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Revision of the Municipal Integrated Waste Management Planning Guidelines (MIWMP)

Final Review Report

June 2022

by

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Revisions of the Municipal Integrated Waste Management Planning Guidelines (MIWMP)

Final Review Report

Report prepared for:
United Nations Environment Programme (UNEP) and Department of Forestry, Fisheries and the Environment (DFFE)

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1. Background

Responding to the shocks and challenges as a result of the COVID-19 pandemic, the Partnership for Action on Green Economy (PAGE) launched a Green Recovery Programme in 2020 to provide targeted support to governments in greening their economic recovery packages. In South Africa, integrated waste management is recognised as a key component of responding to the COVID-19 crisis and transitioning to an inclusive green economy. In close consultation with the Department of Forestry, Fisheries, and the Environment (DFFE), the United Nations Environment Programme (UNEP) has developed a project titled "Strengthening Waste Management Legislation for a Greener Recovery" to provide technical assistance and capacity building to the government of South Africa with the support from the PAGE Green Recovery Fund.

The recently approved 2020 National Waste Management Strategy (NWMS) has the circular economy at its centre and recognise the important role of informal waste pickers in South Africa's transitioning to an inclusive circular economy. In this regard, the DFFE and Department of Science and Innovation (DSI) have developed waste picker integration guidelines for South Africa in addition to evidence based guidelines to integrate waste pickers into South African municipal waste management systems developed by the University of the Witwatersrand in 2016.

Supporting municipal waste management can help the country to attain COVID-19 economic recovery objectives, and transition to an inclusive circular economy with waste picker integration as envisaged in the NWMS and picker integration guidelines. This may be achieved by revisions of the Municipal Integrated Waste Management Guidelines and the update of the Integrated Waste Management Plan Portal of DFFE.

2. Introduction

In terms of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008), municipalities are required to develop Integrated Waste Management Plans (IWMPs). An IWMP is a five-year plan that informs the Integrated Development Plan (IDP) of municipalities. The Department of Forestry, Fisheries, and the Environment (DFFE) has shared a guideline for the development of an Integrated Waste Management Plan (IWMP) on their Integrated Waste Management Plan Portal. The aim of the guideline is to assist

municipalities by providing information about what needs to be included when developing an IWMP. The current IWMP guideline needs revision to align with the NWMS 2020 to ensure that key elements of the NWMS 2020 are mainstreamed into the municipal planning tools. Metropolitan (Metro), district and local municipalities are critical to the implementation of the NWMS, as they are responsible for the planning and delivery of waste collection, disposal services, and infrastructure. A review of the NWMS was undertaken to identify gaps in the IWMP guideline. Academic reports, journal papers, and technical reports were then used to provide recommendations on the revision of the IWMP guideline. This report therefore documents recommendations for the revisions of IWMP guideline to incorporate (i) mainstreaming of principles of National Waste Management Strategy 2020, (ii) integration of waste pickers in the municipal waste planning process and (iii) best practices and principles of circular economy, as well as those from the COVID-19 context.

3. Mainstreaming key principles of the NWMS

Mainstreaming principles of the National Waste Management Strategy 2020 is very important to help create a sustainable model of municipal solid waste management and inclusive urban growth. Key principles of the National Waste Management Strategy 2020 include waste minimization, waste prevention, waste as a resource, sustainable strategic partnerships, and environmentally sound socio-economic growth and development. Out of the five principles only sustainable strategic partnerships and waste as a resource appear in the IWMP guideline. The current IWMP guideline recognizes partnerships as a mechanism for providing the services and facilities required for Integrated Waste Management. In terms of waste as a resource, municipalities are required to indicate recycling activities taking place in their municipality. The IWMP guideline currently lacks information around waste prevention and minimization as well as how municipalities will ensure environmentally sound socio-economic growth and development. Mainstreaming principles of National Waste Management Strategy 2020 will therefore include ensuring that all the key principles of the NWMS 2020 are included in the planning process of the municipalities. It is therefore recommended that Waste prevention and minimization as well as environmentally sound socio-economic growth and development are included in the IWMP guideline. Recommendations on how to include the above-mentioned principles is provided as follows.

3.1 Waste minimization and Prevention

According to the waste hierarchy, waste prevention and minimization are the most preferred waste management options. This involves putting measures in place to prevent products and materials from being discarded. Waste prevention and minimization at a municipal level will require collaboration between different stakeholders including national government and private sector or manufacturers and consumers. The national government will be responsible for developing and enforcing laws that encourage waste minimization and prevent. For example, this may include enforcement of EPR regulations to manufacturers to improve product design and take responsibility for their products once they have reached end of life. Waste minimization mainly occurs during the design stages of the products, where products are designed to reduce the amount of waste generated and the toxicity of the waste generated. Manufacturers or the private sector are the key stakeholders that will play an important role in minimizing and preventing waste generation. While the municipalities can not minimize and prevent waste through product design, there is certainly a role that they can play in minimizing and preventing waste. This waste management option is important for municipalities as it reduces costs associated with managing waste i.e., collection and disposal.

To incorporate waste prevention and minimization in the municipal planning process, a municipality should identify ways through which they will contribute to waste minimization and prevention. Table 1 provides examples of how this can be captured.

Table 1: Example of how the goals and targets can be captured

Goal	**Timeline**	**Examples to be included in the guideline**
✓ Identifying existing waste prevention and minimization initiatives in the municipality to explore opportunities for expanding the initiatives throughout the municipality	Year 1	Institute collection days for unwanted goods including furniture, electric appliances and other bulky goods. Allowing communities to put out waste or unwanted goods on a specific day, community members can then help themselves to what is on the streets and by a certain time the municipality collects what remains on the streets.

✓ Prevent and minimize organic waste generation	Year 1-Year 5	Promote home composting and establish a collection system for garden waste. Information on how different stakeholders could prevent or minimize food waste could be shared in the municipal website. This may include sharing of the information such as the food waste prevention & management guideline for South Africa
✓ Motivate behaviour change of all waste generators by conducting education and awareness campaign on waste prevention. This may include information on substituting single-use material with more sustainable options	Year 1-Year 5	Education and awareness messages could be included in municipal accounts. Competitions involving school children and communities
✓ Investment in research to identify possible ways to prevent and minimize waste based on evidence	Year 1- Year 5	Adding Research, Development and Innovation as budget line in the municipal budget
✓ Implementation of EPR by encouraging green design or eco-design and also creating more resource efficient products with lower environmental impacts e.g., using fewer or less harmful materials	Year 1- Year 5	Municipalities must engage Producer Responsibility Organizations (PROs) on supporting green design and eco-design through green procurement
✓ Implementing EPR by partnering with PROs and industry to establish the required infrastructure	Year 1- Year 5	Municipalities much engage PROs to determine the infrastructure needs to implement EPR and where appropriate enter into Public Private

		Partnerships for development and operations of the required infrastructure e.g., sorting facilities, buy-back centres, etc.

A municipality must then identify and evaluate different approaches to achieve the goals and targets. For example, collaboration with different stakeholders could be done through Memoranda of Agreement to drive waste prevention and minimization in the municipality. The municipality's role could be that of conducting education and awareness campaigns about waste prevention and minimization. Universities and research institutes could conduct research to identify existing waste prevention and minimization initiatives in the municipality to explore opportunities for expanding the initiatives throughout the municipality. Grant allocation, revenue from rates and tariffs can be used to cover personnel costs and education awareness resources such as posters and other advertising resources.

Monitoring and evaluation of waste prevention and minimization efforts should be undertaken. Indicators that can be used to measure the level of success could include (i) the amount of waste generated from source (ii) amount of waste sent for recycling (iii) amount of waste sent to the landfill and (iii) amount of waste reduced.

3.2 Environmentally sound socio-economic growth and development

Creating environmentally sound socio-economic growth and development is important to achieve Sustainable Development Goal (SDG) 8 and also the national priorities (Economic transformation and job creation). Significant opportunities for enterprises to promote economic growth and job creation exists in the waste sector. For inclusion of environmentally sound socio-economic growth and development principle, a municipality must identify existing waste management jobs in the municipality and update/develop a waste management organizational structure. This could potentially be used to evaluate gaps in areas where there are new functions that must be performed. Municipalities should enable and support SMME development for job opportunities in the recycling and waste management value chain. This may include assisting with the development of co-operatives who will perform the job identified. Development of those SMMEs should include vulnerable groups including women, youth, people living with disabilities and waste pickers. Targets and goals to ensure environmentally sound socio-economic growth and development should be set. The municipality should assist SMME through capacity building, training and

establishment of mentoring and incubation opportunities with local industries. This can be captured in the following way:

Goal	Short-term goal	Medium-term Goal	Long-term
Facilitate job creation	Identify job opportunities in the waste management value chain	Support SMME development for the identified job opportunities	Support SMME development for the identified job opportunities

A municipality must identify and evaluate different approaches to ensure environmentally sound socio-economic growth and development. For example, this can be achieved by implementing circular economy. In circular economy, job opportunities may include product repair, maintenance and innovating the product design process to improve longevity as well as collection of waste material for recycling. Environmentally sound socio-economic growth and development can also be achieved by implementing Extended Producer Responsibility (EPR). EPR creates job opportunities in collection, sorting and recycling of waste while diverting waste away from landfill and preventing impacts associated with poor waste management. Implementation of circular economy and the EPR will require financial, human and infrastructure resources. Grant allocation could be used to supplement municipal budget allocations to implement circular economy programmes while implementation of EPR could be funded through the EPR fee paid by producers. Municipalities must engage with PROs to establish a working relationship for the effective implementation of EPR. Municipal by-laws could be a powerful tool to introduce financial penalties for not meeting EPR targets.

Monitoring and evaluation of efforts for environmentally sound socio-economic growth and development should be undertaken. This can be done by measuring the number of green jobs created in the municipality. Municipalities must identify opportunities for partnerships in the development of green enterprises in the waste sector for example for the management and operation of waste sorting facilities.

4. Waste picker integration

The important role played by informal waste pickers in waste management is increasingly gaining recognition in South Africa. Informal waste pickers and collectors play an important role in municipal waste collection, sorting and recycling. The involvement of the informal waste sector is particularly important as it enhances recycling, a necessary component of a circular economy. Also, waste picking contributes to job creation. For example, it is reported that within the informal waste management sector in South Africa, waste picking generated between 60 000 and 90 000 informal jobs in 2016 (Godfrey et al., 2016).

According to the waste picker integration guideline[1], waste picker integration is the creation of a formally planned recycling system that values and improves the present role of waste pickers, builds on the strengths of their existing system for collecting and revaluing materials, and includes waste pickers as key partners in the design, implementation, evaluation and revision (DEFF, 2019). Through meaningful partnerships between government, private sector and civil society, South Africa has made strides to integrate the informal waste pickers through policy development, capacity building, training, provision of infrastructure and personal protective equipment.

Waste picker integration is a complex process, mainly due to the difference in the way the informal waste pickers and the formal sector operates. When integrating waste pickers, municipalities face many challenges such as the fact that waste pickers are not formalized, they are not registered, and it is difficult to work with individual waste pickers. While some waste pickers have formalized themselves into cooperatives, some waste pickers do not want to be formalized, they prefer to organize themselves and continue working informally. These challenges act as a barrier towards waste picker integration. However, the challenges can be addressed if municipalities can engage with the waste pickers through their association and unions. Waste picker integration guideline is available to provide guidance on how the municipalities and the industry can integrate with the waste pickers. Some of the challenges faced by the municipalities and possible solutions to those challenges are provided in the guideline.

Municipalities have a crucial role to play in integrating waste pickers as municipalities are responsible for waste collection. Also, both the NWMS and the EPR regulations call for integration of the waste pickers. To incorporate waste picker integration in the waste management planning processes, municipalities must select targets and goals they are

[1] https://wasteroadmap.co.za/wp-content/uploads/2021/02/Waste-Picker-Integration-Guidelines.pdf

aiming to attain with regards to waste picker integration. An example of how this can be done is provided on table below.

Table 2: An example of goals and targets that can be set to achieve waste picker integration

Goal	**Short-term goal**	**Medium-term Goal**	**Long-term**
Improve working conditions of the waste pickers	Provide support to 10 informal waste pickers with infrastructure, PPE and training/ mentoring/ incubation	Provide support to 50 informal waste pickers with infrastructure, PPE and training/ mentoring/ incubation	Provide support to 100 informal waste pickers with infrastructure, PPE and training/ mentoring/ incubation
Improve social status of the waste pickers	Ensure fixed pricing for recyclables to reduce exploitation by middlemen, pay decent wages, improve access to basic health care and improve social recognition and respect and help organize the waste pickers	Ensure fixed pricing for recyclables to reduce exploitation by middlemen, pay decent wages, improve access to basic health care and improve social recognition and respect and help organize the waste pickers	Ensure fixed pricing for recyclables to reduce exploitation by middlemen, pay decent wages, improve access to basic health care and improve social recognition and respect and help organize the waste pickers

It is recommended that the municipalities work with the buy-back centres to identify regular waste pickers to be supported.

A municipality must then identify and evaluate different approaches to achieve the goals and targets. For example, two options could be used to integrate waste pickers.

4.1 Option 1: Integration of waste pickers in a source separation scheme

Integration of waste pickers in a source separation scheme could be developed through an agreed participatory process that includes waste pickers and a municipality as partners. A

contract or memorandum of understanding should be in place to ensure that roles and responsibilities of key affected stakeholders are well articulated. A municipality that runs a source separation scheme could collect recyclables for waste pickers. Waste pickers would then sell the recyclable material for profit. If the municipality has contracted with a accompany to run the source separation scheme, those companies with source separation contracts must consider including or working with waste pickers. A by-law with requirements that oblige companies with source separation contracts to consider including or working with waste pickers could be developed. Alternatively, a municipality could implement a source separation scheme where waste pickers collect the separated waste instead of contracting a company.

4.2 Option 2: Providing support to waste pickers

Providing support such as training, mentoring, incubation, assistance with registration of waste pickers, infrastructure, and personal protective equipment to improve the working conditions of the waste pickers is another way through which municipalities can integrate waste pickers.

Monitoring and evaluation of waste picker integration should be done by measuring improvement in the working conditions of waste pickers, amount of material collected and the number of waste pickers that receive support.

The Drakenstein municipality supports Qalabotjha enterprise

Qalabotjha enterprise together with South African Waste Pickers Association (SAWPA) approached the Drakenstein Municipality to assist the enterprise because their working conditions were not good. After several meetings with the Drakenstein Municipality and its Solid Waste Department, they were able to use the municipality's fully resourced Material Recovery Facility (MRF) structure, which was unused before. The municipality also provided PPE, tools, guidance on the registration of the company and food parcels during the COVID-19 lockdown.

The agreement between municipality and Qalabotjha was that the enterprise will use the MRF and hire 20 people.
The enterprise approached waste pickers from the streets, landfills and dump sites to join them.

5. Circular waste economy

There is a growing awareness that a linear economy is not sustainable. A linear economy is an economy where resources are extracted, processed into products, used, and finally discarded. This economic model puts pressure on the natural resources, contributes to generation of large volumes of waste and may lead to future scarcity of resources. Hence, there has been a growing urgency to move towards a circular economy across the world. In contrast to the linear economy, a circular economy entails "keeping materials and products in circulation for as long as possible through practices such as reuse of products, sharing of underused assets, repairing, recycling and remanufacturing" (Chatham House 2020). Often confused as a waste management and recycling strategy, circular economy is an economy that recognises that resources are finite as it includes 'designing out' waste, substituting non-renewable materials with renewable ones, and restoring natural systems.

The South African Government has recognized the circular economy as a means for inclusive economic growth, job creation and sustainable environmental practices (DEFF,2020). The waste sector is one of the sectors that presents a great opportunity to transition towards a circular economy. The South African waste legislation supports transition towards a circular economy. The National Waste Management Strategy (NWMS) of 2020 focuses on the circular economy, and specifically on "'closing the loop' between resource extraction and waste disposal by the application of waste avoidance, reuse, repair, recycling, and recovery throughout the economic cycle to minimise waste and reduce demand for virgin materials as production inputs" (DEFF, 2020). The recently published Extended Producer Responsibility regulations will also support the transition towards a circular economy. Despite good legislation and the high levels of packaging recycling already achieved in South Africa, there is still a lot more to be done to keep the materials in the economy. Approximately 75% of waste generated in South Africa was disposed in landfills in 2018 (Operation Phakisa, 2019). As a result, landfills in many large municipalities are fast reaching their design capacity and nearing the end of their lifespan.

The South African Constitution (RSA, 1996) assigns the responsibility for refuse removal, refuse dumps and solid waste disposal to municipalities (Section 156(1)(a) read with Schedule 5). Therefore, municipalities have a very crucial role in implementing the circular economy. Dagilienė *et al.*, (2021) reports that municipalities should take the lead in implementing policies, which includes implementation of circular economy. In addition, Dagliniene *et al* (2021) notes that national policies are necessary to set the goal of transitioning towards the circular economy while local interventions are crucial to make the goal a reality. The municipalities are not only waste service providers but also major

economic actors as significant purchasers of goods and services (Klein *et al.*, 2021). Therefore, measures to use waste as a resource through re-use, recycling, and recovery to keep the material in the economy are necessary in municipalities. Various actions can be adopted to help move the municipalities towards a circular economy and these may include education and awareness, collaboration and involvement of all key stakeholders, research and development, upgrade of infrastructure, as well as training and skills development of municipal personnel on how they can transition towards a waste circular economy in the municipality.

5.1 Education and Awareness

Transition towards a circular economy requires a behavioural change from linear consumption practices to more circular practices. Education and awareness are key for successful implementation of the circular economy in the waste sector as it helps shape consumer attitudes and behaviour. According to Smol *et al.* (2020) consumer behaviour at the stage of selecting products and services may be of key importance for implementing the circular economy. Also, it is important to encourage all the stakeholders to take actions to support the municipality's activities in implementing a circular economy. Different approaches can be used to offer education and awareness, and these may include the use of posters, social campaigns, and incorporation into general curricula of subjects related to resource management at schools. Municipalities have an important role to play to ensure that the circular economy message reaches the communities in their areas of jurisdiction.

5.2 Collaboration and Involvement of all the stakeholders

The successful implementation of the circular economy requires the involvement of all stakeholders (Smol *et al.,* 2020). Engaging with diverse external stakeholders such as, universities, associations, companies, and consumers will allow co-creation of appropriate and adapted circular solutions for the municipality (Klein *et al.*, 2020). A role to be played by each stakeholder should be clearly defined. Dagilienė *et al.* (2021) reports that implementation of the circular economy can be hindered when some actors involved are not aware of the role they must play. Key stakeholders and the roles they can play in implementing the circular economy at a municipal level is summarised in Table 3 below.

Table 3: Key stakeholders and their role in implementing the circular economy

Key Stakeholders	**Role in implementing CE in the municipality**
Consumers	✓ Participating in circular economy activities e.g., source separation programmes ✓ Sustainable consumption practices
Knowledge Institutions	✓ Building knowledge of what circular economy means at a municipal level ✓ Research, development, and innovation on how the municipality can move towards circularity in the waste sector ✓ Research and development of new technologies and products which are suited towards a circular economy
Manufacturing industry /Business	✓ Sustainable industrial production ✓ Increased use of secondary raw materials ✓ Improved product design for reduced environmental impacts ✓ Integrate circular economy into their everyday processes
Informal sector including women, youth and persons with disabilities	✓ Increase collection of waste material for recycling
Recycling industry	✓ Recycle waste material collected
Municipality	✓ Increase collection of waste by addressing service backlogs and introducing waste separation at source ✓ Raise public awareness about circular economy programs and how different stakeholders can participate in those programs
National Government	✓ Develop policy around circular economy

5.3 Research and Development

Research and development are critical for advancing transition towards circular economy. To promote a circular economy in the waste sector, municipalities can use research to provide evidence-based knowledge that can help inform policy and business decisions, as well as the selection of suitable technology to undertake circular economy activities (Klein *et al.*,

2020). Municipalities therefore need to add Research, Development and Innovation as budget line in the municipal budget so that they can contract research institutes and research consultants to conduct research for them.

5.4 Improve circular economy infrastructure

Infrastructure development is very important to facilitate implementation of a circular economy (Klein *et al*., 2020). According to the Global Infrastructure Hub (2021) infrastructure contributes to circularity by increasing the circularity of infrastructure and through provision of infrastructure that supports circular economy activity. Infrastructure for collection and sorting needs to be in place to enable the reuse, repair, refurbishment, and recycling of materials. Municipalities should therefore include planning for infrastructure upgrades and development in their IWMPs.

5.5 Training and skills development

Implementation of circular economy has the potential to improve the efficiency and to transform waste management service provision, having thus a considerable potential positive impact on job creation and innovation of entrepreneurs. Skills development will, therefore, be required in various sectors to prepare people for the new skills and alternative work opportunities in the circular economy. These will include jobs on product repair, maintenance or innovating the product design process to improve longevity (DEFF, 2020). The IWMPs should therefore identify the specific training needs for transitioning to a circular economy at municipal level and include training and skills development in the plan.

5.6 Incorporating circular economy in the municipal planning process

Incorporating circular economy in the municipal planning process is important to give effect to the NWMS. The NWMS focuses on the circular economy, and specifically on "'closing the loop' between resource extraction and waste disposal by the application of waste avoidance, reuse, repair, recycling, and recovery throughout the economic cycle to minimise waste and reduce demand for virgin materials as production inputs" (DEFF, 2020). Circular economy has three principles including designing out waste and pollution, keeping products and materials in use and regenerating natural systems. Proper implementation of these principles will require participation of different stakeholders where manufacturers would be responsible for designing out waste and pollution by ensuring that they produce products for prolonged use, re-use and recycling. Municipalities can play a role in keeping materials in use through activities such as sources separation schemes, take-back schemes, establishment of buy-back centers and composting. The public would then use the compost to regenerate soil nutrients in their gardens.

Various activities can be undertaken to transition towards a circular economy, and these include promoting behavioural change, implementing EPR, Industrial Symbiosis and increasing collection of material for recycling. Each municipality must identify the need for infrastructure to support collection of recyclables under the various EPR schemes in consultation with the PROs and include relevant actions in the IWMP. These actions need to realistic and achievable within available budget and resources and should consider public private partnerships to enable cost and risk sharing between government and the private sector.

5.6.1 Promoting Behavioural change

Transition towards a circular economy requires a behavioural change where the focus shifts from linear consumption practices to more circular practices. Education and awareness are required to raise public awareness about circular economy programs and how different stakeholders can participate in those programs. This may include communicating to consumers about EPR programs and waste separation taking place in the municipality, informing businesses about Industrial Symbiosis (IS) and encouraging manufacturers to design products for recyclability and reduced environmental impacts. The municipality could also provide an advertising platform for businesses already doing repairs and refurbishment of products. Municipalities must work with PROs to ensure that education and awareness material and messages are aligned with the different material EPR strategies.

5.6.2 Extended Producer Responsibility

EPR is an important policy tool to drive the transition towards a circular economy, in support of the implementation of the National Waste Management Strategy (NWMS). Implementing EPR makes an important contribution to transition to a circular economy by promoting sustainable production and consumption, improving product design to reduce environmental impacts and promoting prevention, reduction and recycling of waste material. Extended producer responsibility (EPR) aims to ensure that product manufacturers are made financially responsible for various parts of the life cycle of their products, including improved product design to increase recyclability and waste reduction, take-back, recycling and final disposal at the end of their useful life.

Incorporation of EPR in municipal planning process is important to give effect to the waste Act. South Africa recently published a set of EPR regulations which aim to ensure that producers of paper, packaging and some single-use products; electrical and electronic equipment; and lighting equipment are made financially responsible for the entire life cycle of

their products. The municipality in consultation with the relevant PROs must set targets and goals for implementing EPR. This may include an example in Table 4 below. Note that the numbers provided in the Table are for illustration purposes only and needs to be relevant to the specific municipality context.

Table 4: An example of goals and targets for implementing EPR

Goal	**Short-term goal**	**Medium-term Goal**	**Long-term**
Encourage consumers to buy sustainable products including re-usable products (avoid single use products), durable products and products with recyclable content	Identify unsustainable products that should be avoided such as the single-use packaging	Provide education and awareness to encourage consumers to avoid unsustainable products	Provide education and awareness to encourage consumers to avoid unsustainable products
Implement a take-back system	Identify products and distributors that will participate in the Take-back program Provide information to the consumers on how the take-back program will work	Roll-out take-back program to 20% of the distributors	Roll-out take-back program to 50% of the distributors
Increase collection of material for recycling by rolling out source separation scheme	Roll out source separation scheme to 30% of the businesses and households	Roll out source separation scheme to 60% of the businesses and households	Roll out source separation scheme to 100% of the businesses and households
Increase collection of material for recycling by integrating informal waste pickers	Provide support to 10 informal waste pickers with infrastructure, PPE and training	Provide support to 50 informal waste pickers with infrastructure, PPE and training	Provide support to 100 informal waste pickers with infrastructure, PPE and training

Improve quality of recyclables collected	Roll out source separation scheme	Monitor accuracy in sorting	Provide sorters with feedback on how they can improve their sorting.
Ensure safe disposal of non-recyclable waste	Provide effective and efficient waste collection system	Dispose waste at a landfill site	Dispose waste at a landfill site

A municipality must then identify and evaluate different approaches to achieve the goals and targets. For example, implementing EPR in a municipality could be achieved through collaboration of several stakeholders including producers, retailers, consumers, municipalities, waste service providers, small and medium-sized enterprises and informal waste pickers. Municipalities could be responsible for waste collection from households and businesses as well as access to infrastructure. Municipalities also have an important role in supporting and promoting EPR through provision of information to the public on how to participate EPR activities such as source separation and takeback schemes. Consumers, citizens and households need to support EPR by participating in the activities, using the infrastructure provided.

The EPR scheme could be financed through the EPR fees. The producers pay an EPR fee to the PROs. The PROs collect the EPR fees, and use them to pay waste management companies for collecting, sorting and recycling waste material. The informal waste collectors can also receive support from the fees paid by producers to EPR schemes.

A municipality may establish by-laws to ensure successful implementation of EPR and these may include

- ✓ Product standards such as requirements for minimum recycled content in a product (i.e., for procurement of waste bins)
- ✓ Mandatory source separation scheme
- ✓ Requirements that oblige producers to take back certain products once they have reached end of life.
- ✓ Requirements that oblige producers to take responsibility of the products in terms of Sec 59 of the Consumer Protection Act, 2008 (Act no. 68 of 2008) if national legislation prohibits disposal of such products into a common waste collection system.

Monitoring and evaluation of EPR activities should be done by looking at the amount of material collected for recycling, improved product design and diversion of waste away from landfill.

5.6.3 Increasing collection of waste material for recycling

Increasing collection of waste material for recycling is important for circular economy as it keeps products and material in use. To incorporate recycling in the waste management planning process, municipality must set recycling goals and targets to achieve. Table 5 below shows an example of how the municipality can set the goals and targets. The targets must be relevant and achievable in the specific municipality context but must also be ambitious enough to ensure business as usual will be challenged. The percentages indicated in Table 5 is for illustration purposes only. Since IWMPs have to assist government in meeting national targets, each municipality must set realistic targets based on their local conditions. Some municipalities are likely to exceed the national targets whereas others may not be able to meet national targets, but the combined efforts will meet national targets.

Table 5: An example of goals and targets to increase recycling

Goal	**Short-term goal**	**Medium-term Goal**	**Long-term**
Divert waste away from landfill	Achieve 60% diversion of waste away from the landfill	Achieve 75% diversion of waste away from the landfill	Achieve 90% diversion of waste away from the landfill
Roll out source separation scheme	Roll out source separation to 30% of the households	Roll out source separation to 60% of the households	Roll out source separation to 100% of the households

A municipality must then identify and evaluate different approaches to achieve the goals and targets. For example, increased collection of waste material for recycling can be achieved by implementing source separation scheme and by setting up buy-back centers or drop-off facilities for recyclables

5.6.3.1 Source separation schemes

To increase collection of waste material for recycling, a municipality could establish a source separation scheme by providing two plastic bags or bins for waste generators to separate waste. One bag could be used to separate recyclable waste (dry waste) and one for general

waste (wet waste). The municipality or service provider will be responsible for providing bags for separating waste, collecting separated waste and developing a guideline for waste generators on how and what to sort. In terms of resources, implementing the source separation scheme will require vehicles for collection of recyclables, a driver and other workers to help load recyclables on the vehicle as well as a Material Recovery Facility where the material will be further sorted and made ready for recycling. A source separation scheme can be funded through the equitable share funding and grant allocation. Alternatively, a municipality can contract or enter into a partnership with a private company to run the recycling scheme. The contractor will be responsible for the collection of recyclables while the municipality will remain responsible for provisioning of receptacles for unrecyclable waste and the sorting guideline. By-laws obliging waste generators to participate in the source separation scheme can be developed to increase participation

5.6.3.2 Buy- back centers and/or drop-offs

A municipality can also increase collection of recyclables by establishing drop-off or buy back centres where waste pickers, residents, collectors, reclaimers, and others can drop-off or sell their recyclables. The materials collected is sold to the re-processors. Buy-back centres can be funded through the equitable share funding, grant allocation and through EPR fees. The income generated by the sale of recyclables must be for the benefit of the service provider and could be used by municipalities to incentivise service providers to maximise collection of recyclables.

6. Waste Management Practices in response to COVID-19

Covid-19 pandemic has led to increased amount medical waste. This poses risks to waste municipal workers and waste pickers who have to salve through bins for recyclable material. Measures to reduce contamination from COVID-19 related waste include;

6.1 Municipal collection staff

Solutions to the impact of COVID-19 on municipal workers relate to the provision of appropriate PPE with emphasis on wearing of face masks, combined with daily screening of staff. Screening of staff could include self-screening by providing questionnaires to staff to complete before reporting for work. The questions should include indicating contact with infected people, and self- reported symptoms. If staff report symptoms, then they should be send for formal screening and testing. Positive cases must follow protocols as prescribed by the National Department of Health.

6.2 Waste pickers

Municipalities should create awareness about the importance of wearing a mask, not touching your face, social distancing, and regular hand washing. Municipalities consider organizing hand washing/sanitizing stations in areas where pickers are working. Waste picker protection can further be supported by encouraging households to donate cloth masks and hand sanitizer or simply putting out buckets with soapy water to enable pickers to wash hands regularly.

6.3 Households

Households should be encouraged to keep possible COVID-19 infected waste separately, put it in a double bag, and keep the waste at least 72 hours before putting it out for collection. On collection days, households should disinfect their waste bins before putting it out and again before taking it back in.

6.4 General public

The general public should be educated on the proper use, and management of disposable masks and gloves. Attempts to clean and reuse disposable masks should be strongly discouraged, and proper management of all waste should be emphasized to avoid illegal dumping and littering of COVID-19 related waste.

7. Conclusion

IWMPs are important tools for planning delivery of waste collection, disposal services, and infrastructure. Incorporating key principles of the National waste management strategy, circular economy and waste picker integration is important to improve waste management in municipalities. This will not only improve waste management but also bridge the gap between policy and implementation, contribute to job creation while protecting the environment. Therefore, the guideline will be updated by revising the text to align with the review comments provided and inclusion of the tables as guidance on recommended actions that municipalities should consider when compiling their IWMPs.

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