

# WASTE MANAGEMENT

Reducing waste generation and improving waste management

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## 1. PROBLEM DEFINITION

**Inadequate waste management in a context of exponential waste growth.** Sub-saharan Africa is seeing a boom of urbanisation. Between 2010 and 2035, the urban population of the region is expected to more than double, from 298 million to 697 million (UN, 2014). As a direct consequence, urban areas are going to grow fast, increasing the amount of waste they produce. This, combined with shifting consumption patterns, will generate an exponential growth of waste generation from 165 million tonnes, in 2020, to 368 million tonnes, by 2040 (UN, 2014). In this context, one of the most pressing problems is the combination of companies manufacturing cheap, non-recyclable, bulky packaging, with the lack of efficient infrastructure that allows governments to collect waste on time and to separate it. Despite the fact that the amount of waste generated is less in Sub-Saharan Africa than in the global North, waste collection rates are low, with only 44% of generated waste being collected (Van Niekerk and Wegmann, 2019). In these conditions, residents' low awareness about the need to reduce, separate, recycle, and reuse waste is aggravated by the sentiment that any individual effort they make is useless. Inefficient solid waste management leads to public health issues such as Malaria, Zika, and the Dengue fever. Moreover, the burning of waste is common in many sub-saharan African cities, creating soaring levels of pollution (Van Niekerk and Wegmann, 2019).

## **2. WHEN AND WHERE DOES IT OCCUR?**

This problem is relatively new; it is a product of the rapid urbanisation taking place right now across the continent. The lack of source-separation recycling—the act of consumers separating materials by type at the point of discard so they can be recycled—as well as general recycling and reuse has gotten worse as the population, consumption patterns, and waste creation continue to grow exponentially, exceeding the municipal capacity to manage them. This city-wide problem is worst in densely populated and low-income areas where poor infrastructure and natural disasters make waste management even more difficult (Maphosa and Maphosa, 2019).

## **3. WHO IS IMPACTED BY THE PROBLEM? WHAT ARE THEIR NEEDS?**

Citizens need timely and efficient collection of waste with provision of adequate waste bins that are appropriately monitored and located at a working distance for refuse dumping and timely collection. All citizens are impacted by the problem but it particularly affects the low-income families who live in slums and informal settlements<sup>1</sup> and the waste workers who mainly work in the informal sector.<sup>2</sup> The problem affects the health of the population, local economies and the governments as well (Ayeleru et al. 2020).

## **4. ROOT CAUSES**

- ▶ Companies manufacturing cheap, non-recyclable, bulky packaging.
- ▶ The lack of efficient infrastructure that allows governments to collect waste

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<sup>1</sup> Informal settlements are: 1. areas where groups of housing units have been constructed on land that the occupants have no legal claim to, or occupy illegally; 2. unplanned settlements and areas where housing is not in compliance with current planning and building regulations (unauthorized housing) (OECD, 2001).

<sup>2</sup> The informal economy is the diversified set of economic activities, enterprises, jobs, and workers that are not regulated or protected by the state. The concept originally applied to self-employment in small unregistered enterprises. It has been expanded to include wage employment in unprotected jobs (WIEGO).

on time and to properly separate it.

- ▶ Weak enforcement and outdated laws and policies.
- ▶ Residents' low awareness about the need to reduce, separate, recycle and reuse waste aggravated by the sentiment that, in this context, any individual effort they make is useless.
- ▶ Population growth and progressive urbanisation in the continent, combined with a change in consumption patterns.
- ▶ Inadequately trained waste management personnel.
- ▶ Use of inappropriate programs, technology, and machinery.
- ▶ Lack of cooperation with other government stakeholders and the private sector.
- ▶ Lack of strategy to encourage recycling and reusing among businesses causes low levels of participation by the private sector in recycling.
- ▶ Lack of community awareness of the benefits of separating, combined with a lack of a sense of ownership over public spaces leads to illegal waste dumping.

## **5. WHY DO YOU THINK THE PROBLEM IS OCCURRING AND HOW HAS THIS NOT BEEN SOLVED YET?**

The lack of institutional capacity for municipalities to deal with waste services is due to the lack of an integrated solid waste management plan. Non appropriate “policies have contributed to the growth of life- and health-threatening slums, where waste management services are often woefully provided” (UN, 2014: 1). However, other important factors are the inadequate information on waste management benefits; insufficient academic research and

industry linkages; financial, economic and cultural constraints; lack of planning; and projection. For sub-saharan Africa, all of these problems are going to get worse as the amount of municipal solid waste continues to rise quickly, due to growing populations, urbanisation, and consumption patterns (Van Niekerk and Wegmann, 2019).

## **6. CALL FOR ACTION**

As waste generation is expected to grow from 165 million tonnes, in 2020, to 368 million tonnes, by 2040 (UN, 2014) cities urgently need to find innovative strategies to reduce waste and improve its management. Increasing population, rural-urban migration, and shifting consumption patterns are all combining to increase the amount of waste produced in cities, overwhelming the capacity of existing waste collection systems. Companies are also contributing to this issue by manufacturing single use, non-recyclable, and excessive packaging for most consumer and commercial goods. Governments lack efficient infrastructure to collect, sort, and manage waste in a timely manner, which is compounded by low rates of awareness among residents about the need to reduce, separate, recycle and reuse waste. There is prevailing sentiment among populations that any individual effort to address this is futile. Governments and communities lack the legislative and policy tools to enforce good practices and implement innovative new ones. On top of this, a lack of coordination and cooperation between governments, private sector stakeholders, and city residents exacerbates the problem and inhibits opportunities for meaningful progress. The final result of these factors is massive amounts of waste that cannot be adequately processed, resulting in dangerous and harmful outcomes like illegal waste dumps, pollution, infectious diseases, and other public health issues.

In this multi-city challenge we want the public to share innovative ideas about:

- ▶ How local authorities can incentivise the community to reduce, separate, recycle, and reuse waste.

- ▶ How municipalities can better collaborate with waste collection operators to reduce waste generation and improve waste management.
- ▶ Incentives to engage informal waste collectors to formalise the sector.
- ▶ Data sharing strategies to allow local authorities to get more data about the situation on the ground to reduce current waste generation and improve waste management.
- ▶ Successful, innovative, and sustainable solutions from other places in the world to reduce waste generation and improve waste management in the participating cities.

## **7. THE SOCIAL IMPACT OF YOUR IDEAS**

The solid waste management in African cities is a wicked problem in the sense that it is interdependent, complex, systemic and urgent. The public sector cannot solve the problem on its own and, in this sense, gathering ideas from the public is key. On the one hand, engaging the stakeholders brings the best collective intelligence from the community into the policy-making process. On the other hand, better solutions tend to be produced when those receiving the interventions are involved in designing them. If implemented well, community-led responses can improve the efficiency of waste management and influence public behaviour to recycle in these cities, protecting their environment, boosting their economy, and improving public health.

## **8. BIBLIOGRAPHY**

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