

Development of an Integrated Solid Waste Management Plan for the City of Nairobi, Kenya

**Report on Training Session on Target Setting and Stakeholder Engagement
Pan Afric Hotel, Nairobi
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Introduction

This document provides a summary of the outputs of the training session on target setting and stakeholder engagement which was held as part of the project developing an integrated solid waste management plan for the city of Nairobi. Participants at the workshop included members of the Nairobi Task Team (NTT), and research students who were involved in gathering baseline data for the study.

3 key outputs from the workshop are summarized in this document.

- A set of high level objectives which represent the motivation for developing the plan;
- A list of stakeholder issues which were established through a role playing exercise by the participants; and
- A set of preliminary targets for the ISWMP.

It is suggested that the high level objectives should be further refined by the NTT (to remove duplication and ambiguity), be presented to stakeholders, and used to help shape the ISWMP.

The exercise of developing the list of stakeholder issues was for training purposes only, and this list should not be made available to stakeholders during stakeholder workshops. Providing them with such a list may constrain the stakeholders thinking and limit the extent to which they formulate their own perspectives. The list of issues developed during stakeholder workshops will ultimately be used for two purposes, being to set the targets and to shape the various considerations which may ultimately be incorporated in the plan.

The target setting exercise was also run for training purposes. The ideas developed in the workshop need to be expanded using the results of the baseline study and the outcomes of the stakeholder workshop.

A further exercise which was run as part of the training session focused on establishing values and value judgments of the participants as they relate to waste and waste management. The outputs of this exercise have need been recorded here.

Objectives

<p>High Level, overall, "Other", cross-cutting</p>	<p>To promote public-private participation including small scale entrepreneurs in the solid waste management system To set standards for measurement of cleanliness within Kenya (?) To promote efficiency, reliability and effectiveness in waste management system To provide quality solid waste management services to Nairobi residents Develop a decentralized waste management system <i>note that there was dispute against this suggestion</i> Promote 3 (or 4) R's approach</p>
<p>Resource Recovery/ Recycling</p>	<p>Promote reduction of solid waste generation through provision of economic incentives and disincentives and infrastructure development Promote source separation Promote proper packaging of different waste types for collection Promote recycling</p>
<p>Collection/ Transport</p>	<p>To ensure efficient and effective transportation of solid wastes Possibly through PPP</p>
<p>Disposal</p>	<p>To establish environmentally sound/ well managed landfills To promote safe disposal of waste</p>
<p>Social/ Awareness</p>	<p>To ensure sensitization and public awareness raising about source segregation To strengthen community participation in solid waste management, including through empowerment To promote waste minimization Improve/promote public health To create employment and income generation</p>
<p>Environmental</p>	<p>Improve quality of the environment – air, soil, water and possibly noise</p>
<p>Policy/ Planning</p>	<p>To integrate solid waste management with other development plans/strategies To develop policies and regulations that respond to emerging challenges in SWM To develop monitoring and enforcement mechanisms and systems that would respond to emerging challenges in SWM sector To establish a central coordinating agency in SWM To promote collaboration amongst relevant institutions and stakeholders to forge synergy and reduce duplication of roles To enforce environmentally sound management of final disposal sites</p>
<p>Technology</p>	<p>To promote technological innovation in waste management relevant to the local context To promote low cost and adoptive technology in waste</p>

	<p>management and capacity building</p> <p>To encourage innovation in waste management</p> <p>To develop integrated transfer stations and material recovery stations</p> <p>To promote/ensure effective and efficient processing of solid waste at transfer stations</p>
Financial	<p>Create a market for recyclables (<i>?too specific</i>)</p> <p>Provide a sound/sustainable basis for budgeting of SWM</p>

Targets

Issue	Targets
Source Segregation (Group 1 and Group 9)	
Policy	<p>Revised waste regulation to go beyond separation of wastes from hazardous and non-hazardous to include four more streams by 2011</p> <p>Formulate source segregation policy for Nairobi by 200x</p>
Financing	<p>Establish a pilot project on source segregation through PPP by June 2010</p> <p>Establish partnerships with relevant/key private firms for providing funds for source segregation by 2012 (PPP policy going to be enacted)</p> <p>Finance campaigns on source separation for the residents of Nairobi in x months</p>
Technology	<p>Develop different colour bins for source segregation by March 2010/20x</p> <p>Develop infrastructure bonds by 2011</p>
Infrastructure	<p>Establish separate collection vehicles for segregated wastes by March 2010</p> <p>Establish source segregation infrastructure in x residential areas in y months</p>
Collection (Group 2 and Group 6)	
Policy	<p>To improve the current collection level from x% to y% by:</p> <ul style="list-style-type: none"> - increasing number of collection vehicles - expanding on collection coverage - developing collection schedules - to develop a program that will systematically upgrade the current informal settlement for effective waste collection - to develop a two way waste stream collection system (wet and dry by year x
Financial	<p>To allocate x% of total government revenue towards waste management services</p> <p>Charges of waste management services will be commensurate with service provided</p>

	<p>Improve on current collection of x% to y% of city council revenue base</p> <p>To set waste management priorities to be commensurate to nature and type of offences</p> <p>To create an environmental fund that will handle environmental liabilities</p>
Technology	<p>To promote integration of current vehicle technology with locally fabricated tricycles by year x</p> <p>To introduce different container systems to handle different kinds of waste</p> <p>To ensure that 50% of the refuse vehicles meet the required standards (design) by 20x</p>
Infrastructure	<p>To expand infrastructural system by integrating rail system with road system</p> <p>To develop an efficient and effective collection system that will ensure that 60% of the total waste generated is collected by 20x</p>
Transportation	
Policy	To formulate enforceable tariffs to cover x% of transportation of solid waste without subsidies by year y
Financial	Reduce operation costs by x% by y year
Technology	Increase the use of appropriate trucks by x number through PPP arrangements by the year y
Infrastructure	Diversification of modes of transport of solid waste to include rail transport by the year y
Treatment and resource recovery (group 4)	
Policy	To ensure x% of organic waste is treated by N year
Financial	Be able to raise x amount of money to set up a composting plant of capacity x tones by N year
Technology	Establish a composting plant of capacity x tones by y year
Infrastructure	To ensure accessibility to the treatment plant so as to be able to treat x amount of waste/d in N year
Transfer stations/material recovery (group 3)	
Policy	<p>Enact policies that encourage public-private partnerships in establishment of transfer stations by 20x</p> <p>Set up standards and regulations for efficient operation of transfer stations</p>
Financial	Set up framework to allow private investors operations to recover their investment costs by x years
Technology	Material recovery rate of x% by 20xx
Infrastructure	Identify the optimum locations for setting up x transfer stations within the city
Disposal (Group 7 and 8)	
Policy	<p>Review the legislative framework within local authorities concerning the sustainable governance of the final disposal site by year x</p> <p>To ensure effective and efficient legislation governing solid waste at the final disposal site are in place by year k</p>

Financial	allocate x% of finances to start operations at the final disposal site (Ruai) to ensure/achieve q% of return on investment within x number of years
Technology	Ensure that modern technology is in place that will enable x% reduction, reuse and recycling of disposed waste by the end of year y
Infrastructure	Construct the new site, including access infrastructure and offices, machinery etc by year y To establish an efficient transportation network at the landfill site to cover x to y% of the site to enable accessibility of various waste management activities by the end of year k

Issues Identification

Waste Generators	
Policy	Enactment and enforcement of policies Review of by-laws Awareness of policies
Financial	Cost of collection affordable Cost of infrastructure PPP Incentives/subsidies Value for my money – better services Establish clear framework for service charges
Technical	Designated and accessible collection points Collection facilities availability – bins, liner bags, skips, recycling bins Infrastructure – incinerators, access roads Drop off points (distance) Clear guidelines on separation – eg difference between PETs and plastics, collection trucks (?)
Social	Co-operation and involvement Awareness to all/broad base Collection points accessible and socially defined Policies guiding the whole process
Environmental	Collection frequency should be regular Illegal dumping should be discouraged Public health: Control and prevent diseases; environmental health like odours
Community and Neighbourhoods (Group 4 and Group 7)	
Policy	Service assurance Regulation of service charges (waste collection fee How will the management of the dumpsite be different from the existing ones
Financial	Funding of the CBOs involved Who will bear the cost of treatment in case of an outbreak of a

	<p>disease as a result of the dumping of the waste</p> <p>Viability of the system</p> <p>Community fear of not affording to pay for the system</p> <p>Whether the government will increase taxes on consumables (?) towards implementation of the plan</p> <p>What benefit the community will derive</p> <p>If the government can afford mechanized transfer station</p> <p>Incentives for waste treatment</p> <p>Incentives on voluntary waste dumping at recommended sites</p>
Social economic	<p>Job protection (how will the CBOs existing be integrated the the SWMP)</p> <p>Employment opportunities</p> <p>Security of the community (including insurgence of scavengers)</p> <p>Is there any risk of accidents and if any who takes the responsibility?</p> <p>Health hazards arising</p> <p>Displacement of residents</p> <p>Loss of employment</p> <p>Source of employment</p> <p>Issues of hygiene at disposal</p>
Technical	<p>Involvement of various activities/processes</p> <p>Nuisance resulting from delayed/uneven waste collection</p> <p>Appropriateness of transport vehicles</p> <p>Appropriate waste treatment</p>
Environmental	<p>Environmental restoration by waste generators/polluters</p> <p>Pollution of ground water, rivers and other natural resources</p> <p>Odour</p> <p>Environmental degradation</p> <p>Ecological disturbances</p> <p>Methane production</p>
Service providers	
Technical	<p>Type of vehicles</p> <p>Type of equipment</p> <p>Type of facilities and infrastructure condition</p> <p>Inadequate infrastructure (access roads, weighbridge)</p> <p>Poor accessibility to the final disposal site</p>
Financial	<p>Cost of compliance</p> <p>Operational costs (O&M, routing, salaries)</p> <p>Levies to the consumers</p> <p>Training costs</p> <p>Subsidies</p> <p>Insurance cover</p> <p>Competition</p> <p>Lack of financial subsidies and inadequate incentives</p> <p>Expenses in terms of refuse bags that are not reusable</p> <p>Unwilling to pay (defaulters)</p>
Social	<p>Coverage</p> <p>Corporate responsibility</p>

	<p>Consumers attitudes and perceptions</p> <p>Affordability</p> <p>Occupational health and safety</p> <p>Insecurity</p> <p>Bureaucracy in procedures</p> <p>Harassment by regulators</p> <p>Corruption</p>
Environmental	<p>Protection of underground and surface water</p> <p>Reduce air pollution</p> <p>Reduce soil pollution and land degradation</p> <p>Health and safety issues</p> <p>Conflicting environmental regulations</p>
Recyclers (Group 3)	
Technical	Improvement of infrastructure and support systems
Financial	<p>Positive incentives form the government and local authorities</p> <p>Enacting policies that will ensure the sustainability of the recycling ventures</p> <p>Encourage Public –Private Partnerships in recycling</p>
Social	<p>Waste generators adopt an attitude and practice of waste separation at source</p> <p>Manufacturer responsibility, whether a manufacturer takes responsibility of their products to its final end</p> <p>Sensitization of industries to ensure that there is a market for the recyclers products</p>
Environmental	Research and development of appropriate basic technology for composting and harnessing of biogas energy from organic waste
Pickers/Scavengers	
<p>Recognition through registration and empowerment</p> <p>Formalize their work by employing them in transfer stations or any place where waste is segregated</p> <p>Provision of PPE and medication while at work</p> <p>Formation of unions that deal with pickers rights</p> <p>Change of title to a humane one</p> <p>Definition of roles and boundaries of operation</p> <p>Formulation of minimum prices for various recyclables</p>	
Regulators (CCN)	
Technical	<p>Technical capacity</p> <p>Cost-effective technology – fit for purpose</p>
Financial	Financial viability and sustainability
Social	Policies and law review (?)
Environmental	Safeguard health, environ and safety of residents
Regulators (NEMA)	
Social	<p>Co-ordinate approach towards solid waste management</p> <p>Awareness of waste management regulations</p>
Environmental	<p>Environmental protection</p> <p>Compliance with international environmental conventions</p>

	EMCA compliances
Regulators (KEBS)	
Social	Education and awareness on material and product standards Compliance with international material and product standards
Environmental	
Stakeholder group not indicated	
Technical	Provision of soft and hard infrastructure of management of solid waste Development of innovative technologies to utilize recyclable materials
Financial	Creation of an atmosphere that will foster public private partnerships in waste management Provision of tax incentives to recyclers Proper management of funds provided for solid waste management.
Social	Employment in waste management especially among the youth Use of IEC materials and media to create awareness on need for proper solid waste management Encouragement of research to inform policy and other social interventions
Environmental	Protection of public health Development of legislative mechanisms (policies and regulations) to address all aspects of waste management Establishment of engineered landfills to address solid waste disposal challenges

Groups

Group 1

Sammy Letema – KU
Andrew Nyasiengo – CCN
Elias Kiama – RA
Charles N Goomga – RA
Stephen Oyeche – RA
Eng Njeri Kahiu - JKUAT

Group 2

Caroline Kabilu – KU
Godwin Opinde– KU
Simon MacKenzie – CCN
Robert Kahinga – CCN
Eunice Mwangi – KU
Leah Oyake Ombisi – CCN

Group 3

Edwin Wamukaya – UoN
Tabbie Njoka – KU
Joakim Nyarangi – UoN
Jon Mau – CCN
Annemarie Kinyanjui – UNEP
Dr Barasa - CCN

Group 4

Marrrian Kioko – CCN
Mutua James – RA
Jared Amisi – RA
Denis Silan – RA
Rafael Osmond – CCN
John Masara – CCN

Group 5

Eric Kimani – MNMD
Agnes Mwai – UoN
Shadrack Mbuta – UoN
Elizabeth Wangui – UoN
Mario Kainga - CCN

Group 6

Jane Akumu – UNEP
Evans Nkonge – RA
Geophrey Irungu – CCN
Beatrice Lele – RA
Felix Omundi – RA
Benedict Susu - RA

Group 7

John Odhiambo
Lucy Sembei
Eng Njenga - CCN
Jackson Meeme
Kenneth Irungu
James Abuya

Group 8

Joyce Nyambura – ALGAK
Ruth Kipaty – RA
Meshak Ronoh – RA

Ibrahim Longolomoi – MoPHS
John Mimbi – CCN
Margaret Kariuki – CCN
Mercy SK Dmido- RA

Group 9

Wilson Maritim – CCN
Miriam Mumo – RA
Sheila Mulil – RA
Alice Kaumba – RA
Barack Owira - CCN