

SOLID WASTE MANAGEMENT POLICIES IN KENYA: THE SILENCE ON THE PLIGHT OF WOMEN AND CHILDREN

**Dickson A. Amugsi^{1*}, Jane N. Mwangi^{1,2}, Tilahun Nigatu Haregu¹, Isabella Aboderin¹,
Kanyiva Muindi¹, Blessing U. Mberu¹**

¹African Population and Health Research Centre (APHRC), Box 10787-00100, Nairobi, Kenya

²Diaspora Interlink, P.O Box 19208-00100, Nairobi, Kenya, Tel: +254737140000

APHRC Campus, P.O Box 10787-00100, Nairobi, Kenya

Tel: +254204001125, Fax: +254204001101

damugsi@aphrc.org/damugsi2002@yahoo.com

ABSTRACT

Building on available evidence that there are differences of exposure to solid waste among men, women and children, it follows that effective solid waste management (SWM) policies need to recognise such variations, as a prelude to rolling out programmes to address associated socio-economic and health risks. However, this logical scenario does not seem to be the case in many middle- and low-income countries. In this paper, we use analytical review methodology to examine integrated environmental management and sector specific policies in Nairobi and Mombasa, Kenya's two biggest cities, to highlight the extent to which existing policies cover the differential challenges of exposure to solid waste and associated health challenges for women and children. We found that apart from one municipal policy and the Kenya Vision 2030 documents respectively, which underscore the importance of including women and young people in waste management, 16 other policy documents reviewed are generally silent on women and children issues. Beyond the limited focus on women- and children- specific challenges, the general lag in policy implementation and enforcement of regulations will still hinder the emergence of an effective SWM system out of the best policy frameworks. The preceding discussion underscores both policy and implementation gaps, which need to be filled, if policies will potentially engender SWM practices that will be relevant and effective in protecting the health of the most vulnerable in urban Africa.

Keywords: Solid waste, policy, women, children, Kenya

INTRODUCTION

Municipal solid waste generation is an issue of increasing worldwide concern. An estimated 11.2 billion tons of solid

waste is collected worldwide every year. The increasing volume and complexity of waste associated with the modern economy and rapid urbanisation is posing a serious risk to ecosystems and human health (UNEP). Correspondingly, the management of the increasing volumes of municipal solid

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waste has become a serious problem for government departments, pollution control agencies, regulatory bodies and the general public, especially in developing countries (Das and Bhattacharyya, 2014). Consequently, over the years, there have been deliberate policies and legislative frameworks by governments in both high-income, and low- and middle-income economies to address the overwhelming increase in municipal solid waste. A case in point is Hong Kong's policy framework (Environmental Protection Department, 2005), which describes the urgency of growing municipal solid waste problems in the country and the strategies on how to address them. Adapting the influential European Commission's waste hierarchy model (European commission, 2008), the Environmental Protection Department of Hong Kong developed effective policy tools in the waste hierarchy to induce appropriate actions to curtail the solid waste menace in the country. Figure 1 explains the policy tools as they relate to the waste hierarchy and solid waste management (SWM) for that matter.

Another framework that has been identified by various scholars and policy makers as key in addressing SWM problems in low and middle income countries is the integrated solid waste management model (ISWM) (Guerrero, Maas, & Hogland, 2013; Hoornweg & Bhada-Tata, 2012; Marshall & Farahbakhsh, 2013; UNEP, 2009). The model acknowledges the importance of three dimensions when analysing, developing or changing a waste management system. The dimensions are: the stakeholders that have an interest in solid waste management, the elements or stages of the movement or flow of

materials from the generation points towards treatment and final disposal, and the aspects or "lenses" through which the system is analysed, including policies and impacts (Müller and Scheinberg, 2002, Müller et al., 2002, Scheinberg et al., 2010, Scheinberg et al., 2011). Although, the utilization of this model may contribute in addressing SWM problems in low- and middle-income countries in general terms, it is blind to women's and children's issues. This suggests that this model may not be effective in addressing the needs of women and children who are important players in the SWM chain (Creighton et al., 2008; OECD, 1998; UNCHS, 2000). Figure 2 depicts the ISWM.

Adapted from Hoornweg & Bhada-Tata (2012)

In sub-Saharan Africa (SSA), quite a number of policies and legislative instruments on SWM do exist (Van Dijk and Oduro-Kwarteng, 2007, Palczynski and Scotia, 2002). However, the fundamental question is whether women and children who play an important role in SWM have been incorporated into these policies and legislative instruments? Addressing this question has become important following deleterious women's and children's issues identified in vulnerability of exposure to poor SWM and associated health risks, as well as evidence that lack of policy direction and specificity on women can result in ineffective and inefficient SWM outcomes (Creighton et al., 2008; OECD, 1998; UNCHS, 2000).



FIGURE 1
The Role of Policy Tools and Support Measures (adapted from European commission Waste Framework Directive by Hong Kong's Environmental Protection Department)

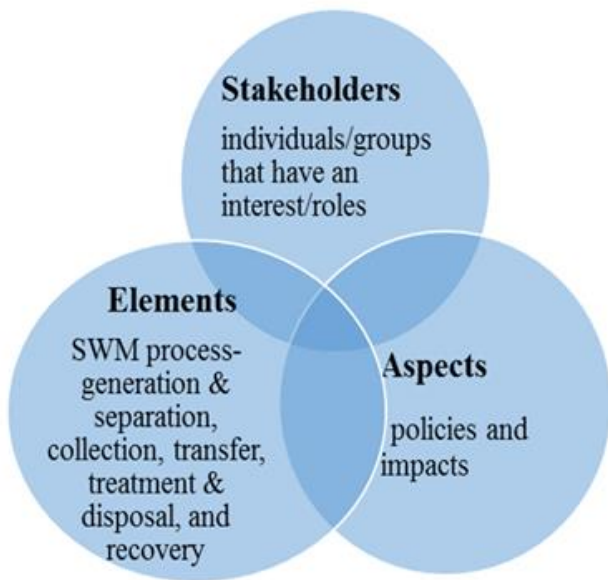


FIGURE 2

Integrated solid waste management model (ISWM)

Indeed, several countries in SSA have signed up to international statutes, protocols and policies focusing on women and children in relation to the environment. In particular, Kenya, is a signatory to a wide range of regional and international statutes, protocols and policies, which highlight the importance of incorporating women's and children's issues into environmental planning and policies. Agenda 21 of the United Nations Conference on Environment and Development, advocates for the involvement of women and youth of both genders in decision making processes (UNDESA, 1992). The UN Fourth World Conference on Women in Beijing also clearly states the importance of involving women in environmental decision-making at all levels, and the need to integrate gender concerns and perspectives in policies and programmes for sustainable development (UN, 1995). The Maputo Protocol on the Rights of Women in Africa, which was adopted by the African Union (AU), among other things, guarantees the right of women to healthy and sustainable environment and development (AU, 2003; Lawyers Circle and Oxfam, 2014). Nevertheless, as to whether the acceptance of these international policies and protocols is reflected in country-specific policies and legislative instruments remains unclear. The present study therefore sets out to investigate the extent to which existing policies and legislative instruments cover the differential challenges of exposure to solid waste and associated health challenges for women and children in Kenya.

The rest of the paper is presented in four sections. In the immediate sections, we present women's and children's nexus in low- and middle-income countries (LMICs) to help an appreciation of the SWM policies in these settings. We discuss the methods used in the review and the local settings of our focus in the follow up section and proceed to focus on women's and children's perspectives in relation to SWM

policies in Kenya generally, and Nairobi and Mombasa in particular, identifying key provisions, gaps and opportunities. The discussion and concluding sections tie the findings together, highlighting policy and programmatic options for consideration.

Literature review

The analysis of the literature shows that men and women have different perceptions and attitudes towards SWM. For example, men and women have different attitudes towards the health risks associated with poor SWM and environmental issues in general (Organization for Security and Co-operation in Europe, 2009). Also, women and men define differently what constitutes waste, types of waste, and understanding of where they are disposed (Adebo & Ajewole, 2012; Jerie, 2011; Scheinberg et al., 1999). A separate-sex mapping exercise in Hungary, resulted in the maps drawn by the men's group showing more sites with scrap metals from abandoned cars, tires and farm-equipment and more sites with building and construction wastes, while those drawn by women showed more dumping places for household wastes, missing some of the sites mapped by men. In this case, children were the only group who seemed to know all the dumping places, although they could not always say what kind of waste was found in specific dumpsites (Scheinberg et al., 1999).

Additionally, men and women play different roles in the waste management process, especially at the household level (Adebo & Ajewole, 2012). Women have the sole responsibility of managing household waste with assistance of their children (both male and female), partly because they are the managers of the home and consequently the key generators of household waste (Fredericks, 2008; Gani et al., 2012; Organization for Security and Co-operation in Europe, 2009; Water et al., 2000). Outside the home, both men and women work in SWM as sweepers, domestic workers, and waste pickers. Nonetheless, women tend to have a subordinate status when it comes to paid waste management activities, which not only affect their access and control of resources but also exposes them to greater health and environmental risks than men (Jerie, 2011). For example, recycling enterprises are usually owned by men, who employ women and children to work for them. Similarly, most supervisory and managerial posts in municipal and waste collection firms are dominated by men (Muhammad & Manu, 2013; Water et al., 2000). Waste materials are also gendered. Studies in Ghana and Nigeria found that materials which are considered as being of higher value are often the preserve of men, while women mostly access lower value and the dirtiest materials, usually from dumpsites, which largely contain organic and inert waste and sources of higher health risks (Gani et al., 2012; Kadfak, 2011; Jerie, 2011).

A number of other studies across LMICs have largely confirmed how gender and age of the individuals influence their participation in SWM (Guerrero et al., 2013; Jerie, 2011; Muhammad & Manu, 2013). Evidence from Kaduna, Nigeria and Latin American cities of Lima, Cochabamba, Sao Paulo and Montevideo demonstrated the way men, women and

children are involved in waste management, although there are variations from place to place (Gunsilius 2011). Children often work with their parents, and in some instances work alone. Children are usually involved in recovering, guarding, and sorting and cleaning materials (Gunsilius 2011). Women of all ages also participate in different SWM activities depending on the region. In some places, women are waste pickers and itinerant waste buyers while in other places they are engaged in sorting and pre-processing of the waste collected by their male counterparts.

Although SWM workers and waste pickers are usually exposed to different health risks (Cointreau, 2006) the age of a person plays a crucial role in determining the level of exposure and vulnerability to health and environmental hazards emanating from waste (Hunt, 1996; Longe et al., 2009). For instance, children are more vulnerable to health risks associated with SWM than adults (Longe et al., 2009) (Hunt, 1996; Longe et al., 2009). This is probably because they have a lower level of awareness of risks and limited experience and knowledge in waste handling. Consequently, children may expose themselves unknowingly to dangerous materials, which adults are likely to avoid (Longe et al., 2009). The severity of effects of solid waste materials on human health also varies with age (Longe et al., 2009). For example, the effects of toxins from solid waste are found to be more severe in children than adults. This is particularly so because the metabolic systems of children are less developed and may not therefore be able to detoxify and remove solid waste associated toxins (Cointreau, 2006; Longe et al., 2009). Similarly, air borne hazards like gases may affect children more than adults. Also, because of the youthfulness of their skin, children tend to be more vulnerable in terms of penetration of chemicals into their bodies and its consequential effects on their health (Longe et al., 2009). There is also substantial evidence that children may have developmental and skeletal problems as a result of exposure to toxic solid waste (Cointreau, 2006; Longe et al., 2009).

Beyond health risks, there are social risks associated with SWM, especially for young children. Children who are involved in waste picking may miss the opportunity to attend school (Longe et al., 2009). This may jeopardise their successful transition to adulthood, such as their ability to earn a decent income in adulthood, which may in turn affect how they will cater for their offspring. These intergenerational effects of poor SWM are visible across cities in resource constrained settings. It is not uncommon for instance, to see children and their parents, including grandparents engaging in waste picking in Africa and Kenya for that matter.

The literature also suggest that the involvement of people of different ages in SWM varies from one place to another. Cointreau (2006), observed that waste pickers in open dumps in developing countries consist of a significant proportion of pregnant women and children. This corroborates findings from a study in India which revealed that most waste pickers were women and children from lower castes (Hunt, 1996). A study in Tafila region, Jordan also highlights the involvement of children in SWM (Aljaradin and Persson, 2012). The preceding discussion goes to suggest that children involvement in SWM cuts across most regions in the developing world.

Despite evidence of women and children involvement in SWM across LMICs, they are generally given marginal attention in SWM policies and strategies. A study conducted in Bauchi, Nigeria, for instance, shows that even though women dominate waste generation, storage and collection in the area, they are not integrated into the SWM system (Gani et al., 2012). In the subsequent sections of our review and analysis, we examine the extent to which SWM policies addressed women and children issues and the effectiveness of the implementation of these policies in Kenya, and Nairobi and Mombasa for that matter.

METHODS

Review of policy documents and frameworks

Review approach. An analytical review methodology was used to examine integrated environmental management policies and sector specific policies in relation to SWM. We first conducted a detailed search of existing policy documents on SWM in Kenya, Nairobi and Mombasa from public domain. A total of 45 documents were retrieved.

Selections of policy documents

After retrieval, we assessed the documents we found to determine their relevance. We included current policy documents that focus on SWM at national level, and in Nairobi and Mombasa. Afterwards, we reviewed each of the selected documents. A total of 18 policy documents (Table 1) that guide SWM at national level and in the two cities were specifically identified and reviewed.

Gender and life course in context. In this analytic review, examined the extent to which women and children issues were considered in a policy and legislative framework. Where it is stated as “every person” or “all people,” we assumed that issues of women and children may have been addressed. Nevertheless, we acknowledged that this assumption can be misleading as these terms are not disaggregated systematically by sex and age. This is an important limitation worth noting. We also acknowledged that policy provisions generally lack details and specificity but information and policy texts are generally broader and generic, but interpretation of these provisions could vary at operational levels.

Extraction/abstraction of information. The review team extracted and/or abstracted information that dealt with women and children issues from the selected policy documents after thorough review of each of the selected relevant policy documents. The extracted information included both ‘referred’ (addressing women and children issues explicitly) and ‘related’ (addressing women and children issues implicitly) contents. The extracted information along with key characteristics of the policy documents was collated into a matrix. This matrix was reviewed by all the co-authors for content validity and clarity and was revised based on the inputs and further review of the policy documents.

TABLE 1
How SWM policy frameworks in Kenya addressed women and children issues

SN	Policy Framework	How women issues are addressed	How children issues are addressed
1	Constitution of Kenya 2010 (Article 42 and Article 69)	Addressed both genders together: "Every person has the right" "Every person has a duty" "... benefit of people of Kenya" "...Public Participation"	Addressed children issues in generic terms: "Every person has the right..." "Every person has a duty..." "... benefit of people of Kenya" "...public Participation..."
2	Kenya Vision 2030	Gender equality considered as a guiding principle: "Gender, youth and Vulnerable groups" "Equity and Poverty Elimination"	Adequate emphasis on equity for youth and vulnerable groups: "Vision 2030 for youth and vulnerable groups is equity in power and resource allocation."
3	National Solid Waste Management Strategy 2014	Has inclusive objective: "...ensure a healthy, safe and secure environment for all."	Non-discriminatory recognition of challenges: "...ensure a healthy, safe and secure environment for all."
4	The Environmental Management and Coordination Act (EMCA), 1999	Has all-inclusive objective...none gender specific: "Every person in Kenya is entitled to a clean and healthy environment"	Not life-course specific but emphasizes on the inclusion of all: "Every person in Kenya is entitled to a clean and healthy environment"
5	The Physical Planning Act, and	Emphasizes on physical development: "... Land Development approvals" "...Siting waste disposal sites" "...Environmental Impact Assessment"	No mentioning of children: "...appropriate physical development plans may have a bearing on children"
6	The Public Health Act	Protection of the health of the population: "...Emphasizes on environment, sanitation, health and hygiene for all"	Non-discriminate approach: "...ensures a healthy environment, sanitation, health and hygiene for all"
7	Integrated Solid Waste Management Plan for the City of Nairobi 2010-2020	Non-specific on gender: "...healthy, safe, secure and sustainable solid waste management system" "...Improve and protect the health of all" "... Maximize resource recovery through a participatory approach"	Protection of human health:"...Aims at improving and protecting the health of all residence and visitors to Nairobi" "...participatory approach to SWM".
8	Nairobi City County Solid Waste Management Act 2014 (14)	Promotes public participation: "...encourage public participation in SWM" "... SWM is a shared responsibility"	Non-specific objective: "...Every person ...entitled to a clean and healthy environment" "... has a duty to safeguard and enhance the quality of the environment"
9	City Council of Nairobi (Solid Waste Management) By-Laws of 2007	Responsibilities of property owners or occupiers: "...shall deal with the waste arising from the premise"	Non-specific objective: "Any person, who produces, carries, keeps, treat, disposes of waste etc. with an exception to domestic household waste is made to authorized persons"
10	City of Nairobi Environment Outlook, 2007	Gender roles identified as important: "...encouragement of public participation in waste recycling, especially the participation of women, young people, trade unions and other civil society organizations"	Specific on life course: "... participation of women, young people, trade unions and other civil society organizations in SWM"
11	Mombasa Environmental Management Bye Laws, 2008	Non-gender specific: "...formulated in line with the EMCA of 1999" "...the only stand-alone policy framework that address solid waste management in Mombasa."	Not specific on children: "...like the EMCA, emphasis on all-inclusiveness"
12	The Local Government Act (Cap 265 of Laws of Kenya)	Role of local government authorities: "... make decisions that guide among other things the development of a solid waste management system"	Lack of awareness about laws: "...most of the stakeholders in the solid waste management sector, especially the households are not aware of the existing laws governing the sector"
13	Waste Management Regulations (2006)	Non-specific on women: "...Streamline the handling, transportation and disposal of various types of waste" "... waste minimization, cleaner production and segregation at source"	Non-specific objective: "... protect human health and the environment"
14	Environmental Management and Coordination (Waste Management) Regulations of 2006	Non-gender specific objective: "Any person whose activities generate waste shall collect, segregate and dispose or cause to be disposed off such waste in the manner provided for under these Regulations"	Non-specific on children: "...Any person whose activities generate waste..."
15	The Environmental Management and Coordination (Water Quality) Regulations, 2006.	Protection of aquatic environment: "...No person shall discharge or apply any poison, toxic, noxious or obstructing matter etc. into the aquatic environment..."	Not address children issues directly: "...No person should pollute the aquatic environment by discharging dangerous substance into without complying with the lay down standards"
16	The Environmental (Impact Assessment and Audit) Regulations, 2003	Emphasizes on what constitute a waste: "...liquid, solid, gaseous or radioactive..." "... discharged, emitted or deposited in the environment in a manner likely to cause an alteration of the environment"	What is expected in audit report: "...indicate various materials, including non-manufactured materials, the final products, and by products, and waste generated"
17	The Occupational Safety and Health Act, 2007	Emphasizes on the safety of all workers: "...employers shall develop a suitable system for the safe collection, recycling and disposal of waste to avoid the risks to safety, health of employees and to the environment".	Safeguard the safety of all employees: "...Measures to be taken to protect the health of employees as well as the environment"
18	The County Governments Act, 2012	Non-gender specific objective on sustainable use of resources for the benefit of all: "Promotion of the economic, efficient, effective and sustainable use of resources, the recycling of waste, and other appropriate environmental objectives"	Emphasizes on the sustainable and prudent use of resources for the benefit of all: "...sustainable use of resources, the recycling of waste, and other appropriate environmental objectives"

Analysis and synthesis. The extracted information had undergone a qualitative interpretive synthesis. There were three levels of progressive analysis and synthesis of information: 1) whether the policy addressed women and children needs in

SWM? 2) How the policy documents addressed women and children needs in SWM? And 3) to what extent the policy frameworks have addressed women and children issues in SWM in practice? Relevant information was categorised and

summarized under each level of analysis. Key texts from the policy documents were also quoted in the synthesis of the information to facilitate seamless description of the analysis outputs. Main findings were summarized in tables and narrative summaries (Appendix 1).

The local settings of Nairobi and Mombasa

According to the 2009 Census, in the administrative area of Nairobi, 3.1 million inhabitants lived within 696 km² (269 sq. mi). The city is currently the 13th largest city in Africa, based on population and fourth largest in infrastructure development and its size. It has only one official dumpsite – the Dandora dumpsite, which is located north east of the city, about 7.5 kilometers from the central business district. However, there are many other unofficial dumpsites scattered across the city. The current municipal solid waste generated daily in the city is estimated around 4,016 tons (Njoroge et al., 2014). The responsibility of waste collection lies with the Nairobi City County, however available estimates suggest that only 50% of waste generated in the city is collected and the total waste reuse and recycling is estimated at about 100-150 tons/day, amounting approximately to 5% of total waste generated (Kasozi and Blottnitz, 2010). The official designated dumpsite at Dandora has reached full capacity, and has been noted to be responsible for gross environmental and public health hazards (UNEP, 2006) and already causing significant environmental pollution and damages to human health, especially to more than 200,000 people living in the surrounding settlements of Korogocho, Babadogo, Lucky Summer, and Dandora. These poor communities, while contributing least to the problem, are bearing the burden of an environmental catastrophe. The most affected are between 6,000 and 10,000 persons who scavenge at the site. These men, women and children, commonly referred to as ‘Chokora’, brave the dangers of the dumpsite in search of escape from the ravages of extreme poverty (Odero, 2012).

Mombasa is the second largest city in Kenya with a population of about 720,000. The city has the largest seaport in East Africa and is an important tourist destination. It has two official dumpsites, Mwakirunge and Kibarani. The latter is at the outskirts of the island while the former is 15 kilometres from the town centre. The Mombasa Municipal council collects about 68 percent of the 650 metric tons of total waste collected daily. Community based organizations, including youth groups in different parts of the city are also involved in garbage collection as a way of generating income (Kithiia & Dowling, 2010). Sakijege et al., (2012) identified blocking of the water stream by haphazard dumping of solid waste and construction among key determinants of flooding and associated risks of water and air pollution, diseases, waterlogging and blocked accessibility in Mombasa. Evidence from other case studies confirm the role of poor waste management in urban flooding through blocking drainage, increasing debris and harbouring disease vectors. Consequently, focus on adequate SWM have become an emerging issue in flood risk management practice (Lamond et al., 2012). At within 45 metres above sea level, Mombasa has a history of disasters related to flooding, with around 17 per cent of the city likely

to be submerged by a sea-level rise of 0.3 metres. The situation is exacerbated by socioeconomic factors, particularly high population densities, together with the large number of unplanned settlements that have encroached into areas demarcated for infrastructure such as roads, drainage and sewerage lines (Awuor et al., 2008). Consequently, in the search for pathways to reduce risk accumulation and exposure of the most vulnerable in urban Africa, understanding SWM policies and practices in Nairobi and Mombasa, particularly how such are related to women and children remain an important research agenda, which is the primary objective of this paper.

RESULTS

Review of policy documents and legislative frameworks on SWM in Kenya

The summary of the results are presented in Table 1 (Appendix 1). The results showed that Kenya has many policies and regulations that guide environmental and SWM both at the national and county levels. For example, Article 42 of the Kenyan Constitution states that every person has a right to a clean and healthy environment and article 69 encourages public participation in environmental management, protection and conservation (Republic of Kenya, 2010). Similarly, the social pillar of Kenya’s long-term development plan - Kenya Vision 2030, indicated the need to have a just and cohesive society that enjoys equitable social development in a clean and secure environment (Republic of Kenya, 2007). This document also emphasises gender equality in relation to environmental issues. SWM is one of the environment related flagship projects in Kenya’s Vision 2030 (Republic of Kenya, 2007), with a proposal for the relocation of Dandora dumpsite (the only legal dumpsite in Nairobi) and development of SWM systems in 5 leading municipalities and in the economic zones planned under the Vision (Republic of Kenya, 2007). The National Solid Waste Management Strategy 2014 was formulated to guide sustainable SWM in Kenya, to ensure a healthy, safe and secure environment for all. The strategy is driven towards compliance with the existing legal frameworks such as the constitution of Kenya, Vision 2030, Environmental Management and Coordination Act (EMCA) 1999, and the Environmental Management and Coordination (Waste Management) Regulations of 2006. The strategy has outlined 13 minimum points that all the 47 counties in Kenya should pay attention to in waste collection, transportation, disposal and licensing to help county governments embrace environmental friendly SWM practices (NEMA, 2014). It also listed several waste management objectives and strategies, which stipulated strategic alignment and recognition of partners through public private partnership. However, it is not clear who the anticipated partners are, and whether they include stakeholders in the informal sector, particularly women, children and other vulnerable groups, who are very critical in the SWM chain and generally bear the brunt of poor SWM related risks.

At the city levels, the National Solid Waste Management

Strategy has analysed the current SWM practices in Mombasa and has identified the presence of scavengers in all waste disposal sites (NEMA, 2014). However, the strategy does not recognise scavengers as important stakeholders in SWM processes. The analysis also revealed absence of basic sanitary facilities at the disposal sites but failed to proffer any solution to the problem despite the obvious health risks the scavengers are exposed to. Similarly, there is no disaggregation of who these scavengers are, in order to know whether men, women, youth or children are involved in the scavenging process.

The mission of the Integrated Solid Waste Management Plan for the City of Nairobi 2010-2020 is aimed to improve and protect the health of residents and visitors, ecological health, diversity and productivity, and to maximise resource recovery through a participatory approach. The delivery strategies are supposed to be all inclusive, financially sustainable and based on sound policies (Nairobi City Council, 2010). Specifically, one of the actions recognised as part of the centre-piece for reaching the set objectives and targets in the plan is the recognition and strengthening of the multiple partners that already exist in the city. However, the recognition of partners is defined as “recognise, formalise and streamline the operation of CBO’s in waste collection so that they have the same legal and operational status as private collectors; formalise the operation and roles of actors involved in waste recovery and trading activities (i.e. waste pickers - operating at the neighbourhood, street and dump level, waste dealers and suppliers to large-scale recyclers); and formalise waste material supply chains to the recycling industry itself to minimise exploitation of informal recyclers and negotiate pricing.” While this approach termed Participatory SWM, combines environmental and social issues such as employment generation, increased income generation, improved occupational health and the promotion of human development opportunities and environmental health in general (Jutta, 2010), it failed to isolate women and children specific issues in the plan.

Furthermore, most of the other city-focused SWM policy documents similarly failed to specifically incorporate women and children issues in their provisions. For instance, The Nairobi City Council Solid Waste Management By-Laws of 2007, generally state the laws and obligations of various parties involved in SWM in the city, while the City Council Solid Waste Management Bill of 2014 re-emphasised the laws spelt out in the 2010 Constitution and the need to provide for and regulate participation of various actors in SWM in the county (Nairobi City County, 2014). An important exception is the City of Nairobi Environment Outlook, 2007, which specifically highlights the need to involve women and young people in SWM. It proposes the formulation and implementation of an integrated SWM strategy that provides measures for managing or controlling the generation, collection, minimisation, transportation, recycling, treatment and final disposal of wastes. This integrated SWM strategy is supposed to ensure the creation of awareness about the harmful effects of solid wastes among city residents and promotion of public participation, especially women, young people, trade unions and other civil society organisation in waste recycling (Nairobi City Council, 2007). Notwithstanding, gender and age

issues raised in the City of Nairobi Environment Outlook, 2007 were not carried forward in subsequent policy and programme frameworks.

DISCUSSION

This study sets out to investigate the extent to which the existing SWM policies and legislations in Kenya incorporated issues on women and children and the differential challenges of exposure to solid waste for women, men and children. The results of our review show that Kenya has many national and county level policies and regulations that guide environmental and SWM in the country. What is however generally lacking in these policies and regulations are provisions addressing women and children specific challenges, which are critical for effective and sustainable SWM. This is particularly so because of the different roles men, women and children play in the SWM process. Our review of the available literature shows that only two policy documents out of 18, specifically address the issue of gender and age in relation to SWM. Nevertheless, the gender and age issues captured in these policy documents were not incorporated in the subsequent policies and frameworks.

The lack of specificity in the policy provisions was observed across majority of the documents reviewed. Rather, broad and general information are generally provided in policy texts. Yet, many international organisations, protocols and conventions have emphasised the need for specific policies on women and children to be incorporated in environmental management frameworks (UNDESA, 1992, UN, 1995, AU, 2003; Lawyers Circle and Oxfam, 2014), to promote sustainable SWM. For example, the UN Fourth World Conference on Women in Beijing did not only advocate for women participation in environmental issues at all levels, but the need to integrate gender concerns and perspectives in policies and programmes for sustainable development (UN, 1995). The gender dimension was also captured in Agenda 21 of the United Nations Conference on Environment and Development (UNDESA, 1992), as well as in the Maputo protocol adopted by the African Union (AU, 2003; Lawyers Circle and Oxfam, 2014). Kenya being a signatory to most of these protocols, statutes and conventions, it was logical to expect that policy makers will prioritise women and children issues in all relevant policy guidelines that deal with environmental management, including SWM. The lack thereof may mean that assenting to an international convention or protocol does not necessarily translate into domestication and implementation of the same at the country or sub-country levels.

The need for SWM policy specificity with regards to women and children stems from the fact that waste handling disproportionately touches the lives of this group, particularly in developing and transitioning countries (UNEP 2005; Fredericks, 2008; Gani et al., 2012). Women have the sole responsibility of managing the household waste with assistance of their children (both male and female) partly because they are the managers of the home, and perhaps because women tend to be among the most marginalised groups in some societies (Fredericks, 2008; Gani et al., 2012; Organisation for Securi-

ty and Co-operation in Europe, 2009; UNEP 2005; Water et al., 2000). The same can be said of risks associated with SWM outside the home. Children and women are more prone to poor SWM related risks than men for example (Cointreau, 2006; Longe et al., 2009; Gani et al., 2012; Kadfak, 2011; Jerie, 2011), with children disproportionately bearing the greatest risks (Cointreau, 2006; Longe et al., 2009). Therefore, it is critical that policy makers formulate policies and regulations that will take into account the differential challenges of exposure to solid waste for women, men and children. This effort will help protect the health and well-being of the vulnerable in society and at the same time create a more sustainable SWM system.

The lack of policy specificity highlighted in the present review is not only limited to Kenya. A review of policy documents from both high- and middle-income countries show a similar trend—women and children issues not specifically addressed. Evidence from Victoria, Australia, confirm that none of the policy documents reviewed specifically address the issue of gender and age (EPA Victoria 2009). Furthermore, the ISWM framework (Hoorweg & Bhada-Tata, 2012), which is widely recommended as the best approach to address solid waste issues, especially in low income countries, also failed to isolate women and children specific issues in the framework. The same can be said of the Hong Kong's policy framework (Environmental Protection Department, 2005), which aims at addressing urgently the growing municipal solid waste problems in the country. Nevertheless, there is evidence that lack of policy direction and specificity on women and children can result in ineffective and inefficient SWM systems (Creighton et al., 2008; OECD, 1998; UNCHS, 2000). Thus, the effectiveness and sustainability of waste management initiatives can be achieved through the incorporation of women and children perspectives in SWM policies and regulations and ensuring their implementation, not only in Kenya but also in other low- and middle-income countries.

CONCLUSIONS

The policy documents reviewed show that the provisions of SWM policies and legislations in Kenya are largely generic with only two of 18 policy documents incorporating some specific focus on gender and age. Although, we acknowledge the tendency to less details and specifics at policy levels, it is supremely important to note that generic policy statements may hinder policy implementation and impact. The significance of policy specificity hinges on the fact that women, men and children participate in and are affected by SWM differently in Kenya and across low- and middle-income countries. It is therefore important to develop and implement SWM policies that disaggregate SWM issues on the basis of gender and age challenges. This will help understand the issues that are peculiar to these subgroups and develop strategies to address them. Thus, comprehensive strategic policy revision across all sectors to mainstream women and children issues in relation to SWM will need to be initiated in the country and within specific cities and ensuring that the poli-

cies so formulated are implemented and enforced.

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CONFLICT OF INTEREST

None declared

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