"Turning Waste into Prosperity"

Advisers on Urban Enviroment and Development

SOLID WASTE MANAGEMENT POLICY AND LEGISLATION REVIEW FOR BLANTYRE, ZOMBA, LILONGWE AND MZUZU CITIES

SUBMITTED TO:

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ABBREVIATIONS

CEPA	Centre for Environmental Policy and Advocacy
EMA	Environment Management Act
ISWM	Integrated Solid Waste Management
NEP	National Environment Policy
PPP	Public Private Partnerships
UNEP	United Nations Environmental Programme

EXECUTIVE SUMMARY

This study was conducted to review the regulatory frameworks of waste management in Blantyre, Zomba, Lilongwe and Mzuzu Cities and the extent to which such frameworks enable or weaken the development of a waste circular economy and sustainability of the waste value chain. Specifically the study sought to: carry out a desk review of existing policies, strategies and bylaws addressing waste management and related sectors and their status in each of the city councils as well as at the national level; identify the enabling provisions for the implementation of integrated and sustainable waste management including the waste value chain in the existing policies, strategies and bylaws; identify the gaps in policy, strategy and bylaws that impede an enabling environment for attaining an integrated and sustainable waste management including the waste value chain; and make recommendations for future policy, strategy and bylaw review by the councils to strengthen existing policies and bylaws to enable integrated and sustainable waste management in the cities.

The study involved carrying out a desk review of policy documents and literature related to integrated and sustainable waste management. This was followed by a review of the national policy and legislative framework on waste management and local level policy on waste management in the cities of Blantyre, Zomba, Lilongwe and Mzuzu. These included bylaws, regulations, guidelines and strategies on waste management for the cities. Further the study undertook consultations with key stakeholders in the four cities of Blantyre, Zomba, Lilongwe and Mzuzu. The stakeholders were interviewed to solicit practical information on successes and challenges in solid waste management and circular economy in relation to the policy framework that governs waste management in the four city councils.

Th study noted the following as key policy gaps for the development of a waste circular economy and sustainability of the waste value chain: 1) absence of incentives and disincentives for waste separation at source; 2) absence of a guiding framework for engagement of private waste collectors; 3) absence of guidance on the costing of waste collection services; 4) ineffective enforcement of the regulatory framework; 5) lack of guidance on waste management in areas that cannot be reached by council or authorized waste collection services; and 6) outdated and incomplete regulatory frameworks.

Based on these findings, the study recommends that city councils should make waste separation at source mandatory; city councils should develop a guiding framework for the engagement of the private sector; city councils should develop a costing structure for waste collection services; the Ministry of Local Government should expedite review of the Local Government Act to provide for more deterrent fines for non-compliance with by-laws of local government authorities; the Parliament of Malawi should review the law to allow cities to recruit police officers; city councils should define elements of environmentally sound disposal for wastes that cannot be disposed at a designated disposal site; and city councils should ensure that they have up to date by-laws and waste management plans at any point in time.

1.0 INTRODUCTION

1.1 Background

WASTE Advisers engaged Centre for Environmental Policy and Advocacy (CEPA) to conduct a solid waste management review of policy and legislation for Blantyre, Zomba, Lilongwe and Mzuzu Cities. The study objective was to determine the extent to which national and municipal regulatory frameworks enable the functioning of the waste value chain and to make prioritized recommendations for a conducive policy and regulatory environment to support a waste circular economy. The policy analysis work was commissioned by WASTE Advisers under the European Union supported 'Improving the Circular Economy of Solid Waste Management' Project.

The project is being implemented in the cities of Blantyre and Lilongwe and recently embarked on the 'Building Better: Post Covid Recovery through Waste Recycling Project' in the cities of Blantyre, Zomba, Lilongwe and Mzuzu. Both projects are designed and implemented to demonstrate a waste value chain approach that can be up scaled to answer to the challenges of managing waste in an integrated and sustainable way in rapidly urbanizing cities and at the same time contributing to the reduction of greenhouse gases and supporting improvement of soil health for food security through the production and use of compost. WASTE Advisers believes that creating a circular economy through the waste value chain depends on an enabling environment that promotes approaches to managing waste in an integrated and sustainable manner in the cities of Malawi.

The four target cities of Blantyre, Zomba, Lilongwe and Mzuzu are local government authorities with the mandate for waste management. The study examined waste management policies, bylaws and strategies of these four councils in terms of their compliance with the national policies and guidelines and their adequacy for a conducive environment for the development and sustainability of the solid waste value chain.

1.2 Contextual Analysis

The collection, transport, treatment, and disposal of solid wastes, particularly wastes generated in medium and large urban centers, have become a relatively difficult problem to solve by those responsible for their management. The problem is even more acute in economically developing countries, where financial, human, and other critical resources are generally scarce.

This is evident in Malawi where waste management continues to be a growing public health issue in urban settings. Studies on solid waste management in Malawi indicate that the waste supply chain is dysfunctional. At best, only 20% of the cities' solid refuse is collected while only about 5% is recycled (NCST, 2014 & 2017). The rest is disposed in rivers, roadsides, and open spaces or burned. Further, the city councils are spending significant portions of their budgets cleaning streets and neighborhoods due to indiscriminate littering.

Malawi's cities continue to face challenges in the management of solid waste from the point of generation to disposal. The current waste management practices are generally expensive, unsustainable and they do not reach nor benefit the poor and the environment. For example, 80% of the waste can be recycled into organic manure to increase crop production. Waste recycling and re-use involving communities can create employment. City councils' operational costs can be reduced through adoption of an integrated systems approach which facilitates assessment of the technical and non-technical aspects of the existing systems and identification of areas for efficiency improvement. At the same time, the diversion of significant amount of waste for recycling reduces city council's transport costs for waste to the dumpsite.

1.3 Scope and Objectives

The major objective of the policy study was to review the regulatory frameworks of waste management in Blantyre, Zomba, Lilongwe and Mzuzu and the extent to which such frameworks enable or weaken the development of a waste circular economy and sustainability of the waste value chain.

Specifically, the study would achieve the following:

i) Carry out a desk review of existing policies, strategies and bylaws addressing waste management and related sectors and their status in each of the city councils as well as at the national level.
ii) Identify the enabling provisions for the implementation of integrated and sustainable waste management including the waste value chain in the existing policies, strategies and bylaws.
iii) Identify the gaps in policy, strategy and bylaws that impede an enabling environment for attaining an integrated and sustainable waste management including the waste value chain; and
iv) Make recommendations for future policy, strategy and bylaw review by the councils to strengthen existing policies and bylaws to enable integrated and sustainable waste management in the cities.

2.0 METHODOLOGY FOR THE ASSIGNMENT

2.1 Inception meeting with WASTE Advisers

CEPA facilitated an inception meeting with WASTE Advisers where the methodology of the assignment was presented. The client was satisfied with the methodology and recommended the inclusion of the Director for Trade and Commerce at the city councils to the list of respondents. The research would therefore also investigate to what extent the Directorate is promoting green economy in the city including challenges faced and their solutions. The Directorate was formed to promote small scale businesses in the city and that would include businesses related to a circular economy.

2.2 Desk Review of Key Documents

CEPA undertook a desk review of policy documents and literature related to solid waste management. Literature on sustainable waste management was reviewed to develop an analytical framework for the study. This was followed by a review of the national policy and legislative framework on solid waste management such as the Constitution of Republic of Malawi, 1994; the Environmental Management Act; Local Government Act,1999; and the National Environmental Policy (2004) among others. The review considered the existence of provisions in existing laws that regulate solid waste management. A review of local level policy on waste management in the cities of Blantyre, Lilongwe, Mzuzu and Zomba was also conducted. These included bylaws, regulations, guidelines and strategies on waste management for the cities.

2.3 Stakeholder Consultations

The key stakeholders at national level and the four cities of Blantyre, Zomba, Lilongwe and Mzuzu were consulted. The stakeholders included officials from various departments of the four city councils, a representative of private waste collection service providers and a ward councillor.

The stakeholders were interviewed to solicit practical information on successes and challenges in solid waste management and circular economy in relation to the policy framework that governs waste management in the four city councils.

2.4 Analytical Framework

CEPA used the United Nations Environment Programme (UNEP) framework for developing integrated solid waste management plans[1] and the integrated solid waste management (ISWM) framework (developed by Van de Klundert *et al.*) to review the status, identify enabling provision and gaps for the implementation of integrated sustainable waste management systems including the waste value chain in existing policies, strategies and bylaws of the four city councils.

The UNEP framework provides for a waste management hierarchy as a key element of integrated solid waste management. The hierarchy ranks waste management operations according to their environmental or energy benefits as follows:

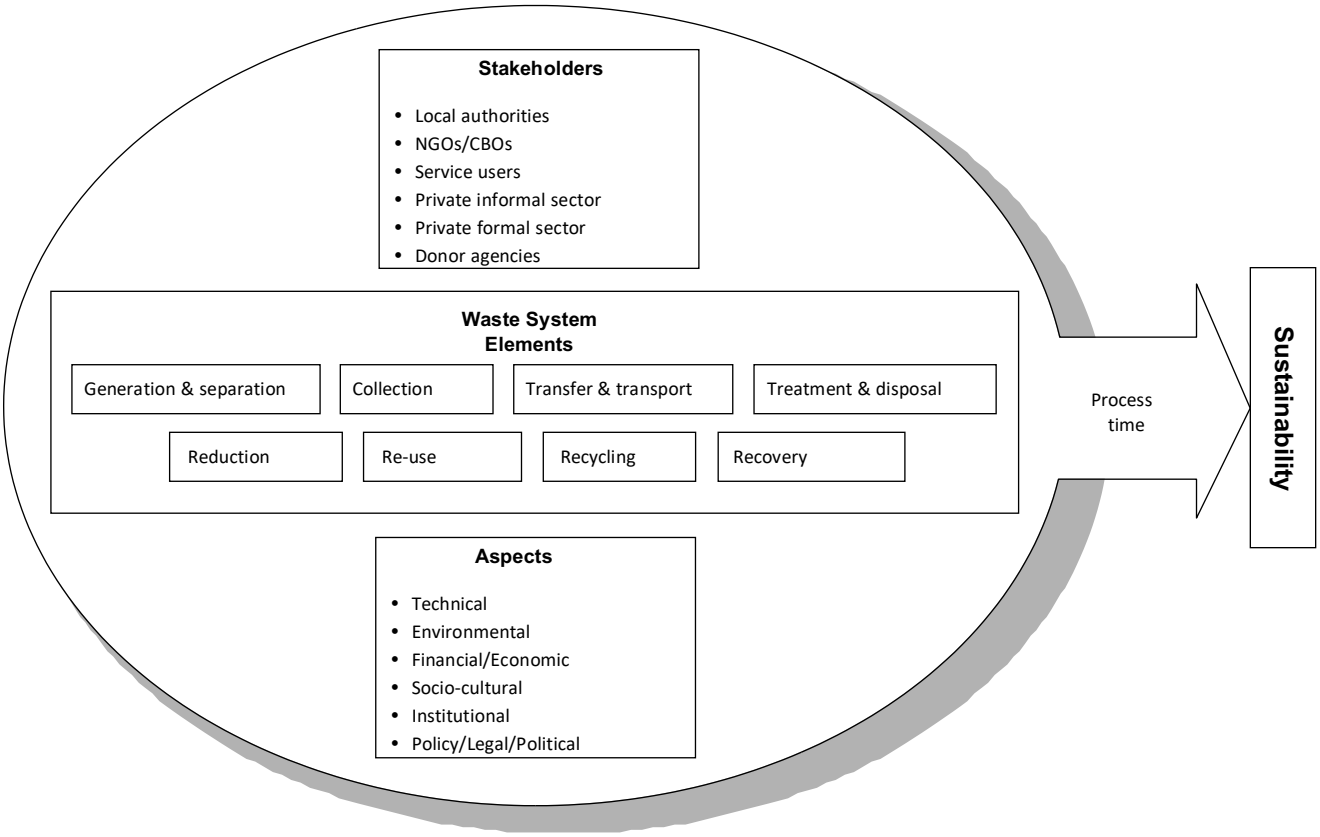
1. Prevent the production of waste, or reduce the amount generated.
2. Reduce the toxicity or negative impacts of the waste that is generated.
3. Reuse in their current forms the materials recovered from the waste stream.
4. Recycle, compost, or recover materials for use as direct or indirect inputs to new products.
5. Recover energy by incineration, anaerobic digestion, or similar processes.
6. Reduce the volume of waste prior to disposal.
7. Dispose of residual solid waste in an environmentally sound manner, generally in landfills.

The UNEP framework collects and assesses information on policies, institutions, financing mechanisms, technology, and stakeholder participation. Within the policy scope, the framework assesses laws and acts, regulatory instruments, economic instruments, and enforcement.

Regulatory instruments specify the standards or limits to be followed; economic instruments provide incentives and disincentives. The level of enforcement of the regulatory framework can reflect adequacy or deficiency in the policy framework although it can be affected by other factors such as human capacity. Assessment of institutions that are involved in each stage of the waste value chain helps to understand the status or potential for wider stakeholder participation in waste management which is key for sustainability. The financing mechanisms for each stage of the waste value chain is assessed to determine the economic feasibility of existing policy frameworks. Examining technologies required for waste handling at each stage of the waste value chain is useful because the complexity and affordability of specific technology can have implications on adoption and sustainability of the system.

The integrated solid waste management (ISWM) concept by Van de Klundert and Anschütz (2001) promotes technically appropriate, economically viable and socially acceptable solutions to waste management problems which do not degrade the environment. The concept promotes the development of a waste management system that best suits the society, economy and environment in a particular location. The concept recognizes the role of various stakeholders and the influence of multiple aspects on the different components of the waste value chain including the policy and legal framework (see figure below).

[1] United Nations Environment Programme (2009), Developing Integrated Solid Waste Management Plan Training Manual



The integrated solid waste management model (Van de Klundert and Anschütz, 2001)

As it will be noted, the hierarchy in the UNEP framework is presented in the ISWM framework by Van de Klundert and Anschütz as 'waste system elements.' As the hierarchy (waste system elements) reflect the different stages of waste management from generation to disposal, it is referred to in this report as the waste value chain. The two frameworks (UNEP and Van de Klundert and Anschütz) were used to identify the enabling provisions and gaps for the implementation of an integrated and sustainable waste management in the existing policies for Blantyre, Lilongwe, Mzuzu and Zomba cities. Thus, the analysis of existing policy instruments considered technical appropriateness, economic viability, social acceptability, environmental sustainability and stakeholder participation.

3.0 RESULTS

3.1 Analysis of National Level Policy Framework

3.1.1 Malawi Constitution, 1994

Malawi's Constitution of 1994 recognizes environmental protection as an important aspect of sustainable development. Article 13 of Chapter III provides that the State shall promote the welfare and development of its citizens by developing and implementing policies and legislation for responsible environmental management to (i) prevent the degradation of the environment; (ii) provides a healthy living and working environment for the people of Malawi; (iii) accord full recognition to the rights of future generations by means of environmental protection and the sustainable development of natural resources and (iv) conserve and enhance the biological diversity of Malawi. Thus, the supreme law of the land has provided for policy and legal guidance

for proper waste management for a healthy living and working environment for the people of Malawi, while taking into consideration the welfare of the future generation.

3.1.2 Malawi 2063

The Malawi's Vision 2063 has recognized the need for proper waste management under Pillar 3 on Urbanization, where the vision has noted that the Malawi's cities are poorly planned and do not adequately provide services for waste management. Accordingly, the vision through Enabler 5 (Human Capital Development) under clean water, sanitation and hygiene, provides for government leadership in promoting adoption of safe water and sanitation practices at the individual and household level. This includes the provision and promotion of the use of improved and accessible sanitation facilities in all public places and improving the management and disposal of liquid and solid waste.

3.1.3 National Decentralisation Policy, 1998

The National Decentralization Policy devolves administration and political authority to the district level. According to the Policy, the functions of the District Councils include Environmental services such as refuse collection and disposal.

3.1.4 The Local Government Act 2017

The Local Government Act (2017) upholds the democratic principles of the Constitution such as accountability, transparency and public participation in decision-making processes. In this regard and in accordance with the Decentralization Policy, the Act has placed the duty on Local Governments to make bylaws for the governance of the local area. The Act also mandates Councils to regulate, control, manage, administer; promote and license any of the things or services which the Council is empowered or required to do, and establish, maintain, carry on, control, manage or administer and prescribe the forms in connection therewith to fix fees or charges to be levied in that respect. In addition, the Act empowers Councils to undertake private works and services and to charge, recover the costs and contract out public services to the private sector.

3.1.5 National Environmental Policy, 2004

The National Environmental Policy (NEP) (2004) provides guidance on the development of regulatory frameworks for waste management. The policy outlines strategies for promoting urban sanitation services through: (a) solid waste disposal using appropriate technology as well as proper design, selection and licensing of disposal sites and routes; (b) sorting industrial, clinical, domestic and other types of waste at source to facilitate recycling of materials wherever possible; (c) facilitating the privatization of waste management; and (d) ensuring that all hospitals, clinics, public places and residential areas have appropriate sanitation and waste and effluent disposal systems. The NEP imposes a duty on Government to develop master plans for the conservation and utilization of water resources including solid and liquid waste management on land and water bodies. The policy also calls on Government to develop plans for development/construction of industrial sites that have adequate and appropriate waste disposal systems.

3.1.6 The Environment Management Act (EMA), 2017

The Environment Management Act (EMA) of 2017 recognizes in Section 4 that every person has a right to a clean and healthy environment in line with the Constitution. The EMA provides for the protection and management of the environment and the conservation and sustainable utilization of natural resources. The Act contains provisions for pollution control and regulation of waste, including hazardous waste. It regulates the handling, storage, transportation, classification of wastes and the importation and exportation of hazardous waste. The Act subscribes to the polluter

pays principle and places the responsibility of preventing discharge or emission of any pollutant into the environment, including the removal or disposal of any pollutant, on the polluter.

3.1.7 The Environmental Management (Waste and Sanitation Regulations), 2008

The Environmental Management (Waste and Sanitation Regulations), 2008 place the duty on every local authority to prepare a waste management plan and to promote integrated waste management systems for the area of its jurisdiction. Within this scope, the regulations provide for local authorities assigning of private contractors to collect general or municipal waste to ensure effective and efficient collection services.

The regulations provide for waste separation at source, collection of municipal solid waste at such frequency as to prevent piling of waste, disposal of general or municipal solid waste at a plant identified and maintained by a competent local authority and application for a licence to own or operate a recycling facility.

3.1.8 The National Sanitation Policy (2009)

The National Sanitation Policy (2009) promotes improved sanitation and safe hygiene practices for improved health and socioeconomic development for the people of Malawi. The policy goal for the urban context is to achieve universal access to improved sanitation and safe hygiene practices, and to properly manage waste to protect the environment. The policy has multiple provisions that are relevant to the subject of integrated sustainable waste management in cities, namely:

- Training informal recyclers in solid waste management and employing them at recycling centres and landfill sites.
- Creating proactive committees to manage solid waste disposal, recycling activities and public toilets.
- Transforming city, municipal and town dumps for solid waste into well-managed recycling centres or landfill sites.
- Promoting recycling and safe disposal of domestic solid waste.
- Enforcing polluter-pays principle in accordance with the Environment Management Act.

3.1.9 The Environmental Management (Plastics Regulations), 2015

The Plastics Regulations (2015) prohibits the importation, manufacture, trade and commercial distribution of plastics, plastic bags and plastic sheets made of plastic film with a wall thickness of less than sixty micrometers. This is an effort to reduce plastic pollution in the country especially in the cities. The implementation of these regulations has been hindered by court injunctions against enforcement of the regulations.

3.1.10 National Waste Management Strategy 2019-2023

The Government of Malawi developed the National Waste Management Strategy (2019 to 2023) as one way of demonstrating Malawi's commitment to effective waste management. The Strategy sets out the priorities to be pursued in Malawi to minimize the detrimental impact on human health and the environment arising from poor waste management and to improve the management of waste. The Strategy provides information on the regulatory and institutional infrastructure, status of waste management in Malawi, and different types of wastes as well as tools to enable regulatory bodies, generators of hazardous waste, including the public, and recyclers and operators of facilities to minimize, recycle, and treat and dispose of waste in an environmentally sound manner for the sustainable development of Malawi.

3.1.11 National Policy and Legal Framework in the Waste Value Chain

The table below presents a summary of the national policy and legal framework in relation to various components of the waste value chain which includes generation and separation; storage; collection; transfer and transportation; recycling; and treatment and disposal.

National Policy and Legal Framework Across the Waste Value Chain

Policy/legal instrument	Generation and separation	Storage	Collection	Transfer and Transportation	Recycling	Treatment and Disposal
National Environmental Policy, 2004	The policy calls for adoption of systems that sort industrial, clinical, domestic and other waste at source.				The policy calls for adoption of systems that sort waste at source in order to facilitate recycling of materials wherever possible.	
Environment Management Act, 2017	The Act places responsibility for waste management on the waste generator i.e. "*Every person has the duty to manage any waste generated by his activities or the activities of those persons working under his direction in a way and in a manner that he does not cause ill health to other persons or damage to the environment*." (Section 55).					
Environment Management (Waste Management and Sanitation) Regulations, 2008	Requires the waste generator to separate hazardous waste from general or municipal solid waste.	Requires the generator of waste to be responsible for the safe and sanitary storage of all general or municipal solid waste accumulated on his property so as not to promote the propagation, harbourage or attraction of vectors or the	Requires the generator of waste to adopt method of storage that accommodate the anticipated solid waste loading and allowing for efficient and safe waste removal or collection.	Requires separation of waste to be maintained during collection, transportation and offloading at the respective waste disposal sites or recycling facilities where hazardous and municipal waste are collected using the same vehicle.	Operation of a recycling facility is subject to a licence issued by the Director responsible for Environmental Affairs.	Provides for disposal of general or municipal solid waste at any waste disposal site or plant identified and maintained by a competent local authority or owned or operated by any person licenced to do so under these Regulations.

Policy/legal instrument	Generation and separation	Storage	Collection	Transfer and Transportation	Recycling	Treatment and Disposal
		creation of nuisances.				Allows any generator of waste, without licence under these Regulations, but with special permission from a local authority, to dispose of general or municipal solid waste which is non-hazardous in an environmentally sound manner in accordance with by-laws made by a local authority:
National Waste Management Strategy (2019-2023)	The strategy requires the public (as generators of waste) to reduce generation of waste and to separate waste at source.	The strategy requires the public (as generators of waste) to store general or municipal solid waste accumulated on one's property so as not to promote the propagation,			The strategy requires the public (as generators of waste) to reuse and recycle.	The strategy requires the public (as generators of waste) to dispose waste in an environmentally sound manner.

Policy/legal instrument	Generation and separation	Storage	Collection	Transfer and Transportation	Recycling	Treatment and Disposal
		harbourage or attraction of vectors or the creation of nuisances in accordance with the Environment Management (Waste Management and Sanitation) Regulations, 2008.				

3.1.12 Summary of the national policy and legal framework for waste management

3.1.12.1 Responsibility for waste management

The Environment Management (Waste Management and Sanitation) Regulations, 2008, assigns disposal of municipal solid waste at a waste disposal site to local government authorities or persons licensed to do so under the Regulations. This is consistent with the Decentralization Policy and the Local Government Act which mandate local government authorities as responsible agencies for refuse collection and disposal.

The regulations also allow the generator of waste to dispose of general or municipal solid waste which is non-hazardous in 'an environmentally sound manner' in accordance with by-laws made by a local authority with special permission from the local authority. This means that the duty to define disposal in 'an environmentally sound manner' is left to local government authorities for wastes that cannot be disposed at a designated waste disposal site.

On the other hand, both the EMA 2017 and the National Waste Management Strategy (2019-2023) place the responsibility for sound management including disposal of wastes on the generator. This suggests that inability or ineffectiveness of the local government authority to collect waste cannot be an excuse for poor waste management by the generator. This is progressive and consistent with an integrated and sustainable waste management approach which promotes wider stakeholder participation in waste management for sustainability. However, implementation of this responsibility remains problematic in contexts where sound disposal of wastes is not defined by a local government authority.

3.1.12.2 Waste separation at source

As noted above the National Environment Policy (2004) calls for adoption of separation of waste at source to facilitate recycling where possible. The Environment Management (Waste Management and Sanitation) Regulations, 2008 calls for separation of general or municipal waste from hazardous waste. The National Waste Management Strategy (2019- 2023) provides for separation of waste at source as a responsibility of the public as generators of waste. It is clear from these provisions that the national regulatory framework promotes separation of waste at source. This is more progressive but the provisions do not make separation of waste at source mandatory. More importantly, the National Waste Management Strategy does not specify how the separation of waste at source should be done.

3.1.12.3 Financing

Local government authorities (Councils) rely on locally generated revenues to carry out their responsibilities. These include property rates; ground rent; fees and licenses; commercial undertakings; and service charges. However, these resources are hardly adequate for Councils to provide the services of their mandate including waste management. As a result, financing for waste management is one of the major challenges faced by local government authorities for waste management. Hence the need for wider stakeholder participation in waste management for sustainability.

3.1.12.4 Technology

The national policy and legal framework do not define technologies required for waste management along the waste value chain, except for disposal. This leaves the onus to define the kind of technology to be used for waste separation, storage, collection and transportation to the local government authority. The Environment Management (Waste Management and Sanitation) Regulations, 2008 specify a wide range of technologies for waste disposal including specially engineered landfills, incineration and biological treatment. However, the regulations do not

provide standards, specifications or guidance for these technologies. It is not clear if local government authorities would provide the guidance for the design, installation and operation of the technologies.

3.1.12.5 Stakeholder participation

The National Environment Policy (2004) provides for 'facilitating privatization of waste management' in a bid to promote urban and rural housing planning services that provides all inhabitants with a healthy environment and sustainable human settlements. However, the national policy and legal framework does not provide guidance on the nature of the envisaged privatization.

3.1.12.6 Fines for Non-Compliance with By-laws

Section 105 of the Local Government Act states that:

> *"By-laws may provide that persons contravening the by-laws shall be liable on conviction to a fine not exceeding the sum of K2,000, and in the case of a continuing offence a further fine not exceeding K200 for each day during which the offence continues after conviction thereof or to a term of imprisonment not exceeding six months or to both such fine and imprisonment."*

The MK2,000 maximum fine is clearly non-deterrent and undermines enforcement efforts of the regulatory framework for waste management as it does for all other offences against by-laws.

3.2 Policy and Legal Framework for City Councils

3.2.1 Blantyre City Council

3.2.1.1 Background

Blantyre City Council adopted the Local Government (Blantyre City Council) (General Cleanliness) (Refuse and Rubble Disposal) By-Laws in 2003. These by-laws are outdated. Efforts have been made to review the by-laws but the process was not concluded. According to Blantyre City officials, the draft revised version will be reviewed further to take into account emerging issues such as cyclones and pandemics.

As noted above, the Environmental Management (Waste and Sanitation Regulations), 2008 places the duty on every local authority to prepare waste management plans. At a time of this study, Blantyre City did not have a waste management plan. It was indicated by a city official, however, that a strategic plan used to exist in which issues of waste management were articulated. The plan is however outdated and the council is planning to develop a new one. In the meantime, the council has a service charter which outlines the city's commitment to provision of quality service to citizens including in waste management.

3.2.1.2 Blantyre City Regulatory Framework Across the Waste Value Chain

The table below presents a summary of the Blantyre City policy and legal framework related to various components of the waste value chain.

Blantyre City Regulatory Framework Across the Waste Value Chain

Policy/legal instrument	Generation and separation	Storage	Collection	Transfer and Transportation	Recycling	Treatment and Disposal
Local Government (Blantyre City Council) (General Cleanliness) (Refuse and Rubble Disposal) By-Laws, 2003	Refuse deposited in a receptacle at any premises remain that of the occupier of the premises until it is emptied by the Council's refuse collection service.	Every owner or occupier of premises is supposed to provide and maintain for use at his premises at least one receptacle for depositing refuse.	Every occupier of premises is supposed to deposit all refuse from his premises in his refuse receptacle and not elsewhere for collection by the Council's refuse collection service.			
Blantyre City Council Service Charter			We shall ensure that: • Refuse is collected once a week in formal residential areas. • Refuse is collected in informal residential areas once the skip is full within 24hours. • Refuse is collected daily in public places, for			

Policy/legal instrument	Generation and separation	Storage	Collection	Transfer and Transportation	Recycling	Treatment and Disposal
			example, markets. • Refuse is collected once a week in industrial areas.			

3.2.1.3 Financing

Like other local government authorities, Blantyre City Councils suffers from limited financial resources for waste management. Council officials reported that projects by non-governmental organizations such as WASTE Advisers provide financial support for waste management through projects. However, this is not sustainable by itself.

3.2.1.4 Technology

Local Government (Blantyre City Council) (Sanitary Arrangements) By-Laws, 2003 define an approved receptacle as a cylindrical bin of galvanized iron or hard plastic about 450 mm in a diameter at the top, 350 mm at the bottom and 750 mm in height and which has a capacity of about 0.40 cubic metres and tight fitting lid which is capable of keeping out rain and persistent offensive odour and may include a sanitary plastic bag. Having defined specifications of a receptacle is progressive. The setback in this specification is the absence of separation requirements for the receptacle. This means that all waste can be stored in the same receptacle as long as the receptacle meets the defined specifications. The by-laws provide for having more than one receptacle at any premises. However, the conditions for doing so are not specified. Instead, they are subject to the opinion of a Health Officer.

In terms of waste disposal, the by-laws state that the Council may, in consultation with the Director responsible for Environmental Affairs, on application, issue a licence for the construction and operation of an engineered landfill. This suggests that construction of a landfill is not entirely within the mandate of the City Council but the council can facilitate the process. More guidance is needed regarding construction of a landfill both at national and city council level including specificity on who is supposed to issue the licence.

3.2.1.5 Stakeholder participation

The Local Government (Blantyre City Council) (Sanitary Arrangements) By-Laws, 2003 do not specifically provide for private sector participation in waste management. This is not surprising considering the lack of clarity in the national regulatory framework on private sector participation in waste management.

3.2.1.6 Enforcement

As alluded to above, enforcement of Blantyre City by-laws is hampered by the non-deterrent fines for non-compliance.

3.2.2 Lilongwe City Council

3.2.2.1 Background

The Lilongwe City Council developed a Strategic Plan for 2020/21 to 2024/25 whose mission is to tirelessly serve all citizens of Lilongwe City. The vision is a future Lilongwe City that is clean, green and prosperous. The Strategy has recognized waste management as one of the challenges facing the city, collecting only 22% of the waste that is being generated. The City Strategic Plan recognized that most households dispose of their waste in open spaces, on riverbanks, and along roadsides. Most waste is burned (creating greenhouse gases) or is dumped in open pits or spaces. The plan has targets for waste management collection facilities. Having a strategic plan that provides for waste management issues is consistent with the Environment Management (Waste Management and Sanitation) Regulations (2008) which requires councils to develop waste management plans.

The Lilongwe City Council has by-laws that were enacted in 2019 to regulate waste management in the city. At the same time, the council has a service charter which prescribes the city's

commitment to registration and licensing of private waste operators upon application, and waste collection and disposal upon payment of collection and disposal fees.

In addition, the Council has a Directorate responsible for Trade and Commerce. The Department was established to support green businesses in the city. To this effect, the Department has plans towards the greening of the city but operates with insufficient resources to do so. The Department is liaising with the private sector to support circular businesses in the city. The existing bylaws do not provide policy guidance on the promotion of circular businesses in the city and there is therefore need for policy framework to strengthen private sector participation in green businesses within the city.

3.2.2.2 Lilongwe City Regulatory Framework Across the Waste Value Chain

The table below presents a summary of the Lilongwe City policy and legal framework related to various components of the waste value chain.

Lilongwe City Regulatory Framework Across the Waste Value Chain

Policy/legal instrument	Generation and separation	Storage	Collection	Transfer and Transportation	Recycling	Treatment and Disposal
Local Government (Lilongwe City Council) (Waste Management) By-Laws, 2019	A person who generates solid waste shall sort out the waste, preferably at source, into: a) organic waste. b) paper and plastic waste; and c)glass and metal waste.					
	Where a person stays in an area where the Council or any other authorized agent does not collect waste, the person shall dispose of his waste in a manner as directed by the Council through a Health officer.					
Lilongwe City Council Strategic Plan 2020/1 – 2024/5		The city will invest in at least 5 new skips per year, accounting for an additional 35 tons of solid waste collected per day.	Each year, the city will establish 2 new collection and sorting points. The city aims to increase daily collection from the current level of 120 tons/day (22% of the waste generated) to 453 tons per day in 2024/5 (70% of all waste generated).	The city will assign vehicles to the labour-based sanitation unit, to monitor their output and sanitation units will be assessed by the actual volume of waste they deliver to the dumpsite.	The city will increasingly support markets for compost, recycled and other sorted materials.	The city will professionally manage the dump site and seek a Public Private Partnership for energy conversion.
Lilongwe City Council,	Provides for improving the waste		Reach 95% of population served	Strengthen the full time	Develop collection,	Promote waste treatment before

Policy/legal instrument	Generation and separation	Storage	Collection	Transfer and Transportation	Recycling	Treatment and Disposal
Sanitation and drainage improvement strategy and institutional framework for Lilongwe city, 2021.	management system through applying the Waste Hierarchy principles. Provides for applying the administrative instrument of separation at source and the informative instruments of campaigns to residents for behavioral change.		by waste collection by 2036. Outsource 50% of all solid waste collection, focusing on residential collection. Formalize Association of Waste Pickers (Scavengers) by 2025. Integrate 100% of scavengers into Solid Waste Management work structure by 2025	employed workforce up from 22 employees in 2020 to a total of about 528 staff in 2036: of which 154 are drivers, including the auxiliary workforce of a) 320 engaged in collection processes, and b) 12 drivers and 42 auxiliary engaged at Landfills.	sorting and recycling opportunities, to reduce costs and volumes.	disposal and establish waste treatment facilities. Reach 100% Upgrade to Engineered Sanitary of existing solid waste disposal site by 2025. Conduct a full Environmental Impact Assessment (EIA) for the new landfill site in the selected Area by 2027. Reach 100% construction of new Engineered Sanitary landfill by 2030.
Lilongwe City Council Client Service Charter	The city commits to registration and Licensing of Private waste operators within 30 working days of application. The city commits to waste collection and disposal daily upon collection of disposal fee.					

3.2.2.3 Financing

Lilongwe City Council estimated that collection and delivery of 1 ton of waste to the dumpsite costs between MK3,000 and MK 5,300 at the time of developing the 2020/1 to 2024/5 Strategic Plan. The council envisages continued reliance upon property tax for waste management services. This may be supported through some additional user fees and surcharges. In doing so, the council intends avoid double taxation, wherever possible.

3.2.2.4 Technology

The approved standard receptacle for temporary waste storage in Lilongwe City is one with an appropriate shape, made of hard plastic or any other permissible material and which has a capacity of not more than 0.4 m3 and has a tight-fitting lid which is capable of keeping out rain and persistent offensive odour, and may include a sanitary plastic bag of legally accepted thickness.

3.2.2.5 Stakeholder participation

The Local Government (Lilongwe City Council) Waste Management By-Laws, 2019 provide for private sector engagement in waste management as follows:

- The Council may contract out the management of solid waste to a private operator, either under a public private partnership arrangement or any other arrangement which the Council may deem suitable.

- Where the Council enters into a public private partnership, the arrangement shall be made in compliance with the Public-Private Partnership Act.

- Where waste management services have been contracted out, the Council shall remain responsible for ensuring that the solid waste management is undertaken in compliance with these By-laws and other applicable written laws.

- The Council may permit a private person to conduct business of waste collection from the area of the Council on such conditions as the Council may deem fit.

- A person shall not engage in private refuse collection business unless
    - he has a refuse collection licence.
    - the vehicle to be used has been inspected and certified fit for the purpose by the Council; and
    - the vehicle is registered with the Council.

These provisions provide a good framework for private sector engagement envisaged in the National Environmental Policy (2004) and the Environment Management (Waste Management and Sanitation) Regulations (2008). There is scope for improving these provisions even further. Specifically, conditions for issuance of a refuse collection licence can be specified. It is not adequate to simply state that a vehicle should be ‘fit for purpose’ without defining what it entails. In the interest of environmental sustainability ‘fit for purpose’ would entail a vehicle that is covered. Depending on whether separation is required at source, a vehicle that is fit for purpose would also have to be built to separate waste during transfer and transportation.

The by-laws also provide for wider stakeholders’ participation in waste management as follows:

- The Council shall adopt and implement policies which promote the participation of all stakeholders in the management of solid waste. Such policies shall promote involvement of women and other marginalized groups.

3.2.2.6 Enforcement of the policy and legal framework

In line with the Local Government Act, the maximum fine for contravention of the Local Government (Lilongwe City Council) (Solid Waste Management) By-Laws (2019) is MK2,000. As discussed above, these fines are not deterrent and undermine efforts of law enforcement by the council.

3.2.3 Mzuzu City Council

3.2.3.1 Background

Mzuzu City Council developed a strategic plan (2014-2019) whose vision is a vibrant city for all to live, work, play and invest" by 2030. Although the plan is outdated and processes are underway to develop a new one, the timeframe for defined actions in the strategic plan spans from 2021 to 2026. The mission is to provide social capital for people of Mzuzu by promoting and facilitating human development in all spheres of life. Waste management is one of the areas of focus in the plan.

The city developed by-laws to support waste management in the city known as Local Government (Mzuzu City Council) General Cleanliness Refuse and Rubble Disposal By-Laws, 2017.

3.2.3.2 Mzuzu City Regulatory Framework Across the Waste Value Chain

The table below presents a summary of the Mzuzu City policy and legal framework related to various components of the waste value chain.

Mzuzu City Regulatory Framework Across the Waste Value Chain

Policy/legal instrument	Generation and separation	Storage	Collection	Transfer and Transportation	Recycling	Treatment and Disposal
Local Government (Mzuzu City Council) By-Laws, 2017	Refuse deposited in a receptacle at any premises shall, until it is emptied by the Council's refuse collection service, remain that of the occupier of the premises.	Every owner or occupier of premises shall provide and maintain for use at his premises at least one receptacle for depositing refuse.	The occupier of the premises shall ensure that a receptacle is placed at a convenient place or site for the Council's refuse collection services on such dates as are prescribed for collection of refuse in the area.			
Mzuzu City Council Strategic Plan 2014-2019	Promotion of waste management practices of reduce, reuse and recycle		10 collection points established every year from 2021/2022 to 2025/2026	Procurement of 1 new skip carrier and 1 town pack by 2023/2024		Procurement and installation waste management equipment at Msiro

3.2.3.3 Financing
Officials from Mzuzu City Council cited limited financial resources as one of the major setbacks to effective waste management in the city.

3.2.3.4 Technology
The approved type of receptacle for Mzuzu City is a cylindrical bin of galvanized iron or hard plastic about 450 mm in a diameter at the top, 350 mm at the bottom and 750 mm in height and which has a capacity of about 0.40 cubic metres and tight-fitting lid which is capable of keeping out rain and persistent offensive odour and may include a sanitary plastic bag.

Similar to the national policy context, the by-laws do not provide for any other technology for other stages of the waste value chain. According to the city's strategic plan, Mzuzu plans to procure and install a waste management equipment at Msiro by 2024. The nature and specifications of the equipment is not specified.

3.2.3.5 Stakeholder participation
Neither the Mzuzu City Council General Cleanliness Refuse and Rubble Disposal By-Laws (2017) nor the Mzuzu City Strategic plan has provisions for promoting and regulating stakeholder (including private sector) participation in waste management towards green businesses and a circular economy in the city.

3.2.3.6 Enforcement
The Mzuzu City by-laws align fines for non-compliance with the Local Government Act according to which the maximum fine for non-compliance with provision of the by-laws is MK2,000 which is non-deterrent.

3.2.4 Zomba City Council.

3.2.4.1 Background
Zomba City Council has outdated bylaws for waste management. The city's intent to establish an integrated and sustainable waste management system is reflected in the drafting of the following bylaws which are yet to be approved and operationalized:

- Local Government (Zomba City Council) (Environmental Management) By-Laws.
- Local Government (Zomba City Council) (Sanitary Arrangements and Hygiene) By-Laws.
- Local Government (Zomba City Council) (General Cleanliness) (Refuse and Rubble Disposal) By-Laws.

The city does not have a specific waste management plan. However, the city's outdated Urban Development Plan for 2007 to 2012 identified waste management issues and outlined strategies for addressing them.

3.2.4.2 Zomba City Regulatory Framework Across the Waste Value Chain
The table below presents a summary of the Zomba City policy and legal framework related to various components of the waste value chain based on the outdated Urban Development Plan.

Zomba City Regulatory Framework Across the Waste Value Chain

Policy/legal instrument	Generation and separation	Storage	Collection	Transfer and Transportation	Recycling	Treatment and Disposal
Zomba (Municipality) Urban Development Plan 2007-2012)	The Council shall provide refuse dust bins to households in high density areas.		The Council shall establish refuse collection points in all high-density and traditional housing areas; put into place skips and collect refuse on a regular basis.		The Council shall extend dumping site ground at Five Miles, and put into place a recycling system to produce and sell manure; fence off the dumping site.	The Council shall extend the dumping site ground at Five Miles, and put into place a recycling system to produce and sell manure; fence off the dumping site.

3.2.4.3 Financing

Officials from Zomba City Council reported that resource constraints affect waste management operations in the city. These constraints were attributed largely to limited payment of city rates by citizens.

3.2.4.4 Technology

The Zomba City Urban Development Plan (2007-2012) provides for provision of dust bins to households in high density areas. The plan does not therefore foresee waste separation at source. However, the plan is progressive enough to provide for establishment of a recycling facility at the dump site to produce manure.

3.2.4.5 Stakeholder participation

The outdated regulatory framework for Zomba City did not provide for wider stakeholder participation in waste management. Hence, this is one of the areas included in the draft bylaws that are yet to be approved. The draft bylaws provide for contracting out the management of solid and liquid wastes to private operator(s), or any other grouping or individuals either under public private partnership arrangements or any other arrangement which the Council may deem suitable and that appropriate standard operating procedures shall be developed to form part of the By-laws.

The provision to contract out waste management to private operators in the draft bylaws is consistent with the National Environmental Policy (2004) and the Environment Management (Waste Management and Sanitation) Regulations (2008) which encourage private sector participation in waste management. The operationalization of this provision will, however, depend on approval of the bylaws and the standard operating procedures envisaged under the bylaws.

3.2.4.6 Enforcement

As reported by Council officials, resource constraints due to limited payment of city rates by citizens affects waste management operations including enforcement of bylaws. The newly drafted bylaws have proposed a minimum of K50,000 as a fine for contravention or failure to comply with any provision of the bylaws. The proposed fines, however, cannot be applied as long as the maximum fines under the Local Government Act remains at K2,000.

4.0 DISCUSSION OF POLICY GAPS

4.1 Absence of incentives and disincentives for waste separation at source

A key element of sustainable waste management is minimization of waste for disposal. Separation at source would reduce the quantity of wastes to be transported to the disposal sites. As noted in the national regulatory framework and that of the four city councils, waste separation at source is provided for but it is not mandatory. Likewise, there are no policy incentives for encouraging waste separation at source. Studies have shown that economic incentives play an important role in separating and channeling reusable and recyclable items from the waste stream at household level (Tilay M and van Dijk MP, 2014).

4.2 Absence of guiding framework for engagement of private waste collectors

The policy framework recognizes the importance of private sector participation for a sustainable waste management system. However, there are no clear guidelines for engaging private sector in waste management both in the national regulatory framework and the policy instruments of the four city councils. Due to this gap, there is limited attention to the needs of interested private

sector players in the industry. For example, a representative of the private sector in Lilongwe lamented the lack of economic incentives in the form a tax waiver for purpose-built waste collection vehicles despite efforts to lobby for the waiver. As a result, existing private players use open lorries for collecting wastes which is a health and environmental hazard.

In addition, the Environment Management (Waste Management and Sanitation) Regulations, 2008 provide that any person who intends to own or operate a recycling facility shall apply to the Director responsible for Environmental Affairs for a licence. The regulations do not specify the size of the facility and the type of waste that qualify for a licence to be issued by the Director responsible for Environmental Affairs. While this is good for quality control, it limits the role of city councils in promoting the recycling industry.

4.3 Absence of guidance on the costing of waste collection services

The quest for sustainable solutions to waste management will necessitate a shift in the mindset and role of the public in waste management. The general public will need to embrace waste management as a personal responsibility. Increased involvement of the private sector as envisaged in the National Environmental Policy and the Waste Management and Sanitation Regulations to improve efficiency in waste collection will require recovery of costs incurred by the private sector in the waste value chain. That cost will have to be met by the public. Some city council officials expressed fears during the study that the public may be reluctant to pay for waste collection services since they already pay city rates which should cater for waste collection among other services. However, studies have shown that the public is willing to pay for the service (Truss Group Ltd., 2021; Kapanda G., 2020). Lessons from other countries suggest that willingness to pay for the service is partly driven by aggregate household income (Banga, M. 2011; Kassahun Tassie, et al. 2020). What is required therefore is a fee structure that would be acceptable and feasible in specific localities. At the moment, there are no standard rules for costing the service. This leaves room for possible exploitation and resistance to use private waste collection services.

4.4 Ineffective enforcement of the regulatory framework

The city councils have bylaws which if enforced have the potential to change the face of Malawi's major cities including delivering better cities to the future generations. However, enforcement is hindered by non-deterrent fines which are dictated by the Local Government Act. In addition, law enforcement is affected by capacity constraints of city councils as councils do not have a legal mandate to recruit law enforcement officers. Significant efforts have been made towards reviewing the legal framework to allow city councils to have their own police. In the interim, police officers from the national police service have been seconded to Lilongwe and Blantyre cities.

4.5 Lack of guidance on waste management in areas that cannot be reached by council or authorized collection services

Based on the Environment Management (Waste Management and Sanitation) Regulations (2008), councils have a duty to define disposal in "an environmentally sound manner' for guidance on wastes that cannot be disposed at a designated waste disposal site. However, none of the four councils defined disposal in "an environmentally sound manner." This leaves a policy gap on disposal of wastes in areas that cannot be reached. The Local Government (Lilongwe City Council) (Solid Waste Management) By-Laws, 2019 attempts to address this gap through a provision which states that:

> "*Where a person stays in an area where the Council or any other authorized agent does not collect waste, the person shall dispose of his waste in a manner as directed by the Council through a Health officer*."

However, the provision lacks clarity as it simply gives discretion to a Health Officer to guide. Considering that areas that cannot be easily reached are widespread in all city councils, it is imperative that by-laws should define elements of environmentally sound disposal for wastes that cannot be disposed at a designated disposal site to guide Health Officers in their duty.

4.6 Outdated and incomplete local regulatory frameworks

Based on the national regulatory framework, a council is supposed to have updated by-laws and a waste management plan. As noted, Mzuzu and Lilongwe have bylaws which were developed in 2017 and 2019 respectively. On the other hand, Blantyre's by-laws were developed in 2003. Zomba bylaws are also outdated such that new ones have been drafted but they are yet to be approved and operationalized. Outdated by-laws are in most cases irrelevant to the ever-changing context. Outdated by-laws also fall short of alignment with the national regulatory framework which renders enforcement problematic. A typical example is the responsibility of the general public to separate waste at source according to the National Waste Management Strategy. It is expected that the respective councils would define the required separation practices to translate policy into action but this is not the case, except for Lilongwe City Council, because most by-laws pre-date the Strategy.

With regard to waste management plans, Lilongwe City Council has an updated plan for waste management. Blantyre and Mzuzu city councils reported that plans were underway to review their plans. Zomba City Council included elements of waste management in the council's urban development plan but the plan is outdated. Although Blantyre, Mzuzu and Zomba city councils have by-laws, the absence of updated waste management plans makes their regulatory frameworks incomplete. Waste management plans would spell out the respective councils' direction and investment priorities for waste management. This would serve as a tool for attracting stakeholder participation and resource mobilization for waste management in their jurisdictions.

The Local Government Act is outdated and has been under review for a long time. The absence of a revised Act is a setback to the effectiveness of by-laws because the Act provides for K2,000 as a maximum fine for contravention of bylaws and this amount is not deterrent at all.

5.0 RECOMMENDATIONS

5.1 Make waste separation at source mandatory

In the interest of promoting a circular economy, city councils of Blantyre, Lilongwe, Mzuzu and Zomba should make waste separation at source mandatory. This will entail inclusion of the waste separation mandatory requirement in the by-laws of the councils. To ease implementation, the by-laws should include colour coding for the different categories of wastes and massive awareness campaigns. In coming up with the number of separation categories, councils should assess existing and potential outlets for the different categories of wastes and the feasibility of collection of all separated wastes that have to be collected. This may include liaison with recycling companies; and defining and providing relevant incentive schemes to encourage private sector participation in the waste value chain. Councils may also engage corporate companies and development agencies for provision of required separation receptacles to households at a reasonable fee to encourage public participation.

5.2 Define a guiding framework for engagement of private waste collectors

City councils of Blantyre, Lilongwe, Mzuzu and Zomba should develop a guiding framework for the engagement of the private sector in waste management services. This will include defining the legal status of the kind of private player that can be involved in the waste value chain, the licencing process, the scope of activities that can be done by the private sector players and the requirements for each activity. For example, for a waste collection service, councils can define the type and size of vehicles/loading trucks that a private operator should have to be eligible. In addition, the national agency responsible for Environmental Affairs will need to devolve licencing of recycling facilities to local government authorities.

5.3 Develop a costing structure of waste collection services

City councils of Blantyre, Lilongwe, Mzuzu and Zomba should develop a costing structure for waste collection. The cost structure would have to be based on a reasonable balance between the market cost for any operator to be able to manage and sustain the collection service within a defined jurisdiction and the statutory responsibility of local government to manage waste collection. Drawing from lessons from other countries where willingness to pay for the service is partly driven by aggregate household income, the cost structure would have to be stratified for different localities within the jurisdictions of the respective councils relative to income levels.

5.4 Enhance enforcement mechanisms of the regulatory framework

The Ministry of Local Government should expedite review of the Local Government Act to provide for more deterrent penalties for non-compliance with by-laws of local government authorities. In addition, the Parliament of Malawi should expedite reviewing the law to allow councils to recruit police officers.

5.5 Define elements of sound disposal of wastes in areas that cannot be reached by council or authorized waste collection services

City councils should define elements of environmentally sound disposal for wastes that cannot be disposed at a designated disposal site. As far as possible, the elements would have to be guided by principles of a circular economy. They would include basic guidance on composting organic and biodegradable waste, re-using different materials, safe disposal mechanisms of non-recyclable materials and location of localized disposal sites relative to other household or public facilities.

5.6 Develop and update regulatory frameworks for waste management

Councils should ensure that they have up to date by-laws and waste management plans at any point in time to have a complete local government regulatory framework for waste management. While waste management plans are context specific, the national agency responsible for Environmental Affairs should develop a template on basic elements of a waste management plan to ease development processes of such plans. Both the by-laws and the waste management plans should be aligned to the national policy and legal framework and they should reflect principles of integrated sustainable waste management towards a circular economy. The development processes of the instruments should be inclusive to ensure ownership and to enhance implementation by stakeholders.

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