

4 Waste governance





Waste governance

What the reader can expect

The focus of this chapter is on the enabling governance environment to support sustainable waste management systems in Africa. The introduction section provides background on what is meant by governance and good governance and the status of governance in Africa. The next section focuses on regulation, and the status of the regulatory frameworks in different African countries. Shortcomings in the regulatory framework are highlighted through examples in various countries. Specific policy instruments aimed at waste prevention and reduction are also discussed. The chapter also includes insights into the use of economic instruments in the waste sector in Africa, with examples of specific instruments and the successes and failures of their implementation. Lastly, the chapter provides an overview of the role players in the waste sector, the arrangement of the different actors and examples of sound partnerships.

Key messages

The following are the key messages regarding waste governance in Africa:

- Good governance is crucial for creating an enabling environment for sustainable materials management (including resource and waste management) (Wingqvist and Slunge 2013)
- The main challenge in Africa is the inability of governments and private industry to keep pace with growing waste streams and the timely development of policies and strategies to effectively deal with it (Onibokun and Kumuyi 1999).
- There is a need to create sufficient capacity (financial, institutional, technological and infrastructural) to drive environmentally sound waste management (Bello *et al.* 2016)
- The limited use, and poor design, of economic instruments in solid waste in Africa represents a “lost opportunity” (UNEP 2005).
- Non-domestication of international agreements is making Africa an easy target for illegal dumping of hazardous waste from outside of the continent (Osibanjo 2002, Ahmend-Hameed 2016).

4.1 Introduction

“Urban governance presents the most daunting and challenging task for sub-Saharan African countries in this century” (Rakodi in Lwasa and Kadilo 2010:27). Governance refers to how power and authority are exercised and distributed, how decisions are made and implemented and the extent to which citizens are able to participate in decision-making processes and hold decision-makers accountable (Wingqvist and Slunge 2013). Onibokun and Kumuyi (1999:4) define good governance as *“the presence of a government with good and legitimate leadership, a lawful claim to power and authority (based on a mandate derived from the people’s will), vision and a progressive socio-political agenda acceptable to, and accepted by, the people and implemented with honesty, transparency, and accountability”*. They go further to state that *“good governance will lead to the institutionalization of appropriate policies, programmes and strategies for urban management that help to eliminate or ameliorate the problems posed by rapid urbanisation”*. Therefore, good governance aims to ensure inclusive participation,

making governing institutions more responsive and accountable, and respectful of international norms and principles (Wingqvist and Slunge 2013).

The success of municipal solid waste management relies heavily on an enabling governance environment determined by social, economic and psychological factors, including public participation, policy, and public attitudes and behaviour (Ma and Hipel 2016). The effectiveness and sustainability of waste management services, being one of the most visible urban services, therefore serves as an indicator for sound municipal management, successful urban reforms and good local governance (Okot-Okumu 2012).

“The last three decades have seen the steady rise of a discourse of ‘good governance’ in African cities, ideologically deployed in both the rhetoric and practices of democratization, privatization, decentralization and liberalization” (Myers 2011:104). Unfavourable operating environments for solid waste management nevertheless remain a reality in Africa (Mbuligwe 2012).

4.2 Direct regulation

Environmental problems associated with solid waste management (see chapter 5) have traditionally been addressed through command-and-control regulations. A review of solid waste management in Africa, found that a number of countries have regulations and policies on how waste should be managed (Bello *et al.* 2016). The Guidelines for Framework Legislation for Integrated Waste Management (UNEP 2016) highlights the need to include mechanisms to manage the implementation of the legislation. It appears that despite strong legislation in some countries, however, the implementation and enforcement of this legislation remains weak. In some countries, state officials *“are not even aware about the strategies of service delivery that exist”* (Makara 2009).

The subsections below provide some examples of identified problem areas associated with waste regulation in Africa.

4.2.1 Weak regulatory framework

The legal framework for waste management is often fragmented and the provisions dealing with municipal solid waste, weak. This was found in the case of Egypt, for example, where there is no clear distinction between roles and responsibilities of the governorates, municipalities, service providers and waste generators (NSWMP 2011). Similarly, Nigeria has a plethora of legislation relating to the environment that touches on waste management, but with a lack of implementation and enforcement of the laws (Nwufo 2010). Although South Africa has strong legislation, it has not been translated into practical action plans, which resulted in government not meeting the National Waste Management Strategy targets set for 2016 (DEA 2012).



4.2.2 Unsupportive policy, legal and regulatory environment

The private sector should play an important role in the management of waste throughout Africa, but in some instances municipal by-laws assign full responsibility for waste management to government bodies, creating a barrier to private sector involvement (Bello *et al.* 2012). Kenya is a case in point, where responsibility for waste collection and disposal, regulation and monitoring of activities of waste companies and generators of solid waste, enforcement of all laws and by-laws relating to solid waste, and coordination of actors involved in solid waste management are all assigned to the local municipality (Van Dijk and Oduro-Kwarteng 2007). However, in Nairobi, private sector participation in solid waste collection is spontaneous, unplanned and open to competition without regulation. In addition, it is reported that “companies violate many of the solid waste laws and by-laws, especially those on disposal” (Van Dijk and Oduro-Kwarteng 2007). The command-and-control waste strategies of Kenya proved to be inefficient, as evidenced by the mountains of uncollected and illegally dumped waste (UNEP 2005, Kazungu 2010). The failure of the waste management laws and regulations is largely owing to ineffective provisions and sanctions to deal with transgressors and the inability or unwillingness of officials to enforce laws (Kazungu 2010).

According to Mbuligwe (2012), East African countries have policy, laws and regulatory provisions that restrict improvements in solid waste management by restricting cost recovery, which is necessary for service sustainability in the long run and to cover short-term shortfalls from traditional budget sources. In Ghana, the Local Government Act, 1993 (Act 462) confers power to local authorities to promulgate and enforce by-laws to regulate solid waste management, among other things, but private companies cannot operate without the approval of, or a licence from, the local authority (Van Dijk and Oduro-Kwarteng 2007). A similar situation has emerged in South Africa, where the new regulatory framework (post 2009) has resulted in significant changes in the requirements for business to operate legally in the waste sector. Businesses entering the waste economy in South Africa have identified time delays in environmental authorization approvals, subjectivity in the interpretation of legislation, and site specific waste management licences, among other things, as barriers. Ensuring legal compliance is hampering the growth and sustainability

of businesses in the waste sector, especially small businesses (Oelofse and Mouton 2014).

The legally binding framework for solid waste management in Uganda is spread over several different acts and ordinances (Göransson 2012). The policy framework is seen as lacking coherence. The conditions a company must fulfil to win a bid discourage small enterprises and co-operatives in the lower income brackets from earning an income through community contracting (Lwasa and Kadilo 2010). A legal framework that does not allow for community contracting and too high a barrier for registering a company are complicating factors (Göransson, 2012). The decentralized and privatized system of urban service delivery is said to be in a transition phase where guidelines are yet to be developed and implemented, which is why the system is not yet spelled out in the ordinances (Göransson 2012). There is also still the lack of a clear strategy on how networking, partnerships and community awareness will be achieved. The lack of operating institutional functions (including the absence of environmental committees in the area) could be a possible explanation for the knowledge gap in policy-making (Göransson 2012). Experiences in Kampala, Uganda, highlight the knowledge gap for making urban service delivery pro-poor (Lwasa and Kadilo 2010). A small policy change to allow the use of wheel barrows and other small-scale equipment that can access unplanned settlements, instead of the current prescribed use of trucks, would remove one of the most significant barriers for CBO and NGO involvement (Tukahirwa *et al.* 2010).

While making waste management a municipal function is seen as being crucial to ensuring that all citizens (rich and poor) receive a service, it can result in municipalities becoming gatekeepers to the waste, especially waste that can be reused, recycled and recovered. Public-private partnerships are key to unlocking this opportunity, however, if municipalities are stuck in traditional collect-transport-dump mode, opportunities to move waste up the hierarchy can be lost. Currently, this problem is being somewhat bypassed in Africa as a result of a large, active informal waste sector that is able to access recyclable waste at kerbside and on landfill in spite of local government policies regarding the private sector.

4.2.3 Weak enforcement of legislation

Waste policies and legislation will at best be an exercise in futility if they are not effectively enforced and complied

with (Nwufo 2010). Oelofse and Godfrey (2008) argue that despite some deficiencies, the mere enforcement of available legislation, including municipal by-laws, will improve the waste situation at community level in municipalities. Indiscriminate dumping and littering are by default illegal activities that should be treated as such by law enforcement officers. It is therefore important that enforcement officers know what their responsibilities are under the law, and what actions can be taken under various circumstances.

Nigeria has a well-structured National Policy on Environment (1989) and the Rivers State blueprint on sustainable environmental practices (2004), but enforcement remains poor owing to a number of factors, including poor staffing, weak penalties, conflicting roles and attitudinal problems (Nwufo 2010, Elenwo and Urho 2017). A study in Uganda (Göransson 2012) found that the solid waste ordinance had not been implemented owing to a lack of enforcement mechanisms. Gray (2003) argues that the gap between legislation and enforcement may be symptomatic of centralized government decision-making processes that do not account for the weakness of lower-level institutions. Alternatively, a decentralized government system can potentially create problems such as inefficient coordination and poor distribution of information and monitoring systems, and can further be complicated by distrust between central and local officials and administrators. South Africa has seen a steady increase in environmental enforcement actions (including pollution and waste) over the past number of years, mostly attributed to the increase in enforcement officers appointed (DEA 2016b).

Ultimately, poor management of waste found across many African countries (see chapter 3) and the resultant environmental and human health impacts (see chapter 5), are the direct result of poor or no enforcement of environmental and waste legislation.

Cohan (2013) holds that courts of law can play an effective role in enforcing legislation if they have the means to make binding decisions. There is, however, no clear guidance on the viability of the establishment of specialist environmental courts in Africa. In South Africa, there is no simple answer as to whether or not to pursue environmental courts. The Hermanus environmental court was closed down by the Government despite its apparent successes, with no reasons for the decision made public. Cohan (2013:63) therefore concludes that

“Only once South Africa has reached a stage where there are presiding officers, prosecutors and lawyers well versed in environmental law, can the issue of the viability of specialised environmental courts be discussed”.

4.2.4 Harmonization of policy (across regions, link to regional approaches)

“The choice of instruments for environmental management is increasingly influenced by the specific state of African environmental and technological capacity and by a call for the recognition of the role of traditional customs in nature conservation. This African perspective on environmental management is further intensified by an unmet need for regional, transboundary cooperation in the West African subcontinent” (Hens and Boon 1999:337).

Cities in the SADC region, for example, are grappling with high volumes of waste, low waste management capacity and high costs of proper waste management. This is exacerbated by the lack of appropriate technologies and equipment coupled with poor enforcement. The SADC Secretariat is therefore developing a regional programme on waste management that will require a harmonized approach across the SADC (SADC 2017).

4.2.5 Policies to prevent waste

In August 2017, Kenya joined a number of other African countries that regulate the use of plastic bags through legislation aimed at waste prevention (Njugunah 2017). The list of countries with regulations on plastics and the year of the regulations are shown in **Table 4.1**. These regulations vary considerably, from a ban on only single-use (thin) plastic bags and associated requirements for bag thickness to complete bans on all plastic bags. This movement to ban plastic bags across Africa is sparking discussions between governments and industry on possible further bans on other single-use plastic products, such as polyethylene terephthalate (PET) beverage bottles and food services industry products such as plastic cups, containers, utensils and straws. Zimbabwe, for instance, instituted a ban on expanded polystyrene containers in the food industry in 2017 (Mhofu 2017). However, while many opportunities for “greener” product replacement exist, such bans must be carefully considered in terms of broader health and safety issues, like access to clean drinking water and safe food in Africa, and opportunities for local recycling of such products.



Table 4.1. Summary of introduced and imminent regulatory action on single-use plastic products

Country	Year	Level	Policy	Features
Benin	2018	National	Ban – entry into force	Ban on import, production, sale and use of non-biodegradable plastic bags
Botswana	2007	National	Levy – entry into force	Levy on retailer. No enforcement of retailers to charge for plastic bags. Retailers decided if and how much to charge
Burkina Faso	2015	National	Ban – entry into force	Ban on production, import, marketing and distribution of non-biodegradable plastic bags
Cameroon	2014	National	Ban – entry into force	Ban on non-biodegradable plastic bags
Cape Verde	2017	National	Ban – entry into force	Ban on the sale and use of plastic bags
Chad	2010	Local	Ban – entry into force	Ban on the importation, sale and use of plastic bags in the capital city, N'Djamena
Côte d'Ivoire	2014	National	Ban – entry into force	Ban on the importation, production, use and sale of non-biodegradable plastic bags <50µ
East Africa	2017	Regional	Ban – entry into force	The East African Legislative Assembly introduced a ban on the manufacturing, sale, importation and use of polythene bags
Egypt	2009	Local	Ban – entry into force	Ban on the use of plastic bags in Hurghada
Eritrea	2005	National	Ban – entry into force	Ban on importation, production, sale and distribution of plastic bags
Ethiopia	2007	National	Ban – entry into force	Ban on production and importation of non-biodegradable plastic bags <30µ
Gambia	2015	National	Ban – entry into force	Ban on the sale, importation and use of plastic bags
Guinea-Bissau	2016	National	Ban – entry into force	Ban on the use of plastic bags
Kenya	2017	National	Ban – entry into force	Ban on the importation, production, sell and use of plastic bags
Malawi	2015	National	Ban – entry into force	Ban on the use, sale, production, exportation and importation of plastic bags <60µ
Mali	2012	National	Ban – approved	Ban on the production, importation, possession, sale and use of non-biodegradable plastic bags
Mauritania	2013	National	Ban – entry into force	Ban on the manufacture, use and importation of plastic bags

Country	Year	Level	Policy	Features
Mauritius	2016	National	Ban – entry into force	Ban on the importation, manufacture, sale or supply of plastic bags. 11 types of plastic bags for essential uses and hygienic and sanitary purposes are exempt (for example roll-on bag for meat products, waste disposal bags, bags as integral part of packaging, bags manufactured for export)
Morocco	2009	National	Ban – entry into force	Ban on the production, importation, sale and distribution of black plastic bags
	2016	National	Ban – entry into force	Ban on the production, importation, sale and distribution of plastic bags
Mozambique	2016	National	Ban – entry into force	Ban on the production, importation, possession and use of plastic bags <30µ
Niger	2015	National	Ban – entry into force	Ban on production, importation, usage and stocking of plastic bags
Rwanda	2008	National	Ban – entry into force	Ban on the production, use, importation and sale of all polyethylene bags
Senegal	2016	National	Ban – entry into force	Ban on the production, importation, possession and use of plastic bags <30µ
Somalia	2015	Local	Ban – entry into force	Ban on disposable plastic bags in Somaliland
South Africa	2003	National	Ban and levy – entry into force	Ban on plastic bags <30µ and levy on retailer for thicker ones
Tanzania	2006	National	Ban – approved	Ban on plastic bags and bottles
Tunisia	2017	National	Ban and levy – entry into force	Ban on the production, importation and distribution of single-use plastic bags in major supermarkets and levy on consumer on thicker ones (>50µ)
Uganda	2009	National	Ban – entry into force	Ban on lightweight plastic bags <30µ
Zanzibar	2006	National	Ban – entry into force	Ban on the importation, distribution and sale of plastic bags <30µ
Zimbabwe	2010	National	Ban and levy – entry into force	Ban on plastic bags <30µ and levy on consumer for thicker ones
	2017	National	Ban – entry into force	Ban on Styrofoam products

Data source: adapted from UNEP (2018)



Bans on products also extend to hazardous materials. South Africa introduced regulations in 2008 placing a ban on the import and export of any asbestos or asbestos-containing product. This regulation also placed a ban on the import of any asbestos or asbestos containing waste material other than from a member of the Southern African Development Community (RSA 2008). The East Africa Legislative Assembly passed a bill on polythene materials control in 2011⁹. The Heads of State of the EAC needs to assent to this bill in order for it to come into effect.

4.2.6 Non-domestication of conventions

Osibanjo (2002) identified gaps in policy, “*piece-meal*” regulations and non-domestication of international agreements as weak links that make Africa an easy target for illegal dumping of hazardous waste from outside the continent. E-waste is a case in point, where the flow of e-waste into Africa is happening faster than the development of policies, safeguards and enforcement (see chapter 3). This institutional vacuum leads to serious human and environmental impacts in the importing countries (see chapter 5) (Osibanjo 2009 in Wingqvist and Slunge 2013). Common features of countries receiving e-waste are the lack of environmental regulation, capacity and infrastructure to manage this type of waste (Wingqvist and Slunge 2013).

African countries are significant players in the negotiations of environmental treaties (Osibanjo 2002, Gray 2003). However, these negotiations are often done by the Foreign Affairs offices rather than the ministries and departments that are responsible for implementation (Gray 2003). Shared and similar ecological and economic problems underscore a sense of solidarity among African countries, but there are numerous barriers to the implementation of these multilateral environmental agreements (MEAs) in Africa (Osibanjo 2002, Gray 2003). The African countries that are party to conventions relating to waste are listed in **Table 4.2**. The need for mainstreaming environmental considerations, including the domestication of conventions into government policy is only beginning to be acknowledged (Gray 2003).

Nigeria is a case in point, where the Government actively participates in international conferences and negotiations on treaties relating to the environment and is party to several international treaties, including the

Minamata, Basel, Bamako, Stockholm and Rotterdam conventions (Ahmed-Hameed 2016). As a party to these treaties and conventions, Nigeria is under the obligation to apply international standards and measures in regulating and monitoring the environment. The country also has the duty to put in place policies and structures for the implementation of those standards within Nigeria. But evidence suggests that most Nigerian states and local institutions involved in environmental resource management lack funding, trained staff, technical expertise, and other prerequisites for implementing meaningful environmental protection policies and programmes. Furthermore, existing policies and practices are not aligned with international standards. Therefore, Nigeria appears to either lack the capacity or be unwilling to implement and enforce the provisions, obligations and standards enshrined in the international treaties, despite being a signatory (Ahmed-Hameed 2016).

4.2.7 Transboundary waste management

The Basel, Rotterdam and Stockholm conventions are the forefront of global efforts to track and manage the cross-border movement of waste (Rucevska *et al.* 2015). The Basel Convention is the only global treaty controlling transboundary movements and requiring the environmentally sound management of hazardous and other wastes (SBC 2011). According to the convention’s provisions, transboundary movements of hazardous waste can only take place after the prior informed consent procedure has been followed and all states involved have given their consent to the transboundary movement. In the case of transboundary movements of materials such as e-waste and EEE, there are several challenges related to the enforcement of the Basel provisions. Specific challenges include “*the challenges of clear distinction between used EEE and e-waste and between hazardous and non-hazardous waste, as well as the overall challenge of monitoring and enforcing the Basel Convention and the Waste Shipment Regulation*” (SBC 2011:12). This is of specific relevance to Africa in the context of the global waste management system, especially as it relates to global trade in recyclables and the evolution of crime (see chapter 6).

The Bamako Convention was adopted by the 12 nations of the Organisation of African Unity, who were of the view that the Basel Convention was not strict enough

9 <http://www.eala.org/media/view/eala-passes-bill-on-polythene-materials-control>

Table 4.2 Ratification status¹⁰ of waste related conventions (October 2017)

Country	Minamata	Basel	Bamako	Stockholm	Rotterdam	Country	Minamata	Basel	Bamako	Stockholm	Rotterdam
Algeria	-	a	-	R	-	Liberia	S	a	-	a	a
Angola	S	a	-	a	S	Libya	S	a	R	a	a
Benin	R	a	R	R	R	Malawi	S	a	-	R	a
Botswana	a	a	-	a	a	Mali	R	a	R	R	R
Burkina Faso	a	a	-	R	R	Mauritania	R	a	-	R	A
Burundi	S	a	-	R	a	Morocco	S	a	-	R	a
Cameroon	S	a	R	R	R	Mozambique	S	a	a	R	a
Central African Republic	S	a	-	R	-	Namibia	a	a	-	a	R
Chad	R	a	-	R	R	Niger	R	a	R	R	a
DRC	-	a	a	a	R	Nigeria	S	R	-	R	a
Republic of the Congo	S	a	a	R	R	Rwanda	a	a	-	a	a
Cote d'Ivoire	S	a	R	R	R	Senegal	R	a	R	R	R
Djibouti	R	a	-	R	a	Sierra Leone	R	a	-	a	R
Egypt	-	a	-	R	-	Somalia	-	a	-	a	a
Equatorial Guinea	-	a	-	-	a	South Africa	S	a	-	R	a
Eritrea	-	a	-	a	a	South Sudan	-	a	a	R	a
Ethiopia	S	a	-	R	a	Swaziland	a	a	-	a	A
Gabon	A	a	-	R	a	Tanzania	S	a	R	R	R
Gambia	R	a	-	R	a	Togo	R	a	R	R	R
Ghana	R	a	-	R	R	Tunisia	S	a	R	R	R
Guinea	R	a	-	R	a	Uganda	S	a	a	a	A
Guinea-Bissau	S	a	-	R	R	Zambia	R	a	-	R	A
Kenya	S	a	-	R	R	Zimbabwe	S	a	a	R	A
Lesotho	a	a	-	R	a						

Abbreviations: A (acceptance), a (accession), R (ratification), S (signature)

¹⁰ Minamata: www.mercuryconvention.org/countries

Basel: www.basel.int/Countries/StatusofRatifications/PartiesSignatories/tabid/4499/Default.aspx

Bamako: <https://treaties.un.org/pages/showDetails.aspx?objid=080000028009385c>

Rotterdam: www.pic.int/Countries/Statusofratifications/tabid/1072/language/en-US/Default.aspx

Stockholm: <http://chm.pops.int/Countries/StatusofRatifications/PartiesandSignatories/tabid/4500/Default.aspx>



to protect Africa against “dumping” from the developed world (DEAT 2000). Unlike the Basel Convention, Bamako does not exclude certain hazardous wastes (e.g. radioactive wastes). It is, however, limited in its application to countries that are parties (SBC 2011).

Another global treaty that addresses some aspects of e-waste management is the Stockholm Convention. Several POPs regulated under this convention have been widely used in the manufacture of EEE plastic components. Under the Stockholm Convention, articles containing such chemicals have to be identified and disposed of in an environmentally sound manner at the end of their useful life. Other chemicals regulated under the convention, in particular dioxins and furans,

are generated through the open-burning of e-waste. The convention requires that measures be adopted to reduce the total release of such chemicals (SBC 2011). Management of the components regulated under the Stockholm Convention is a challenge in African countries that do not have facilities for safe disposal.

The control of transboundary movements of waste within Africa is also important and necessary because some countries do not have sufficient and appropriate waste management facilities to manage certain hazardous waste streams, while there is available capacity elsewhere on the continent. It will also become even more important in the future if a regional approach to secondary materials management is pursued (see chapter 3 and 6).

4.3 Economic instruments

In contrast to command-and-control regulations, economic policy instruments such as taxes and subsidies, aim to change behaviour indirectly by changing prices. The main aim of using economic instruments in the waste sector is typically to reduce waste generation or divert waste away from landfill towards recycling and recovery (Nahman and Godfrey 2010). In the African context, economic instruments could also be used to promote cost effectiveness and service efficiency and to generate revenue. **Figure 4.1** provides an overview of various types of economic instruments that can be implemented at various stages along the product/waste value chain (Nahman and Godfrey 2014, DEA 2016a).

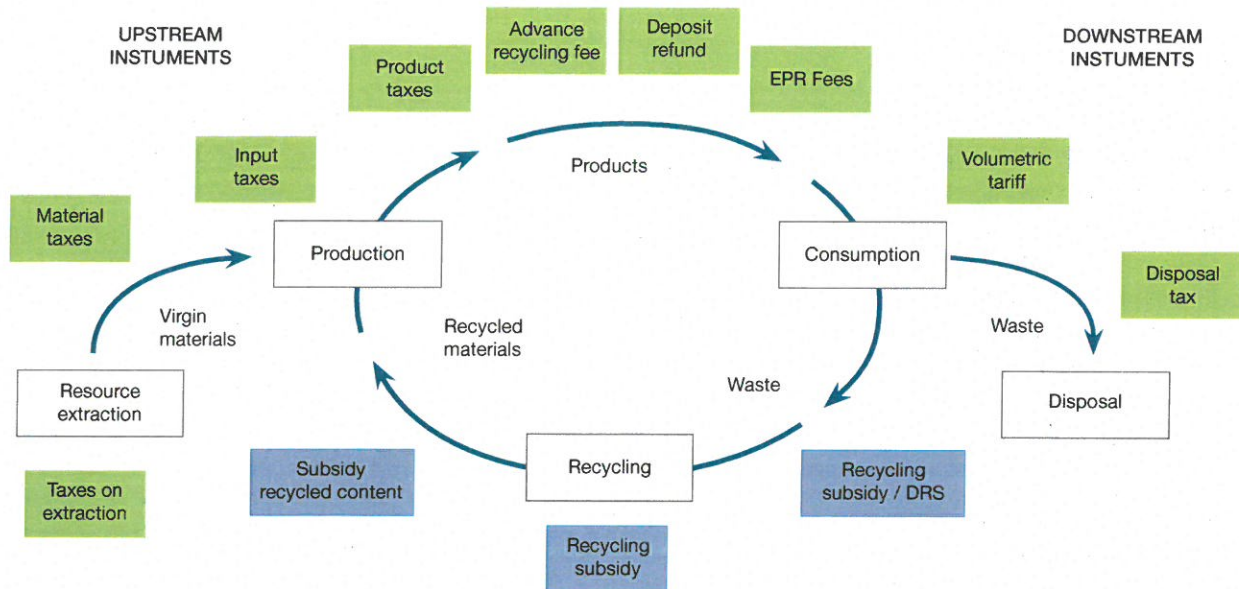
A variety of user charges are being (or have been) used in African cities. These charges include monthly solid waste charges, pay-as-you-dump fees, a collection charge as part of a monthly service fee (e.g. for low income groups in Gaborone) and annual municipal rates (e.g. for home owners in Gaborone and Harare). In Kenya, user charges, subsidies and licences, import duty waivers and deposit-refund systems are used, but to a limited extent. The user charges are often not based on weight or volume, however, and are not cost reflective (UNEP 2005).

South Africa currently has both mandatory and voluntary waste management charges in place. Mandatory charges are levied on plastic bags, waste tyres and incandescent light bulbs, through various product taxes. The levies are currently set by the Government at R0.08 per plastic bag

(US\$0.01), R2.30 per kg for tyres (US\$0.16) and R6.00 per electrical filament lamp (US\$0.42) (SARS 2017). Voluntary EPR fees are levied on products such as paper, packaging, oil and batteries, and have encouraged the development of local secondary commodity markets. The voluntary charges are currently collected by product responsibility organisations (PROs) (DEA 2016a). The situation in South Africa is, however, changing fast with the gazetting of the National Pricing Strategy for Waste Management (DEA 2016a). While the pricing strategy allows for a range of economic instruments (punitive and rewarding), the Government is leaning towards the implementation of product taxes (to fund EPR) and landfill taxes. The pricing strategy also outlines the approach to the implementation of industry waste management plans (EPR schemes), which, as with tyres, will most likely be financed through product taxes collected by the South African Revenue Service. This is different from what is found in many developed countries, particularly across the European Union, where EPR is funded through an EPR fee collected directly by PROs (DEA 2016a).

A deposit-refund system has been successfully applied on beverage containers in Kenya. This system is reported to be popular owing to its ease of administration, which involves collaboration with wholesalers, retailers and consumers (UNEP 2005). A deposit-refund system on plastic bottles was at one point considered by the South African Department of Environmental Affairs, but appears to have been superseded by the move to EPR.

Figure 4.1. Examples of economic instruments in the product/waste value chain



Source: Nahman and Godfrey (2014)

In Ghana, a system of taxes and charges was set up to discourage the import of old cars. Technically, the penalty was a tax paid by importers of cars that at the moment of import exceed a defined age from the date of manufacture. This system failed to achieve the environmental target because it was still cheaper to import an old car than to buy one less than five years old; imports of scrap engines were not affected by the tax and old vehicles already in the country were not taxed (Hens and Boon 1999).

The limited use, and often poor design, of economic instruments in solid waste in Africa represents a “lost opportunity considering the huge potential of these instruments” (UNEP 2005:20). International experience has shown that moving waste up the hierarchy towards minimization, reuse and recycling can be achieved through the use of economic instruments, provided they are appropriately designed and implemented (Nahman and Godfrey 2010).



4.4 Role players

In most urban areas in Africa, solid waste management is the responsibility of the municipality (UN-Habitat 2010). Government has a key role in the formulation and implementation of policies, strategies and regulations. Other important actors in waste governance include the private sector (industry and business), civil society, consumers and the informal sector (Figure 4.2) (Wingqvist and Slunge 2013). NGOs and CBOs are becoming increasingly involved in urban service provision; however, there is generally a lack of knowledge on the kind of activities NGOs take up and the results achieved (Tukahirwa *et al.* 2010). These actors, however, help to strengthen governance capacity (Wingqvist and Slunge 2013).

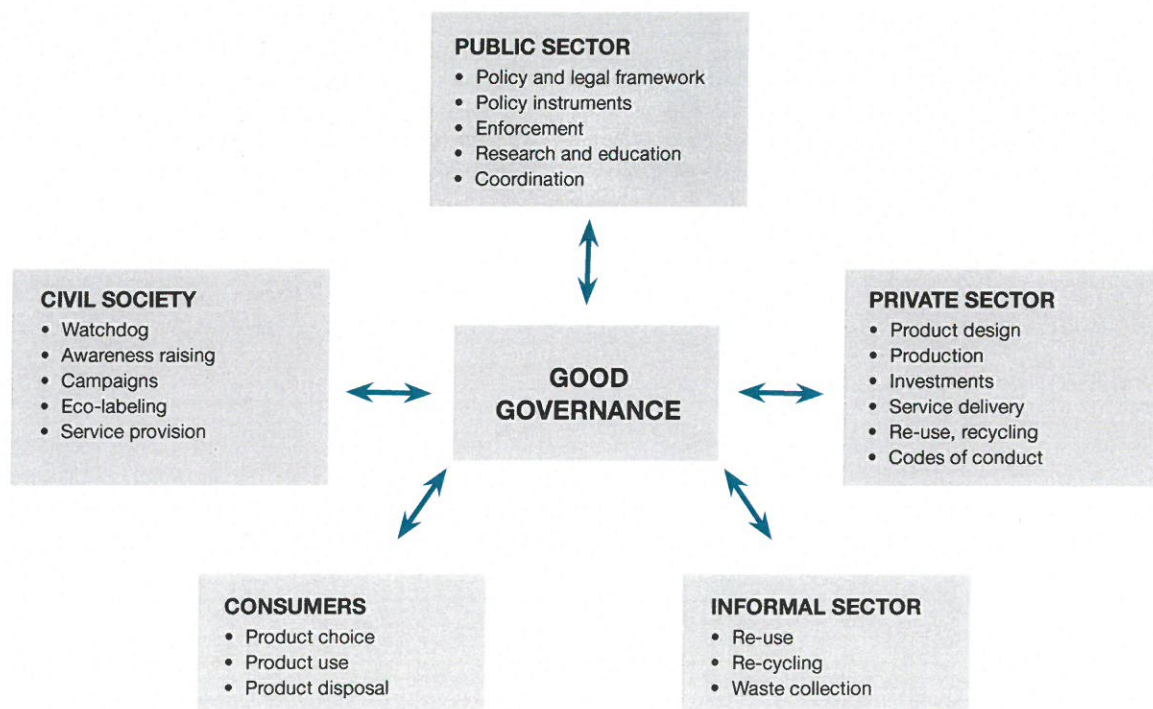
The absence of effective coordination among the various stakeholders can, however, be a problem. This is the case in Dar es Salaam, where lack of coordination has affected collection of user fees and enforcement of law against defaulters. The municipal authorities have the legal mandate to enforce the regulations, but the private

service providers are the ones affected by uncollected revenue. In addition, the municipal authorities have limited trust in the performance of the private sector, resulting in short-term contracts (not exceeding two years) being awarded. This affects the private sector's ability to employ skilled staff, expand services through financial support and loans, formulate strategies and develop innovative technologies for effective service delivery (Kirama and Mayo 2016).

In East Africa, there are no examples where the state is acting in isolation in its management of waste, but there are also no examples where non-state actors have taken the lead in solid waste management. The typical waste management arrangement in East Africa is illustrated in Figure 4.3.

In Maputo City, Mozambique, there are three government institutions with responsibilities concerning waste management, namely the Ministry of the Environment (policy and regulation at national level), the Fund for the

Figure 4.2 Actors involved in sustainable materials management



Source: Wingqvist and Slunge (2013)

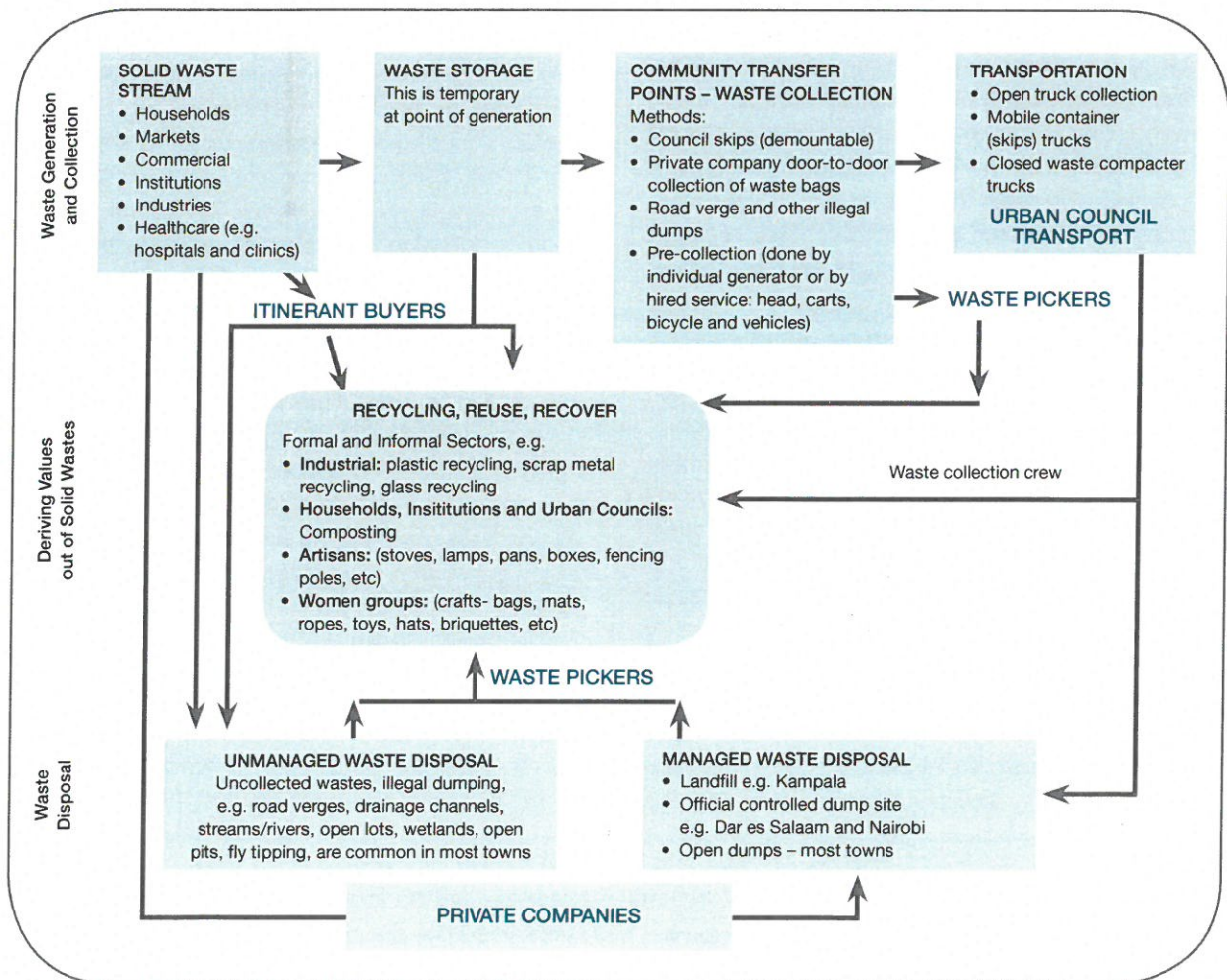
Environment (training of environmental teachers) and the Municipal Department of Solid Waste Management and Health (MSW service delivery, strategies relating to MSW issues and public education and awareness) (Dos Muchangos *et al.* 2017). The civil society stakeholders are non-governmental and non-profit organizations, volunteer associations and the media. The role of civil society is mostly concerned with environmental education, projects and campaigns, but also includes support and management of waste processing and treatment initiatives and lobbying for the introduction and improvement of pertinent laws and policies. Academia is responsible for research and providing support to civil society and, lastly, the MSW generators are responsible for payment for waste management services and compliance with MSW-related rules and directives

(Dos Muchangos *et al.* 2017). An important conclusion of Dos Muchangos *et al.* (2017:133) is that “for a solid waste management system to be sustainable and integrated, all the stakeholders are required to be present and collaborate throughout the processes of planning, implementation and monitoring of how the system is structured and functions”.

4.4.1 Stakeholder mapping

Arrangements for waste service provision range from self-provision by the municipality through collective action independent of external agencies to indirect state provision through sub-contracting to other agencies, including NGOs, private companies and user groups (Majale-Liyala 2013) (see Case Study 4).

Figure 4.3 Typical waste management arrangement in East African urban centres



Source: Okot-Okumu (2012)



CASE STUDY 4

MODELS OF WASTE SERVICE DELIVERY IN KENYA, UGANDA AND THE UNITED REPUBLIC OF TANZANIA

An analysis of the involvement of non-state actors in solid waste management in Kenya, Uganda and the United Republic of Tanzania (Majale *et al.* 2010) revealed three models of waste service delivery:

- Market dominance and networking (Jinja, Uganda)
- Community-dominated (Mwanza, United Republic of Tanzania)
- Hierarchical arrangement (Kisumu, Kenya)

MARKET DOMINANCE AND NETWORKING

Efforts to privatize waste management resulted in waste management services (specifically collection and transfer to disposal sites) being contracted out by council through open bidding. Contracts were awarded to two service providers (private companies with several employees/casuals) operating in different areas in the city. The duration of each contract was one year. Payments from the council to the service providers were based on the number of skips emptied at the disposal site. In the case of Jinja, households did not pay directly for the service, as previous attempts to introduce a fee had not been successful, but they paid indirectly through property tax (Majale *et al.* 2010).

In addition to the “market scenario”, there are also women and youth groups involved in road sweeping and clean-ups on an ad hoc and voluntary basis. The National Environmental Management Authority (NEMA) (a State organ) has established pedagogic centres to showcase exemplary activities and is assisting in sourcing additional skips to be used in the council. These additional skips augment the service provided by the contractors. International organizations are also involved, including the “Lake Victoria Region Local Authorities and Counties Cooperation”, which has been active in promoting the sharing of practices among council members, and the International Labour Organization and Lake Victoria Basin Commission, which has been involved in capacity-building (Majale *et al.* 2010).

In this model, there is a suitable environment for competition, but time is of essence to ensure timely signing of contracts and payment and good return on investment. The by-laws recognize the role of private contractors, and contracts are only reviewed based on performance. However, decision-making, including policy development, remains with the council and service providers do not attend council meetings (Majale *et al.* 2010).

COMMUNITIES AND NETWORKS

In this model, the communities are the major implementers of solid waste management services, with minimal state involvement. In the case of Mwanza, the privatization of solid waste management services resulted in the council awarding contracts to CBOs and two private companies that serve the central business district. Similar to the scenario in Jinja, the contracts are annual, which does not encourage continuous improvement in service delivery. The contracts are awarded following a democratic process (but not without complaints of political interference). The CBOs are required to register as waste service providers and pay registration fees (Majale *et al.* 2010).

The contractors are people from the community that they serve. This model therefore provides employment opportunities to local community members, who in turn take pride in their work keeping their community clean. All households receiving the service pay a standard fee to the contractors. In instances of non-payment, the contractors can approach the council’s legal office for assistance (Majale *et al.* 2010).

The CBOs and public decide on the location of transfer stations or a skip. The CBOs collect the waste from the households, but the council is responsible for transporting the skips from the transfer stations to the disposal site. In this model, the CBOs have legal contracts and social recognition, but they have limited influence on decision-making. Responsibility and financial burden are shared between the contractors and the municipality (Majale *et al.* 2010).

HIERARCHICAL ARRANGEMENTS

Governance as hierarchies refers to governance conducted by and through vertically integrated State structures, with imposition of laws and other regulation. In Kisumu, the council is still solely responsible for solid waste management, with a typical command-and-control management regime and no official arrangements that involve other non-State actors in solid waste management. The collection services are concentrated in the central business district. Only a few residential areas receive a service from the council, with non-State actors

unofficially providing a service to most residential areas. The problem with the non-State actors is that they are not legally recognized in the solid waste arena (Majale *et al.*, 2010).

Payment for waste services in Kisumu is included in the water bill. The private companies in Kisumu are operating in open competition purely based on a willing-buyer-willing-seller basis. Payments are made at the end of the month as per a verbal agreement with the household. CBOs operate mostly in middle-to low-income areas and charge fees agreed upon with the household (Majale *et al.* 2010).





4.4.2 Relationship between formal and informal

The failure of the formal solid waste sector to provide adequate waste collection and transportation systems creates an environment in which the informal waste sector can thrive (Noel 2010). The informal sector are generally not controlled and do not follow any health and safety regulations (Okot-Okumu 2012). Morocco is the only country in Africa with a national policy that recognizes the informal sector as part of the private sector and authorizes it to collect recyclables (Scheinberg and Savain 2015).

Informal waste pickers operating in urban councils in East Africa deal directly with households, markets and other establishments. The positive contribution of the informal sector is also reflected in its financial contribution to the formal waste management sector. The activities of the informal waste sector often translate into direct cost reductions for the formal waste management system, such as in Lusaka, Zambia, where the net cost of informal waste collection is only US\$1.60 per tonne which is US\$10.40 per tonne less than in the formal sector (Aparcana 2017).

Although these pickers have a positive impact on urban solid waste management, they also contribute to social problems, including littering, nuisance, and social disruption. The informal pickers also compete for zones allocated to formal collectors, causing financial losses for contracted collectors (Okot-Okumu 2012). Achankeng (2003) has reported such conflicts in Cameroon.

The formal waste management sector in South Africa recognizes the value of pickers by providing lockable facilities at landfills where recyclables can be stored until quantities viable for transport have been collected. The formal sector also makes provision for picking at transfer stations, providing opportunities and space for pickers to do their work (Oelofse and Strydom 2010). In Bamako, Mali, the informal sector carries out 100 per cent of total recycling activities (Aparcana 2017). Several authors cited in Okot-Okumu (2012) conclude that communities (through CBOs) and the public, private and informal sectors can all work together to improve waste management in urban areas. Okot-Okumu (2012) argues that formalization of waste picker groups can “*make them more effective, make them follow health and safety regulations and protect them against exploitation*”.



Lock-up facilities at a landfill in South Africa

Photo credit: © Linda Godfrey, CSIR

According to Wilson *et al.* (2006), there is a direct link between the level of structure of the informal recycling sector and the capability of the people involved to add value to the secondary materials.

Incorporating existing informal recycling systems into the operations of formal municipal solid waste management can bring significant benefits (Oelofse and Strydom 2010). Strategic planning of municipal waste management systems must document, understand and build on existing informal collection and recycling systems. Careful consideration must also be given to preventing marginalization of women working in the informal sector when the informal sector is integrated.

4.4.3 Role of industry (exchange)

Privatization of municipal services is often prompted by poor service delivery by public sector entities (Fobil *et al.* 2008). In many sub-Saharan cities, the waste management services provided by local authorities are not responsive to the needs of the communities, resulting in *“widespread dissatisfaction by residents and lack of confidence in the service delivery by local government authorities”* (Fobil *et al.* 2008:263). Pressure from international sponsors of urban waste management initiatives in Africa often force local authorities to privatize or at least scale down government involvement (Fobil *et al.* 2008, Makara, 2009). The decentralization of services is often also the result of dependence on donor funds for projects (Devas 1999, Göranson 2012).

4.4.4 Sound partnerships

Private sector involvement in urban service delivery has proliferated throughout the African continent. In Uganda, the recognition by the Government of the weakness of public authorities in solid waste management (especially in Kampala) led to the development of the strategic framework for reform in 1997. One of the main elements of the strategic framework was to shift service delivery activities to the private sector while the municipal council focused its efforts on planning, specification, supervision and monitoring to ensure adequate coverage and quality in service delivery. The importance of NGOs and CBOs

in service delivery is acknowledged in the legislation, including the constitution and the Local Governments Act of 1997 (Tukahirwa *et al.* 2010).

Solid waste management in Africa should not be seen as a monopoly of government or of private companies. Partnerships are said to promote the *“expansion in the quantity and quality of public goods and services that can be produced, beyond the levels possible under pure private or pure public arrangements* (Ayee and Crook 2003:3). Partnerships in solid waste management in Africa have mainly emerged between government and large private companies through formal contracts. NGOs and CBOs participate in different forms of partnerships (often in more than one partnership) with government, private companies and other NGOs and CBOs (Tukahirwa *et al.* 2010). The success achieved by local and international NGOs and CBOs in Kampala, Uganda, in the *“Waste to Wealth”* programme in Cameroon, Nigeria and Uganda, and by the *“Women Initiative the Gambia”* are documented in the GWMO (UNEP 2015).

Partnerships between CBOs and private companies are predominantly for collection and recycling activities. Some foreign private companies sponsor the purchasing of equipment for waste collection and for the construction of demonstration sites for recycling. Private plastic recycling companies support the community mobilization and awareness activities of local NGOs and CBOs. Government authorities have brought NGOs and CBOs in to assist private companies with community awareness of waste collection issues and fees. It is important to note that such partnerships were only successful when the CBOs and NGOs were involved from the start of the waste collection contract (Tukahirwa *et al.* 2010).

Successful implementation of partnerships is not easy and comes with major challenges, including the division of tasks, responsibilities and power. NGO and CBO involvement has been hampered by shortage of resources, donor dependencies, central policies that favour formal large-scale private companies and lack of government recognition. While policies advocate NGO and CBO involvement, the official conditions included are not supportive of CBOs and NGOs (Tukahirwa *et al.* 2010).



4.5 Conclusions and recommendations

The success of solid waste management in Africa relies heavily on an enabling governance environment determined by social, economic and psychological factors, including public participation, policy, and public attitudes and behaviour. The current governance environment in most African countries is not supportive of sustainable and effective waste management. The regulatory framework in most countries assumes that what works well in one municipality will work well in others, but this is not always the case. Organizational structures, by-laws and waste collection systems vary between countries and between different municipalities within the same country (CSIR 2011). Given the challenges experienced by local authorities across Africa, the importance of partnerships between government,

the private sector, civil society, consumers and the informal sector should be recognized and strengthened.

Fragmentation in legislation needs to be addressed and mechanisms should be created to manage implementation and effective enforcement. Transboundary movements of waste into Africa need to be controlled through the domestication of conventions and treaties to avoid Africa being an easy target for illegal dumping of hazardous waste from outside the continent. However, responsible and controlled movements of waste and secondary materials between countries in Africa need to be supported to ensure safe management, treatment and disposal of waste and secondary resources at appropriate facilities.