

Ga-Segonyana Local Municipality Integrated Waste Management Plan



2025 - 2030

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List of Acronyms

CMIP – Consolidated Municipal Infrastructure Program

COGHSTA – Co-operative Governance, Human Settlements and Traditional Affairs

DM – District Municipality

DFFE – Department of Forestry, Fisheries and Environment

DWS- Department of Water and Sanitation.

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 – Members 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

PROs – Producer Responsibility Organisations

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 (LM) is a Category B municipality situated within the John Taolo Gaetsewe District (JTGD) in the Northern Cape Province. It was established in year 2000 through the amalgamation of Kuruman and Mothibistad Municipalities. It is one of the three municipalities that make up the district, accounting for 16% of its geographical area. It originated as a cross-boundary municipality that straddled the North West and Northern Cape Provinces. The municipality consists of 34 residential areas of which 20% constitute of urban and peri-urban areas and 80% is rural areas. The municipality covers an area of 4 495 km² as shown in figure 1 below. The Central Business District of the Municipality is situated in Kuruman, and residential areas of the municipality are within the 80 km with the population 117 454 (2022 census), with 80% of the population stays in rural areas. The 34 residential areas are divided into fifteen wards, and the council consists of 15 ward councillors and 14 Proportional Representatives (PR) councillors with its seat in Kuruman¹.

The area is also administered through a traditional authority system with two paramount chiefs and headman. These areas do not obtain title deeds because they are not formalized. The two Traditional Leaders (chiefs) represent the Batlharo Ba-ga Mothware and the Batlhaping Ba-ga Jantjie in the Municipal Council. This dynamic administration process marks the challenge in the general development and planning of the municipality. As much the two administrations are claiming to be working together, sprawling development in the rural areas which is not aligned to municipal development plan. These challenges create a strain on the municipal resource planning and allocation.

Economy of the municipality is reliant on mining, agriculture, tourism, and commercial sector in and around Kuruman town. Rapid mining development led to extreme pressure on resources planning and allocation in that, these developments does not allow for thorough assessment of availability resources like the availability of water, electricity, waste management, sanitation, and other municipal services. Ga-Segonyana depends on underground water supply for its domestic, agricultural, and commercial demand and use.

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 Ga-Segonyana IDP. 2023

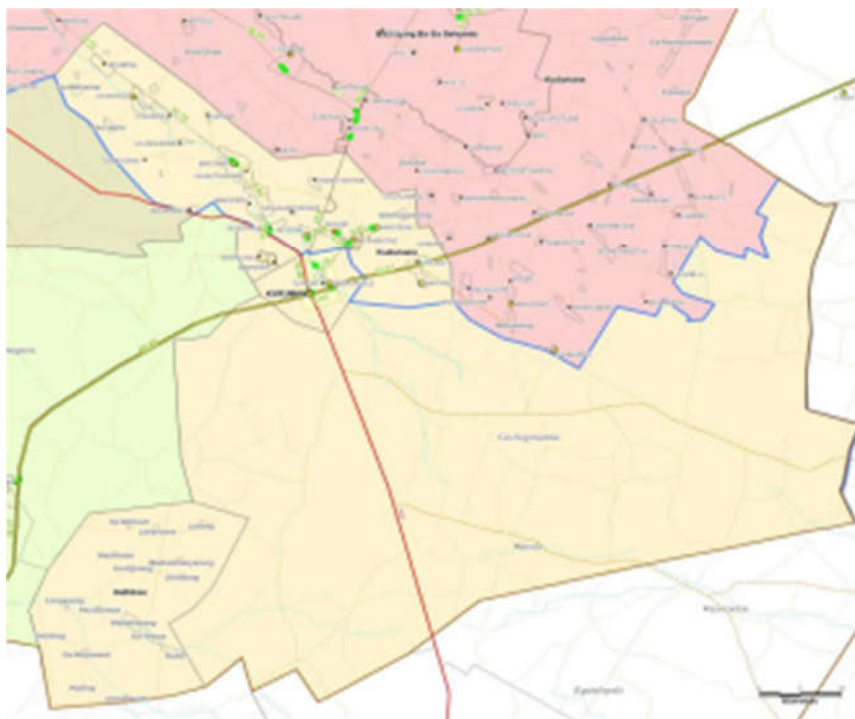


Figure 1: The Map of Ga-Segonyana

1.1 Legislative Framework

- **National Environmental Management Act: Waste Act (Act No.59 of 2008) as amended**

Chapter 3, section 11 of the Waste Act requires that all government spheres must develop Integrated Waste Management Plans (IWMPs), except National Department (DFFE). Section 12 of the Waste Act outlines what the contents of Integrated Waste Management Plans should be, whilst section 13 stipulates the reporting mechanisms of the implementation of IWMP's.

In terms of section 11 (4) (a) (ii) of the Waste Act, municipalities must incorporate the approved IWMP in their IDP's as called for by chapter 5 of Municipal Systems Act, 2000 (Act 32 of 2000), (MSA). Chapter 5, section 23-37 of MSA deals with the process of developing Integrated Development Plans (IDP). Section 36 of the MSA states that, a municipality must give effect to its IDP. The development and implementation of the IWMP must be aligned with the IDP.

- **National Waste Management Strategy**

The National Waste Management Strategy (NWMS) was gazetted in 2012 & 2020, 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 waste management hierarchy, to be adhered to by all spheres of government, describes how the generation of waste should be re-used. If re-use is not possible, and then it must be recycled. If recycling is not possible then waste-to-energy methods should be considered. Disposal is the last resort. The NWMS adopts the internationally accepted waste management hierarchy approach, which supports the local governance structures (District and Local municipalities) which 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:

- 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 improvised 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 performances of IWMPs.

Figure 2: The Waste Management Hierarchy



Source: NWMS, 2020

The IWMP aims to give effect to the objectives of the National Environmental Management: Waste Act (NEMWA), as well as to the National Waste Management Strategy. In line with the recently adopted Outcomes-Based planning approach of government, the NWMS 2020 is premised on three (3) Outcomes supported by three (3) Strategic Pillars, namely Waste Minimisation, Effective and Sustainable Waste Services and Compliance, Enforcement and Awareness².

Pillar 1: Waste Minimisation

The Strategic thrust of this pillar is:

- Minimising the impact of waste and especially plastic packaging in our coast, rivers, wetlands, and our human settlement environments, by amongst others, diverting waste away from landfills;
- Increasing re-use, recycling, recovery, and alternative waste treatment, and
- Maximizing the role of the waste sector in the circular economy.

A critical enabler of this pillar is the building of long-term collaboration and partnership between government and the private sector.

² NWMS

The Expected Outcome of the long term is “Zero Waste going to Landfill”. This outcome is represented in the short, medium, and long term in the following figure 2:

Figure 3: The Strategic Pillar Short, Medium and Long term



Pillar 2: Effective and Sustainable Waste Services

The strategic thrust of this pillar is:

- Recognising and addressing the very different circumstances and waste management challenges that exist between local government authorities;
- Developing and implementing flexible approaches to service delivery that incorporates the informal sector while addressing local needs;
- Guiding public investment and partnerships with the private sector in waste management infrastructure and projects; and
- Ensuring that the delivery of waste services contributes to sustainable development.

Pillar 3: Compliance, Enforcement and Awareness

The strategic thrust of this pillar is:

- Mitigating and preventing the environment and social damage caused by waste due to noncompliance;
- Increasing compliance to local, provincial, national, and international legislation and standards;
- Mitigating and preventing pollution, littering and illegal dumping of waste; and
- Improving the visibility and awareness of the socio-economic and environmental benefits of compliance, effective waste management and environmentally compliant infrastructure.

- **The South African Constitution, 1996 (Act 108 of 1996)**

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

- a) An environment that is not harmful to their health or well-being; and
- b) Should have the environment protected, for the benefit of present and future generation, through reasonable legislative and other measures that:
 - i. Prevent pollution and ecological degradation;
 - ii. Promote conservation; and
 - iii. Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

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

- Sustainable service delivery;
- Social economic development;
- Promotion of a safe and healthy environment; and
- Involvement of local communities and organizations 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 places an emphasis on the need to have the environment protected for the benefit of present and future generations through reasonable legislative and other measures i.e., IWMP. It is within this provision that IWMPs must strive or come up with measures to uphold the rights of all citizens within jurisdiction of the municipality and should enhance and promote environmental protection from any form of degradation as enshrined by the South African Constitution.

- **National Domestic Waste Collection Standards, January 2011**

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 recognize that different levels of service may be delivered depending on cost efficiency and practically 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 organized 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 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 always kept tidy. 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 minimize 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.

- **Service to Indigents. Basic Refuse Removal**

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 per hectare (medium density); and
- In areas with a density of less than 10 dwellings 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 receptables, and these include:

- The municipality must provide appropriate free receptables for refuse storage;
- The number of free receptables 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 receptables.

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.

- **Municipal Systems Act, 2000 (Act 36 of 2000)**

In terms of Section 25 of the MSA each municipal council must, within a prescribed period after the start of its elected term, adopt a single, inclusive and strategic plan (IDP) for the development of the municipality. In relation to waste management, the IDP is required to include sectoral environmental plans which would be an IWMP for waste management. In their IDP's municipalities are required to ensure proper resource allocation to achieve the targets set in the respective plans.

- **National Health Act, 1977 (Act 63 of 1977)**

Section 20 (1)(a) and Section 20(1)(b) of the National Health Act (Act No. 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”.

- **Housing Act, 1997 (Act No. 107 of 1997)**

Section 9(1)(a)(ii) of the Housing Act (Act No. 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”.

- **Water Service 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.

1.2 DWS (formal known as 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 DWAS 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 groundwater 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.

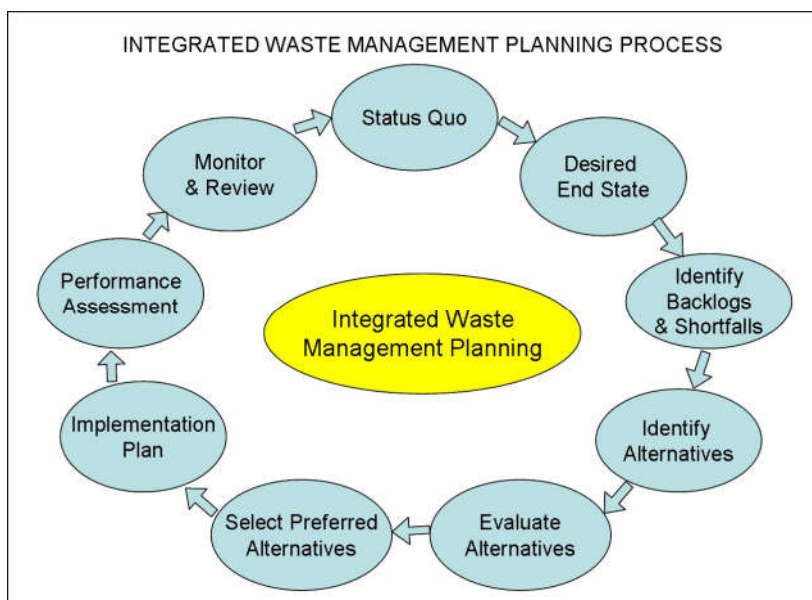
2. The Integrated Waste Management Planning process

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 of the following steps, depicted graphically in Figure 3 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 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 4: Integrated Waste Management Planning Process



Source: National framework guideline for the development of Integrated Waste Management Planning

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.

3.1 Literature Review

To ensure delivery of appropriate and relevant outputs, cognizance was taken from the existing work of available information within the Ga-Segonyana Local Municipality in the areas of waste management delivery. The integrated Waste Management Plan (IWMP) reviewed from 2014-2019 old IWMP document and other related documents.

3.2 Stakeholder engagement

The purpose of stakeholder consultation process is to:

- Organize and convene consultative meetings with the stakeholders namely:
 - Taxi Associations
 - Faith Based Organizations (FBO)
 - Other CBOs and NGOs.
 - Environmental Forums

- Water catchment Forum
- Waste Small, Medium & Micro Enterprise (SMME's)

Take minutes on comments from various stakeholders.

- A document must be placed in the local library for public comments.
- Individual interviews can be done from taxi ranks.

After all consultations a presentation can, be done to council followed by submission for approval. After submission to council and there is a Council Resources. The document must be submitted to Province for MEC (Members of the Executive Council) to adopt.

3.3 Stakeholders' workshops which include:

- Two stakeholder workshops to be held at the municipality, where the situational analysis be presented and further information to be obtained;
- Send emails to the relevant stakeholder for comment.
- A comment and response list from the workshops, to be noted, and local knowledge, perceptions and needs were considered to ensure that the IWMP is acceptable to all, while being practical and sustainable; and
- Draft reports.

3.4 Situational analysis/Status Quo

Situational analysis is the process of collecting, evaluating, and organizing information regarding an organization's internal and external environments. A situational analysis was conducted in the John Taolo Gaetsewe District and its local municipalities, including the Ga-Segonyana LM. The status quo study assessed the district and local municipal areas 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.

3.4.1 Demographic Data

3.4.1.1 Population size and growth

According to the Stats SA 2022 census, the total population residing with the **Ga-Segonyana Local Municipality** is estimated at 117 454 in 2022. The table 1 below shows how the population in 2016 increase according to the age.

Table 1: Showing the Population according to the age group

Population	2011	2016	2022
Population under 15	32.5%	31.2%	29.6%
Population 15 to 64	63.2%	64.4%	65.9%
Population over 65	4.3%	4.4%	4.5%
Total Population	93 651	104 408	117 454

Table 2: Population by Sex

2001			2011			2016			2022		
Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
33 218	37 174	70 392	44 994	48 658	93 651	50 483	53 925	104 408	56 318	61 136	117 454

Table 2: Shows an increase in the population of Ga-Segonyana, from 70 392 people in 2001 to 117 454 people in 2022. The number of females increased by 23 962 people, from 37 174 in 2001 to 61 136 in 2022. Gender proportions show that there are more females in the municipality.

Table 3: Population by 5-year age groups and sex, 2001 - 2022

	2001			2011			2016			2022		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 4	3 996	3 947	7 943	5 765	5 400	11 164	6 011	6 365	12 376	6 250	5 957	12 207
5 - 9	4 277	4 108	8 385	4 941	4 953	9 894	5 294	5 500	10 793	5 566	5 745	11 311

10 - 14	4 254	4 303	8 557	4 745	4 637	9 382	4 734	4 700	9 435	5 656	5 537	11 093
15 - 19	4 312	4 381	8 692	4 721	4 761	9 482	4 920	5 221	10 141	5 549	5 655	11 204
20 - 24	2 935	3 523	6 458	4 326	4 368	8 693	5 341	4 829	10 169	5 077	5 120	10 197
25 - 29	2 269	3 025	5 294	3 997	4 391	8 388	5 151	5 734	10 886	5 047	5 397	10 444
30 - 34	2 163	2 636	4 800	3 551	3 908	7 458	4 803	4 998	9 800	4 855	5 372	10 227
35 - 39	2 059	2 466	4 525	2 933	3 350	6 282	3 589	3 725	7 314	4 574	4 818	9 392
40 - 44	1 956	2 095	4 051	2 436	2 720	5 156	2 836	2 905	5 741	3 943	4 154	8 097
45 - 49	1 403	1 672	3 074	2 046	2 504	4 551	2 139	2 483	4 622	2 676	3 194	5 868
50 - 54	1 091	1 279	2 370	1 748	2 134	3 882	1 500	1 729	3 230	2 057	2 549	4 606
55 - 59	873	979	1 851	1 383	1 735	3 117	1 514	1 628	3 141	1 722	2 296	4 018
60 - 64	584	873	1 457	969	1 248	2 216	1 017	1 198	2 215	1 424	1 919	2 443
65 - 69	455	723	1 177	624	852	1 476	635	1 073	1 708	940	1 405	2 344
70 - 74	276	511	787	363	658	1 021	508	839	1 348	507	891	1 398
75 - 79	162	298	460	236	484	720	250	483	733	274	524	798
80 - 84	96	204	299	144	316	460	169	333	503	109	346	455
85+	58	152	210	67	242	308	72	181	253	85	256	341
Unspecified	-	-	-	-	-	-	-	-	-			8
Total	33 219	37 175	70 390	44 995	48 661	93 650	50 483	53 924	104 408	56 311	61 135	117 454

Table 3 above: Summarizes the population for Ga-Segonyana by five-year age groups and sex. It shows a general increase in the population for the age groups over the period from 2001 and 2022. There is however, a significant percentage decrease in the proportion of elderly persons aged 80 years and above, signifying a greater life span for the elderly population in the municipality.

Figure 5: Distribution of the Population of John Taolo Gaetsewe by Local Municipality, 2022

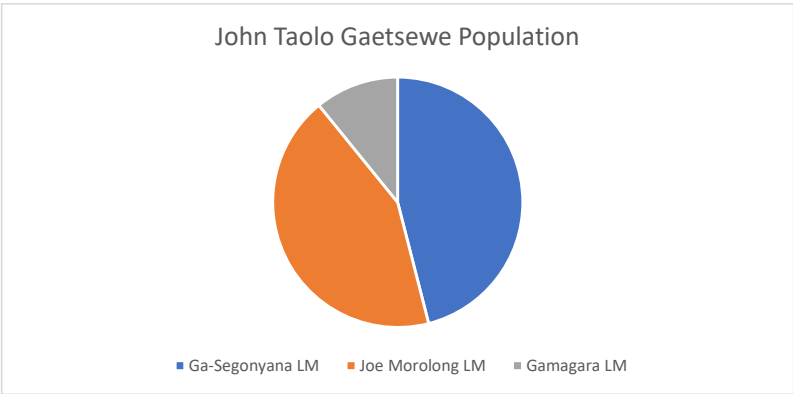


Figure 5: illustrates that Ga-Segonyana Municipality accounted for 125.424 of the population in John Taolo Gaetsewe District (272 454). This was followed by Joe Morolong with population of 117.454 and Gamagara local municipalities with 29.580 population. This was done in total number of populations not in percentage.

Figure 6: Population in Ga-Segonyana by sex, 2022

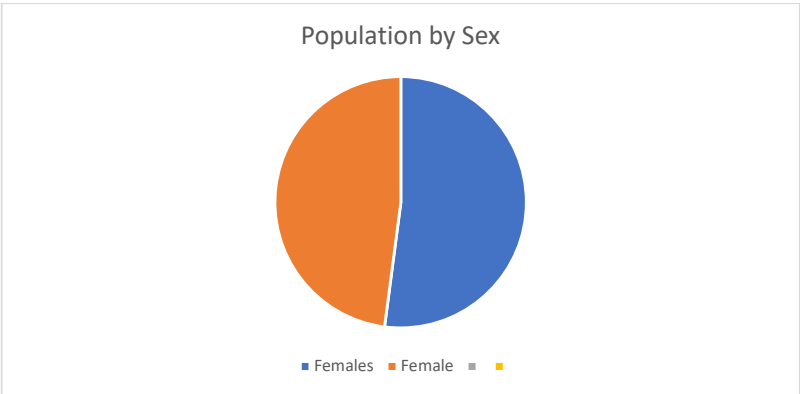


Figure 6: Depicts a greater proportion of females compared to males in Ga-Segonyana, with females constituting 61 136 and male 56 318 of the total population in the municipality.

Table 4: Population by Group Sex, 2001 -2022

	2001	2011	2016	2022
Black African	61 156	81 483	94 783	108 373
Coloured	5 335	7 113	5 604	6 116
Indian or Asian	76	365	387	458
White	3 824	4 294	3 634	2 455
Other	-	395	-	20
Unspecified	-	-	-	-
Total	70 392	93 651	104 408	117 422

Table 4: Summarizes the number of persons by population group type for the period 2001 to 2022. There was an increase in the Black African, Coloureds, Indian/Asian population groups from 2001 to 2022, whilst the White population shows a marginal decrease over the same period. There is a greater proportional increase observed for the Black African, followed by Coloureds and a decrease in the White population.

Figure 7: Population of Ga-Segonyana by group type, 2022

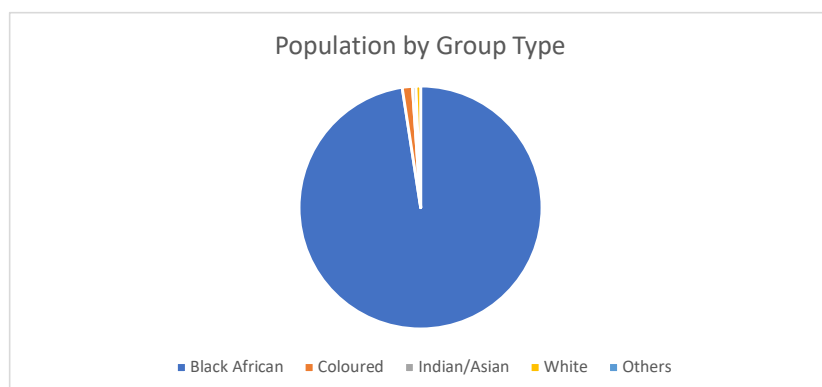


Figure 7: Summarizes the number of persons by population group type for the period 2001, 2016 and 2022. Black African 122.327, Coloured 1.700, Indian/Asian 566, White 787, Others 30. There was an increase in the Black African, Coloured, and Indian/Asian population groups from 1996 to 2022, whilst the White population shows a marginal decrease over the same period. There is a greater proportional increase observed for the Black Africans, followed by Coloureds.

3.4.1.2 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. According to Statistic SA 2022, Ga-Segonyana LM has Working Age of 15-64 at 63.2% with unemployment rate of 33,7% and Youth unemployment rate of 43.2%.

The trade and general government sectors in the Ga-Segonyana municipality contribute most to the GDP of the JTG District. In terms of sub-sectors, the following are important in the agricultural economy of the municipal area: cattle farming, goat farming, poultry farming, game farming, meat processing, fruit and vegetable farming and leather tannery. (GSLM, 2017). Manufacturing: Contributes only 3% to JTGDM GDP. The two main industrial nodes are located in Kathu and Kuruman. Wholesale and retail trade, tourism, catering, and accommodation: there are various heritage and tourism attractions in the area (including the Kuruman Eye, the Kuruman Moffat Mission, and the Wonderwork Caves).

Table 5: Education Level

	1996	2001	2011	2016	2022
Number					
No schooling	7 108	7 210	5 124	4 221	4145
Some primary	7 349	8 312	9 124	7 672	6366
Complete primary	2 224	2 287	2 590	2 554	2537
Some secondary	8 772	10 154	18 015	23 015	23405
Grade 12/Std 10	3 706	6 633	12 474	17 715	24844
Higher	1 607	2 218	5 241	3 432	4272
Total	30 766	36 814	52 568	58 609	65569

Table 5: Shows an improvement in the level of education in Ga-Segonyana over the period from 1996 to 2022. There is significant increase observed in the proportion of persons who have grade 12/standard 10.

Source: Statistics SA, 2022

3.4.2 Service Delivery

Table 6: Type of household

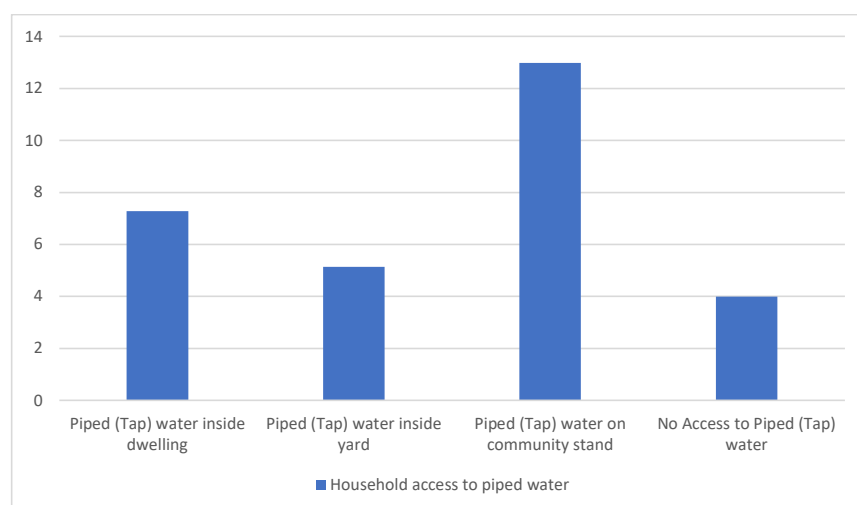
	Formal dwelling	Informal dwelling	Traditional dwelling	Other	Total*
1996	74.2	81.6	6.6	0.7	100.0
2001	72.3	18.5	8.5	0.6	100.0
2011	81.0	6.7	11.3	0.9	100.0
2016	81.6	4.6	9.5	4.2	100.0
2022	26414	2457	311	197	29379

Table 6: Shows an increase in the proportion of households staying in formal dwellings

3.4.2.1 Water

The total number of households connected to tap water inside the dwelling is about 7,277. For water tap connected to yards outside is about 5,143. Tap connected to Community stand is 12,972 and for those with no access to piped (tap) water is 3,988.

Figure 8: Household access to piped water



Source: Statistics South Africa 2022

3.4.2.4 Waste Management Services

As reflected on IDP 2023-2027, the municipality is obligated to provide free basic refuse removal for indigents and according to the National Policy for the Provision of Basic Refuse Removal Services to Indigent Households (January 2011). However, Ga-Segonyana Local Municipality offer only free basic Waste removal for 311 Indigents for 3 wards out of 3002 registered Indigents for 2024 due to rendering waste services to only 3 wards and this number is included on the household as reflected on.

Table 9: Household and Business Collections

Household collection		Business Collection	
Place	Days of Collection	Place	Days of Collection
Kuruman	Monday- Tuesday	Kuruman	Mon - Friday
Wrechville	Wednesday	Mothibistad	Thursday
Mothibistad RDP	Thursday	Battharos (Hospital)	Thursday
Mothibistad	Friday		

Table 9: shows the collections in terms of household and business.

Household collection is done on a weekly basis as shown on the above schedule and business are collected 3 times per week for restaurant, and for all the other businesses it is 7 times per week, where waste is collected on kerbside for other businesses.

Table 10: Type of refuse removal used by households, 1996-2022

	Removed by local authority at least once a week	Removed by local authority less often	Communal refuse dump	Own refuse dump	No rubbish disposal	Other	Total
1996	22.2	0.4	2.7	66.7	8.0	0.0	100.0
2001	20.5	0.1	1.1	69.8	8.4	0.0	100.0
2011	17.8	0.4	3.9	63.7	6.1	8.0	100.0
2016	12.1	0.2	6.6	74.5	3.9	2.7	100.0
2022	6602	38	167	20535	953	483	29379

Table 10: Shows an increase in the proportion of households whose refuse is removed by a local authority at least once a week from 2016 to 2022. The majority of households use their own refuse dump.

3.4.3 Waste Management Strategies, Systems and Practices

3.4.3.1 General Appearance

Waste within Ga-Segonyana Local Municipality is collected in 3 wards out of 15 wards, that is Kuruman town, Wrenchville and Mothibistad. Within these 3 wards, household collection is done on weekly basis while on CBD is on daily basis.

In Kuruman town, street bins are placed in all corners and the streets are kept clean from litter. This street bins are emptied during night shift; each business is expected to remove their waste at the end of the business day. All non- recyclable waste collected are transported to the register/ licenced landfill site.

3.4.3.2 Waste re-use and recycling

Currently there are programmes/initiatives within the local municipality for recycling. However, they are private. There are also waste reclaimers at the Kuruman Landfill site, specialising in sorting, collecting and selling waste for income generation.

3.4.3.3 General Waste Collection

Currently waste collection service is only delivered in three wards (namely ward 1, 3, and 13), which have access to waste management services. The remainder of the municipality residents do not receive waste management services. This is due to a lack of financial and capital resources within the municipality. There are four trucks (two compactor trucks, 8-ton UD truck, skip-loaded truck with eight skip bins) in operation within the local municipality and their conditions are not good. However, there are no services to collect garden refuse due to lack of machinery, thus impacting service delivery as we experience garden dumps around town and wards.

Residences and businesses buy their own refuse bags for temporary storage. General waste is collected daily and garden waste is collected by the owners to dispose of in the licenced waste disposal facilities. The municipality collects waste daily in the urban areas (ward 1, 13 and 15) daily as well as in the centre of Kuruman. The municipality provides waste collection at just above 6 000 households in three wards. Currently, the number of indigents serviced by the municipality accounts to 311 out of 3102 households. The municipality does not provide any waste collection to the 30 villages outside of town and peri-town areas.

The intention of the Municipality is to cater waste management services to all of Ga-Segonyana wards by establishing drop-off centres in villages in co-operation with ward councillors at identified areas.

3.4.3.4 Organic and rubble collection

Garden waste is not collected by the municipality due to lack of machinery; however, it is allowed to be disposed at the landfill site. The residents are obliged to dispose their garden waste at the waste disposal facility. There is extensive illegal dumping of garden waste taking place in whole of the municipality. At Kuruman waste disposal, a construction and demolition waste are used also covering and compaction of waste, however the residents must collect and transport the construction and demolition waste to the waste disposal site by themselves.

3.4.3.5 Hazardous and medical waste collection

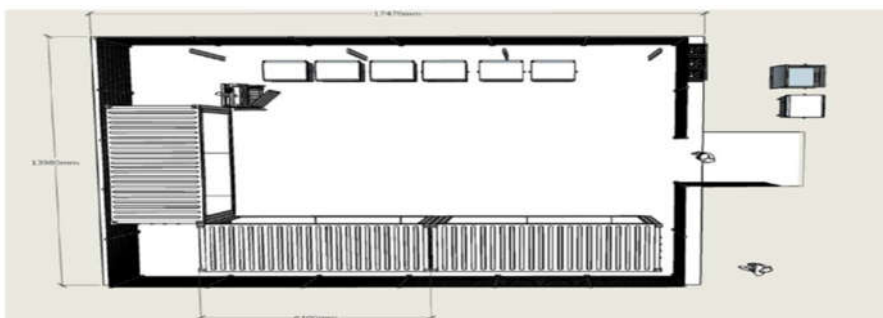
The medical waste from the private clinics within the municipality is collected by private companies such as Tshenolo Waste Management Solution (Pty) Ltd. However, residents constantly mix medical and hazardous waste with the general waste, but the role of the health care centre is advising the patients to send expired medication back to the centre.

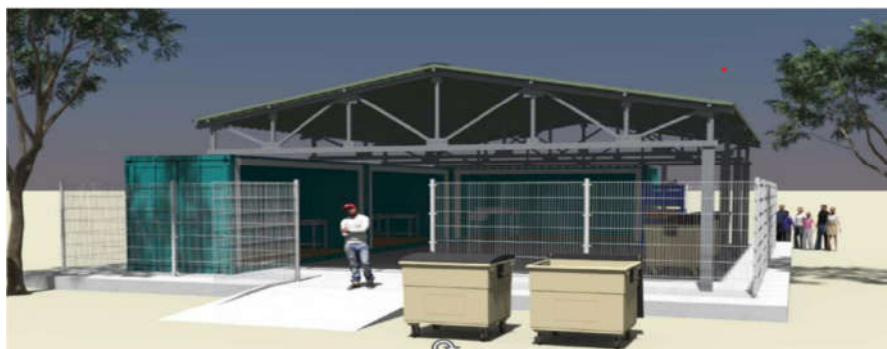
3.4.3.6 Waste Management Facilities

There are no waste management facilities such as material recovery facilities, the buyback centres e.g. Kuruman landfill sites not being operational due to the absence of the bailing machinery or waste transfer stations (Kagung and Batlharos).

The future planning is to construct 2-3 mini waste transfer stations and ensure buyback centre to be operation through assistances of the under appointment of Impact Catalyst as a service provider.

Figure 10: The floor plan and final structure of the Mini Transfer Station





3.4.3.7 Waste disposal

There is one licensed waste disposal site (Kuruman Landfill) which is about 5km from urban areas of Kuruman. The management of the facility has been outsourced to Enviro- Pro JV Omogolo, for the during of 3 years contract. There is daily compaction and covering of waste. Operation and management of the facility including equipment provided by the service provider. Currently, there are seven waste transporters collecting waste from different mines around, having contract with Ga-Segonyana Local Municipality to dispose waste at the landfill site.

The table below summarises the status of the landfill.

Table 5: The Status of the Kuruman Landfill Site

Position of site:	The landfill is situated Northwest of Kuruman
Permit:	Yes
Year issued:	1994
Classification of site:	G:M:B
Type of Operation (end – tip, trench, cell):	Cell
Estimated size of site:	4 ha
Estimated remaining life of site:	4 years
Volumes per day, week or month:	Volumes are measured
Is cover material available?	Yes, material is available. Cells are covered on a daily basis. Cover is placed only after completion of a phase.
Is drainage sufficient?	Yes
Is there access control?	Access control is available. There is security.
Is the site fenced?	Fence is vandalized.
Operating hours:	Mon to Fri 07:30 –18:00 No operation for weekend and public holidays
Type of equipment used on site:	TLB, Front end loader, steel Wheel Compactor

3.4.3.8 Waste Volumes

The volume of waste is captured and calculated on the daily basis using Weight bridge at Landfill site. At the end of the month waste is captured and reported on SAWIC systems.

Table 12: Domestic waste volumes

a

		Monthly Products in kg for 2024													
Category	Product Name	Description	January	February	March	April	May	June	July	August	September	October	November	December	Year to date total (kg)
Iron	Iron Ore														
2	household		274580	200760	201700	248760	271220	196640	260940	240120	194960	0	0	0	2089680
4	Business		169780	158500	157320	185680	148380	138140	172300	161100	133940	0	0	0	1425140
5	Building Rubble		113820	94500	186580	119200	73300	149420	389840	211700	180120	0	0	0	1518480
6	Glass		1080	1080	1780	1220	1040	3180	1980	3100	780	0	0	0	15240
7	Garden		388280	146800	72460	164960	78280	118720	120200	83520	109400	0	0	0	1282620
8	Garden + Building rubble		3880	47980	3520	1080	21100	115620	6660	48400	68420	0	0	0	316660
9	Boxes		2360	2360	1280	6600	20480	5860	8040	8040	5860	0	0	0	60880
10	Plastics		14920	180	820	200	13920	15520	1880	9180	23900	0	0	0	80520
food	food														
12	clean soil		0	0	0	0	0	0	5180	0	0	0	0	0	5180
13	wood waste		0	0	0	0	420	7460	6960	5180	14180	0	0	0	34200
14	pallet		25600	6920	9000	20000	4740	8120	8980	4360	5120	0	0	0	92840
15	METAL		4240	1500	1560	6940	1520	4360	2900	2460	3740	0	0	0	29220
16	BRICKS		1060	680	1860	1140	0	7680	9400	7780	700	0	0	0	30300
17	ASH		0	0	0	1260	200	0	0	40	0	0	0	0	1500
18	WOOD DUST		340	1300	580	1020	1200	1380	760	1500	1820	0	0	0	9900
19	WOOD		13080	11000	9600	13140	1940	4840	9680	1920	220	0	0	0	65420
wood waste	COMPOST														
21	TYRE		940	4500	3360	1360	20	280	1560	220	1840	0	0	0	14080
22	CONVEYER BELT		1140	3680	0	0	0	0	0	0	0	0	0	0	4820
23	plastic bottles		0	4360	13860	15100	12840	20740	19520	27900	5560	0	0	0	119880
24	bottles		1240	60	1060	4420	3920	3240	1120	4540	0	0	0	0	19600
25	windscreen		0	840	0	0	960	0	0	960	0	0	0	0	2760
26	tins		0	320	620	580	460	160	0	0	760	0	0	0	2900
27	white paper		780	0	2260	700	540	3680	0	240	0	0	0	0	8200
METAL	filter														
29	car bumper		820	240	0	0	0	0	40	0	480	0	0	0	1580
30	Mortor		600	0	0	0	740	0	0	0	0	0	0	0	1340
31	Plastic Pipes		540	200	320	1720	720	260	1360	560	700	0	0	0	6380
32	CLOTHES		0	0	0	0	60	0	0	0	0	0	0	0	60
33	SAND		19400	8480	5340	9880	28520	53640	0	15580	28640	0	0	0	169480
34	GRAVELSAND		0	0	0	0	0	0	140	0	300	0	0	0	440
35	stones		0	11840	12860	3020	0	12500	1180	740	0	0	0	0	42140

3.4.4 Planning frameworks

3.4.4.1 Integrated Waste Management Plan

In the 2024 IWMP the main waste management challenges faced by the municipality were identified as:

- The roll -out of waste services to the rest of the community;
- Lack of waste management machinery and yellow fleet for service delivery.
- Illegal dumping areas.
- Open stand/ space creates illegal waste disposal
- Outdated by-laws.
- Shortage of staff and trained personnel
- Waste Management Section not included in approval of Municipal Building plans for approving building waste facilities storage.

- 5% share of MIG (Municipal Infrastructure Grant) funding is not implemented
- inability to manage waste disposal sites according to the permit conditions / waste management licenced condition. little public participation, education, and awareness on integrated waste management.
- Waste pickers are not formally integrated.
- Lack of separation at sources programme.
- Lack of Waste diversion programmes away from waste disposal facilities.
- Lack of education and awareness.

The IWMP stated that the above challenges cannot be overcome at a municipal level and recommended that the relevant stakeholders need 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 Waste Management Strategy of 2020. 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 2029, 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 management hierarchy (waste avoidance and minimisation), ecologically sustainable development, efficiency, and circular economy. 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.

3.4.4.2 Integrated Development Plan

A public needs assessment was conducted for the 2023-2024 municipal Integrated Development Plan (IDP) and the table below highlights the needs identified and level of priority.

Table 13: IDP Needs Assessment

SERVICE DELIVERY	CURRENT STATUS	BACKLOG	SOURCE OF FUNDING
REFUSE COLLECTION	All household in wards 1,3 & 15 have weekly door to door refuse collection	No refuse collection for wards 2, 4-14	Municipal

The previous Ga-Segonyana LM IDP and IWMP noted that the Kuruman Landfill site is reaching the end of its life span prematurely, due to higher volume of waste being disposed of, because of the low level of recycling that occurs within the Municipality. The previous IDP further suggest 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 (Local Economic Development) 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.

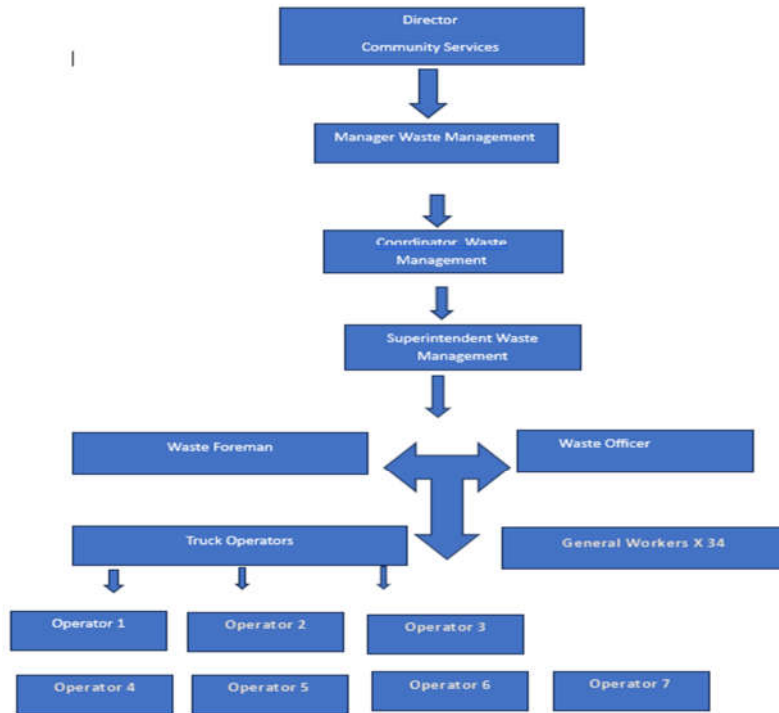
There exists the need for the Ga-Segonyana LM to extend waste collection services to unserviced areas

3.4.4.3 Institutional arrangements and Organisational Structures

The waste management unit of the Ga-Segonyana LM comprises 33 personnel. There is 1x Waste Management manager (WMO appointed), 1x Waste Coordinator, 1x Superintendent waste management, 1x Waste Foreman/ Supervisor, 1x Waste Officer, 7x drivers and 33 general workers. Figure 10 illustrates the Ga-Segonyana LM's organogram.

Figure 8: Ga-Segonyana LM Organogram

3.4.4.3 Institutional arrangements and Organisational Structures



4. Gaps and Needs

The existing waste management practices of the municipality were evaluated and deficiencies, needs, and requirements identified to ensure that the 2024 to 2029 IWMP align with local, provincial and national waste management policies. The gaps and needs analysis were also informed by the *Situational Analysis* as appear on IDP: 2024-2025.

a. Gaps

The municipality is largely rural in character with widely dispersed human settlement, leading to uneven delivery of waste collection services. There are still some areas with no access to waste removal and refuse is dumped illegally.

The following gaps have been identified:

- Lack of waste management facilities (waste transfer stations, drop-off centres, Operational buy-back centres, etc.)
- Poor/ lack of equipment
- Lack of community involvement in waste collection and recycling;
- Lack of recording for waste collected by waste pickers from the landfill
- Lack of financial and institutional capacity to implement IWMP.

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

b. Needs

The following needs have been identified:

- I. Machinery and equipment for collection of waste, garden, Balling, recycling etc.
- II. The establishment of new landfill site/extension of the current facility and other waste management facilities that are accessible to both urban and rural areas;
- III. Compliance of landfill sites with the Minimum Requirements for Disposal by Landfill sites;
- IV. Improvement of operation and management at landfill sites;
- V. The encouragement of recycling throughout the municipality and Producer Responsibility Organisations (PROs). Recycling needs to be performed on an individual and business level, where beneficial partnerships are established;
- VI. The formalisation of waste minimization strategies;
- VII. Operation of buy-back centres and development of material recovery facilities;
- VIII. Enhance waste collection;
- IX. The municipality needs to comply with various legislation linked with waste management;
- X. To formalise waste record keeping of waste going out of all waste management facilities;
- XI. Development of strategies to reduce illegal dumping;
- XII. Increase operation and maintenance of waste management 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 education and awareness raising campaigns and capacity building programmes of municipal staff and communities; and
- XVI. Implementation of the National Domestic Waste Collection Standards.
- XVII. Enforcement of municipal waste by-laws.

The specific detail regarding the various needs is reflected below:

i. B Landfill Sites

This relates to the development and upgrading of current disposal infrastructure. The identification of new landfill site infrastructure.

ii. 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 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 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 relevant facilities and mechanisms are in place.

iii. Enhance 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 is provided to registered indigent households.

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 waste periodically in line with the amount of recyclables produced.

iv. Waste data capture and management

There is a weighbridge located at the landfill site which is used to weigh and keep record of incoming and outgoing waste. The data is also recorded on SAWIC on a monthly basis.

v. 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 good track record must be selected and a clear binding contract drawn up and signed, which will hold the service provider accountable. The municipality must therefore manage the contract.

The municipality allows a free disposal of less than a ton per month to reduce illegal dumps.

vi. Awareness rising 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 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 facilities and illegal dumps.

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 will hold in Kuruman.

5. Development of 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 13 outlines the steps followed.

Figure 9: Steps



5.1 Goals and objectives

The goals and objectives noted in 2014 IWMP were taken into consideration during the development of this IWMP. Table 18 shows the 2024 IWMP goals, which do not deviate from 2014 goals.

Table 14: 2024 IWMP Goals

2024 Goals
<ul style="list-style-type: none"> • Increased waste minimization through recycling and waste re-use • Improved landfill management and waste disposal • Improvement of waste monitoring and establishment of a waste information system • Increased education awareness of households and small-medium businesses regarding waste management • Sustainable funding for waste management • Strategic partnerships and arrangements regarding waste management. • Enhance waste collection within the municipality • Increase Skill and capacity building within the waste management sector of the Ga-Segonyana LM

- Enforce and monitor by-laws and waste management arrangements.
- Waste pickers integration
- Involvement of PRO to run EPR schemes
- Waste diversion, waste separation at source

The goals forming the framework of the Ga-Segonyana LM Integrated Waste Management Plan 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. Improve operations and management of waste disposal site;
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.

Table 15: The Ga-Segonyana Local Municipality Logical Framework

Objectives	Indicators	Means Of Verification	Assumptions
Overall Objective: Ga-Segonyana LM provides an effective and inclusive waste management service which protects the environment and promotes the health and wealth of its residents	<ul style="list-style-type: none"> 50% increase in the number of people receiving waste management services 	<ul style="list-style-type: none"> Municipal records 	<ul style="list-style-type: none"> Communities participate in waste management programmes.
Objectives	Indicators	Means Of Verification	Assumptions
Goal 1: Increased waste reduction and minimization through recycling and waste re-use.	<ul style="list-style-type: none"> 50% reduction in volumes disposed at landfill sites 	<ul style="list-style-type: none"> Weigh bridge records and waste disposal facility records. 	<ul style="list-style-type: none"> Records are kept
Main Activities: 1.1. Develop and implement a sustainable recycling Programme <ul style="list-style-type: none"> Identify and implement waste recovery and recycling pilot projects that also result in job creation. Identify existing recyclers, and skill them to be effective 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 <ul style="list-style-type: none"> Establish garden waste, and organic waste collection centers/transfer areas in the LM. Establish recyclable waste drop off points and buy-back centers. 1.3. Approach mines for funding and skills training regarding recycling initiatives 1.4. Implement Waste Bureau for recycling of tires along the roadside 1.5. PRO's for paper and packaging, Lighting, glass, E-waste etc.			
Objectives	Indicators	Means Of Verification	Assumptions
Goal 2: Effective waste monitoring and information database programmers are in place	<ul style="list-style-type: none"> Updated waste management data accessible at all times 	<ul style="list-style-type: none"> Database 	<ul style="list-style-type: none"> Municipality is able to disseminate information. Standard Operation Procedure in place.

Objectives	Indicators	Means Of Verification	Assumptions
Goal 3: Awareness and empowerment programmes are in place	<ul style="list-style-type: none"> Noticeable improvement in the cleanliness of the municipality Number of SMME's involved in waste management. 	<ul style="list-style-type: none"> Spot checks Municipal records 	

Objectives	Indicators	Means Of Verification	Assumptions
Goal 4: Improved Waste disposal facility management and waste disposal	<ul style="list-style-type: none"> 100% of licensed landfills complying with legislation 	<ul style="list-style-type: none"> Internal and/or external audits 	<ul style="list-style-type: none"> External auditors appointed
Main Activities: 4.1. Ensure landfill site properly managed <ul style="list-style-type: none"> 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 3 years in length 4.2. Audit waste management infrastructure and resource needs in line with future development <ul style="list-style-type: none"> Identify and establish waste transfer stations Locate and authorize 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	<ul style="list-style-type: none"> 30% reduced deficit year on Year 	<ul style="list-style-type: none"> Financial reports 	<ul style="list-style-type: none">

Main Activities: 5.1. Prioritize waste management budget <ul style="list-style-type: none"> o Properly list funding requirements and sources in IWMP o Ensure full cost accounting for waste management 5.2. Source adequate funds <ul style="list-style-type: none"> o Establish and strengthen partnerships with mines to assist with funding (mines should be sources for possible funding) o Source alternative funding streams for specific projects o MIG funding o Advocate for national DFFE to engage with treasury to ensure better funding mechanisms 5.3. Ensure that systems are cost effective			
5.4 Establish and implement an equitable standardized 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	<ul style="list-style-type: none"> • No. of working waste management and services partnerships 	<ul style="list-style-type: none"> • Municipal records 	<ul style="list-style-type: none"> • Stakeholders willing to partner with the municipality
Main Activities: 6.1 Identify and establish partnerships for waste recycling and collection <ul style="list-style-type: none"> o Develop partnerships with waste collection companies to address waste collection and recycling problems. 6.2. Advocate with provincial department to facilitate the transportation of recyclable material to relevant centers			
6.3 Explore, establish and strengthen partnerships with interested parties including mines, PRO's etc.: <ul style="list-style-type: none"> o to train SMMEs (in finances and business management, etc.) o to assist with the removal of hazardous waste o to offer localized collection services 6.4 Facilitate partnerships with and between local companies (Shoprite, Pick „n Pay, Spar, Tshipi, Kolomela, etc....)			
6.5 Facilitate partnerships between NGOs, SMMEs, private sector and mines			
Objectives	Indicators	Means Of Verification	Assumptions

Goal 7: Enhance waste collection in the Municipality	<ul style="list-style-type: none"> • 30% increase in households in other wards that services are not rendered. 	<ul style="list-style-type: none"> • Municipal records / collection records 	<ul style="list-style-type: none"> •
Main Activities: 7.1 : Municipality must develop and implement a waste collection route plan <ul style="list-style-type: none"> ○ 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 <ul style="list-style-type: none"> – Optimize existing resources – Must have a dedicated fleet for waste collection 7.2. Develop and implement a fleet management strategy			

<ul style="list-style-type: none"> ○ Purchase relevant equipment and fleet. 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	<ul style="list-style-type: none"> • Performance against performance agreements satisfactory among all relevant staff 	<ul style="list-style-type: none"> • Annual performance assessments 	<ul style="list-style-type: none"> •
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 SMMEs <ul style="list-style-type: none"> ○ Train and capacitate SMMEs and communities 8.4. Build skills and knowledge among communities <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • 30 % Increase in implementation of by- laws • 20 % Increase in compliance to regulations and by-laws 	<ul style="list-style-type: none"> • Municipal Fines records • Observation reports 	<ul style="list-style-type: none"> • Appropriate by-laws can be promulgated within the IWMP time frame
Main Activities: 9.1 Ensure that by-laws are established and promulgated within a reasonable time frame <ul style="list-style-type: none"> • Lobby for the provincial department to coordinate and fast track promulgation of by-laws 9.2 Identify positions necessary for law enforcement <ul style="list-style-type: none"> o Ensure that there is a trained and designated EMI's. 			

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

Table 166: 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 & Business	Waste collectors	Contractors & Community	Community	Community	Municipality, Contractors, Community
Who removes the waste?	Recyclers, Municipality	Recyclers	Municipality & private companies	Municipality	Recyclers & Municipality	Recyclers & Municipality	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 separation	Recycling and reuse	Optimizing transport system	Collection from inaccessible areas	Recyclables and builders' rubble	Separate compostable waste	"Safe" disposal

Source: Green2Alive, 2010

5.2 Strategies and Proposals

5.2.1 Goal 1: Waste Minimization, Re-use and Recycling

The lack of waste minimisation, recycling and re-use initiatives results 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 municipality.

There are various mechanisms that the municipality could implement which will help to reduce the waste within the municipality. 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.

5.2.1.1 Sustainable recycling programmes

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

- Several waste SMM's are already operating in the municipality. The municipality have data base for waste SMME's, they form partnership in programme of waste management.
- Ga-Segonyana LM has an enabling environment for recycling to take place. It allows the waste SMM's to access waste management facilities, business, and household for collection of recyclables.
- A partnership arrangement has been developed with SMME's 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 services 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 all 15 municipal wards.
- 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 must be the responsibility of the recyclers.
- 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.

- There should be an initiative to start waste management campaigns through DFFE programmes that promote waste management in schools and in communities.

5.2.1.2 Creation of enabling environment

Currently there are waste reduction SMME facilities in Ga- Segonyana LM even though they are few. The Ga-Segonyana LM creates an enabling environment but more must be encouraged.

There is a Buy back centre at the landfill site. This site is easily accessible and convenient for local communities and operating SMMEs to deposit mixed or recycled waste. Buy-back facilities will, in future, offer opportunities for communities to earn income from recycling which provides an incentive through PROs to increase recycling efforts. Buy-back centre 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 TGR, POLYCO, PETCO, EWASA, Fiber circle etc) or, in compacted form, taken to the recycling centres in municipal long-haul vehicle. There is a future plan to establish transfer stations at areas that are not serviced. Projects that are funded by other stakeholders (such as DFFE and mines) through waste and keeping a clean environment assist the Municipality in creating an enabling environment. These projects assist the Municipality to extend service in un-serviced areas.

Garden waste sites allow communities to dispose of their garden refuse, which can then be converted to compost. Due to lack of chipping machinery, the municipality is unable to develop the composting station from garden waste deposited at the landfill site. In rural areas, communities could form communal organic waste sites managed by local SMMEs 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 SMME. 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.

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

5.2.1.3 Collaboration with Mines

Mining is an important economic activity in the Ga-Segonyana LM and mines are important role players. There is collaboration with the surrounding mines and the municipality, e.g. assisting in municipal waste programme. More needs to be done such as training of SMMEs in business and management skills, and waste awareness programme. Collaboration agreements are continuously sought and strengthened to implement joint recycling initiatives.

5.2.1.4 Implement recycling of tyre along the roadside

Minister Dion George has withdrawn the approval of the Industry Waste Tyre Management Plan (IndWTMP), published on 20 March 2024, to ensure a thorough review.

- The decision reflects the new Minister's commitment to meticulously evaluating policies developed by previous administrations.
- The withdrawal will facilitate renewed stakeholder engagement and a refined Plan, with no disruption to existing waste tyre management operations.

The Minister of Forestry, Fisheries and the Environment, Dr Dion George, has announced the withdrawal of the approval decision for the Industry Waste Tyre Management Plan (IndWTMP), published under Government Notice 4542 in Government Gazette 50233 on 20 March 2024. This decision reflects the Minister's commitment to thoroughly reviewing and strengthening environmental policies as a newly appointed leader.

Since taking office, Dr George has prioritised a meticulous evaluation of decisions made by previous administrations. After careful consideration, he has opted to withdraw the IndWTMP approval to allow for a detailed reassessment, ensuring the Plan fully aligns with the Department's objectives of sustainable waste management and robust governance.

"While the Industry Waste Tyre Management Plan was developed through a prolonged and consultative process, concerns have been raised regarding its alignment with current sector realities and policy intent," said Minister George. "The withdrawal enables a focused review to ensure the final Plan is implementable, transparent, and fully responsive to the operational and governance complexities facing the sector."

The withdrawal, authorised under section 10(3) of the Interpretation Act, enables the Department to revisit the Plan with a fine-tooth comb. This process will involve renewed stakeholder engagement and the appointment of an organ of state, likely the Council for Scientific and Industrial Research (CSIR), to refine the Plan, addressing areas such as data accuracy and sector capacity.

"My goal is to deliver a waste tyre management plan that is practical, inclusive, and future-proof," Minister George added. "This withdrawal is a proactive step to ensure we get it right, building a stronger foundation for the waste tyre industry and

environmental justice.”

The Municipality can contact Waste Management Bureau to collect tyres.

5.2.2 Goal 2: Waste monitoring and waste information system

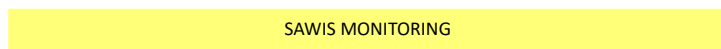
Ga- Segonyana Local Municipality is registered with South African Waste Information System (SAWIS) established in terms of chapter 6 of the NEM: Waste Act, 2008. The registration date: 2018-03-19 with registration no of D12244-01. The waste records of the Ga Segonyana LM are captured from weigh bridge to SAWIC system. Waste information is captured in two ways: Estimated waste data (during loadshedding) and electronic waste information system. The system is renewal yearly.

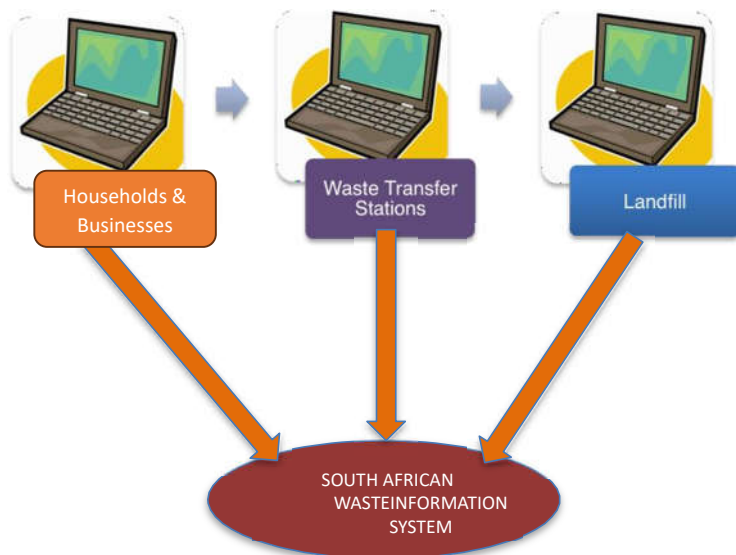
Waste is record into waste volumes and types according to the standards set out in the Waste Categorization System postulated by the DFFE.

Personnel are trained for electronic waste information system and SAWIS reporting. Equipment and tools for waste capturer is in place. Records for waste reclaimed and recycled are also reported.

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).

Figure 13: Model for Waste Information System





5.2.3 Goal 3: Waste minimisation and 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 municipalities around and relevant stakeholders.

The efficacy of waste minimization 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 is continuously convey is that public and community involvement is not only welcomed and encouraged but will be supported wherever possible. Information sharing and awareness to communities include:

- 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 does embark on 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 includes:

- *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 other Municipalities and the DFFE 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.

5.2.4 Goal 4: Improved waste disposal and waste management facilities

Key activities identified to achieve this goal include:

Ensure all landfill sites within the municipality are licensed and properly managed or 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 3 years in length

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.

5.2.4.1 Landfill site 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".

5.5.2 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. So 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.

OR combination of purpose-built landfill compactors, bulldozers, front-end loaders and trucks to transport cover material.

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.

5.2.5 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.

5.2.6 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.

5.2.7 Goal 7: Enhance 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 14:

Figure 14: 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.

5.2.7.1 The development of a waste transportation plant

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 are 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 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 and separated in order for recycling SMME's to collect the recyclable waste.

5.2.7.2 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 has an asset register of waste management equipment for monitoring purposes and this asset there are centralist to the bulk and managed by Fleet unit. 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 are 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.

5.2.7.3 Free Basic Services

As the Municipality (reflected on IDP 2023-2027) is obligated to provide free basic refuse removal for indigents and according to the National Policy for the Provision of Basic Refuse Removal Services to Indigent Households (January 2011). However, Ga-Segonyana Local Municipality offer only free basic removal for 318 Indigents out of 3102 registered Indigents for 2024 due to rendering waste services to only 3 wards. The indigent register is updated yearly.

5.2.8 Goal 8: Increased skills and capacity building within the waste management sector

There exists a large gap in skills and capacity for waste management and the provision of waste services within the Ga-Segonyana 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
Technical skills	Staff that understand the principles, methods and technologies involved in waste generation, collection, treatment, disposal and recycling
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 & Planning	Staff that can undertake full cost accounting, ring fence waste service budgets, establish an implement cost effective and volumetric tariff, and implement the free basic service policy through subsidies for indigents. Staff that can plan capital expenditure based on infrastructure modelling
Data analysis	Staff that will analyses data on aspects of supply chain to improve efficiency and reduce waste
Communications	Staff that can effectively communicate to residents' information about proper waste management practices
Environmental Compliance	Staff with ability to implement environmental regulation, laws and standards

Source: NWMS, 2011

The Ga-Segonyana LM intent 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.

5.2.8.1 Skills development plan

In terms of the Waste Act, every municipality must have a designated Waste Management Officer (WMO). A WMO's role is to coordinate waste related issues at local government. At the municipal level, the mayor designates the WMO in writing. The Department Forestry, Fisheries and the Environment has guidelines on the roles and responsibilities of WMOs. A WMO need not necessarily be appointed 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 are 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.

5.2.8.2 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.

5.2.8.3 Capacity development for SMMEs

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 is approached to provide funding and training regarding skills and capacity development for SMMEs.

5.2.8.4 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 are continuously being assisted in forming teams, which monitor waste and work towards protecting the environment.

5.2.9 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), include by-law enforcement unit 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.

5.2.9.1 Ga-Segonyana Local Municipality refuse removal, Illegal dumping and Usage of Municipal Landfill site By-Laws

The Ga - Segonyana Local Municipality, by virtue of the powers vested in it by section 156(2) of the Constitution of the Republic, of South Africa as amended, read with section 13 of the Local Government: Municipal Systems Act, 2000 (Act 32 of 2000) as amended, has made the By-Law set out in the schedule below:
Purpose of By-Law

- To provide refuse removal, collection and disposal of waste for the benefit of residents within the area of jurisdiction of the municipality;
- To provide for the procedures, methods and practices to regulate collection, dumping of refuse and the management of disposal sites.

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Definitions

1. In this By-law, words used in the masculine gender include the feminine; the singular

includes the plural and vice versa; the English text shall prevail in the event of an inconsistency between the different texts; and, unless the context otherwise indicates: –

“attendant” means an employee of the municipality or agent of the municipality duly authorised to be in charge of the disposal site;

“municipality” means the Municipality of Ga – Segonyana Local Municipality established in terms of Section 12 of the Local Government: Municipal Structures Act, 1998 (Act 117 of 1998), and includes any political structure, political office bearer, councillor, duly authorised agent thereof or any employee thereof acting in connection with this by-law by virtue of a power vested in the municipality and delegated or sub-delegated to such political structure, political office bearer, councillor, agent or employee;

“disposal site” means any site set aside by the municipality for this purpose and which can

be identified as such by means of a notice to this effect at or near to the entrance of the site;

“offensive matter” means such matter, including fluids, that may be classified as such by the municipality from time to time.

Control of disposal site

2. The municipality may control a disposal site, or may appoint agents or may contract

some other person or body to control, manage and operate a disposal site on behalf of the municipality in accordance with the provisions of this by-law and the provisions of any other legislation that may be applicable.

Access to disposal site

3. (1) No person shall enter the disposal site or shall be on such a site except on such day and at such times as shall be fixed by the municipality from time to time. A notice setting forth the days and hours during which a disposal site will normally be open for the dumping of refuse, shall be displayed by the municipality in a clearly visible place at or near the entrance to the disposal site.

(2) Only persons wishing to dump refuse who have paid the prescribed fees or who are in possession of a written permission issued by the municipality which permits them to dump such refuse at a disposal site and persons having obtained the written consent of the municipality to recycle any materials or objects on such a site, shall be entitled to enter the disposal site or to be on the site.

(3) Notwithstanding anything to the contrary contained in this by-law, any employee of the municipality or anybody acting on behalf of the municipality and duly authorised thereto, may enter a disposal site at any time in exercising his duties.

(4) Any person making use of the disposal site or entering the disposal site, do so at his own risk and the municipality shall accept no responsibility for the safety of such person or any damages or losses sustained by such person.

(5) Anybody who enters a disposal site or who is found on such a site in contravention of the provisions of this section shall be guilty of an offence.
Off-loading of refuse and rubbish etc.

4. (1) Any person who wishes to dump refuse or rubbish or any other obsolete object or thing of whatsoever nature at a disposal site shall off-load such refuse or rubbish or obsolete object or thing at such a place within the borders of the disposal site as the attendant may direct.

(2) The municipality may set aside any disposal site or any part of a disposal site where only a particular kind of refuse may be deposited or dumped.

(3) The municipality may limit the type or size of vehicle from which waste may be dumped or deposited at any disposal site.

(4) The municipality may limit the quantity of waste in general or the quantity of a particular type of waste which may be dumped or deposited at any disposal site.

(5) The municipality may require that any waste to be dumped or deposited at a disposal site shall be dumped or deposited at a particular place or in a specified manner only or that it be treated, wrapped or packaged in a specific manner before being dumped or deposited.

(6) The municipality shall determine the days when and hours during which dumping may be done.

(7) Any requirement imposed in terms of this by-law shall be indicated to the public by means of an appropriate notice erected at the entrance of the disposal site concerned.

(8) Any person who disregards the reasonable instructions of the attendant shall be guilty of an offence.

Prohibition on dumping of offensive matter

5. (1) The municipality reserves the right to prohibit the dumping of any offensive or toxic matter at a disposal site.

(2) No hazardous or Medical waste is accepted in the dumping site (additional input).

Ownership of refuse

6. Refuse, rubbish, obsolete objects or any other material or waste of any nature whatsoever that are dumped at a disposal site become the property of the municipality

7. No person who is not duly authorised by the municipality to do so shall remove or interfere with such refuse, rubbish, objects or any other material or waste.

Charges

8. The municipality may from time to time fix the charges payable to the municipality for the dumping of any refuse, rubbish, obsolete objects or any other material or

waste at any disposal site under the control of the municipality.

Littering, dumping and abandoning of waste and waste material

9. Littering

(1). No person may:-

(a) throw, drop, deposit, spill or in any other way discard any litter into or onto a public place, land, vacant erf, stream, street or road, or on any place to which the general public has access, except in a container provided for that purpose or at a disposal site controlled by the municipality:

(b) allow any other person under his or her control to commit any of the acts contemplated in sub paragraph (a), and, for the purpose of this subsection, employers or principals are liable for the acts of their employees or agents, provided that where an employee or agent contravenes the provisions of sub paragraph (a) he or she is liable as if he or she were the employer or principal.

(c) Any person engaged in the transportation of waste material must take all the reasonable steps to prevent any spillage or littering from vehicle used to transport waste by providing adequate coverage, not over-filling of the loading area and/or ensuring that loading area is equipped with a suitable load cage, etc.

(2). A person reasonably suspected by a law enforcement officer or an Environmental Management Inspector of having contravened the provisions of subsection (1) is liable in terms of these by-laws. A fine for illegal dumping will be imposed in the account for rates and taxes when billing is done.

(3) Should a person be convicted of contravening the provisions of this section, he or she must, notwithstanding any penalty imposed on him or her, dispose of the waste as directed by the Municipality or, alternatively, the Municipality may dispose of the waste itself at the expense of that person.

(4) Subject to the provisions of the by-laws pertaining to Temporary Advertisements and Outdoor Advertising –

(a) a person is not permitted to distribute any flyers, pamphlets, stickers or handbills at street corners, traffic lights, sidewalks, stop streets or any open or public place without the Municipality's prior written consent; and

(b) a placard or advertisement must not be displayed or placed on a lamp pole, traffic sign, pole or fence by a person without the Municipality's prior written consent.

10. Unauthorised disposal and abandoning

(1) A person must not dispose of waste or waste material at any place or on any premises other than as provided for in terms of these by-laws.

(2) A person reasonable suspected by a law enforcement officer or an Environmental Management Inspector of having contravened the provisions of subsection (1) is liable in terms of these by-laws.

(3) subject to the provisions of any other law, the Municipality has the right to remove and dispose of any abandoned waste or waste material in any way it deems appropriate under the prevailing circumstances.

(4) The Municipality is not liable for any damages, costs or claims that arise out of or that are in any way connected to any action taken in terms of sub paragraph (3).

(5). Should a person be convicted of contravening the provisions of this section, he or she must, notwithstanding any penalty imposed on him or her, dispose of the abandoned waste or waste material as directed by the Municipality or, alternatively, the Municipality may dispose of the waste or waste material itself at the expense of that person.

Penalties

11. Any person who contravenes or fails to comply with any provision of this by-law shall

be guilty of an offence and liable to –

(1) a fine in terms of the municipal schedule of fines;

(2) imprisonment upon conviction, or to both such fine and such imprisonment;

(3) in the case of a continuing offence, to an additional fine or an additional period of imprisonment or to such additional imprisonment without the option of a fine or to both such additional fine and imprisonment for each day on which such offence is continued; and

(4) a further amount equal to any costs and expenses found by the court to have been incurred by the municipality as result of such contravention or failure.

Repeal of By – Laws

12. All the By-Laws which was previously applicable and related to by-laws on Refuse

Removal, Illegal Dumping and Usage of Municipal Landfill Site by-laws are hereby repealed.

Short Title

13. This by-law shall be known as the Ga - Segonyana Local Municipality: Refuse Removal, Illegal Dumping and Usage of Municipal Landfill Site By-Laws and takes effect on the date of publication in the Provincial Gazette

5.2.9.2 Identify positions necessary for law enforcement

Ga-Segonyana LM should have trained bylaws enforcers for waste management/ Environment in order to enforce the bylaws. Law enforcement officers (green scorpions) must be appointed to ensure that By-laws can be enforced and the municipality must collaborate with other law enforcing stakeholders to assist.

6. Instruments for implementation of IWMP

a. 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

Commented [SD1]: As amended

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 SMMEs and cooperatives specifically drawn from informal salvagers who are among the poorest of the municipality's population.

b. 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.

i. 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.

ii. 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 SMMEs to operate waste transfer stations and buy-back centres and to collect waste from communities.

iii. 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 (through funding of projects) 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. This will mean that the municipality will be able to offer a more extensive waste collection service. These SMMEs will be allowed to collect/ remove waste from local areas to waste disposal facilities on behalf of the municipality as part of their source of income.

Recycling

The Ga-Segonyana LM can support and facilitate informal waste pickers/ reclaimers to form recycling cooperatives. Informal waste pickers are already living off recycling from the landfill sites and can be assisted by the municipality and the Producer Responsibility Organizations (PRO's) to do this job more effectively and much more safely, as they providing a valuable service to the municipality and to the community. Organised groups of waste pickers to collect recyclable waste to deposit at accessible landfill and buy-back centres. The municipality will facilitate the waste data collected by the waste picker and record to its systems.

Composting

The Municipality used to do composting at the waste disposal facility, but due to lack of machinery it no longer renders the service, however, the potential exists for a partnership in a composting enterprise.

Currently there are SMME's such as SEDIBA waste management service who render the service for business purpose. The future plan is that the municipality can invest in a chipper machine and convert the garden waste into compost made using basic low-technology methods. Municipal trucks can then 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.

c. Legislative Instruments

i. 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.

ii. Local governance

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.

d. Financial mechanisms

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

i. 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.

ii. 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 (landfill sites users) 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.

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.

iii. 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.

7. Implementation Plan

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

Table 187: Implementation Plan for Ga-Segonyana LM

Goal 1: Increased waste reduction and minimization through recycling and waste re-use.				
Main Activity	Resources required	Budget	Timeline	
<i>1.1. Develop and implement a sustainable recycling Programme</i>				
<ul style="list-style-type: none"> Identify and implement waste recovery and recycling pilot projects that also result in job creation for local communities 	Waste experts. PRO's SMME's	R2m	2025-2030	
<ul style="list-style-type: none"> Identify existing recyclers, and skill them to be effective 	SMME'S List Internal and external Stakeholders.	Internal and External Budget	2025-2030	
<ul style="list-style-type: none"> 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 of SMME's and Municipal official tasked with coordinating waste minimization and recycling	R 200.000	2025-2030	
<ul style="list-style-type: none"> Formalize recycling initiatives at waste disposal facilities by initiating a pilot Programme on Material Recycling Facility (MRF) 	Municipal waste official SMME's PRO's	R600 000	2025-2030	
<i>1.2. Create an enabling environment for recycling</i>				

o Establish Garden waste, and organic waste collection centers/transfer areas.	Composting facility and Equipment's Transfer Station Staff	R5m	2025 -2030
o Establish recyclable waste drop off points and Transfer Station center.	Approved plans Equipment's and Tools Staff Appropriate built structure	R5m	2025- 2030
<i>1.3. Approach mines for funding and skills training regarding recycling initiatives</i>	<i>Municipality and community liaison</i>		<i>2025- 2030</i>
<i>1.4. Implement Waste Bureau for processing and depot (taking out) for tires along the roadside</i>	<i>The Municipal waste officer tasked with coordinating with DFFE (Waste Bureau) waste minimization and recycling.</i>	External Budget	<i>2025-2030</i>

Goal 2: Effective waste monitoring and information database programmes are in place

Main Activity	Resources required	Budget	Timeline
<i>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)</i>	<i>On going training in SAWIC and SAWIC Weighbridge (available) System (Laptops and Data) Equipment purchased for the ongoing maintenance of the weighbridge</i>	<i>R300 000. 00</i>	<i>2025- 2030</i>

2.2 Access the South African Waste Information Centre and comply with the standard WIS	Municipal waste officers Laptop and Data	Internal Budget	Monthly
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<ul style="list-style-type: none"> o Access the training offered by the national Waste Information Centre 	Municipal waste officers DFFE	External Budget	2025- 2030
<ul style="list-style-type: none"> o Request the provincial department to coordinate access to the system and training 	Municipal waste officers DFFE Provincial Department	Internal Budget	2025- 2030
<p>Contact Tel: 086 111 2468 or email: callcentre@dffe.gov.za</p> <ul style="list-style-type: none"> o for waste information training 	Municipal waste officers	Internal Budget	2025-2030
2.3 Undertake a skills audit on waste management and develop a recruitment plan	Waste monitors and auditors	Internal Budget	2025-2030
2.4 Recruit for all vacant posts and provide ongoing training to staff	Waste Manager, landfill operator, drivers Etc.	Internal Budget	2025-2030

<p><i>2.5 Identify and appoint waste monitors</i></p> <ul style="list-style-type: none"> o Ensure that waste management officers and monitors have the appropriate tools (e.g., iPad) 	<i>Purchase of equipment</i>	<i>R2 000 000</i>	<i>2025-2030</i>
<p><i>2.6 To provide and update all information associated with waste generation, prevention, minimization, recovery, recycling, treatment and disposal to the district</i></p>	<p><i>Municipal waste officers and managers</i></p> <p><i>Implementation of waste monitoring and information system</i></p>	<i>Internal budget</i>	<i>3 years</i>

Goal 3: Awareness and empowerment programmes are in place			
Main Activity	Resources required	Budget	Timeline
<p><i>3.1. Develop and implement awareness raising strategies</i></p>	<i>District and municipal waste officers and managers</i>	<i>R500 000</i>	<i>2025-2030</i>
<p><i>3.2. Develop a strategy to involve councilors</i></p> <ul style="list-style-type: none"> o Ward councilors to assist in spreading awareness regarding waste management 	<i>Municipal waste officers, managers and Councilors</i>		<i>2025-2030</i>

3.3. Develop and expand Schools programmed (Provincial Department)	District and municipal waste officers and managers DFFE, Province and Department of Education staff Various Private Partners such as CBOs, NGOs,		2025-2030	
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Goal 4: Improved operation and management of waste disposal facility

Main Activity	Resources required	Budget	Timeline	
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4.1. Ensure all waste disposal facilities are licensed				
<ul style="list-style-type: none"> o Employment of external contractors and service providers 	Waste Manager and Finance Officers	R15 000 000.00	2025-2030	
<ul style="list-style-type: none"> o Ensure that the terms of the contract are monitored and enforced 	Municipal waste officers and managers	Internal budgets	2025 -2030	
4.2. Audit landfill infrastructure needs in line with future development	Municipal waste officers and managers	Internal budget	2025-2030	

○ Identify and establish waste transfer stations	Municipal waste officers and managers Contractors Feasibility study	R1 000 000 (dependent on number of structures)	2025-2030	
○ Locate and authorize accessible community dump sites	Municipal waste officers and managers	R75 000	2025-2030	
Goal 5: Sustainable funding for waste management				
Main Activity	Resources required	Budget	Timeline	
5.1. <i>Prioritize waste management budgets</i>	<i>Waste manager, Budget officer, Director Community Services, Workshop manager, MIG</i>	R50 000 000.00	Ongoing	

5.2. Source adequate funds <ul style="list-style-type: none"> o Establish and strengthen partnerships with mines to assist with funding (mines should be sources for possible funding) o Source alternative funding streams for specific projects o Advocate for national DFFE to engage with treasury to ensure better funding mechanisms 	<i>District and local municipal waste managers</i>	<i>Internal budget</i>	<i>Start 2025 ongoing</i>	
5.3. Ensure that systems are cost effective	<i>Waste management consultant Budget Officer</i>	<i>R50 000</i>	<i>2025</i>	
<i>5.4 Establish and implement an equitable standardized 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</i>	<i>Municipal waste managers Budget Officer</i>		<i>2025</i>	

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

Main Activity	Resources required	Budget	Timeline	
6.1. <i>Identify and establish waste recycling partnerships and arrangements</i>	<i>Municipal waste managers</i> <i>Service providers</i>		2025-2030	

6.2. Explore, establish and strengthen partnerships with mines: To train SMMEs (in finances and business management, etc.) to assist with the removal of hazardous waste to offer localized collection services		Municipal waste managers		2025-2030	
6.2	Facilitate partnerships with and between local companies (Shoprite, Pick 'n Pay, Spar, Tshipi, Kolomela, etc.....)	Municipal waste managers and other businesses		2025-2030	

Goal 7: Enhance waste collection in the municipality					
Main Activity		Resources required	Budget	Timeline	
7.1. Develop and implement a waste transportation plan		Municipal waste managers Waste management consultant/expert			
<ul style="list-style-type: none"> Ensure proper route planning for the most cost-effective delivery of service 		Provincial and district and local municipal waste managers	R50 000	2025-2030	

	Waste management consultant/expert			
<ul style="list-style-type: none"> ○ Conduct a proper feasibility study on vehicles and equipment required to effectively deliver waste management services <ul style="list-style-type: none"> – Optimize existing resources – Must have a dedicated fleet for waste collection 	Waste management consultant/expert	Internal budget	2025-2030	
7.2. Develop and implement a fleet management strategy <ul style="list-style-type: none"> ○ Purchase relevant equipment 	Municipal waste managers	R3 000 000	2025-2030	
7.3 Ensure that indigents receive free waste collection services	Municipal waste managers	Internal budgets	2025-2030	

Goal 8: Increased skills and capacity building within the waste management

Main Activity	Resources required	Budget	Timeline	
<i>8.1. Develop and implement skills development plans</i>	<i>Municipal waste manager.</i>		<i>2025-2030</i>	
<i>8.2. Ensure that performance agreements are in place and annual assessments conducted</i>	<i>Waste manager</i>		<i>2025-2030</i>	

8.3. <i>Facilitate capacity development and the development of strategies and plans for SMMEs</i>	<i>Waste manager</i>		2025-2030	
8.4. <i>Build skills and knowledge among communities</i> <ul style="list-style-type: none"> ○ Hold workshops for general populace ○ Establishment of environmental clubs and conservancies 	<i>Waste manager</i>		2025-2030	

Goal 9: Enforcement and monitoring of by-laws and waste management arrangements				
Main Activity	Resources required	Budget	Timeline	
9.1 <i>Request model by-laws template from national DFFE and advocate for assistance to have these fast tracked</i> <ul style="list-style-type: none"> ○ Ensure that by-laws are developed, reviewed and promulgated within a reasonable time, frame 	<i>Provincial, district and local municipal waste managers</i>	<i>Internal budgets</i>	2025-2030	
9.2 <i>Identify positions necessary for law enforcement</i> <ul style="list-style-type: none"> ○ Fill waste management officer positions ○ Ensure that there is are trained and designated EMIs in place 	<i>Law enforcers Trained and designated EMIs</i>	<i>Salary considerations need to be made</i>	2025-2030	

8. 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 a 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).

9. Recommendations and Conclusions

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 other stakeholders to implement operational waste management throughout their respective domains. The Ga Segonyana LM in association with other stakeholders 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 other Stakeholders to solve waste management, is required to solving waste management issues involving both the Stakeholders 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 PRO's, 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 diversion through separation at source and recycling initiatives, it will contribute to less waste going to landfill sites and will contribute to a circular economy which will result in substantial cost saving to the municipality.

10. Appendices

a. Source 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.

i. SPE, EPWP and Government Outcome Based Approach Grant

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

ii. 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.

iii. 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. MIG, which is administered by the Department of Cooperative Governance and Traditional Affairs, not only funds immovable infrastructure, but have now included specialised vehicles, which is 5% of the MIG funding has to be shared by sports and waste management. An application in form of a business plan needs to be done and submitted for recommendation from DFFE national office in order for the specialized vehicle to be funded. 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

iv. 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.

v. 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.

vi. 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 House 1685 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.

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

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