

FINAL DRAFT.

COUNTY GOVERNMENT OF VIHIGA



COUNTY MUNICIPAL BOARD

Draft Vihiga Municipal Solid Waste Management Policy 2019

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FOREWORD

The Department of Environment, Water, Energy and Natural Resources in conjunction with the Vihiga County Municipal Board, has set out to develop this functional policy addressing the myriad of challenges in the solid waste management sub-sector. The mandate for the sub-sector is to ensure that the environment is clean and amenable to healthy living. This entails service provision for solid waste management, sanitation and health status, collection and transportation, reduction and recycling of solid waste for sustainable development anchored on the SDGs.

Indeed, this policy states the commitment of the Municipality and the Department of Environment to ensuring fulfillment within area of jurisdiction, of its constitutional mandate for safe, compliant, environmentally and financially sustainable solid waste Management. It provides direction on the management of various aspects of waste management while defining the responsibilities of created institutional arrangements. These institutions are mandated to ensure the practice of employing basic strategies reduction, recovery, reuse and recycling, and refusing; and repairing and refilling to decrease and divert the amount of landfill material, where applicable.

This policy sets clear directions in a number of key areas adopting strategies that are designed to:

- Adopt legislation for packaging waste, controls on hazardous waste, and investments in handling solid wastes.
- Combat climate change effects by contributing to sustainable and innovative waste management strategies such as those that reduce gas emissions arising from landfills.
- Develop an auditing system of existing waste infrastructure and local capability in the major town centers.
- Develop clean-up standards and remediation methods for contaminated sites while paying attention to the cost-effectiveness of clean-up.
- Ensure continued county municipal encouragement of best practice for waste management and resource recovery systems.
- Ensure secured and fenced designated site(s) for waste disposal.
- Establish a county definition and classification system for wastes (including hazardous and clinical wastes) that aligns with national laws and international conventions with provision for items that have ceased to be classed as waste.
- Establish a municipal strategy on promoting recycling while ensuring separate collection of recyclable material and hazardous household waste.
- Improve management of no-hazardous industrial waste and construction/ demolition waste, with clear assignment of responsibility to generators.

- Promote access to knowledge and expertise in solid waste management and build capacities as may be required.
- Reduce hazardous materials entering the waste stream while disposing of and moving trans-boundary waste in an environmentally sound manner.
- Use a range of policy instruments to encourage waste minimization (e.g. waste collection fees, landfill fees, product charges, deposit-refund system, voluntary agreements, information and education).

The policy proposes that public and private sectors, non-governmental organizations be encouraged to participate effectively in waste management practices through creation of awareness and education, legislation and a series of well-designed incentives and disincentives. Capacity will have to be built in responsible institutions.

The successful realization of the objectives of this policy will build an efficient and effective solid waste management sub-sector. The participation and support by the implementing agencies, development partners and the people of the Vihiga Municipality towards the implementation of the policy will go a long way in transforming the solid waste management in the context of the SDGs.

Last but not least, this policy recommends a legal and institutional framework that supports an integrated approach to improve the solid waste management in the Municipality.

Hon. Prof. Justus InondaMwanje, PhD

**Executive Committee Member for Environment, Water, Energy and Natural Resources
County Government of Vihiga**

ACKNOWLEDGEMENT

This Policy has been developed in compliance with the requirements of the Constitutional of Kenya (2010) on a clean and healthy environment. The Policy is a product of a participatory process involving the relevant Departments in Vihiga County, development partners, Civil Society Organizations, citizens of Vihiga municipality, academicians and professionals, and other stakeholders.

I am deeply indebted to H. E. Governor of the County Government of Vihiga for his robust and sustained leadership, and for invaluable guidance in the development of this policy. I would like to acknowledge the County Executive Committee Member for Environment, Water, Energy and Natural Resources for his strategic support and goodwill, and for spearheading development of this policy. I am also indebted to the County Executive Committee Member for Physical Planning, Lands and Housing for championing the ideals of the Kenya Urban Support Programme (KUSP) which shall facilitate rapid implementation of the policy. Special thanks go to the CECM and the Chief Officer, Department of Physical Planning, Lands and Housing for sustained steering of the technical processes of the Kenya Urban Support Programme (KUSP). The Vihiga County Municipal board and the County Committee for Environment (CEC) made invaluable contributions to the finalization of this policy.

I recognize the technical support from the staff of the Department of Environment, Water, Energy and Natural Resources, as well as those of the Department of Physical Planning, Lands and Housing. I am also most grateful to the key players for their contributions at the public participation forums.

Special mention goes to the Committee for Environment of the County Assembly of Vihiga, who worked tirelessly and diligently in validating the policy document. The financial resources used to develop this policy were made available by the Treasury of the County Government of Vihiga.

Dr. Richard KipkemboiBoyio

Chief Officer, Department of Environment, Water, Energy and Natural Resources.

ACRONYMS

| | |
|----------|--|
| CEC | County Environment Committee |
| CECM | County Executive Committee Member |
| CGV | County Government of Vihiga |
| CoK 2010 | Constitution of Kenya (2010) |
| CSOs | Civil Society Organizations, |
| MSWMC | Municipal Solid Waste Management Steering Committee |
| DTFs | Decentralized Treatment Facilities |
| EIA | Environmental Impact Assessment |
| EMCA | Environment Management and Co-ordination Act 1999, Cap 387 |
| KUSP | Kenya Urban Support Programme |
| NEMA | National Environmental Management Authority |
| NRW | Non-Revenue Water |
| PLWD | Persons Living with Disability |
| POPs | Persistent Organic Pollutants |
| PPPs | Public-Private Partnerships |
| SDGs | Sustainable Development Goals |
| VCA | Vihiga County Assembly |
| WASH | Water, Sanitation, and Hygiene |
| WSIs | Water Sector Institutions |
| WSPs | Water Service Providers |

CHAPTER 1

1.0 INTRODUCTION

By provisions in the Constitution of Kenya (2010), every person is entitled to a clean and healthy environment and has a duty to safeguard and enhance the environment. However, the generation of wastes continues to confront man in his living environment. This is as a result of anthropogenic activities which generate waste, especially under conditions of urbanization. The common waste being solid waste, that potent severe impacts on the environment, thus threatening quality of life. Unfortunately, the rise in solid wastes generation has not necessarily been followed by an increase in the capacity to effectively manage the emerging challenges.

Given that Municipalities have a rapidly growing population associated with a growth rate of 5.1%.The problem of generation of huge quantities of solid wastes is likely to become more confounding. Currently, about three quarters of the solid waste generated in the county has a high likelihood of not being uncollected or even unprofessionally handled.

With 146 market/urban centre associated with lack of adequate basic waste management facilities, environmental pollution threatens to enhance chances of poor health among the population. The rapidly increasing waste generation will lead to complex waste streams, poor waste management, and deterioration of living conditions.

In waste management, the principals of intergenerational and intra-generational equity, the polluter-pays principle and the precautionary principle prevail. By this policy it would be possible to address waste management issues in the context of the Environment Management and Co-ordination Act 1999. The latter provides for a comprehensive framework for the development of an Action Plan at any level. Provisos of the policy should entail classification, segregation, collection, temporary storage, handling, transportation, treatment, disposal, and governance of wastes in Municipal Centers. Retrospectively, this policy is not fixated to the components stated in it and is therefore open to review and updates to fit in the prevailing environmental dynamics.

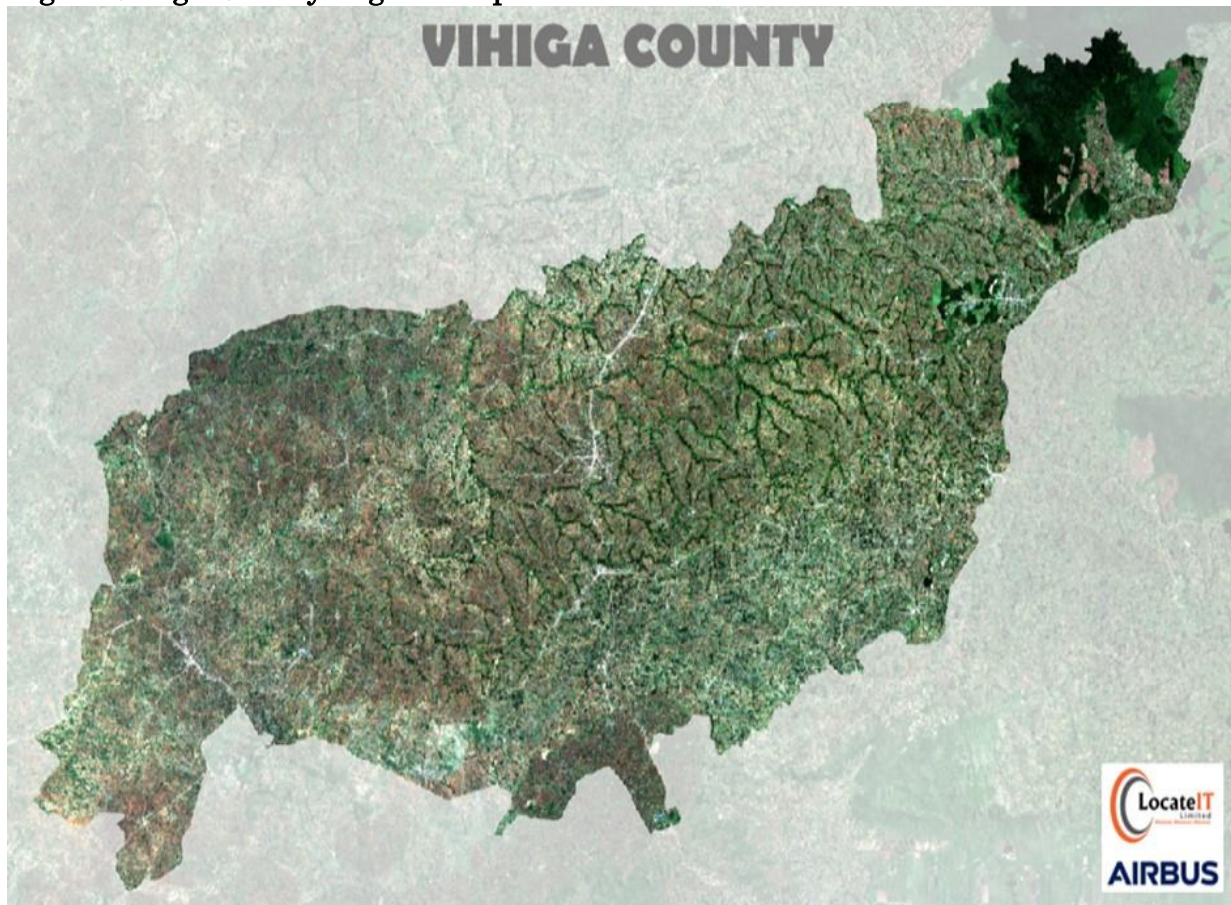
CHAPTER 2

2.0 THE SETTING

2.1 PHYSIOGRAPHY

The physiographic of Vihiga County is illustrated in the satellite image below (Fig. 1)

Fig. 1: Vihiga County Digital Map



2.2 LOCATION

With an area of 530.9Km², the County of Vihiga falls within the Western region of Kenya and borders Kakamega County to the North, Nandi County to the East, Kisumu County to the South, and Siaya County to the West. The County has five sub-counties, namely, Luanda, Emuhaya, Hamisi, Sabatia and Vihiga. Its capital is located at Mbale town.

2.3 POPULATION

The County has a population of 612,000 with a density of 1,045 people per Km² and an annual growth rate of 5.1%. The under 14 years of age constitute 45% of the population, the economically productive age of 15-64 years constitutes 49%, and over years at 6%. The youth represent 25% percent of the total population.

2.4 ECONOMY

The County urbanization rate stands at 31% with the major towns being, Luanda, Esibuye, Kilingili, Majengo, Mbale, Chavakali, Mudete, Serem, Jeptulu, and Jebrock. Poverty level is 62% with a dependency ratio of 100:90. The main occupation of the majority of the population is within the agricultural sector, with 87.2% of the households engaging in dairy farming and growing of subsistence crops such as maize, millet and cassava. Tea is a significant cash crop among the middle income famers.

2.5 MUNICIPAL DEVELOPMENT AGENDA

The Municipality appreciates the fact that the Vihiga County Integrated Development Plan (2018-2023) is a key driver for socio-economic development. In implementing the Plan, it is envisaged that waste generation shall be on increase. Fortunately, the plan recognizes the need to have a clean and healthy environment by complying with section 87 of the Environment Management and Coordination (EMCA) Act Cap 387, which prohibits against dangerous handling and disposal of wastes. Alongside the standards set under Environment Management and Coordination (Waste Management) Regulations of 2006. This policy builds on this foundation, to provide a framework for waste management, to include waste diversion - reduction, resource recovery, re-use, and recycling within the county.

2.6 THE CONTEXT AND ESSENCE OF THE POLICY

The CGV is headed by a Governor and a Deputy Governor supported by dully nominated and appointed Executive Committee Members who, in turn head specific dockets, of which ‘Environment, Water, Energy, and Natural Resources’, and that of ‘Physical Planning, Lands and Housing’ are so established. This policy is designed for the sustainable management of solid waste in the devolved region. It is founded on the spirit of the Constitution of Kenya 2010, the National Vision 2030, the principles laid out in the EMCA 1999, and the National Waste Management Policy. To date the CGV is experiencing challenges in solid waste management. Without a sewerage systems, another critical issue pertains to the management of effluents in the urban centres. This policy, is so developed to comply with Schedule 4 of the Constitution of Kenya 2010 with regard to the mandate of devolved functions, defines the pathways for county legislations in the water sector, while keeping in tandem with the National Solid Waste Management Act, 2019.

CHAPTER 3

3.0 SITUATIONAL ANALYSIS

Vihiga has a rapidly growing population with several small urban centers have inhabited by informal settlement dwellers and the middle class. This status has led to an increase in waste generation and complexity of the waste streams.

Over the years waste management was the preserve of the local government authorities. However, these entities failed to develop a culture prioritizing the establishment of proper waste management systems and hence allocated meager resources for its operations. In addition there was general lack of personnel with requisite technical capability for the improved waste management practices. Still worse the authorities did not have institutional capacities to manage waste. Consequently, the current poor state of waste management has prevailed translating into indiscriminate dumping, uncollected waste and lack of waste segregation across the country.

An analysis of existing practices provides information that forms the basis for administrative and technical considerations leading to the development of this policy.

3.1 WASTES STREAMS

The waste streams in Vihiga County can be categorized as domestic, municipal, industrial and hazardous wastes; in addition to e-waste, waste/used oil, waste tyres attributed to growing commercial and industrial activities as well as the marked growth of ICT. The composition of general waste varies considerably between households, businesses, and industries.

Among the types of wastes found in the county are: Domestic Waste, Biomedical Waste, Used Oil and Sludge, E-Waste, Pesticide Waste, Fluorescent Lamps, Construction and demolition waste.

3.2 ENVIRONMENTAL PROBLEMS OF POOR WASTE MANAGEMENT

The key environmental problems that are a consequence of poor waste management recorded in Vihiga County are:

- a) **Surface water contamination:** Waste from commercial and residential areas end up in water bodies negatively changing the chemical composition of the water. Technically, this is called water pollution, and it affects wetlands and other riparian ecosystems. It also causes harm to animals that drink from such polluted water sources.
- b) **Soil contamination:** Hazardous chemicals that get into the soil (contaminants) can harm plants when they are taken-up through their roots.

If humans eat affected plants and animals that have consumed such plants as pasture, then there is a high possibility of occurrence of negative impacts on human health.

- c) **Pollution:** Bad waste management practices in the county have resulted in land and air pollution which can cause respiratory problems and other adverse health effects to humans as contaminants, are inhaled and absorbed into the lungs proceeding to other parts of body.
- d) **Leachate:** The liquid that forms water trickles through contaminated areas is called leachate. It forms a harmful mixture of chemicals that may result in hazardous substances entering surface water, groundwater or soil. Such a scenario is common in most small urban centers in Vihiga County.
- e) **Municipal wellbeing:** Most trading centers in the county have poor sanitation, smelly and with waste matter all over the place, an indication of poor living standards in urbanized areas of the county.
- f) **Recycling revenue:** Vihiga County does not invest in recycling and proper waste control thus missing out on revenue from recycling, green job opportunities that come from recycling, and potential for establishment of organic fertilizer ventures and even a factory.

3.3 WASTE MANAGEMENT PRACTICES

- a) **Waste segregation:** Most generated wastes originate at the household level, market places, towns, institutions, and industrial zones. No proper waste segregation practices are in place, perhaps due to lack of enforcement of existing regulations. To this end, the county experiences poor handling of biomedical wastes originating from the health facilities, which often find way to dumpsites. This is not only dangerous but also some of the recoverable materials such as plastic bottles, metals, and paper products are lost in the dumps.
- b) **Collection and Transportation:** Waste in the market centre is largely collected by the County Government. Its transportation is currently by open non-specialist trucks. NEMA has already pointed out the inappropriateness of this method of transportation. To this end the county government is seeking purchase of dedicated vehicles for the movement of wastes.
- c) **Waste treatment:** Waste treatment technologies have not been embraced in the county. However there are ongoing efforts to enhance uptake of such technologies. Recyclable materials comprise 50–70% of the general waste stream in the county, meaning there is potential for establishment of small industries that may use recyclable items as raw material. The need for waste segregation is paramount.
- d) **Waste disposal:** Most of the municipal and domestic waste generated is disposed-off in open non-dedicated dumpsites across the county. The county does not have official and adequate waste disposal sites leading to

unscrupulous workers who without authority, end up dumping wastes along the roadsides and backyards. To some degree, biomedical waste are disposed through burners and kilns, which unfortunately are not efficient incinerators. The County lacks such facilities. Indeed the requirements stipulated in the Third schedule of the Waste Management Regulations of 2006 are rarely complied with.

- e) **Sewer disposal:** Vihiga County does not have a sewerage network with an associated treatment plant. The use of septic tanks and soak pits is predominant at private homes and institutions. The County equally lacks a reliable and reticulated sewerage exhauster. This situation can result into illegal disposal of sewerage thus polluting the natural water resources in the county.

3.4 CREATION OF AWARENESS

The County has limited capacity and skills in waste management for both the public and the private sector. A high degree of collaboration is required across various departments of the County in order to raise sufficient capacities for the purpose. There is need to carry out preliminary waste awareness initiatives among individuals as well as the public and private institutions to improve on knowledge and skills on waste handling and how to minimize the associated risks. There is also need to enhance collaboration and partnership with local traders and investors and the government agencies to ensure that knowledge and skills are transfer and undertake training programs for trainers.

In an effort to address the above situation, the County Government of Vihiga is coming up with this waste management policy. It constitutes the first strategic response to the growing challenges of waste management in the County. In addition, the policy framework is a tool for all residents and businesses in the county.

3.5 LAND USE AND PHYSICAL DEVELOPMENT PLANNING

Waste management is recognized as an integral part of land use and physical development planning. In Vihiga County the associated policies and plans are in place and incorporate the objectives of the solid waste management. In this context the requirements by NEMA for EIA License for Environmental Clearance for any planned disposal and transfer station site selections is appropriate to ensuring sound environmental management.

3.6 RELEVANT INTERNATIONAL AND NATIONAL LAWS, POLICIES AND CODES OF PRACTICE

The following relevant policies, laws and guidelines are in place and do lend support to the implementation process of a robust solid waste management system:

International Policies, Treaties, and Conventions:

- Basel Convention on the Control of Trans-boundary Movement of Hazardous Wastes and their Disposal.
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters.
- Kyoto Protocol to the United Nations Framework on Climate Change.
- Montreal Protocol on Substances that Deplete Ozone Layer.
- Stockholm Convention on Persistent Organic Pollutants.
- United Nations Convention on Desertification.

National Policies and Laws:

- Integrated National Land use Guidelines, 2011
- Kenya Environmental Sanitation and Hygiene Policy, 2016 – 2030
- Code of Practice for Biomedical Waste Management
- Kenya Vision 2030
- SDGs
- National Environmental Policy, 2013
- the National Solid Waste Management strategy, 2014
- Environment Management and Coordination Act Cap 387
- Physical Planning Act Cap 286.

3.7 THE PROCESS OF POLICY DEVELOPMENT

The process of developing this policy involved application of participatory methodologies for evidence gathering culminating into comprehensive public participation consultations and engagements, stakeholders' consultative workshops and public meetings at the sub-county and county levels between May 2019 and July 2019. The processes entailed participation of technical county experts, governance practitioners, CSOs in the WASH sub-sector of the water sector, communities, individuals, private sector practitioners, and institutional representatives, politicians, among others. The Committee on Environment of the County Assembly was engaged in a series of meetings to discuss the contents of the policy.

CHAPTER 4

4.0 POLICY FRAMEWORK

4.1 GENERAL PROVISIONS

The proposed Vihiga County Solid Waste Management, 2019 is designed to conform to the framework outlined in the Constitution of Kenya (2010), the National Water Policy 2019, The Four Agenda, EMCA 1999, and SDGs. The CGV shall embrace the following policy principles:

- (1) The right to a clean and healthy environment as enshrined in the CoK 2010.
- (2) Ensure county vision in the context of the National Vision 2030, The Four Agenda, and the SDGs, and their successors.
- (3) Mainstream gender in the implementation of this policy.
- (4) Enforce the 'Polluter-Pays Principle' given that some production practices such as gold mining and manufacturing industries are known polluters of the natural environment including housing roof tops that pollute collected rain water making it unsuitable for human and/or animal consumption.
- (5) Ensure that the WSPs enjoy sufficient management autonomy for attainment of higher levels of performance.
- (6) Ensure formulation of standards for waste, their classification and analysis, and appropriate disposal methods.
- (7) Prohibit dangerous handling and disposal of wastes.
- (8) Restrict operation of a wastes disposal site or plant without a valid license.

4.2 POLICY GOALS AND PRINCIPLES

4.2.1 Primary Goals

The overall primary goals of this policy are to:

- (1) Ensure reclamation of wastewater for recycling, and improved sanitation, the latter with a coverage target of 50% of the population connected to sewer system and another 30% served by localized Decentralized Treatment Facilities (DTFs) within the next ten years;
- (2) Ensure agile green technology-based applications, services and enterprises supporting the development of the water sector leading to below 10% failure time in service delivery and 15% NRW within the next ten years;
- (3) Implement strategies aimed at contributing to the realization of the forty (40) litres per capita per day water delivery within the next ten years.
- (4) Ensure effective and efficient management of solid waste for a safe and healthy environment towards sustainable economic development of the County.

4.2.2 Solid Waste Management Principles

The key guiding water sector principles as indicated in the EMCA, 1999, the Constitution of Kenya, 2010; and the National Water Policy of 2018, and National Solid Waste Policy, 2019; are sustained in this policy. These include:

- “User pays and polluter pays” principle.
- Devolution of functions to the lowest appropriate level.
- Good governance practices at all levels.
- Environmental Right to a clean and healthy environment and a duty to safeguard and enhance the environment.
- Participatory approach, public and private sector collaboration and participation, and stakeholder support.
- Professionalization of the solid waste management.
- Promoting greater public awareness and behavior change.
- Protecting public health and the environment.
- Right to water with a pro-poor orientation.
- Separation of policy from regulation and operation / implementation.
- Separation of Water Resource Management (WRM) and Water Supply and Sanitation (WSS).
- Socially responsive commercialization for service delivery.
- Structural planning and sustainability.
- Sustainable Public-Private Partnerships (PPPs).
- Viewing waste as a resource as a new way of thinking about waste, based on principles of sustainability and resource conservation.

4.2.3 Specific Guiding Principles

The specific policy guiding principles for CGV are as follows:

- Adequate service delivery to households in the county.
- Adequate water supply and Water, Sanitation and Hygiene (WASH).
- Adoption of green technologies.
- Climate change mitigation and adaptation.
- Collection, storage and treatment of wastewater for re-recycling.
- Educate citizens and businesses about solid waste issues and the generator’s role in waste recovery, reduction, reuse, and recycling.
- Guide wastes management planning, outreach, and regulatory activities.
- Inform the county solid waste legislative initiatives.
- People-friendly water use charges, tariffs, and user fees.
- Responsive justice in dispute resolution.
- Shape the development of future waste facilities, services, and investments.
- Water security and ecosystem integrity.

4.2.4 Policy Objectives

The objectives of this Policy are:

- 1) To manage waste in a manner that will protect public health, and the environment and that will conserve natural resources in the county;
- 2) To promote investment and coordination of waste management in a sustainable manner;
- 3) To manage waste as an integrated management system that emphasizes maximization of the reduction of waste volumes, through initiatives of reuse, return, recycling, and source segregation;
- 4) To increase the capacity of stakeholders to promote effective waste management investment, awareness, and education;
- 5) To ensure that waste generators undertake environmentally sound management practices so as to identify, allocate and communicate solid waste management system costs equitably among those who use or benefit from the system;
- 6) To guide implementation of minimum requirements set under the National Waste Management Strategy across the waste management cycle;
- 7) To create institutional space for the development and implementation of public awareness and public education programmes on the value of waste reduction strategies;
- 8) To support the County to use sustainable procurement principles;
- 9) To coordinate with the relevant national agencies to ensure a clean and healthy environment in the county;
- 10) To develop climate change mitigation strategies to reduce greenhouse emissions from landfills and other waste activities.

4.3 WASTE STORAGE AND COLLECTION

Policy Statements:

The department shall provide for safe collection of wastes, and secure efficient storage from areas of human habitation:

- 1) Collaborate with the Ministry of Devolution, NEMA, Department of Trade (DoT) of Vihiga County, and other stakeholders in ensuring efficient storage and collection of wastes from areas of human habitation.
- 2) Ensure proper containment, efficient, and securely transportation of wastes to recycling centres.
- 3) Assess social, physical, economic, and environmental vulnerabilities of communities to effects of solid wastes, especially in urban centres.

4.4 REDUCE, REUSE AND RECYCLE (3RS)

Policy Statements:

Given that reduce entails using fewer resources while reuse and recycling activities are market demand driven, the department shall:

- 1) Promote creation of green jobs
- 2) Invest in recovery, reuse and recycling activities
- 3) Engage the Ministry of Environment and Forestry, NEMA, and other players on regular updates of environmental sanitation assessment standards and progress.
- 4) Establish systems for the recovery of reusable/recyclable materials before they are discarded for waste collection.
- 5) Devise systems for recovering reusable and recyclable materials from mixed waste.

4.5 COMPOSTING AND BIO-CONVERSION

Policy Statements:

- 1) Promote bio-conversion technologies among the population
- 2) Promote establishment of an organic fertilizer factory

4.6 DISPOSAL SYSTEMS

Policy Statements:

- 1) Establish landfills at suitable sites and on need basis
- 2) Ensure standards for waste disposal facilities, infrastructural designs, and construction pertaining to safety and security.

4.7 PUBLIC EDUCATION AND AWARENESS

Policy Statements:

- 1) Ensure a participatory approach to solid waste management
- 2) Establish a two-way communication processing information and ideas between government and community stakeholders at all level
- 3) Promote public awareness programmes on waste management issues and initiatives,
- 4) Establish feedback mechanisms that include responses to complaints and information on significant changes that can affect solid waste management
- 5) Monitoring and evaluation of communication programmes and interventions.

4.8 FINANCING AND COST RECOVERY MECHANISMS

Policy Statements:

In order to ensure financing and cost recovery frameworks are appropriate to the long-term viability of waste management systems, the Department shall:

- 1) Support private sector participation and other stakeholders in the waste management sector
- 2) Broaden sources of finances for waste management
- 3) Design and implement agile cost recovery frameworks to ensure proper operation and maintenance of facilities
- 4) Ensure waste management technologies and their financing and cost recovery requirements are appropriate and affordable to local requirements.
- 5) Recover a portion of the costs of operating a waste management system from users.
- 6) Support effective implementation and efficient operation of County solid waste management services, private sector contracting, cost recovery systems and performance monitoring.

4.9 PRIVATE SECTOR PARTICIPATION

Policy Statements:

The County Government of Vihiga shall:

- 1) Support the participation of the private sector in waste management through participation of:
 - a) Importers, distributors, industrial entities and manufacturers of products that become waste;
 - b) Waste management service providers in operating and financing waste management facilities and systems.
- 2) Promote open competition, transparency and accountability in waste management systems.
- 3) Mitigate negative social impacts that may arise from private sector participation.

4.10 COMMUNITY PARTICIPATION

Policy Statements:

- 1) Provide for innovations acceptable to communities for waste management
- 2) Ensure local community needs and priorities in waste management.
- 3) Create awareness among communities on best practices for waste management.

4.11 INCENTIVIZATION

Policy Statements:

- 1) Create a Generator Responsibility Scheme (GRS) to enable operators' choices driven by award and reward systems.
- 2) Encourage private sector investment in the waste minimization business from which they accrue benefits as a result of developing efficient waste diversion systems.

4.12 CAPACITY BUILDING

Policy Statements:

- 1) Build capacities covering the following:
 - Assessing waste treatment and recycling technologies.
 - Community participation.
 - Conduct of waste characterization studies.
 - Developing waste minimization and diversion programmes.
 - Disposal and collection system designs.
 - Private sector participation in the delivery of waste management services.
 - Standards, compliance and enforcement techniques.
- 2) Promote waste management education in the county.

CHAPTER 5

5.0 LEGAL AND INSTITUTIONAL FRAMEWORK

5.1 SOLID WASTE MANAGEMENT SUB-SECTOR REFORMS

The Constitution of Kenya 2010 is the basis for solid waste management sub-sector reforms as it states that every citizen is entitled to the right to a clean and a healthy environment including the right to have the environment protected for the benefit of the present and future generation through legislative order towards achieving zero tolerance for pollution. To this end Vihiga County sets out to invest in legal and institutional reforms for sustainable solid waste management. The target is to increase solid waste recycling from the estimated current levels of 5% to 80% within the next five years.

This policy will ensure that solid waste management laws conform to constitutional order and is an income generating stream that earns the government reasonable revenues. This forms the basis for the development of the *Vihiga County Solid Waste Management Bill 2019*; necessary to ensure attainment of requirements for a clean and healthy environment. It is envisaged that the Bill shall undergo public participation as well as debate at the Vihiga County Assembly, passed, and presented to the Governor for ascension.

5.2 INSTITUTIONAL ARRANGEMENTS

This policy recognizes the following institutional settings:

- 1) The Ministry of Environment and Forestry of the Republic of Kenya
- 2) The National Environmental Management Authority established under EMCA 1999
- 3) The County Government of Vihiga and all its departments so established as per the County Governments Act, 2012.
- 4) The County Environment Committee established under EMCA
- 5) The County Policies, County Acts, and all institutions so established.

5.3 COUNTY SOLID WASTE MANAGEMENT INSTITUTIONS

By this policy and the subsequent Bill, the institutional arrangements considered in subsequent sections shall be created.

5.3.1 Solid Waste Steering Committee

This policy establishes the *County Solid Waste Management Steering Committee (CSWMC)*. The County Governor or his appointee shall chair the Committee, while the County Chief Officer for Environment, Energy and Natural Resources and the County Chief for Physical Planning, Lands and Housing shall be the alternate Secretaries to the Committee.

The Committee shall have the mandate to establish Sub-County community-driven solid waste governance systems to manage local solid waste affairs.

In addition, the Committee shall receive and process reports from institutions recognized and/or established under this policy to deal with solid waste management issues. The Committee shall have eleven (11) members including one representative from each of the following: the Civil Society Organisations, private sector, Christian Church, Muslim faith, PLWD, Residents Associations, Solid waste recycling groups, and County Environment Committee. The gender rule shall be strictly observed. The rest shall be drawn from among senior officers from the department of environment, water, energy, and natural resources; and the department of physical planning, lands and housing.

5.3.2 Urban Residents Associations

This policy supports the creation of Urban Residents Association in the Vihiga Municipality and Luanda Township. The residents of these areas shall, in collaboration with the department of environment, water, energy, and natural resources; and the department of physical planning, lands and housing; organize themselves into sub-committees or into entities they may deem suitable to handle solid waste management issues. Where the associations exist, the leadership shall nominate names for consideration for appointment to the *County Solid Waste Management Steering Committee (CSWMC)*. However, where there is no resident association, the governor may appoint a person of his choice to seat on the Steering Committee.

5.3.3 Waste Recycling Groups

The creation of waste recycling groups is encouraged. Such groups shall be responsible for participating in adoption of green jobs. From amongst them, and acting on the leadership's nominations, the Governor may appoint one of them to seat on the *County Solid Waste Management Steering Committee (CSWMC)*.

CHAPTER 6

6.0 MONITORING, EVALUATION AND REVIEW

The relevant departments shall put in place an M & E and a response reporting system. This should enable periodic resource inventories and collection and compilation of information on status of solid waste management in Vihiga County. The department of physical planning, lands and housing shall ensure that such information is promptly integrate into the Geospatial Database of the County.

Thus, Monitoring and evaluation shall be done against a series of criteria so as to ensure:

- 1) Reviews done every five years against a set of sound environmental, economic and social criteria, and performance indicators.
- 2) Adherence to relevant national and international conventions and treaties.
- 3) Information and data gathered from the review are adequately documented for future reference by the Vihiga County Assembly, the County Executive Committee, and the County Environment Committee.
- 4) Establishment of feedback mechanisms incorporating all stakeholders.
- 5) Specific solid waste diversion targets are met.
- 6) Measurable initiatives established to influence societal behavior changes.
- 7) Public provides inputs to periodical reviews of the policy.

ANNEX I: DEFINITIONS OF TERMINOLOGIES

Basel Convention: An international agreement on the control of trans-boundary movements of hazardous wastes and their disposal, drawn up in March 1989 in Basel, Switzerland, with over 100 countries as signatories.

Biodegradable material: Any organic material that can be broken down by microorganisms into simpler, more stable compounds. Most organic wastes (e.g., food, paper) are biodegradable.

Biomedical waste: Biomedical waste also referred to as medical waste refers to waste generated in health facilities, or during immunization of human beings. It is classified into: Infectious waste, sharps, pharmaceutical wastes, chemical waste and pathological waste. Biomedical wastes pose risks to human health due to its pathogenic characteristics and hence require prior treatment before disposal. Although the biomedical waste is expected to be disposed through incineration, some find its way to the municipal dumpsites while some are handled through rudimentary facilities such as kilns, the major challenge remains the illegal disposal of these wastes.

Bulky waste: Large wastes such as appliances (white goods), furniture, and trees and branches that cannot be handled by normal MSW processing methods.

Collection: The movement of wastes from residences, businesses, or a collection point, to a vehicle, for transport to a processing, transfer, or disposal site.

Commingled: Mixed post-consumer items that are collected together as municipal solid waste.

Compost: A soil conditioner also called humus and may be used as a fertilizer.

Composting: Biological decomposition of solid organic materials by bacteria, fungi, and other organisms into a soil-like product.

Construction and demolition debris: Waste generated by construction and demolition of buildings, such as bricks, concrete, drywall, lumber, miscellaneous metal parts and sheets, packaging materials, etc.

Construction and demolition waste: This is waste that is generated as a result of new construction works, remodeling or demolition. Construction waste comprises debris, steel, timber, iron sheets, tiles and ceramics among others. Although construction and demolition waste is not classified as hazardous, it is a mixed waste source that requires separation into component parts for the purposes of recycling. These wastes may end up in the disposal sites or are used for backfilling in our road networks. Demolition wastes may include asbestos, which is hazardous and can present a significant health risk when improperly disposed or reused. Currently, disposal of asbestos is a nationwide challenge.

Disposal: The final handling of solid waste, usually in a landfill, following collection, processing, or incineration.

Diversions: The re-direction of post-consumer items away from final disposal for reuse, composting or recycling.

Diverted material: Anything that is no longer required for its original purpose and, but for commercial or other waste minimization activities, would be disposed of or discarded.

Domestic waste: Domestic waste is also referred to as garbage, refuse, or trash. It consists mainly of biodegradable waste, which is food, and kitchen waste, green waste paper and non-biodegradable such as plastics, glass bottles, cans, metals, and wrapping materials. The composition of the domestic waste streams is a function of income, consumption patterns, and recycling opportunities. In Vihiga County, domestic waste is not adequately managed and is disposed-off at our disposal sites with minimal sorting/segregation.

Electronic waste (e-waste): E-waste is an emerging waste stream arising from Electrical and Electronic Equipments (EEEs) becoming obsolete at the end of life e-waste comprises of heavy metal components and materials used in the manufacture of electronic goods. Some of these include mercury, brominated flame-retardants, and cadmium that are considered hazardous if not well handled during dismantling or recycling can become harmful to human health and the environment. Currently there is no proper mechanism for handling e-wastes in Vihiga County.

Fluorescent lamps: Fluorescent lamps are used for illumination and contain a small amount of mercury. The mercury is a neurotoxin and can be harmful even in small quantities. Fluorescent lamps can be successfully recycled and the mercury recovered. However, if poorly handled at any stage this releases the mercury, which is hazardous. Increasingly people are adopting florescent lamps as energy saving devices across the country, which is likely to compound the challenge of their disposal.

Hazardous waste: Materials that are flammable, explosive, oxidizing, corrosive, toxic, eco-toxic, radioactive or infectious. Examples include unused agricultural chemicals, solvents and cleaning fluids, medical waste, and many industrial wastes.

Industrial waste: Industrial waste is the waste produced by industrial activity, which includes any material that is rendered useless during a manufacturing process. Industries produce both hazardous and non-hazardous waste. These wastes include chemical solvents, wastewater, paints, sand paper, and paper products, industrial by products, metals, municipal solid waste, and radioactive waste. Currently, most of the hazardous industrial waste is not pretreated before reuse, recycling or disposal. This poses health risks to the handlers and causing damage to the environment. Disposal of hazardous industrial waste illegally occurs at the municipal dumpsites.

Pesticide waste: Pesticides are chemicals used to control pests. Pesticide waste consists of expired and contaminated pesticides as well as the used containers. Due to their toxicity, potential to pollute and threat to human health, pesticide wastes are extremely hazardous and must be transported, treated and disposed-off accordingly. At the moment, there are no proper measures put in place by the county government to help manage these wastes.

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to their toxicity, potential to pollute and threat to human health, pesticide wastes are extremely hazardous and must be transported, treated and disposed-off accordingly. These pesticides can contain Persistent Organic Pollutants (POPs), which can accumulate in the food chain if not well managed.

Special bulk wastes – These waste categories refer to some appliances (white goods), tyres, derelict vehicles, construction and demolition wastes etc. that require special handling before it is disposed. While not considered a hazardous waste, improper handling can result in hazardous substances being released into the environment.

Used oil and sludge: Used Oil and Sludge arises from the use of petroleum products. This contains potentially hazardous compounds such as poly-aromatic hydrocarbons that have carcinogenic and mutagenic properties. Used oil and sludge have a slow rate of decomposition and hence any spillage can accumulate in the environment causing soil and water pollution. Used oil is largely applied in the treatment of timber and dust suppression, which ends up being pollutant on our waters.

Waste management: A generic term given to the whole spectrum of activities associated with waste, namely, its generation, collection, segregation, storage, handling, and transportation from point of source (ward/ department/ market/ residential areas) to final place of disposal (recycling/ landfill/ incinerator).