



**Evolution of Solid Waste Management Policy Landscape in Kenya: Analysis of
evolution of policy priorities and strategies**

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Tilahun Nigatu Haregu, Blessing Mberu, Abdhalah K. Ziraba
African Population and Health Research Center, Nairobi, Kenya

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Evolution of Solid Waste Management Policy Landscape in Kenya: Analysis of evolvement of policy priorities and strategies

Tilahun Nigatu Haregu¹, Blessing Mberu¹, Abdhahah K. Ziraba¹

¹African Population and Health Research Center, Nairobi, Kenya

Correspondence: tharegu@aphrc.org

Abstract

Introduction: Since independence, there have been various policy frameworks developed to guide the management of solid wastes in Kenya. Analysis of the progressive development of the policy landscape would be useful to inform the implementation of existing policies and the formulation of future policies relevant to solid waste management in the country.

Objectives: To explore the evolution of solid waste management policies in Kenya from the perspective of policy priorities and strategies for solid waste management that address health outcomes.

Methods: This study was an integrative synthesis of the policy priorities and strategies stipulated by the major solid waste management policies in Kenya since independence and how they address SWM associated health outcomes. The synthesis addressed the evolvement, devolvement and segmentation of solid waste management policies as well as the institutional mechanisms for policy processes and external policies shaping the policy landscape.

Results: Analysis of the progressive development of policy architecture indicated that solid waste management policies in Kenya has evolved to specificity in terms of focus, functions and scope. There is a magnificent shift from focusing criminalizing offences to promoting good practices; from generic Acts to specific ones; and from centralized mandates to more decentralized responsibilities. The roles of local level implementation mechanisms is also increasing. However, the environment perspective is more emphasized than the health and economic perspectives of solid waste management principles.

Conclusion: Despite the progressive and chronological development of solid waste management policy priorities and strategies, their focus on environment dominates over health outcomes.

Keywords: *Solid waste management; policy analysis; Kenya*

INTRODUCTION

Solid waste includes refuse from households, non-hazardous solid waste from industrial, commercial and institutional establishments (including hospitals), market waste, yard waste and street sweepings. The management aspect of it encompasses the functions of collection, transfer, treatment, recycling, resource recovery and disposal of municipal solid waste. Accordingly, the first goal of Solid Waste Management (SWM) is to *protect the health* of the population, particularly that of low-income groups. Other goals include promotion of *environmental* quality and sustainability, support of *economic* productivity and employment generation (1).

Kenya, like many other developing countries, is keen to ensure that it accelerates the pace of its industrial development much of which is occurring in its major urban centers. Increasing urbanization, rural-urban migration, rising standards of living and rapid development associated with population growth have resulted in increased solid waste generation by industrial, domestic and other activities (2). It has been argued that increasing population, changing consumption patterns, economic development, changing income; urbanization and industrialization result in increased generation of waste (3).

With the increasing urban population in Kenya, estimated to be growing at a rate higher than that of the country's general population growth rate, waste generation and management shall be a major challenge. The industrialization and urbanization process in the country dominated by one primate city- Nairobi that is about four times bigger than the next largest urban Centre (Mombasa) has witnessed an exponential increase in the generation of solid waste. In terms of population, the country's urban population in 1999 was 5.4 million, while by 2009 this population had grown to 12.5 million, with 3,233,788 and 870,381 residing in Nairobi and Mombasa respectively. This translates to 299,439 households in Mombasa and 1,128,693 household for Nairobi. It is projected that by the year 2030, about 50 per cent of the Kenyan population will be urban residents (4, 5).

To address the problem of Solid waste management (SWM) that has evolved over the years, Kenya has enacted a number of policy and legal frameworks as well as created institutions and systems at different levels of governance. However, the chronological and progressive development of these hasn't been systematically investigated. This study, therefore, was aimed at exploring the progressive development of SWM policy frameworks in Kenya from the perspective of protecting health. More specifically, the study described the *evolvment, devolvment and segmentation* of SWM policy architecture overtime. It also assessed the evolution of institutional mechanisms for SWM policy implementation and described important global and regional SWM policies that might have influenced the development of

SWM policy architecture in Kenya. The resulting evidence would be useful to inform the implementation of existing policies and the formulation of new SWM policies in the future.

METHODS

Geographic scope

This study has mainly focused on country level SWM policies in Kenya. To illustrative county level SWM policies and the devolvement of national level SWM policies to country level, SWM policy contexts in Nairobi and Mombasa were also included in the analysis. The inclusion of Nairobi and Mombasa counties is also critical for this analysis as the two represent a significant portion of Solid waste generation and SWM problems in the country.

Analytic horizon

The analytic horizon considered in this analysis is from the inception of SWM policy frameworks in Kenya (marked by the oldest SWM policy text) to present date of analysis (July 31, 2015). This makes the study to be the most comprehensive in its analytic horizon as compared to previous reviews of SWM policies in Kenya.

Table 1: Definition of concepts/constructs

Concept	Definition
Evolution	The chronological and progressive development of SWM policy architecture, policy priorities and strategies (Temporal development)
Devolvement	The decentralization of development of SWM policy processes and SWM policy implementation from country to county levels (Vertical – top down- devolution)
Segmentation	The tailoring of SWM policy frameworks and implementation processes to more relevant sectors (Horizontal development)
Coordination	The organizational frameworks and coordination mechanisms for SWM policy formulation, implementation and evaluation
External influence	Global (worldwide) and regional (sub-Saharan Africa) conventions, agreements, declarations, policies, strategies... etc., addressing SWM in developing countries (external policy pressure).

Data sources and Search strategy

The main data sources for this study were SWM Policy documents and SWM policy reviews in Kenya (National level and for Nairobi and Mombasa) as well as some global and regional levels policy contents. Two types of search strategies were used. The first one was the search of electronic SWM policy documents from the general search engine and the websites of relevant organizations. The second was search for remaining SWM policy documents through the active involvement of a SWM policy expert in Kenya who was familiar with most of the

SWM policy documents. These two strategies has resulted in the retrieval of most of the important SWM policy documents relevant for this study.

Data extraction and abstraction

Before actual extraction of information, a profile of SWM policy architecture was developed using a matrix that lists the identified SWM policy documents in a chronological order. Relevant information from the identified policy documents was extracted and/or abstracted using a matrix that has year and title of policy documents. Two experts conducted the extraction of relevant information from the SWM policy documents. The selection of contents for extraction was based relevance to the main themes of the analysis.

Analytic perspective

Though solid waste management policies could potentially be analyzed from health (protecting health of a population), environment (promotion of environmental quality and sustainability), and economic (enhancing productivity and employment generation) perspectives, this study used health as its analytic perspective. Therefore, the ‘lens’ through which SWM policies were looked at was the health perspective (i.e. how they address health outcomes).

Data Analysis and synthesis

The policy documents included in this study were described by title (title of the policy documents), type (whether it is an act, law, code, by-law, strategy, etc.,) and year of formulation/amendment. The information extracted from the SWM policy documents undergone an *integrative synthesis* (a qualitative evidence synthesis method that integrates themes across primary sources of information to build a ‘story’ line of event, phenomenon or experience) using various axis of synthesis. This *integrative synthesis* of the policy priorities and strategies, stipulated by the major solid waste management policies in Kenya and how they address SWM associated health outcomes, was conducted by connecting, embedding and merging analysis outputs in the overall axis of synthesis. Findings are presented in narrative summaries and relevant matrices are included as annexes (supplemental files).

FINDINGS

Evolution of SWM policy architecture at country level

Kenya has approximately 77 statutes that relate to environmental concerns. The evolution of SWM policy frameworks in Kenya starts in 1960's and includes National Frameworks, Legal Frameworks, Regulatory Frameworks and Implementation guidelines. The first policy text relevant to solid waste management in Kenya was the one in the *Penal code* of 1948 that makes it an offence for anyone to voluntarily *vitiate the atmosphere* in any place, to make it noxious to the health of persons in general dwelling or carrying on business in the neighborhood or passing along a public way (in section 192); and to *corrupt or foul the water* of any public spring or reservoir, to render it less fit for the purpose for which it is ordinarily used (in Section 191) (6).

The next major development in SWM policy architecture was the *Local Government Act* cap 265 (1963) which vested in local authorities (i.e. Municipal/town/urban councils) powers to establish and maintain sanitary services for the removal and destruction of, or otherwise deal with kinds of refuse and effluent and where such service is established, compel its use by persons to whom the services is available (section 160 a) (7).

The proceeding major landmark policy framework was the *Public Health Act* cap 242 (1986) which makes provision for securing and maintaining health. It contains provision regarding sanitation and housing. Section 115 of the Act states that no person shall cause nuisance or cause to exist on any land or premises any condition liable to be injurious or dangerous to human health...Further it defines such nuisance or conditions under section 118 as waste pipes, sewers, drainers or refuse pits in such state, situated or constructed as in the opinion of the medical officer of health to be offensive or injurious to health... . Other nuisances are accumulation of materials or refuse which in the opinion of the medical officer of health is likely to harbor rats or other vermin (8).

In order to provide a structured approach to environmental management in Kenya, the *Environmental Management and Coordination Act* 1999 (EMCA) was enacted as a framework law on the environment. With the coming into force of the EMCA, the environmental provisions within the sectoral laws were not superseded; instead the environmental provisions within those laws were reinforced to better manage Kenya's ailing environment. EMCA has provided for the development of several subsidiary legislations and guidelines to govern environmental management and especially relevant to the SWM (9).

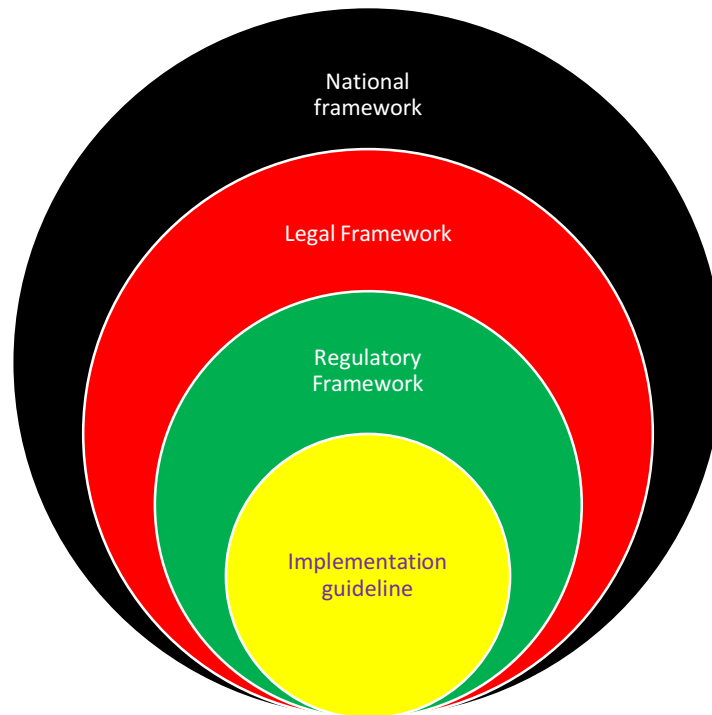


Figure 1. Categories of SWM policy frameworks

The *Constitution of Kenya (CoK 2014)* in article 42 of states that, every person has the right to a clean and healthy environment, which includes the right to have the environment protected for the benefit of present and future generations through legislative and other measures; and to have obligations relating to the environment fulfilled under Article 70. Article 70 (1) of the Constitution guarantees clean environment as a claimable right by any member who feels that his rights to a clean environment has been infringed (10).

National Environment Policy (2013), formulated by the Ministry of Environment, Water, and Natural Resources, contains policy statements on waste management. As per these policy Statements the government will develop an integrated national waste management strategy; promote the use of economic incentives to manage waste; and promote establishment of facilities and incentives for cleaner production, waste recovery, recycling and re-use. This policy further states that the government will promote Environmental Health Impact Analysis (EHIA) as a component of Environmental impact assessment (EIA) for all development projects; enhance the provision of occupational health and safety services; and promote capacity building in the field of health impact analysis (11).

The *National Solid Waste Management Strategy* (2014) by National Environment Management Authority (NEMA) is the most recent government action establishing a common platform for action between stakeholders to systematically improve waste management. It introduces a new approach for improved waste management in Kenya to create wealth, employment and reduce pollution of the environment. This strategy presents ten minimum points for management of the existing waste management facilities so as to continuously promote compliance with the waste management regulations within the counties (12).

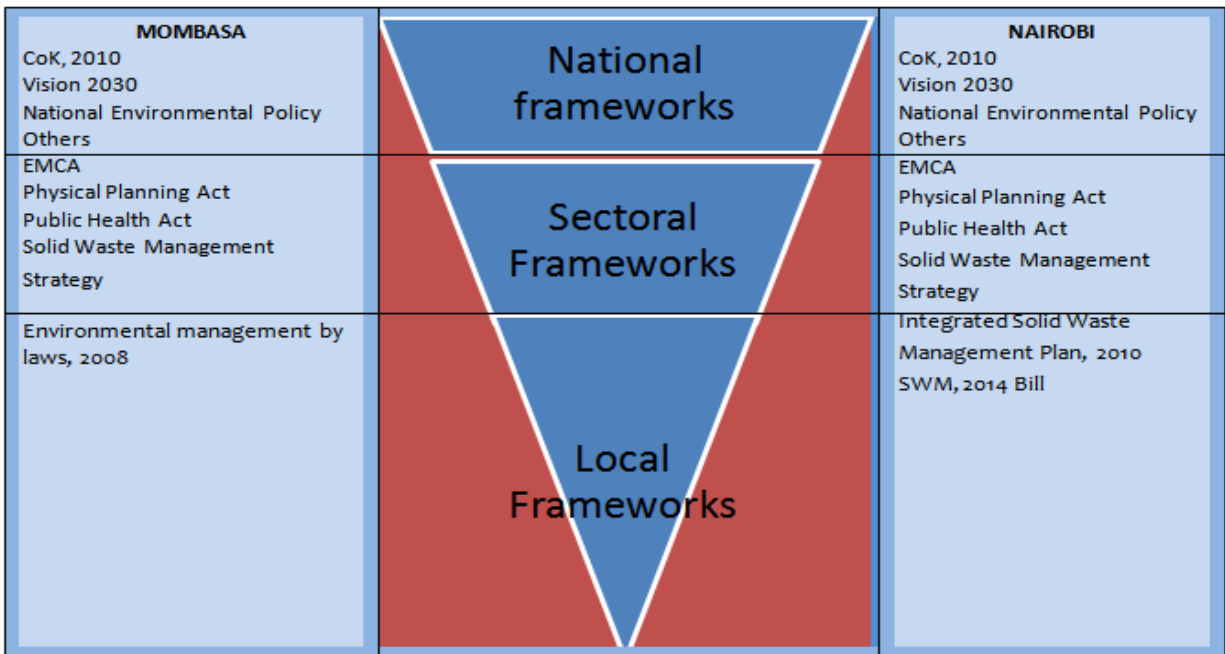


Figure 2. Hierarchy of SWM policy frameworks in Kenya

Through the chronological evolution of SWM policies, there is a shift of main focus area of the policies. The first set of policy documents (e.g. the penal code) made it an offence to vitiate the environment – they focus on ‘what not to do’ regarding SWM. The next set of policies (e.g. LGA) focused on ‘who will control’ – vesting powers to responsible bodies. The main EMCA and its regulations gave provisions on ‘what needs to be done’ to address the problem of SWM. The more recent policy documents emphasize on ‘how to manage/address’ the challenges of SWM. However, only little indication is given about the ultimate focus – ‘how can solid wastes be maximally used as resources’ to drive economic development that is compatible with the environment.

Devolvement of SWM policy frameworks to county levels

The first set of City of Nairobi by-laws that address solid waste management emerged in the 1950s and 1960s. These include the City of Nairobi (Nursing Homes and Maternity homes) By-Laws (1950); City of Nairobi (General Nuisance) By- Laws (1960); Part II of the City Council of Nairobi Conservancy Bylaws (1961); and the City of Nairobi (Restaurants, Eating House and Snack Bar) By-Laws (1961).

The next set of bylaws of the Nairobi city county were published between 2006 and 2007. Among the county's bylaws that had contents relevant to SWM were City of Nairobi (Medical Facilities) By-Laws (2006); City of Nairobi (Ban on Polythene Carry bags) By-laws, (2007); City Council of Nairobi (Waste Water Conservancy) By-Laws (2007); City Council of Nairobi (*Solid Waste Management*) By-Laws (2007); and City of Nairobi (General Nuisance) By-laws (2007) (13).

The Nairobi city *integrated Solid Waste Management Plan* (2010-2020) envision a healthy, safe, secure and sustainable solid waste management system fit for a world-class city, in a time of increasing resource scarcity. Clean, healthy city environments form as much part of this vision as resource-efficient processes of production and consumption. In this plan it aims to improve and protect the public health of Nairobi residents and visitors, to protect ecological health, diversity and productivity, and to maximize resource recovery through a participatory approach (14).

The Nairobi city county *Solid Waste Management Bill* (2014) provides a county legal framework for solid waste management function as spelt out in the Part II of fourth Schedule of Constitution of Kenya; a framework for promotion of public participation in the management, protection and conservation of the environment; provide a legal basis for the implementation of the county integrated solid waste management plan and provide for and regulate the participation of the various actors of solid waste management in the county (15). A comprehensive *plastic waste management strategy* for the city of Nairobi (2006) was also developed and piloted (16).

The *Nairobi Metro 2030 Strategy* (2008) which was developed by Ministry of Nairobi Metropolitan development and envisions for a world class African Metropolis estimates that generation of solid waste in the city will increase to 1.83 million tons per year in 2030. This strategy indicated that employing waste in energy mechanisms and technology presents a useful opportunity for managing solid waste (17). Among the flagship projects for the environment in *Vision 2030* (2007) is the solid waste management initiative that calls for the development of SWM systems in five major cities (5). *City of Nairobi outlook* (2007) also presents a similar prospect (18).

Municipal Council of Mombasa had also issued Environmental Management bylaws in 2008. These bylaws were formulated in line with the Environmental Management and Coordination Act (EMCA) 1999. This is the only stand-alone policy framework that address solid waste management in Mombasa (19). However, the National Solid Waste Management Strategy (2014) has considered Mombasa as one of the five cities for the flagship projects designed to have fully functional and compliant waste management system by developing strategies towards achieving sustainable waste management and a clean healthy environment for all (12).

Besides the county specific SWM policy frameworks for Nairobi and Mombasa, there are other additional generic policies with policy contents primarily relevant to Cities and urban areas. Among these is the *Urban Areas and Cities Act* (2011) which states a requirement for a city to

have the ability to effectively manage and dispose waste (20). The other one is the County government act (2013) identifies Solid Waste Management as devolved service under the County Government and assigns specific task of implementing nationwide policies within their jurisdiction which includes inter alia (21).

Segmentation of SWM policies in to specific actors

The first form of segmentation of solid waste management was to sector functional Acts. This is streamlining solid waste management in to specific sectors. The following table shows this segmentation:

Table 2: Segmentation of SWM policies in to functions

Acts (year)	What the policy addresses
The Factories Act (1987)	<i>Generation of waste in factories:</i> Every factory owner to ensure that the factory environment is kept in a clean state, and free from effluvia arising from any drain, sanitary convenience or nuisance. Subsection a and b include accumulations of dirt and refuse shall be removed daily (22).
The radiation protection act (1985)	<i>Generation and disposal of radioactive material:</i> Prohibits manufacturing, possessing, selling, disposing, importing and exporting any irradiating device or radioactive material except under and in accordance with a license issued (23).
Building code (1987, 1995)	<i>Handling construction and demolition waste:</i> States provision on dealing with the depositing of debris on streets. Building Code 1995 serve as an enhanced framework and Revised Building Regulation (24).
Food, Drugs and Chemical Substances Act (1992)	<i>Disposal of Solid Waste:</i> Makes it an offence to use or dispose of any chemical substance in a manner likely to cause contamination of food or water for human consumption or in a manner liable to be injurious or dangerous to health (25).
Physical Planning act (1996)	<i>Waste disposal sites:</i> Physical Planning act makes provision for development control and as such provided for waste disposal at designated sites only (26).
The Occupational Safety and Health Act (2007)	<i>Operation of plant machinery and incinerators:</i> Act deals with Chemical Safety and the securing of dangerous parts of machinery (27).
Birth and Death Registration Act (2012)	<i>Disposal of cadavers:</i> Prohibits burying, cremating or otherwise disposing of body of deceased person without a permit (28).

The second form is the segmentation of the generic Environmental Management and Coordination Act (EMCA) in to Issue specific regulations. The main regulations that has resulted from this segmentation and their focus areas are shown in the table below.

Table 3: Segmentation of EMCA in to specific regulations

LNN*	Year	Issue addressed	Description
101	2003	Impact Assessment and Audit	<i>Impact assessment:</i> Establishes rules and procedures for licensing, conducting and reporting environmental impact assessment (29).
121	2006	Waste Management	<i>Procedure & criteria of handling categories of waste:</i> Establishes a number of rules for the management of municipal waste (30).
120	2006	Water Quality	<i>Protection of water quality:</i> Every trade or industrial undertaking must install at its premises anti-pollution equipment for the treatment of waste emanating from such trade or industrial undertaking (31).
73	2007	Controlled Substances	<i>Disposal of controlled substances:</i> Describes classification of controlled substances and provisions on licensing and permit provision as well as monitoring provisions for manufacture, packaging, import and export of controlled substances (32).
60	2007	Hazardous Substances	<i>Disposal of hazardous wastes:</i> Requires among other things that all unused, obsolete or expired chemicals must be disposed of in an environmentally sound manner (33).
61	2009	Noise and Excessive Vibration Pollution	<i>Regulation of noise and vibration:</i> No person shall make or cause to be made any loud, unreasonable, unnecessary or unusual noise which annoys, disturbs, injures or endangers the comfort, repose, <u>health</u> or safety of others and the environment (34).
34	2009	Air Quality	<i>Protection of air:</i> No person shall act in a way that directly or indirectly causes immediate or subsequent air pollution (35).

*LNN: Legal Notice Number

Coordination mechanism for SWM policy processes

The institutional mechanisms for the implementation of SWM policies have also evolved through several developmental stages. Before 1990, the two main institutional mechanisms were local authorities (Municipal/urban/town councils) and public prosecution (for penal code). In the years between 1990 and 2010, additional institutional mechanisms were established. The main ones were the National Environmental Management Authority (NEMA), National Environment Council, Provincial and District Environment Committees, and Public Complaints Committee. In the post 2010 period, Environmental and Land court; Land, physical planning and environmental departments (country level); National Ministries of Environment and Health; County governments; and Kenya National Cleaner Production Centre were added in to the existing mechanism.

Table 4: Description of main institutional mechanisms for SWM policy processes

Institutional mechanism	Description and responsibilities
National Government	Mandated by the constitution of Kenya (Cok, 2010) to protect the environment and responsible to formulate and enforce national level policies.
National Environment Council	Policy formulation and directions for the purposes of the Act (EMCA). It's also sets national goals and objectives.
National Ministries for Environment and Health	The main stakeholder at National level responsible for establishing National healthcare and Waste management policies.
National Environmental Management Authority	Responsible for developing and enforcing environmental standards and regulations nationwide in close collaboration with the SEPAs at the State level.
Kenya National Cleaner Production Centre	Responsible for undertaking research and identifying good practices relevant for wider scale up.
Environment and Land court	Tasked for interpretation of laws relating to environment and land.
Land, physical planning and environmental departments	Mandated to implement policies relevant to land, physical planning and environment in the respective counties. Such implementations take precautions to protect the environment.
Local Authorities and county governments	Key local stakeholder responsible for local governance, including waste management providing financing for waste management vehicles, crews, and other equipment and are responsible for the entire process
Provincial And District Environment Committees	Decentralization of environmental management and enables participation by the local communities
Public Complaints Committee	Administrative mechanism for addressing environmental harm
Public Prosecution	Responsible to prosecute individuals and organizations who commit offences in one or more provisions of the legal frameworks

External policy influence shaping the evolvement of SWM policies

Our review of SWM policies in Kenya shows that the following global policy frameworks has direct and/or indirect influence in the evolvement of SWM policy framework in Kenya with either the country is a signatory, the policy is cited or a relevant content of it included or through an indirect reference to another policy document which recognized them.

- 1957 The Recommendations of the United Nations Committee of Experts on the Transport of Dangerous Goods (formulated in 1957 and updated biennially) (36).
- 1972 Declaration of the United Nations Conference on the Human Environment (Stockholm) (37).
- 1982 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (38).
- 1982 World Charter for Nature adopted by the General Assembly of the United Nations at its thirty-seventh session (39).
- 1987 The Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Wastes adopted by the Governing Council of the United Nations Environment Programme (UNEP) by decision 14/30 (40).
- 1991 Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa (41).
- 1992 United Nations Conference on Environment and Development. Rio Declaration on Environment and Development (42).
- 1997 Decision 19/13 C of the Governing Council of the United Nations Environment Programme to initiate international action to protect human health and the environment through measures which will reduce and/or eliminate emissions and discharges of persistent organic pollutants (43).
- 2005 JICA Supporting Capacity Development in SWM in Developing Countries - Towards Improving SWM Capacity of Entire Society (44).
- 2007 Stockholm Convention on Persistent Organic Pollutants (45).

DISCUSSION

The solid waste management policies in Kenya has evolved from a few policy statements in other bigger policy frameworks to stand-alone environmental policies that gave substantial focus on solid waste management and later to solid waste management policy/strategic frameworks at national and county levels. Overall, there was expansion in the breadth and depth of solid waste management policy frameworks during the last two decades in Kenya. EMCA (1999) was the land mark policy framework in the evolution of SWM policy architecture in Kenya. It laid the main foundation for the development of other policies and strategies relevant to the environment and health of a population (9). However, the emphasis has been more on environmental outcomes than health outcomes.

The devolvement of national level SWM policy frameworks had mixed pictures. The devolvement took longer in general but was stronger in Nairobi County as compared to Mombasa County. In Nairobi county, solid waste management by-laws, plan and bill are well in place. But in Mombasa county solid waste management interventions highly rely of national level policy frameworks and a few SWM by-laws developed several years ago. While the national level policy frameworks could be relevant in overall guidance of SWM in the country and in the counties, their development to county level policy frameworks demonstrates

internalization and streamlining of the national policies in to county level governance and administration systems. Local policies need to focus effective implementation of local level SWM policies to avert the problem of solid waste management in urban centers that is fueled by poor economic status and high rural to urban migration in Kenya (46).

This study has also revealed that the segmentation of solid waste management policies followed two axes – the sector-specific segmentation and issue-specific segmentation. However, these two axes of segmentation were not strongly linked to each other. This has resulted in a weak policy linkage in the process of policy segmentation which would cause a gap in the implementation of the policies. It is implied that the issue-specific policies are applicable across sectors and sector-specific policies focus at the sector-wide processes. Despite this, the segmentation process left aside how the two outputs of segmentation would work together. Future directions of these processes needs to consider solid wastes as resources for human and urban development agenda (47).

This analysis has also shown that the evolvement of institutional mechanisms for SWM policy processes and implementation at national level are well aligned with the national level policy frameworks. But the expected roles that emanated from different policy frameworks tends to “converge” in to a limited responsible bodies at county level. These governance bodies at county level would therefore be responsible to implement several policy actions that emerge from several ministries at national level. This would challenge the capacity of local governments and authorities at county levels. As evidenced by a study conducted in Health-care settings, provision of trainings and including SWM in training curricula are needed to enhance capacity at institutional levels (48).

While the importance of roles of various stakeholders and actors in SWM is clearly articulated in the policy frameworks, these roles are not well operationalized and coordination mechanisms are not well stated in the policy guidelines. Moreover, the model of public private partnership that would be applicable for the management of solid waste in Kenya is not clear from the reviewed policy frameworks. The importance of this model has been reported from a study conducted in Lagos (49).

The overall evolvement of SWM policy architecture in Kenya looks well informed by the global policy dynamics in environment and waste management. However, apart from preliminary linkage through closeness of time of development and endorsement of the policies, there is no concrete and direct evidence about this influence. Citations of the global and regional policies and/or their reaffirmations in the national policy frameworks would have provided better evidence for the impact of global policy dynamics in national SWM policies. Beyond consultation and alignment of national level SWM policies with Global and regional ones, studies have also demonstrated that public participation in the development of SWM policy frameworks plays a significant role in its early adoption and implementation (50).

CONCLUSION AND RECOMMENDATIONS

Despite the progressive and chronological development of solid waste management policy priorities and strategies, their focus on environment dominates over health outcomes. While the focus on environmental outcomes is welcomed, health outcomes need to make the central underpinning principles of solid waste management policy frameworks.

The devolvement and segmentation of the policy frameworks are not well aligned to each other and the institutional mechanisms converge in a top down approach thematically although they diverge geographically. Further analysis is needed to disentangle the real impacts of these processes and arrangements.

More importantly, there is need to change the views of the policy making bodies towards solid waste. As stated in the policies, the dominant perspective is that solid wastes are not being viewed as resources, rather as mere wastes. Consequently, the policy interventions are inclined towards collection, transportation and disposal, with little emphasis on recycling and re-use.

As this review is focused on policy documents only, their status of implementation is not well addressed. Further studies are needed to explore the extent of the translation of these policies in to action.

ANNEX 1

Solid Waste Management Policy Frameworks in Kenya, Nairobi and Mombasa

Year	Titles of Policy Frameworks addressing Solid waste Management
1948	The Penal Code, Cap 63 (section 191, 192) makes it an offence for anyone to voluntarily vitiate the atmosphere in any place, to make it noxious to the health of persons (Kenya)
1950	The City of Nairobi (Nursing Homes and Maternity homes) By- Laws
1960	The City of Nairobi (General Nuisance) By- Laws
1961	Part II of the City Council of Nairobi Conservancy Bylaws 1961 The City of Nairobi (Restaurants, Eating House and Snack Bar) By-Laws, 1961
1963	Local government Act 265 deal with kinds of refuse and effluent and where such service is established, compel its use by persons to whom the services is available
1977	The Factories Act - every factory owner to ensure that the factory environment is kept in a clean state, and free from effluvia arising from any drain, sanitary convenience or nuisance
1985	The Radiation Protection Act - Prohibits manufacturing, possessing, selling, disposing, importing and exporting any irradiating device or radioactive material
1986	Public Health Act (cap 242) makes provision for securing and maintaining health including refusing wastes appropriately
1987	Building Code (Section 239(1)) dealing with the depositing of debris on streets
1992	Food, Drugs and Chemical Substances Act
1995	Building Code 1995 as an enhanced framework and Revised Building Regulation-Draft
1996	Physical Planning Act (PPA) (cap 286) making provision for development control and as such provided for waste disposal at designated sites only
1999	Environmental Management and Coordination Act (EMCA) provided a structured approach to environmental management in Kenya
2003	The Environmental (Impact Assessment and Audit) Regulations, Legal Notice No. 101
2006	The Environmental Management and Coordination (Waste Management) Regulations, 2006 Legal Notice No. 121; The Environmental Management and Coordination (Water Quality) Regulations, Legal Notice No. 120 Waste Management Regulations, (Legal Notice No.121) City of Nairobi (Medical Facilities) By-Laws, 2006
2007	The Environmental Management and Coordination (Controlled Substances) Regulations, Legal Notice No. 73 The Occupational Safety and Health Act L.N. 60: Hazardous Substances Rules, 2007

Vision 2030
 City of Nairobi (Ban on Polythene Carry bags) By-laws, 2007
 City Council of Nairobi (Waste Water Conservancy) By-Laws, 2007
 City Council of Nairobi (Solid Waste Management) By-Laws, 2007
 City of Nairobi (General Nuisance) By-laws, 2007
 City of Nairobi Outlook

2008 Municipal Council of Mombasa Environmental Management bylaws,2008
 Nairobi Metro 2030 Strategy
 Environmental Management By-Laws

2009 The Environmental Management and Coordination (Noise and Excessive
 Vibration Pollution) (Control) Regulations, Legal Notice No. 61
 Environmental Management and Co-ordination (Air Quality) Regulations

2010 The constitution of Kenya – Article 42 and 70 addresses the right to a clean and
 healthy environment.
 Republic of Kenya, National Land policy
 Nairobi the Integrated Solid Waste Management Plan

2011 Urban Areas and Cities Act, 2011

2012 Republic of Kenya, National Environment Policy 2012 and Republic of Kenya, Draft
 National Urban Development Policy, 2012
 Birth and Death Registration Act

2013 Country government act - assigns specific task of implementing nationwide
 policies within their jurisdiction which includes inter alia

2014 SWM, 2014 Bill has been formulated to operationalize the Nairobi the Integrated
 Solid Waste Management Plan
 The National Solid Waste Management Strategy

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