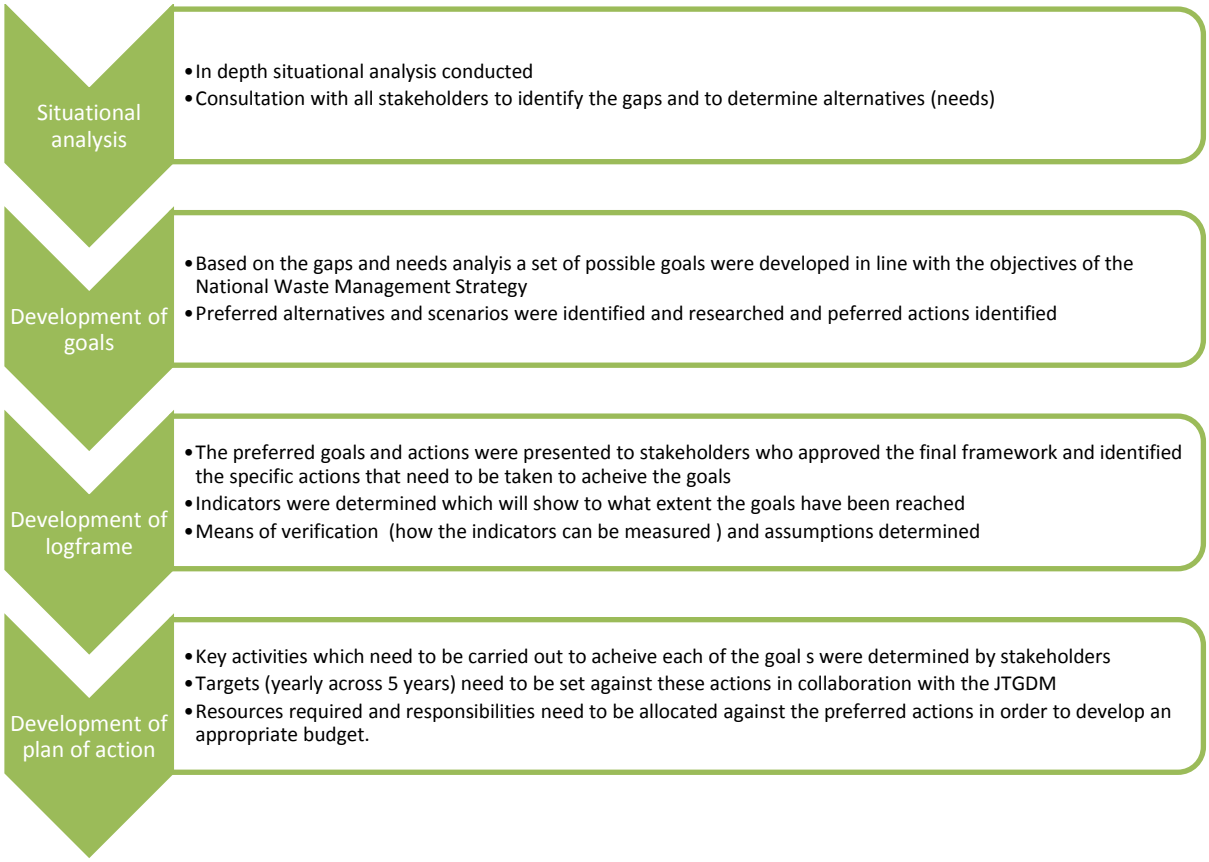
creation potential of recycling and increase Small, Medium and Micro Enterprises (SMMEs) involvement in recycling. Engagement with stakeholders at the municipal IWMP situational analysis workshops held in Kuruman, in April 2013 provided more detailed information, with the following key priorities emerging:

- R 1, 3 million has been allocated by the district for waste management, but it is estimated that between 4 and 5 million rand is needed - waste management needs to be adequately planned and needs to receive greater priority;
- A waste information system needs to be put in place, and a waste stream analysis performed;
- The municipality should establish a buy-back centre to promote recycling;
- There is a need for greater community awareness and participation in recycling; and
- There is a need to establish more and better-managed landfill sites in both the large towns and in strategically located proximity to rural villages

4. Development of the Integrated Waste Management Plan

Taking cognisance of the findings and conclusions of the situational analysis and the gaps and needs analysis the waste management strategy was developed. Figure 11 outlines the steps followed.

Figure 11: Steps



4.1 Goals and objectives

The goals and objectives noted in 2004 IWMP were taken into consideration during the development of this IWMP. Table 13 shows the goals pointed out in the 2004 IWMP in comparison to the 2013 IWMP goals, which do not deviate from each other; in fact the 2013 goals enhance the goals developed in 2004.

Table 13 : Comparison of goals developed in 2004 and 2013

2004 Goals	2013 Goals
Waste minimisation	Increased waste minimisation through recycling and waste re-use
	Improvement of waste monitoring and establishment of a waste information system
Dissemination of information/communication	Increased education awareness of households and small-medium businesses regarding waste management
Disposal infrastructure development	Improved landfill management and waste disposal
Financial resources	Sustainable funding for waste management
	Strategic partnerships and arrangements regarding waste management.
Waste collection infrastructure	Enhance waste collection within the municipality
Institutional capacity and human resources	Increase skills and capacity building within the waste management sector of the Ga-Segonyana LM
Management of illegal activities	Enforce and monitor by-laws and waste management arrangements.

The goals forming the framework of the Ga-Segonyana LM Integrated Waste Management Plans are listed as follows:

1. Increased waste minimisation through recycling and waste re-use;
2. Improvement of waste monitoring and establishment of a waste information system;
3. Increased education awareness of households and small-medium businesses regarding waste management;
4. Improved landfill management and waste disposal;
5. Sustainable funding for waste management;
6. Strategic partnerships and arrangements regarding waste management;
7. Enhance waste collection within the municipality;
8. Increase skills and capacity building within the waste management sector of the Ga-Segonyana LM; and
9. Enforce and monitor by-laws and waste management arrangements.

Several key objectives were identified which would contribute to the achievement of these goals. To ensure that the plan can be properly monitored and the performance of implementers assessed, indicators were developed against each of the identified goals and objectives, a means of verification was identified and targets set for a five-year review. These elements: strategic goals, key objectives, indicators and targets form the logical framework of the IWMP and are summarised in Table 14 below:

Table 14 : The Ga-Segonyana Local Municipality Logical Framework

Objectives	Indicators	Means Of Verification	Assumptions
Overall Objective: Ga-Segonyana LM provides an effective and inclusive waste manage service which protects the environment and promotes the health and wealth of its residents	• 50% increase in the number of people receiving waste management services	• Municipal records	• Communities participate in waste management programmes such as managed and authorised dump sites
Objectives	**Indicators**	**Means Of Verification**	**Assumptions**
Goal 1: Increased waste reduction and minimisation through recycling and waste re-use.	• 50% reduction in volumes dumped at landfill sites	• Weigh bridge records and landfill records.	• Weigh bridges established and records kept
Main Activities: 1.1. Develop and implement a sustainable recycling programme o Identify and implement waste recovery and recycling pilot projects that also result in job creation. o Identify existing recyclers, and skill them to be effective o Provide support to recyclers; support only enough recyclers to ensure that each can make a decent living; take on people who are interested, already involved in some way and strengthen them. 1.2. Create an enabling environment for recycling o Establish garden waste, and organic waste collection centres/transfer areas in the LM. o Establish recyclable waste drop off points and buy-back centres. 1.3. Approach mines for funding and skills training regarding recycling initiatives 1.4. Implement REDISA for the clean-up and recycling of tires along the roadside			
Objectives	**Indicators**	**Means Of Verification**	**Assumptions**
Goal 2: Effective waste monitoring and information database programmes are in place	• Updated waste management data accessible at all times	• Database	• Municipality is able to attract suitably qualified information systems experts

			• The WI is made available

Main Activities:

2.1 Develop and implement waste monitoring and classification methods (recycling will inform the WIS as quantities of different waste streams will be more easily measured)

2.2. Access the South African Waste Information Centre and comply with the standard WIS

- Ensure roll out of the SAWIS within Ga-Segonyana LM
- Access the training offered by the national Waste Information Centre

Contact Tel: 086 111 2468 or email : callcentre@dea.gov.za

2.3. Undertake a skills audit on waste management and develop a recruitment plan

2.4. Recruit for all vacant posts and train staff

2.5. Identify and appoint waste monitors

- Ensure that waste management officers and monitors have the appropriate tools (e.g. ipads)

2.6. To provide and update all information associated with waste generation, prevention, minimisation, recovery, recycling, treatment and disposal to the District

Objectives	**Indicators**	**Means Of Verification**	**Assumptions**
Goal 3: Awareness and empowerment programmes are in place	• Noticeable improvement in the cleanliness of the municipality • Number of SME's involved in waste management.	• Spot checks • Municipal records	

Main Activities:

3.1 Develop and implement awareness raising strategies

3.2 Develop a strategy to involve councillors

- Ward councilors to assist in spreading awareness regarding waste management

Objectives	Indicators	Means Of Verification	Assumptions
Goal 4: Improved landfill management and waste disposal	• 100% of licensed landfills complying with legislation	• Waste monitors' reports	• Waste monitors appointed

Main Activities:

4.1. Ensure landfill site properly managed

- Ensure that a good contract for outsourcing is in place
- Ensure that the terms of the contract are monitored and enforced (ensure that this happens everywhere)
- Employ only waste contractors that have proven track record
- Duration of contracts must be at least 2 years in length

4.2. Audit waste management infrastructure and resource needs in line with future development

- Identify and establish waste transfer stations
- Locate and authorise accessible community dump sites (one dump site per 1000 people/ or accessible within 1-3 km) - dumpsites must be officially located and established and illegal dumpsites closed and cleaned up

Objectives	Indicators	Means Of Verification	Assumptions
Goal 5: Sustainable funding for waste management	• 30% reduced deficit year on year	• Financial reports	•

Main Activities:

5.1. Prioritise waste management budget

- Properly list funding requirements and sources in IWMP
- Ensure full cost accounting for waste management

5.2. Source adequate funds

- Establish and strengthen partnerships with mines to assist with funding *(*mines should be sources for possible funding)
- Source alternative funding streams for specific projects
- Advocate for national DEA to engage with treasury to ensure better funding mechanisms

5.3. Ensure that systems are cost effective

5.4 Establish and implement an equitable standardised waste collection and disposal system tariffs (gradually phased-in over the 5 year period) - indigents must be supported and factored in through the tariff system

Objectives	Indicators	Means Of Verification	Assumptions

Goal 6: Strategic partnerships and arrangements regarding waste management in place	• No. of working waste management and services partnerships	• Municipal records	• Community members are willing to partner with the municipality

Main Activities:

6.1 Identify and establish partnerships for waste recycling and collection

- Develop partnerships with waste collection companies to address waste collection problems.

6.2. Advocate with the provincial department to facilitate the transport of recyclable material to relevant centres

6.3 Explore, establish and strengthen partnerships with mines:

- to train SMEs (in finances and business management, etc.)
- to assist with the removal of hazardous waste
- to offer localised collection services

6.4 Facilitate partnerships with and between local companies (Shoprite, Pick 'n Pay, Spar, Tshipi, Kolomela, etc.…)

- Facilitate partnerships between NGOs, SMEs, private sector and mines

Objectives	**Indicators**	**Means Of Verification**	**Assumptions**
Goal 7: Enhance waste collection in the local municipalities	• % increase in households receiving refuse removal services	• Municipal records / collection records	•

Main Activities:

7.1: Municipality must develop and implement a waste transportation plan

- Ensure proper route planning for the most cost effective delivery of service
- Conduct a proper feasibility study on vehicles and equipment required to effectively deliver waste management services
  - Optimise existing resources
  - Must have a dedicated fleet for waste collection

7.2. Develop and implement a fleet management strategy

- Purchase relevant equipment

7.3. Ensure that indigents receive free waste collection services

Objectives	Indicators	Means Of Verification	Assumptions
Goal 8: Increased skills and capacity building within the waste management sector of the Ga-Segonyana LM	• Performance against performance agreements satisfactory among all relevant staff	• Annual performance assessments	•

Main Activities

8.1. Develop and implement skills development plans

8.2. Ensure that performance agreements are in place and annual assessments conducted

8.3. Facilitate capacity development and the development of strategies and plans for SMEs
- Train and capacitate SMEs and communities

8.4. Build skills and knowledge among communities
- Hold workshops for general populace
- Establishment of environmental clubs and conservancies

Objectives	Indicators	Means Of Verification	Assumptions
Goal 9: Enforcement and monitoring of by-laws and waste management arrangements	• % increase in application of by-laws • % increase in compliance to regulations and by-laws	• Municipal records • Observation reports	• Appropriate by-laws can be promulgated within the IWMP time frame

Main Activities:

9.1 Request standard by-laws from national DEA and advocate for assistance to have these fast tracked
- Ensure that by-laws are established and promulgated within a reasonable time frame
- Lobby for the provincial department to coordinate and fast track promulgation of by-laws

9.2 Identify positions necessary for law enforcement

- Ensure that there is a designated and dedicated waste management officer in place

Table below lists the various waste management facilities that are used to help realise the processes of waste management.

Table 15: Purpose and function of waste facilities

Facility	Materials Recovery Facility (MRF)	Buy-back	Transfer station	Central collection points	Drop-off	Gardens sites	Landfill/dump
Types of waste	Mixed municipal waste, mixed recyclables	Recyclables	Mixed waste	Mixed waste	Recyclables	Garden waste	Mixed waste, building materials, garden waste
Who brings waste?	Waste collectors, community	Community	Waste collectors	Contractors, Community	Community	Community	Municipality
Who removes the waste?	Recyclers, Municipality	Recyclers	Municipality, private companies	Municipality	Recyclers, Municipality	Recyclers, Municipality	-
Where goes the waste end up?	Recycling plant or landfill	Recycling plant	Recycling plant or landfill	Landfill, MRF, or Transfer stations	Recycling plant	Compost facility or landfill	-
Purpose of the facility	Waste reparation	Recycling and reuse	Optimising transport system	Collection from inaccessible areas	Recyclables and builders rubble	Separate compostable waste	“Safe” disposal

Source: Green2Alive, 2010

4.2 Strategies and Proposals

4.2.1 Goal 1: Waste minimisation, recycling and re-use

The lack of waste minimisation, recycling and re-use initiatives result in increased disposal in the landfills. This has the added effect of substantially reducing the life of the landfill and is very costly for the municipality. It also encourages illegal dumping and general littering throughout the Ga-Segonyana LM.

There are various mechanisms that the municipality could implement which will help to reduce the waste within the municipality[5]. An integrated waste management strategy should include the establishment of facilities, mechanisms, partnerships, and public education and awareness programmes to encourage and support waste minimisation and recycling efforts. Mixed waste should be reduced as a key principle.

4.2.1.1 Sustainable recycling programmes

At present, it is difficult for the municipality to implement recycling services and programmes. The involvement of communities and SMEs in waste handling and waste reduction initiatives could alleviate the situation. A recycling programme needs to include several enabling conditions, among these are:

- Several recyclers are already operating in the Ga-Segonyana LM. These recyclers must be identified and strengthened. It is important that a programme does not over-supply recyclers in the Ga-Segonyana LM; the supply and demand balance must be taken into consideration – too many will mean that none can be sustained and the programme will fail. In order for the programme to be tested, the projects contained therein need to be piloted to test their efficacy.
- It is vital that the Ga-Segonyana LM ensures that it creates and an enabling environment for recycling to take place. The communities must understand why and how recycling should take place. Suitable receptacles must be provided both at the waste management facilities and within urban areas at the household level.
- A partnership arrangement should be developed with recyclers so that they are able to collect and sell the recycled material easily. The Ga-Segonyana LM can enter into agreements with private contractors to collect waste sorted into marked receptacles or alternatively to collect only the recyclables from households and/or communal dumpsites. The collected recyclable waste could then be taken to buy-back centres, recyclers, landfill or waste transfer stations. If a complete waste collection service is negotiated then the service provider would also make use of communal dumpsites, and/or landfills for the general waste collected. Private collectors are particularly useful in semi-urban areas (including townships surrounding built-up areas) and towns. Proposed locations include:
    - Kuruman;
    - Mothibistad;
    - Mapoteng; and
    - Seoding.

- The vast distances within the municipality and the distance from the major recycling centres (Gauteng, Cape Town and Durban), mean that the transport of recyclable material cannot be left to the recyclers. The municipality has to facilitate an arrangement with the major

[5] DEAT working with waste guidelines on waste recycling

recyclers to collect the material periodically. Alternatively, the municipality can provide transport for compacted material to the centres.

- There are recyclers already operating and living off reclaiming recycled materials at the existing landfills. These initiatives need to be formalised and made safe and sustainable. A suitable materials recovery unit can be established and recyclers assisted with safety gear and a convenient buy-back centre coordinated by the municipality.
- Incentives can be used to encourage separation at source of recyclable materials. One such incentive is the reduction of monthly disposal charges for both residents and local business that participate in separation at source activities. For instance, in Ga-Segonyana Local Municipality, the monthly tariff for collection and disposal is R91.65 per month for households and R133.25 per month for business, a percentage of the tariff could be deducted for those who separate their waste. Buy-back facilities provide monetary incentives for the local communities to engage in recycling efforts.

4.2.1.2. Creation of an enabling environment

At present, waste reduction facilities are almost non-existent within the Ga-Segonyana LM. In order for communities to participate effectively in waste reduction initiatives, the Ga-Segonyana LM needs to create an enabling environment. Suitable waste facilities need to be established and SMEs developed and supported. Buy back centres in suitable locations need to be established as do drop off facilities and garden waste sites. These sites must be easily accessible and convenient for local communities and operating SMEs to deposit mixed or recycled waste. Buy-back facilities offer opportunities for communities to earn income from recycling which provides an incentive to increase recycling efforts. Buy-back centres established adjacent to landfills within the Ga-Segonyana LM will give existing recyclers operating at the landfill easy access to an outlet for the material collected. This material, in turn should be collected by the major recycling companies (such as Consol, Collect-a-Can and SAPPI) or, in compacted form, taken to the recycling centres in municipal long haul vehicles. A possible site for a buy-back centre within the Ga-Segonyana LM is in Kuruman.

Garden waste sites allow communities to dispose of their garden refuse, which can then be converted to compost. In rural areas, communities could form communal organic waste sites managed by local SMEs who make compost out of the organic waste for use in food gardens or for local farmers. These facilities should be placed in highly accessible and geographically convenient locations and should be properly managed.

Organic waste could be deposited by the public using own means of transport or alternatively, collected and deposited by a collection service, which would be an SME. A study therefore would need to be undertaken to determine the most suitable locations for garden refuse sites. Compost facilities could be sited within communities.

Highly accessible drop-off facilities should be established in urban and semi-urban areas, where material can be deposited in clearly marked receptacles. These receptacles would then be collected by municipal vehicles or recyclers and taken to a composting facility. It is important to note that municipal organic material should also be deposited in one of these facilities to be turned

into compost. . The possible locations for drop off facilities are the surrounds of Kuruman, Mothibistad, and Mapotheng.

SALGA has produced a report, which offers a “Best Practice” guide for municipalities, on how and when to establish these waste facilities. It is recommended that the municipality make use of this report.

4.2.1.3. Collaboration with mines

Mining is an important economic activity in the Ga-Segonyana LM and mines are important role-players. The mining houses also have resources and facilities that could be accessed for public good. The mines should be approached to assist with the training of SMMEs in business and management skills. Collaboration agreements can also be sought and strengthened to implement joint recycling initiatives.

4.2.1.4. Recycling and Economic Development Initiative of South Africa

Rubber tyres can take anywhere from a few hundred years to well over a thousand years to completely degrade. Lying in landfills or out in the open, tyres create a fire risk and are also a breeding ground for vermin and mosquitoes. When tyres are burnt for their scrap metal content, toxic fumes are released in the process. The Integrated Industry Waste Tyre Management Plan, which came into effect on 23 July 2012, aims to turn waste tyres into economic opportunities. The plan is managed by Recycling and Economic Development Initiative of South Africa (REDISA) and aims to create jobs related to the collection, transportation, storage and recycling of waste tyres.

By charging manufacturers and importers a levy of R2.30 + VAT on every kilogram of new rubber tyre, the financial responsibility for the collection of waste tyres is passed back to the source of the problem. This levy will subsidise the collection and recycling process by attaching a value to waste tyres – one that is higher than their scrap metal value – and incentivising their return to the depots[6].

The municipality needs to contact REDISA for assistance on how the plan can be effectively implemented in the area.

4.2.2 Goal 2: Waste monitoring and waste information system

Generators, handlers, recyclers and disposers of waste have to report their waste type and volumes in a certain format, as published under notice 625, in Government Gazette 35583 of 13 August 2012, (section 69(1)(y), (aa) and (ee) of the NEMWA). The waste records of the Ga-Segonyana LM are unreliable and incomplete. There exists a need for the establishment of an effective waste monitoring process and a WIS. The presence of reliable records is one of the fundamental building blocks for the review and efficacy of integrated waste management plans. If the exact numbers of waste and types of waste are known, resources can be deployed effectively and needs properly addressed. Thus, emerges the need for waste and environmental monitors to capture data at various waste facilities. Personnel will have to be trained to fill these positions. Waste management personnel are required on site to count waste entering sites by plastic bag

[6] http://www.redisa.org.za

number, or to estimate track or trailer load and they should be employed and trained. The following key activities have been identified to ensure that an effective waste monitoring process and WIS are established:

Refer to

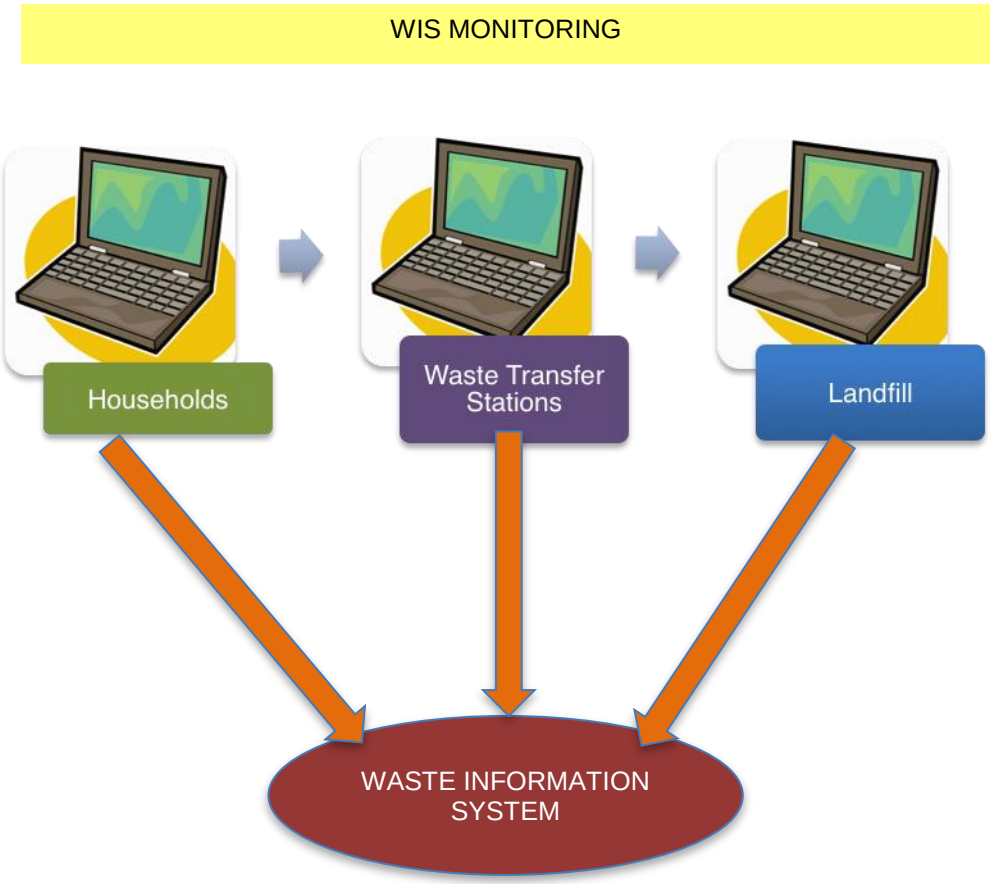
Table 16 for the recommendations regarding the WIS. Figure 10 provides an illustration of the proposed model for the WIS

Table 16: Waste information system recommendations

Objectives	Recommendations
Upgrade the current record keeping system to a comprehensive electronic waste information system that can be used for report generation. Make use of the national WIS as provided by DEA. Maintain the comprehensive electronic waste information system once it is in place.	Upgrade and implement a comprehensive electronic record keeping system of all the waste disposed of. This should include both the disposal and collection activities. A waste information system is important for planning and decision-making in the Ga-Segonyana LM It also helps in the tracking of illegal activities and compliance. Ensure that the electronic waste information system is operating as it should be once it has been implemented. Records should also be kept of all waste reclaimed and recycled. These records should also form part of the electronic waste information system.
Incorporate and capture waste cording to the Waste Categorization System for WIS Reporting	Train waste management facility personal and the relevant SMEs to record waste volumes and types according to the standards set out in the Waste Categorization System postulated by the DEA in 2010
Develop in-field data capture tools and methods	Provide the necessary equipment needed for the capture of waste related data from waste management facilities (such as cameras, pens, check-sheets, 3G wireless access, etc.…) Train the relevant monitors in the effective use of tools and techniques. Develop a waste officers/monitors waste data capture template.
Develop and implement information dissemination strategies between all stakeholders. Establish a waste forum	The records that are kept at strategically placed waste management facilities should be readily available to the Ga-Segonyana LM in order to ensure that dissemination of information. Development of a public website for the waste management division with information regarding collection days, contact people, landfill and waste facility sites, etc. This database will need maintenance to be kept current and up-to-date. There should be communication with the local industries to ensure

	that the information of the waste volumes and strategies is updated. Information sharing should be promoted. A waste forum should be developed to ensure dissemination of information.
Ensure the Ga-Segonyana LM compliance with waste monitoring	Partner with the National and Provincial DEA to ensure the awareness and implementation regarding the waste information system throughout the Ga-Segonyana LM

Figure 12 Model for waste information system



4.2.3 Goal 3: Waste minimisation public awareness programmes

The aim of the Ga-Segonyana LM's waste management awareness programmes is to raise public participation regarding waste treatment and its environmental impacts and to build capacity for increased involvement in waste reduction, re-use, recycling and recovery. The Ga-Segonyana LM will work in close liaison with the JTGDM and its local municipalities.

The efficacy of waste minimisation efforts hangs on the involvement of local communities in recycling and composting activities within the district. Recycling programmes should therefore, target household involvement by using awareness campaigns and workshops to increase the level of involvement of households, rural communities and homesteads in composting and recycling. The message that the Ga-Segonyana LM needs to convey is that public and community involvement is not only welcomed and encouraged but will be supported wherever possible. Information and training should involve:

- Building the capacity of the public to actively participate in waste reduction, re-use and recycling;
- Why it is necessary to reduce reliance on landfill disposal;
- Ideas on how to minimise waste;
- Ideas on how to re-use “waste”;
- How to separate at source;
- What can be recycled or recovered;
- How to recycle: curb side collection and/ or drop-off facilities;
- Frequency of collection;
- Information on municipal targets and progress on reaching such targets;
- How the community/municipal residents can contribute to reaching such targets;
- Information on opportunities to take part in municipal decision-making processes; and
- Dates of the regular public meetings.

The Ga-Segonyana LM needs to embark on a public participation and information transfer exercises to increase the level of waste reduction awareness amongst communities within the region. Some of the public participation initiatives could include:

- *Ward meetings*: regular public meetings between municipal warden members and municipal residents and rural communities;
- *Community projects*: to instil a sense of pride and responsibility amongst the communities for their surrounding environment. This will only be achieved if the district and its corresponding local municipalities express a focussed drive to combat illegal dumping, to actively promote recycling and ensure a clean environment for all municipal residents;
- *Partnerships with local schools*: form partnerships with the schools of the areas to encourage recycling and assist in street cleansing within their respective areas. Incentives could be made available for schools that are deeply involved in recycling and street cleansing efforts. The Ga-Segonyana LM should collaborate with the DM and the DEA national and provincial offices to provide waste management education materials and curricula, to implement and encourage school involvement in waste management.
- *Targeted door-to-door awareness campaigns:* could add value as a two-way communication method to create buy-in in areas where waste management can be improved. These door-to-door awareness campaigns should focus on educating residents about sorting, composting, recycling and dropping off of their household waste.

The following communication channels can be used to achieve the knowledge and information transfer that the Ga-Segonyana LM needs achieve:

- Bill boards;
- Local newspapers (e.g. regular informative articles);
- Local radio stations (e.g. talk shows and advertisements);
- Newsletters (including electronic newsletters);
- The circulation of educational material at schools, developed in collaboration with the Department of Education;
- School presentations which convey a positive message of waste prevention and encourage learners to protect and conserve the environment through good waste management practices; and
- Discussions with businesses and industry to create mutually beneficial situations related to waste management.

4.2.4 Goal 4: Improved waste disposal and dump site management

Key activities identified to achieve this goal include:

4.1. Ensure all landfill sites within the region are licensed and properly managed

- Where management of landfill sites are outsourced, ensure that a good contract is in place
- Ensure that the terms of the contract are monitored and enforced
- Employ only waste contractors that have proven track record
- Duration of contracts must be at least 2 years in length

4.2. Audit waste management infrastructure and resource needs in line with future development

- Identify and establish waste transfer stations
- Locate and authorise accessible community dump sites (one dump site per 1000 people/ or accessible within 1-3 km) - dumpsites must be officially located and established and illegal dumpsites closed and cleaned up

4.2.4.1. Landfill management

The method that should be employed to dispose of waste could either be the area spreading (level area) or alternatively, the ramp method (approximately 1 vertical to 7 horizontal), contained within an operating cell. The operating cell is formed by surrounding the rectangular cell on three sides with a 2 – 3 metre high berm constructed using the incoming builder's rubble (or construction wastes). The number of incoming vehicles and the need to keep the working face as small as possible determines the size of the cell. The waste is tipped onto the floor or ramp by the delivery vehicles. A landfill compactor then spreads the wastes to a thickness of approximately 300 – 500mm. The compactor then carries out another 3 – 4 passes in order to compact the wastes. This process is repeated until the top of the surrounding berms has been reached or until the end of the working day. Thereafter the surface of the compacted wastes is covered with a nominal 150mm soil. This prevents wind scatter and the breeding of flies, etc. This process is known as "sanitary land filling".

4.2.4.2 Waste management infrastructure and resources

The landfill infrastructure must be upgraded to conform to both the permit conditions as well as the Minimum Requirements for Waste Disposal by Landfill published by DWAF, 1998. Once the landfill is upgraded, it must be properly maintained. The landfill must be fenced and controlled access installed. Commercial waste, which is often cleaner than domestic waste can be directed to a sectioned off Materials Recovery Facility (MRF), while the mixed domestic waste can be sent directly to the landfill. Once recycling systems are in place, the recycled material will also be sent to the MRF. The MRF should be a proper concrete, roofed structure which will enable reclaimers to sort waste into dedicated bins safely and easily.

The basic requirements for this type of landfill include:

- Information board at entrance;
- Access control;
- Weighbridge (Min Req. H, GM,GL and GS sites);
- Fence (Min Req. all sites);
- Contaminated water control;
- Leachate control;
- Landfill Gas Management;
- Storm water and uncontaminated water management
- Working face control;
- Sufficiently qualified staff; and
- Suitable plant and equipment.

All these requirements must be met in terms of the contract drawn up between the municipality and the contractor. A schedule must be drawn up of upgrading measures complying with the basic minimum requirements.

The equipment used at most of the landfills at present is inappropriate. The correct equipment must be put in place. The equipment needed for optimal landfill management includes:

- A water cart which assists with dust suppression;
- A loader to load cover material;
- An excavator to excavate and load cover material; and
- A tipper / dump truck to transport cover material and waste.

On the larger landfills a landfill compactor, loader, water container and tipper will be necessary to ensure effective operating conditions. For smaller landfills a multi-purpose vehicle will handle waste well enough, and on communal landfill sites where the trench system is used, a machine is only required part-time. The type of equipment will depend on the type of operation (trench, cell, etc.) and the volume of the waste generated. Compaction is usually an important factor since this allows for more waste to be disposed of at a landfill thereby prolonging the life of the landfill. Economics, however, play an important role in the selection of equipment, since the volume of waste has to justify the type of equipment. It is of no use using a 30-tonne landfill compactor, capable of handling over 500 tonnes of waste per day, on a landfill only receiving 10 tonnes per day. Such a machine costs in the region of R 2 600 000 and operating cost is in the region of

R180.00/hour excluding the cost of operator or maintenance costs. It is therefore, evident that the choice of equipment is very important to ensure the correct equipment is used for the correct application.

Due to the low volumes received at the various landfill sites, the following equipment would be required as a minimum:

- Small landfill compactor (20 ton), or alternatively, a four wheeled drive excavator/TLB (tractor-loader-backhoe);
- Tipper truck (or ADT); and
- Water cart.

The landfill compactor is used for spreading and compaction of both wastes and cover soils. The four-wheeled drive excavator/TLB (with foam filled/solid rubber tyres) can perform the same operation according to a prescribed methodology. The excavator/TLB can be multi tasked in that it can also be used to excavate and load cover soils from a borrow pit immediately adjacent to the landfill. It can also be used to excavate trenches within the landfilled wastes for the safe disposal of condemned foodstuffs and animal carcasses.

The tipper truck/ADT can be used to transport the cover soil materials from the borrow pit to the working face on the landfill. The excavator/TLB and tipper truck/ADT can also be used to construct the cell berms from stockpiled construction wastes (builder's rubble). The water cart could either consist of a water tanker on trailer drawn by a tractor or a water tanker truck. The water cart is used to spray water on all access and working face roads on a regular basis throughout the working day in order to suppress the generation of dust.

For those areas that have no access to traditional waste collection services, such as rural communities and semi-urban areas, could make use of communal dumpsites and collection points. Residents will be encouraged to deposit mixed or sorted waste at these facilities, which will then be diverted to waste transfer stations, buy-back centres or to landfills. The establishment of waste transfer centres in remote areas allows for the temporary storage of waste before it is recycled or sent to a landfill site. This will benefit rural areas in that waste will be collected periodically and stored, which means that immediate access to landfills is not required.

The strategic placement of various waste facilities would give rural communities access to waste collection services and reduce transport costs. It is therefore, recommended that site suitability studies are undertaken for the placement of buy-back centres, drop-off facilities, communal collection points and waste transfer stations.

The Ga-Segonyana LM should encourage recycling activities within landfills. Buy-back centres should be located near or on site to encourage recyclers to pick and exchange recyclables from landfills. To facilitate the removal of recyclables from landfill sites the district could implement a safer means of exchanging recyclables for cash. One option is for the Ga-Segonyana LM to implement an account system for the exchange of recyclables at buy-back centres and/or landfills. This will limit the need for waste management personnel to carry potentially large sums of cash, thus reducing the possibility of theft. Community dumpsites must be properly managed, authorised and monitored. All illegal dumpsites must be removed and the surrounding area cleaned.

4.2.5 Goal 5: Sustainable funding for waste management

In order for optimal and effective waste management, sufficient resources have to be allocated. The correct equipment must be available, properly maintained and operating at all times. Infrastructure has to be appropriate and must not only meet the minimum requirements, but must enable the community to participate actively in minimisation, reuse and recycling programmes. Sufficient funds need to be in place to ensure that waste management is carried out effectively and that services are delivered to all.

4.2.6 Goal 6: Strategic partnerships and arrangements regarding waste management in place

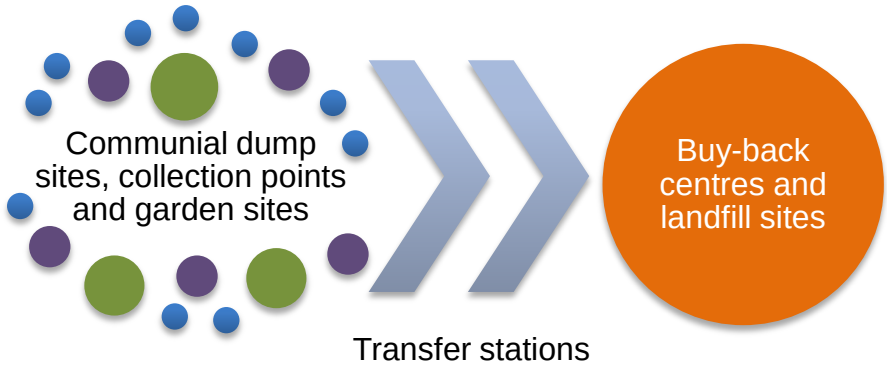
The costs to address the needs of a sustainable waste management are vast and require involvement and participation from various stakeholders. It is thus important for the Ga-Segonyana LM to form partnerships with different stakeholders to offset and sustain good waste management activities. The Ga-Segonyana LM requires the formation of strategic partnerships to ensure waste management targets are met.

The establishment of partnerships in line with the strategic flow of waste through the region and municipality should assist the Ga-Segonyana LM to improve service delivery and keep cost increases minimal.

4.2.7 Goal 7: Enhanced waste collection

The collection of household refuse remains a challenge for the Ga-Segonyana LM. A possible model for the establishment of a waste collections system and placement of the various waste management centres is illustrated in the diagram below Figure 13:

Figure 13 : Waste collection flow system and facility model



In this model, waste is deposited and collected at communal dump sites, collection points and garden sites and is then transferred to strategically placed waste transfer stations, from where it is taken to buy-back centres (placed near landfill sites) and/or landfill sites.

To service the more rural portions of land within the municipality that don't receive waste collection services, the Ga-Segonyana LM should establish communal collection points.

Communal collection points must be clearly demarcated areas with appropriate receptacles where household waste can be deposited for collection by the service provider/municipality. The municipality must ensure that communal collection points are kept tidy at all times.

The receptacles must be:

- Covered so as to prevent windblown litter; and
- User friendly to allow even children and disabled persons to safely deposit waste into the receptacles.

The collection points must:

- Be easily accessible for waste collection vehicles; and.
- Encourage waste separation at source.

4.2.7.1. The development of a waste transportation plan

Two factors make the collection and transportation of household waste in rural areas challenging, these being the difficulty and impracticality of servicing large and sparsely populated areas, together with the associated travel cost to transverse large distances. Solutions exist to make waste collection and transportation in rural communities not only possible, but also cost effective. One possibility is that rural homesteads, individually or collectively, take responsibility for the collection and transportation of waste to nearby drop-off facilities, communal collection points or waste transfer stations. Alternatively, the Ga-Segonyana LM can facilitate and fund an operation to contract community members to collect household waste from all households within their vicinity and transport it to the nearest waste transfer station and/or collection points. These points should be accessible to municipal collection vehicles.

Communities need increased access to facilities to enable the municipality to deliver an effective waste management service. In rural areas, which are not currently serviced by the Ga-Segonyana LM, facilities should be provided that would serve as an interim measure before transportation to more permanent facilities is possible. Communal dumpsites, communal collection points, waste transfer stations and drop-off facilities in easily accessible locations must therefore, be established. Unlicensed landfill sites should be converted to drop-off facilities, which will r save costs. This solution has the additional advantage of residents being familiar with the site.

A cost effective and appropriate route plan needs to be developed which is as inclusive as possible. To ensure a clean community and proper service there should be an agreement on the type of service and standard of service. This agreement could include:

- The type of service that should accommodate the socio-economic levels of the community;
- Taking into consideration the community's background information and existing knowledge;
- Incorporation of the existing service or preferred service;
- Ensuring the most appropriate, cost effective and affordable system; and
- The agreed standards should complement the existing system and foster partnerships.

The collection frequency is dependent on (1) the volumes of waste generated, (2) the availability of the equipment (and storage capacity) and (3) the level of service. The norm is that domestic collection is done once a week in most areas. Commercial collection is dependent on the volumes generated and the types of waste. Waste minimisation is to be encouraged, but the frequency of

waste collection must not encourage illegal dumping or cause a nuisance in terms of odours and volumes of waste being stored. Non-recyclable waste must be removed at least once a week. Recyclable waste can be removed at least once every two weeks.

4.2.7.2. Development of a fleet management strategy

The Ga-Segonyana LM has insufficient equipment. The available machinery available is prone to frequent breakdowns, further compounded by inadequate maintenance, as most of the vehicles are not easily repairable because of the unavailability of spare parts. Policies must be put in place to ensure that the equipment and fleet vehicles are properly maintained and replaced when necessary. The Ga-Segonyana LM should have an asset register of waste management equipment for monitoring purposes. The provision of a regular waste disposal service to all residents of the Municipality requires vehicle upgrade and regular replacement. This can be implemented over a period of five (5) years. Old, broken and inappropriate equipment only serves to slow down the processes and to render the system cost inefficient.

A detailed analysis must be done on the most appropriate vehicles and equipment required to deliver effective waste collection services. While existing equipment should be optimised, obsolete machinery should be sold off and new equipment purchased. The vehicles must be fit for purpose and consider future development. A maintenance programme must be put in place to ensure that the vehicles and equipment last and are able to do the job for which they were purchased. For rural areas, the capacity of municipal collection trucks can be increased by attaching trailers to carry recyclable waste.

Machinery and equipment has to be properly stored to ensure a longer life. In a full cost accounting system, depreciation costs are applied to the equipment and when they reach the end of their life span, they must be upgraded accordingly. A fleet management strategy must be developed to optimise the usage of the equipment as well as the costs involved. The Ga-Segonyana LM should seek financial support from the JTGDM.

4.2.7.3. Free Basic Services

The Ga-Segonyana LM must ensure that free basic services are delivered to indigents. The indigent register must be kept updated and a level of service in line with the models proposed above must be delivered.

4.2.8 Goal 8: Increased skills and capacity building within the waste management sector of the JTGDM

There exists a large gap in skills and capacity for waste management and the provision of waste services within the Gamagara LM. The skills required to implement the Waste Act (Act no. 59 of 2008) are reflected in Table 17 below:

Table 17: Capacity requirements needed to implement the Waste Act

Municipal functional area	Requirements

Planning	Staff that can plan for the appropriate levels of service, extension of services, and landfills
Delivery of waste services	Staff that can manage internal waste service delivery or manage contracts of private service providers
Waste separation and recycling	Staff that can plan and establish such facilities and activities
Financial management	Staff that can undertake full cost accounting, ring fence waste service budgets, establish an implement cost effective and volumetric tariffs, and implement the free basic service policy through subsidies for indigents
Financial planning	Staff that can plan capital expenditure based on infrastructure modelling
Communications	Staff that can effectively communicate to residents information about proper waste management practices

Source: NWMS, 2011

The Ga-Segonyana LM should seek to increase capacity in all functions listed in Table 17. However, priority must be given to developing the skills and capacity of the municipality in monitoring and recycling of waste throughout the Ga-Segonyana LM. Similarly, the private service providers and SMMEs contracted to perform waste collection, transportation and recycling must also undergo a process of skills and capacity improvement.

4.2.8.1 Skills development plans

In terms of the Waste Act, every municipality must have a Waste Management Officer (WMO). A WMO's role is to coordinate waste at each level of government. At the municipal level, the Mayor designates the WMO in writing. The Department of Environmental Affairs has guidelines on the roles and responsibilities of WMOs. A WMO need not necessarily be a dedicated job position but can be an additional function allocated to an appropriate manager in the municipality who deals with waste management.

The responsibilities of a municipal WMO is to:

- Manage stakeholders in Waste Act implementation;
- Liaise with Environmental Management Inspectorate compliance monitoring activities in the municipality;
- Ensure municipal IWMP planning and reporting cycles;
- Build capacity in relation to the Waste Act implementation; and
- Monitor adherence to norms and standards in the delivery of waste services.

A dedicated public liaison and education officer, who is capacitated in terms of the Waste Act and the municipality's IWMP, may support the WMO. A budget has to be allocated for training the

WMO and for implementing the IWMP. The municipality itself should also set itself up as a role model to the communities it serves in how to manage personal waste generation.

4.2.8.1 Performance Agreements

Performance agreements assist both staff and management to monitor skills development and progress towards the goals of the municipality. Performance agreements need to be aligned with the responsibilities of each individual and linked to the goals that need to be achieved. Where an individual is not meeting the terms of his or her agreement, skills development strategies can be put in place to assist the individual. Performance agreements are developmental in nature and while they assist the municipality to hold individuals to account they are also an excellent developmental tool and should be used as such.

4.2.8.2 Capacity development for SMEs

The mining sector within the Ga-Segonyana LM has the available resources, funding and expertise to assist the waste management department of the Ga-Segonyana LM to develop skills and capacity. The larger mining firms should be approached to provide funding and training regarding skills and capacity development for SMMEs.

4.2.8.3 Build skills and knowledge among community members

While awareness raising campaigns go a long way to helping to build capacity, communities need to be further capacitated in how to recycle and minimise waste. Assistance in how to care for the environment and how to monitor the local dumpsites, transfer stations and landfills will also benefit residents. They can be assisted in forming teams, which monitor waste and work towards protecting the environment. .

4.2.9 Goal 9: Enforcement and monitoring of by-laws and waste management arrangements

By-laws assist the municipality to regulate waste management activities and to apply penalties to non-complying individuals or organisations. By-laws should be comprehensive and address all solid waste management issues such as waste minimisation, industrial waste, and hazardous and medical waste. By-laws are useless without enforcement and the municipality needs to coordinate with other law enforcers, for example, Environmental Management Inspectors (EMIs) and the South African Police Service (SAPS), to assist. The by-laws should ensure that liability is addressed and that the generation, storage and disposal of industrial and domestic refuse is properly implemented.

4.2.9.1 Request standard by-laws from national DEA and advocate for assistance to have these fast tracked.

Standard by-laws are available from the National Department of Environmental Affairs. The Ga-Segonyana LM together with the JTGDM should request these by-laws and motivate for their promulgation as early as possible. The provincial department could assist to fast track the promulgation of these laws, given that they are standard laws approved by the National DEA.

4.2.9.2 Identify positions necessary for law enforcement

Laws will only be effective if the Ga-Segonyana LM is able to enforce them. Law enforcement officers (green scorpions) must be appointed to ensure that they can be enforced and the municipality must collaborate with other law enforcing stakeholders to assist.

5 Instruments for implementation of IWMP

5.1 Policy instruments

The key principles specified in the relevant legislative and policy documents such as the Environmental Management Policy for South Africa, the National Environmental Management Waste Act (NEMWA), the White Paper for Integrated Pollution and Waste Management (IP&WM), National Waste Management Strategy (NWMS), and the National Domestic Waste Collection Standards (January 2011), relate to accountability, a cradle to grave approach, equity, full cost accounting, good governance, integration, open information, participation and the polluter pays principle. All of these principles support the goals of this IWMP. The strategic goals of this plan are also perfectly aligned with the goals of the NWMS. There is a specific focus on disadvantaged communities in that the plan allows for the development of SMEs and cooperatives specifically drawn from informal salvagers who are among the poorest of the municipality's population.

5.2 Partnerships

The development and strengthening of partnerships are key interventions that can facilitate effective waste management, specifically in resource poor areas and to establish a regional waste management system (*alive2green, 2010)*. Types of partnerships are outlined below.

5.2.1 Public-public partnerships

Public-public partnerships have the potential to reduce the cost of equipment and salaries. These partnerships could be formed to maintain and govern regional and municipal landfills and associated waste management facilities. This type of partnership could be formed between the JTGDM and the Ga-Segonyana LM, where costs are shared and the facilities are jointly developed

5.2.2 Private-public partnerships

Private-public partnerships involve the community in the rendering of services and help to ensure that the services are kept on track. These partnerships are therefore pivotal in community and government cooperation and coordination. Public-private partnerships could be formed with private companies or SMEs to operate waste transfer stations and buy-back centres and to collect waste from communities.

5.2.3. Public-community partnerships

The formation of *public-community partnerships* in sparsely populated rural areas provides a possible solution for waste management. The Ga-Segonyana LM could contract and subsidise local community members to collect and transport household refuse to the nearest waste management facility to then be later collected by municipal services.

Some of the partnerships considered are spelt out below:

Basic refuse removal

Partnerships can be formed with small community based SMMEs to collect general waste in those areas that are at present not receiving any service, and to deposit this waste in designated skips for collection by the municipality. This will mean that the municipality will be able to offer a more extensive waste collection service. These SMMEs can be provided with basic collection equipment such as handcarts or trolleys to collect from areas where trucks cannot easily reach.

Recycling

The Ga-Segonyana LM can support and facilitate informal salvagers to form recycling cooperatives. Informal salvagers are already living off recycling from the landfill sites and other informal dumps in Ga-Segonyana LM and can be assisted by the municipality to do this job more effectively and much more safely; at the same time they are providing a valuable service to the municipality and to the community. Organised groups of salvagers can collect recyclable waste to deposit at accessible landfill and buy-back centres. The municipality can provide these organised groups with basic collection equipment to facilitate for this task.

Composting

The potential exists for a partnership in a compositing enterprise. Garden and kitchen waste deposited in designated skips (which are also accessible and maintained), can be collected by the Ga-Segonyana LM and deposited at a compositing site. All municipal garden refuse should be deposited at this site too. The community partner can manage the site. The garden waste will be fed into a chipper and compost made using basic low-technology methods. Municipal trucks can take compost to commercial centres for sale or can use the compost in their own parks and gardens. .

Disposal

A partnership with a suitable, qualified contractor to manage the operations at the landfill sites must be clearly set out in a contract that specifies the requirements for continued operation. Once the contract is drawn up and signed, the municipality must ensure that the contract is managed and that the operations of the site are carefully monitored. This contract is normally termed an “Operating and Maintenance Contract”. The municipality provides the licensed landfill facility and infrastructure (i.e. all non-movable assets). The operating contractor provides all the required equipment and personnel to operate and maintain the site in accordance with the license conditions.

5.2.3 Legislative instruments

5.2.3.1 National legislation

The key pieces of legislation guiding the Ga-Segonyana LM IWMP are the National Environmental Management: Waste Act (Act No. 59 of 2008), National Waste Collection Standards, the National Waste Management Strategy and Action Plans, (Government Gazette No. 33277 June 2010), and

the DWAF Minimum Requirements for Landfill.

5.2.3.2 Local government

The establishment of by-laws, in line with the National and Provincial regulatory requirements is a tool for the Ga-Segonyana LM to drive an effective and sustainable waste management service throughout the area. 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.

5.3 Financial mechanisms

Funding is required for building capacity within the municipality, the implementation of the IWMP, operation and maintenance costs of facilities and machinery and equipment and the design and commissioning of new waste management facilities including the communal collection points, drop off sites and waste transfer stations.

5.3.1 Funding mechanisms for waste prevention, minimisation and recycling

The primary sources of initial funding for waste prevention, minimisation and recycling activities should be from the national, provincial or local government budgets, with supplementary funding from donors and funding agencies. If the quantities of waste are reduced by implementing recycling at source, substantial costs can be recovered on a true cost accounting basis taking into consideration the reduction in removal and transport costs and the costs saved by extending the life of the landfill. For this reason the Ga-Segonyana LM should combine efforts and budgets with the JGTDM and its associated local municipalities to implement waste minimisation and recycling initiatives.

5.3.2 Funding mechanisms for waste collection and transportation

At present billing to both residential and business consumers is done on a monthly basis within Ga-Segonyana LM. Enforcing the withholding of services due to non-payment is currently a lengthy administrative process and is therefore rarely enforced and would be even more difficult if one considers the vast areas covered by the municipality. An option to explore is the use of prepaid accounts but this would need to be planned carefully. Alternative funding strategies must be investigated for the funding of new projects aimed at waste minimisation and composting.

Refuse collection and disposal is partially a `public good' exercise, where it is appropriate to cover the costs of the services from general fiscal resources. It is also partially a `private good' exercise where at least part of the cost of the service should be recovered from the direct beneficiaries of the service situated in urban and in semi-urban areas of Ga-Segonyana LM. A long-term financing plan for the new services will therefore need to consider three possible long-term revenue sources:

- Property taxes;
- Equitable share grants; and
- Service charge payments by beneficiaries.

5.3.3 Funding mechanisms for waste treatment and disposal

The cost associated with general waste disposal will mainly be funded by user fees or as part of waste charges for local authorities' general waste disposal sites. A more controlled landfill environment with appropriate waste disposal tariffs imposed will reflect the real cost of waste disposal, where records are kept of waste volumes and site users per landfill site.

6 Implementation Plan

Table 18 outlines the implementation programme and details the activities to be undertaken, delivery targets and time frames and responsibilities

Table 18 : Implementation Plan for Ga-Segonyana LM

Goal 1: Increased waste reduction and minimisation through recycling and waste re-use.			
Main Activity	**Resources required**	**Budget**	**Timeline**
1.1. Develop and implement a sustainable recycling programme			
○ Identify and implement waste recovery and recycling pilot projects that also result in job creation for local communities	Waste expect	R50 000	2014 -2014
○ Identify existing recyclers, and skill them to be effective	Municipal Waste manager	Internal Budget	2014- 2014
○ Provide support to recyclers; support only enough recyclers to ensure that each can make a decent living; take on people who are interested, already involved in some way and strengthen them.	Training Municipal official tasked with cording waste minimization and recycling	R50 000	2014 ongoing
○ Formalise recycling initiatives at waste disposal facilities by initiating a pilot programme on Material Recycling Facility (MRF)	Municipal official tasked with cording waste minimization and recycling MRF	R600 000	2015-2015
1.2. Create an enabling environment for recycling			

○ Establish garden waste, and organic waste collection centres/transfer areas.	Composting stations Chippers	R600 000	2014-2015
○ Establish recyclable waste drop off points and buy-back centres.	Approved plans Appropriate built structure	R1 000 000	2014-2016
1.3. Approach mines for funding and skills training regarding recycling initiatives	*Municipality and community liaison*		*2014*
1.4. Implement REDISA for the clean-up and recycling of tires along the roadside	*Municipal official tasked with cording waste minimization and recycling*		*2014*

Goal 2: Effective waste monitoring and information database programmes are in place			
Main Activity	**Resources required**	**Budget**	**Timeline**
2.1 Develop and implement waste monitoring and classification methods (recycling will inform the WIS as quantities of different waste streams will be more easily measured)	*Training by SAWIC and SAWIS* *Equipment purchased to aid monitoring of waste*	*R69 000*	*2014- 2015*
2.2 Access the South African Waste Information Centre and comply with the standard WIS	Municipal waste officers		

○ Access the training offered by the national Waste Information Centre	Municipal waste officers	Internal Budget	2014
○ Request the provincial department to coordinate access to the system and to training	Municipal waste officers	Internal Budget	2014
Contact Tel: 086 111 2468 or email : callcentre@dea.gov.za ○ for waste information training ○	Municipal waste officers	Internal Budget	2014
2.3 Undertake a skills audit on waste management and develop a recruitment plan	*Waste monitors and auditors*	Internal Budget	*2014*
2.4 Recruit for all vacant posts and train staff	*Waste Manager*	Internal Budget	*2014-2015*
2..5 Identify and appoint waste monitors ○ Ensure that waste management officers and monitors have the appropriate tools (e.g. ipads)	*Purchase of equipment*	*R5 000*	*2014-2015*
2.6 To provide and update all information associated with waste generation, prevention, minimisation, recovery, recycling, treatment and disposal to the District	*Municipal waste officers and managers* *Implementation of waste monitoring and information system*	*Internal budget*	*Year 2*

Goal 3: Awareness and empowerment programmes are in place			
Main Activity	**Resources required**	**Budget**	**Timeline**
3.1. Develop and implement awareness raising strategies	*District and municipal waste officers and managers*	*R515 000*	*2014*
3.2. Develop a strategy to involve councillors ○ Ward councilors to assist in spreading awareness regarding waste management	*Municipal waste officers and managers*		*2014*
3.3. Develop and expand Ecological Schools programmes	*District and municipal waste officers and managers* *DEA, Province and Department of Education staff* *Various NGOs*		*2014*

Goal 4: Improved landfill management and waste disposal			
Main Activity	**Resources required**	**Budget**	**Timeline**

4.1. *Ensure all landfill site are licensed*			
○ Employment of external contractors and service providers	*Waste Manager*	*200 000*	2015-2016
○ Ensure that the terms of the contract are monitored and enforced	Municipal waste officers and managers	Internal budgets	2016
4.2. Audit landfill infrastructure needs in line with future development	*Municipal waste officers and managers*	*Internal budget*	*2014*
○ Identify and establish waste transfer stations	Municipal waste officers and managers Contractors Feasibility study	R1 000 000 (dependant on number of structures)	2014-2015
○ Locate and authorise accessible community dump sites	Municipal waste officers and managers	R75 000	2015-2015
Goal 5: Sustainable funding for waste management			
Main Activity	**Resources required**	**Budget**	**Timeline**
5.1. *Prioritise waste management budgets*	*Waste manager, Budget officer, Director Community Services, Workshop manager*		

5.2. Source adequate funds ○ Establish and strengthen partnerships with mines to assist with funding *(*mines should be sources for possible funding) ○ Source alternative funding streams for specific projects ○ Advocate for national DEA to engage with treasury to ensure better funding mechanisms	*District and local municipal waste managers*	*Internal budget*	*Start 2014 ongoing*
5.3. Ensure that systems are cost effective	*Waste management consultant/expert*	*R50 000*	*2014*
5.4 Establish and implement an equitable standardised waste collection and disposal system tariffs (gradually phased-in over the 5 year period) - indigents must be supported and factored in through the tariff system	*Municipal waste managers*		*2015*

Goal 6: Strategic partnerships and arrangements regarding waste management in place			
Main Activity	**Resources required**	**Budget**	**Timeline**
6.1. Identify and establish waste recycling partnerships and arrangements	*Municipal waste managers* *Service providers*		*2015*

6.2. Explore, establish and strengthen partnerships with mines: To train SMEs (in finances and business management, etc.) to assist with the removal of hazardous waste to offer localised collection services	*Municipal waste managers*		*2015*
6.2 Facilitate partnerships with and between local companies (Shoprite, Pick 'n Pay, Spar, Tshipi, Kolomela, etc….)	*Municipal waste managers*		*2015*

Goal 7: Enhance waste collection in the local municipality			
Main Activity	**Resources required**	**Budget**	**Timeline**
7.1.develop and implement a waste transportation plan	Municipal waste managers Waste management consultant/expert		
○ Ensure proper route planning for the most cost effective delivery of service	Provincial and district and local municipal waste managers	R50 000	2014-2015

	Waste management consultant/expert		
○ Conduct a proper feasibility study on vehicles and equipment required to effectively deliver waste management services – Optimise existing resources – Must have a dedicated fleet for waste collection	Waste management consultant/expert	R50 000	2014-2015
7.2. *Develop and implement a fleet management strategy* ○ Purchase relevant equipment	Municipal waste managers	R3 000 000	2016
7.4. Ensure that indigents receive free waste collection services	Municipal waste managers	Internal budgets	2015-2016

Goal 8: Increased skills and capacity building within the waste management			
Main Activity	**Resources required**	**Budget**	**Timeline**
8.1. Develop and implement skills development plans	*Municipal waste manager.*		*2014*
8.2. Ensure that performance agreements are in place and annual assessments conducted	*Waste manager*		*2014*

8.3. Facilitate capacity development and the development of strategies and plans for SMEs	*Waste manager*		*2014-2015*
8.4. Build skills and knowledge among communities ○ Hold workshops for general populace ○ Establishment of environmental clubs and conservancies	*Waste manager*		*2014-2015*

Goal 9: Enforcement and monitoring of by-laws and waste management arrangements			
Main Activity	**Resources required**	**Budget**	**Timeline**
9.1 Request standard by-laws from national DEA and advocate for assistance to have these fast tracked ○ Ensure that by-laws are established and promulgated within a reasonable time frame	*Provincial, district and local municipal waste managers*	*Internal budgets*	*2014-2015*
9.2 Identify positions necessary for law enforcement ○ Fill waste management officer positions) ○ Ensure that there is a designated and dedicated waste management officer in place	*Law enforcers*	*Salary considerations need to be made*	*2014*

7 Monitoring and evaluation.

The indicators identified against each of the goals provide for a monitoring mechanism, which will measure the success of the IWMP .The targets identified against the activities reflected in the implementation plan provide the means of feasibly achieving the goals of the IWMP. Mitigating measures and appropriate actions should be taken if the IWMP process fails to reach its goals. The IWMP should be monitored on an annual base to ensure that the implementation of the IWMP is on track. The IWMP should be reviewed every five years. Monitoring activities that should to be considered include:

- **General operational issues:** These include budget allocations, human resources, waste generation rates, tariff payments, and establishment of an waste management system;
- **Waste prevention and minimisation:**annual reports of waste minimisation programmes and projects regarding the installation of buy-back centres and garden sites; and information exchange and the establishment of waste minimization records;
- **Collection and transportation:** annual reports on the implementation of collection and transportation services and payment received, annual reports regarding the establishment of transfer stations and collection points and drop-off sites;
- **Waste reuse, recycling and recovery**: including annual reports on waste reuse, recycling and recovery programmes and projects, information exchange between stakeholders, stakeholder forums coordinating new reuse, recycling and recovery activities, treatment and disposal (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).

8 Recommendations and conclusion

The nature of the dispersed settlements throughout the Ga-Segonyana LM present a unique set of challenges regarding the provision of waste management services. The involvement of rural communities to assist in the provision of services can afford impoverished community members the opportunity to earn an income from waste management. The Ga-Segonyana LM must implement a strict waste monitoring programme to establish reliable and current waste type and volume records which will inform waste management initiatives; a training programme will need to be put in place to ensure that waste monitoring is done properly. Data on waste must be captured on the WIS, which would then be used to assist the coordination of waste management resources and efforts.

The Ga-Segonyana LM requires financial assistance and expertise from the District Municipality to implement operational waste management throughout their respective domains. The Ga-Segonyana LM in association with the JTGDM should especially ensure that rural communities and outlying homestead areas, where residents have little or no access to waste management services, have some access to services. A combined and coordinated response, in collaboration with the JTGDM to solve waste management, is required to solving waste management issues involving both the JTGDM and its associated local municipalities is required.

A feasibility study regarding the placement of waste management facilities (such buy-back centres, communal dumps sites, collection points, and transfer stations) as outlined in this IWMP must be conducted. The feasibility study would require road networks and settlement/population spatial data to be analysed for the Ga-Segonyana LM. A GIS platform should be used to

graphically illustrate on interactive maps where these facilities should best be placed. The most suitable locations could then be selected for possible placement sites of waste management facilities.

Lastly, empowering local communities or small businesses with the means and ability to become involved in the collection and recycling of waste may be a more affordable option than that of local municipalities purchasing the infrastructure needed to provide these services. In collaboration with the JTGDM, the Ga-Segonyana LM should encourage, assist or even employ local community members and/or SMMEs to collect waste and to manage waste facilities. To do this, it is essential that the LM provide an enabling environment. With the aid of waste reduction and recycling campaigns refuse entering the landfills can be significantly reduced, which will in turn, ensure the extended life of the landfill and result in substantial cost saving to the municipality.

9 Appendices

9.1 Sources of Funding

There are different capital and operational funding sources for Waste management in South Africa.

There is a system of municipal infrastructure grants for providing adequate services nationally. In principle, infrastructure grant finance will only be provided if it is clear that the municipality can financially sustain the resulting infrastructure and services. The capital grants available for municipal solid waste facilities are listed below.

9.1.2 SRP, EPWP and Government Outcome Based Approach Grant

The municipality can apply to DEA to access this fund. Contact Details: The SRPP helpdesk: Tel: (012) 310 3426 or E-mail: srpphelp@environment.gov.za.

9.1.3 Expanded Public Works Programme Incentive Grant for Provinces

This grant is managed by the national Department of Public Works (DPW) and granted to eligible provincial departments for continuing or expanding job creation programmes. For further information see www.publicworks.gov.za.

9.1.4 Municipal Infrastructure Grant (MIG)

The MIG is intended to provide basic residential infrastructure for poor households. It is calculated by a formula that considers, among other things, the backlog in the provision of services, including solid waste. The grant can be used for new or upgrading bulk and connector infrastructure, or the rehabilitation of such existing infrastructure.

Municipalities must report on the number of households serviced, in this case, with solid waste services. The MIG is the most common source of external funding for solid waste capital projects. However, the MIG, which is administered by the Department of Cooperative Governance and Traditional Affairs, only funds immovable infrastructure, thereby excluding vehicles, which form a large portion of the capital costs of solid waste management. The MIG is an infrastructure transfer mechanism and is geared to making the system of transfers to municipalities simpler, more certain and direct. Its conditions are more flexible, designed to support the capital budgets of municipalities, and to facilitate integrated development planning.

9.1.5 Urban Settlements Development Grant (USDG)

This grant replaced the MIG and Human Settlements Development Grant in the metropolitan municipalities, and as such, has similar intentions. The Urban Settlement Development Grant (USDG) seeks to support the development of sustainable human settlements and improved quality of life for households through accelerating the provision of serviced land for low-income households in large urban areas by supplementing municipal resources. It can be used by qualifying municipalities for solid waste capital projects, and has less stringent regulation than the MIG. This grant is administered by the Human Settlements Department.

9.1.6 Neighbourhood Development Partnership Grant (NDPG)

The intention of the NDPG is to support neighbourhood development projects that provide community infrastructure and create the platform for development in targeted underserved neighbourhoods (townships generally). It is prioritised towards projects that address government priorities, including the promotion of employment, green technology, and youth development. In the context of solid waste, this could include a WTS, MRF of BBC in one of the targeted areas. National Treasury administers the NDPG.

9.1.7 Other non-government grants

Development Finance Institutions

Development Bank of Southern Africa (DBSA)	
Contact Details:	www.dbsa.org
Contact Person:	Contact Person:
Postal Address:	PO Box 1234, Halfway House1685 1258 Lever Road, Headway Hill, MIDRAND
Telephone:	(011) 313-3911
Fax:	(011) 313-3635 / 3086
Application Process and Conditions	Direct enquiries and requests to the DBSA / Development Fund. DBSA conducts evaluations on the projects and programmes it financed to determine the development impact of the investments.

International Donor Organisations

Australian Agency for International Development (AUSAID)	
Contact Details:	www.ausaid.gov.au
Postal Address:	Private Bag X150, Pretoria, 0001
Phone:	(012) 342-3249/ 342-4201

Fax:	(012) 324-7271
Application Process and Conditions:	Direct enquiries and requests to AusAID in South Africa

Canadian International Development Agency (CIDA)	
Contact Details	
Contact Person:	Development Section
Postal Address:	Private Bag X13, Hatfield, Pretoria, 0028
Telephone:	(012) 422-3000 / 442-3042
Fax:	(012) 422-3054
Application Process and Conditions	Direct requests and enquiries to the Development Section of the Canadian High Commission.

Department for International Development - United Kingdom (DFID)	
Contact Details :	www.dfid.gov.uk
E-mail:	enquiry@dfid.gov.uk
Postal Address:	2nd Floor Sanlam Building, 353 Festival St Cnr Arcadia, Hatfield 0083
Telephone:	(012) 431-2111
Fax:	(012) 342-3429
Application Process and Conditions	The projects implemented in municipalities are directly linked to the implementation of the IDP through technical support and project funding. The

	funding allocation process can be described as follows: Prior to the commencement of a funding tranche, a consultation process is followed to agree a strategy for donor aid. The UK Secretary of State will then approve the strategy paper. The paper identifies priority sectors and each sector will be consulted in relation to the priorities identified. In the case of local government, DPLG was consulted. The priorities are valid for a three-year period. DPLG will then develop a Log frame for local government, which is in line with the country's strategic objectives and the overall Log frame, which was approved for the sector concerned. Each municipality may develop its own priorities and draft a Log frame according to its needs and priorities, provided it supports the main sectoral Log frame. DFID does not communicate its funding capacity to municipalities. DPLG identifies the recipient municipalities, based on poverty indicators. Funding will reach municipalities via DPLG. Municipalities must be able to integrate the priorities of the project into their general Council Strategic plan. A donor recipient must prepare its project plan in the DFID log frame approach in order to be considered for funding. On request from a municipality, assistance is provided in the form of consultants who prepare the Log frames for municipalities, on condition that skills must be transferred to the municipality. Various workshops are also being held to capacitate municipalities. In order to ensure the necessary technical assistance and financial project management, DFID would appoint a procurement service provider at the request of a municipality. DFID would make the technical assistance available to the municipalities to enable them to acquire in-house capacity. Funding tranches are usually awarded for 3 – 5 years. DFID's major skills requirement from municipalities is the ability to project manage a donor funded project. In this regard, municipalities need the following competencies: • Ability to understand, develop and apply the Logical Framework Approach terminology and objectives. • Ability to report to the Donor Institution in terms of the LFA requirements. • Understand procurement management and be able to ensure procedurally correct

	• Procurement process management. • Financial management and budgeting Average length of time for an application for funding to be processed could be a matter of weeks, after the municipality has been identified by DPLG and the municipal Log frame has been approved. Funds are transferred electronically from the DPLG into the municipality's account. DFID does not micro-manage, but ensures the overall strategic compliance with the priorities and objectives of the Log frame. The success of projects is measured in relation to meeting the objectives and deliverables outlined in the log frame, which are viewed as the only criteria for success of the project. Municipalities have to report on a quarterly basis on progress made. DPLG sets criteria in relation to other outputs. DPLG and Logosul have to report on their funding allocations in the same manner. Municipalities' own contributions to the project are evaluated in terms of their commitment to utilize their own resources or secure additional resources to support project objectives.

Development Cooperation Ireland (DCI) /Ireland Aid	
Contact Details :	www.dci.ie / www.emassyireland.org.za
Contact Person:	Secretary
E-mail:	pretoria@iveagh.irlgov.ie
Postal Address:	PO Box 4174, Pretoria, 0001
Address:	First Floor, Southern Life Plaza, 1059 Schoeman Street, Arcadia
Telephone:	(012) 342-5062
Fax:	(012) 342-4752
Application Process and Conditions	The Programme is administered from the Embassy of Ireland in Pretoria, by the First Secretary, a

	development specialist and two local advisors. The Desk Officer in DCI in Dublin assists in the formulation of strategy and the preparation of project proposals.

European Union	
Contact Details:	www.eusa.org.za
Postal Address:	Delegation of the European Commission in South Africa,
Address:	1 Greenpark Estate, 27 George Storrar Dr, Groenkloof, 0181
Telephone:	(012) 452-5258
Fax:	(012) 460-9923
Application Process and Conditions	Applications from municipalities are not received by the EU, but channelled through DPLG, who identifies priority municipalities during the design phases of projects and communicates directly with recipient municipalities. Funding activities are directed at the provinces with the highest poverty indicators and current recipients are the Eastern Cape, Limpopo and KwaZulu Natal. Approximately 20 municipalities received funding in these provinces. The spread of funding across municipal categories is biased towards rural and district municipalities. Approximately 90% of funding is directed at category B and C municipalities. Prior to the commencement of a funding tranche, a consultation process is followed to develop proposals for EU assistance in the country. Various consultations will take place to ensure that all stakeholders are consulted. The country strategy is then discussed with the other member states of the EU. Once the country strategy is approved, it is submitted to the Treasury and a Multi-Annual Indicative Programme is signed between the EU and RSA Government. Skills requirements for recipient municipalities vary. Metropolitan areas receive unconditional budget support for infrastructural development, while EU

	funding to rural areas is monitored by the DPLG. No specific institutional or management systems are required for the allocation of donor funds. Project plans must be submitted in the approved Log frame format. Once funding has been allocated, municipalities must have approved financial management and procurement policies in place to receive EU funding. Support can be obtained from the PIMMS centres in the absence thereof. Performance management is another area that is deemed necessary and the EU is currently providing assistance in relation to Performance Management Systems in municipalities. Municipalities are evaluated and reviewed on a quarterly basis. Mid-term reviews by independent consultants are also held halfway through the project. The reports measure the performance of the municipality, in terms of meeting the project objectives. At the end of a project a final evaluation is performed to evaluate the success of the project and to review lessons learnt. Criteria to evaluate success are: • Relevance • Effectiveness • Efficiency

Japan International Cooperation Agency (JICA)	
Contact Details:	www.jica.go.jp/english
Contact Person:	Resident Representative
E-mail:	jicasa@mweb.co.za
Postal Address:	PO Box 14068, Hatfield, 0028
Address:	1st Floor, Bank Forum Building, Fehrsen & Veale Streets, New Muckleneuk, Pretoria
Telephone:	(012) 346-4493

Fax:	(012) 346-4966
Application Process and Conditions	Direct enquiries and requests to the JICA South Africa Office.

Netherlands Embassy	
Contact Details:	www.dutchembassy.co.za
E-mail:	pre@minbuza.nl
Postal Address:	PO Box 117, Pretoria, 0001
Address:	825 Arcadia Street, Arcadia Pretoria 0083
Telephone:	(012) 344-3910/1/2/3/4/5
Fax:	(012) 343-9950
Application Process and Conditions	Direct enquiries to the Embassy of the Netherlands.

Royal Danish Embassy	
Contact Details:	www.denmark.co.za
Contact Person:	Counsellor
E-mail:	pryamb@um.dk
Postal Address:	PO Box 11439, Hatfield, 0028
Address:	iParioli Office Park Block B2, Ground Floor, 1166 Park Street, Hatfield
Telephone:	(012) 430-9340

Fax:	(012) 342-7620
Application Process and Conditions	Cooperation will focus on the Eastern Cape, Kwazulu-Natal and Limpopo. Good Governance Programme Co-ordinator: Bokellang Khave (bokkha@um.dk) SESD Contact Person: Mr Fin Poulsen B-t-B Programme information at www.psdprogramme.dk/www.ps-programme.dk or contact the B-t-B Programme office located within the Danish Embassy in Pretoria. Contact the Danish Embassy (Pretoria) regarding the EDRF programme in South Africa.
Royal Norwegian Embassy	
Contact Details:	www.norway.org.za
Contact Person:	Information Centre (NORAD)
E-mail:	embta@noramb.co.za / sk@norad.no
Postal Address:	PO Box 11612, Hatfield, 0028
Telephone:	(012) 342-6100
Fax:	(012) 342-6099
Application Process and Conditions	The Norwegian/South African development cooperation will have clear objectives and targets, and be monitored regularly. Specific agreements will serve as instruments for dialogue, performance measurements and control. Direct enquiries to the Royal Norwegian Embassy in Pretoria.

Saudi Fund for Development (SDC)	

Contact Details:	www.sfd.gov.sa
Contact Person:	Saudi Arabia Agency
E-mail:	Info@sfd.gov.sa (SFD)
Postal Address:	PO Box 13930, Hatfield0028
Address:	Saudi Arabia Embassy, 711 Duncan St, Hatfield
Telephone	(012) 362-4248 / 4230
Fax:	(012) 462-4230
Application Process and Conditions	Direct enquiries and requests regarding the SFD and Saudi Arabia Agency aid possibilities to the Embassy in Pretoria. In granting loans for financing of developmental projects, the SFD requires that: The economic and social feasibility of the project be acceptable to the Fund. The loan should be disbursed and repaid in Saudi Riyals. The amount of the loan granted for any project should not exceed 5% of the Fund's capital nor exceed fifty percent 50% of the total cost of the project for which the loan is granted. The total amount of loans granted to any country should not exceed 10% of the Fund's capital at any one time.

United Nations Environmental Programme (UNEP) Regional Office for Africa (ROA)	
Contact Detail:	www.unep.org
Contact Person:	Regional Information Officer
Postal Address:	PO Box 30552 Nairobi, Kenya

Telephone:	254 20 62 4292
Application Process and Conditions	For more information contact the Regional Information Officer**.**

World Bank	
Contact Details :	www.worldbank.org
Contact Person:	Resident Representative
E-mail:	missions@worldbank.org
	1st Floor, Equity Court, 1250 Pretoria Street, Hatfield
Postal Address:	P.O. Box 12629, Hatfield, 0028
Telephone:	(012) 342-3111
Fax:	(012) 342-5511/5151
Application Process and Conditions	Direct enquiries to the World Bank's Resident Representative

Non-Governmental Organisations

Mvula Trust	
Contact Details:	www.mvula.co.za
Contact Person:	PA to Policy Unit Director
Postal Address:	P.O. Box 32351, Braamfontein, 2017
	12th Floor, Braamfontein Centre, 23 Jorissen Street, Braamfontein, Johannesburg
Telephone:	(011) 403-3425

Fax:	(011) 403-1260
Application Process and Conditions	Contact either the national office or a regional office to request an application form and enquire about feasibility study requirements.

World Environment Centre (WEC)	
Contact Details:	www.wec.org
Contact	Director of Development
Postal Address	419 Park Avenue South, Suite 500, New York, NY10016, US
Telephone:	(+ 212) 683-4700
Fax:	(+ 212) 683-5053
Application Process and Conditions	The WEC is headquartered in New York City with a European branch and Country Directors in India and Mexico. Submit electronic queries directly from the WEC website.

Private Sector

Nestlé SA (Pty) Ltd	
Contact Details:	www.nestle.co.za
E-mail:	corporate.affairs@za.Nestle.com
Postal Address:	PO Box 50616, Randburg, 2125
	192 Hendrik Verwoerd Drive, Randburg
Telephone:	(011) 889-6000
Fax:	(011) 889-6083

Application Process and Conditions	Contact Corporate Communication & Public Affairs for information and requests

Richards Bay Minerals	
Contact Details:	www.rbm.co.za
Contact Person:	GM: Public & Community Affairs /
Head:	Public Relations
E-mail:	info@rbm.co.za
Postal Address:	PO Box 401, Richards Bay, 3900
Telephone:	(035) 901-3440/ 3111
Fax:	(035) 901-3480 / 3442
Application Process and Conditions	Direct queries and requests to Public and Community Affairs or info@rbm.co.za.