United Nations Development Programme

Country: Kenya

PROJECT DOCUMENT[1]

Project Title:	Sound Chemicals Management Mainstreaming and UPOPs reduction in Kenya.
UNDAF Focus area(s):	**Strategic Result 4: Environmental Sustainability, Land Management and Human Security**. By 2030 Kenya is prosperous, underpinned by efficient management of natural resources and equitable access of Kenyans to development assets including land, water and other renewable resources, and achievement and sustainability of national cohesion and resilience that guarantees long term peace and prosperity
Expected UNDAF Outcome(s)/Indicator(s):	**Outcome 4.1:** Policy and legal framework: By 2016 Kenya has robust policies and legal frameworks linking issues of environmental sustainability, climate change and land management to human security and resilience therefore requiring an integrated & coordinated response at all phases **Outcome Indicator**: № of integrated operational action plans developed Baseline: 0; Target single integrated action plan 2015: in place; MoV: Integrated action plan. № of reported land and natural resource use conflict and disaster incidences in disaster prone counties Baseline TBD, Target 30% reduction, MoV Mapping reports
Expected UNDAF Output(s) and Indicator(s):	**Output 4.1.1** - Policy: Public and private sector institutions have adequate capacity to develop evidence-based and coherent policy responses to the inter-linked challenges of environmental sustainability, land and natural resource management and human security **Output Indicator:** № of new enabling policies and legal frameworks developed; Baseline: 0, Target 6 one for each key area above 2015; MoV: Qualitative assessment. № of disaster prone counties that integrate land use issues, DRR, human security and peacebuilding into County Integrated Development Plans (CIDPS); Baseline 0, Target All disaster prone counties; MoV: CIDPS
UNDP Strategic Plan 2014-17 IRRF Indicator	IRRF Indicator 1.3.1: Number of new partnership mechanisms with funding for sustainable management solutions of natural resources, ecosystem services, chemicals and waste at national and/or sub-national level.

Executing Entity/Implementing Partner: MENR (Ministry of Environment and Natural Resources)

Implementing Entity/Responsible Partners: MENR (Ministry of Environment and Natural Resources) and UNDP Kenya

[1] For UNDP supported GEF funded projects as this includes GEF-specific requirements

Brief Description: The project intends to protect human health and the environment by managing the risks posed by production, use, import and export of chemicals and reducing / preventing the release of U-POPs and toxic compounds originating from the unsafe management of waste in two key sectors: Health Care Waste and Municipal Waste. These sectors are among the highest priorities identified in the reviewed and updated NIP. On the Health Care Waste Management side, the project will adopt an integrated approach aimed at increasing the proper management of waste within the hospital facilities (increasing segregation, reducing waste generation) and by replacing the dangerous disposal waste modalities currently adopted (open burning or burning in single chamber incinerators) by SC-compliant equipment. Training will be delivered both at Health Care Facility level and in classroom training events, and will be based on the WHO blue book guidance tailored to the country needs. On the municipal waste side, the project intends to reinforce the 3R (Reduce, Reuse, Recycle) economy on two specific waste streams, by enhancing their upstream collection, ensuring the quality of recovered material, and securing access to national market by promoting cooperation with domestic industries. This is for providing a valid alternative to the dumpsite economy, and preventing the release in the environment of U-POPs and toxic substance upon open burning of these waste streams. The project also includes a component related to the sound management of chemicals, by implementing activities on U-POPs monitoring, upgrading of the relevant regulation on chemicals, and establishing a PRTR database

Total resources required	US$ 25,523,803
Total allocated resources	US$ 25,523,803
• Regular	US$ 0
• Other:	
○ GEF	US$ 4,515,000
○ Government	US$ 8,580,153
○ Private/bilateral	US$ 12,428,650

Programme Period:	TBC
Atlas Award ID:	TBD
Project ID:	TBD
PIMS #	5361
Start date:	Jan 2016
End Date	Jan 2021
Management Arrangements	NIM
PAC Meeting Date	t.b.d.

Agreed by (Government):

Date/Month/Year

Agreed by (Implementing Partner):

Date/Month/Year

Agreed by (UNDP):

Date/Month/Year

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Annexes:

List of Acronyms

3Rs	Reduce, Reuse and Recycle
AAK	Agrochemicals Association of Kenya
APCS	Air Pollution Control System
APR	Annual Project Report
AWP	Annual Work Plan
BAT	Best Available Techniques
BEP	Best Environmental Practices
CO	Country Office
CTEA	Clean Tech East Africa
CTF	Central Treatment Facility
DOHSS	Department of Occupational Health and Safety Services
EAC	East African Community
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Coordination Act
EOL	End of Life
ESM	Environmentally Sound Management
FSP	Full Size Project (GEF terminology)
GCD	Government Chemist Department
GDP	Gross Domestic Product
GEF	Global Environment Facility
GBM	Greenbelt Movement
HCF	Healthcare Facilities
HCW	Healthcare Waste
HCWM	Healthcare Waste Management
ICT	Information and Communication Technologies
IMC	Inter-Ministerial Committee
IP	Implementing Partner
IR	Inception Report
I-RAT	Introduction – Rapid Assessment Tool
I-TEq	Internationally agreed Toxic Equivalent
IW	Inception Workshop
KAM	Kenya Association of Manufacturers
KDC	Kenya Disaster Concern (NGO)

KDS	Kenya Disaster Service
KEBS	Kenya Bureau of Standards
KNCP	Kenya National Chemical Profile
KNCPC	Kenya National Cleaner Production Centre
LDPE	Low-density polyethylene
MENR	Ministry of Environment and Natural Resources
MEAs	Multilateral Environmental Agreements
MOH	Ministry of Health
MoV	Means of Verification
NCCC	National Climate Change Council
NCMCO	National Chemical Management Coordination Office
NEMA	National Environment Management Authority of Kenya
NIP	National Implementation Plan (re. Stockholm Convention on POPs)
NPD	National Project Director
ODS	Ozone Depleting Substances
PCPB	Pest Control Products Board
PCDD	Polychlorinated dibenzo-para-dioxins
PCDF	Polychlorinated dibenzofurans
PET	Polyethylene terephthalate
PF	Project facility
PIF	Project Identification Form (GEF terminology)
PIR	Project Implementation Review (annual GEF requirement)
PPE	Personal protective equipment
PPP	Public Private Partnership
PRTR	Pollutant Release and Transfer Register
PM	Project Manager
PMU	Project Management Unit (PMU)
UON	University of Nairobi
UPOPs	Unintentionally produced Persistent Organic Pollutants
POPs	Persistent Organic Pollutants
RAT	Rapid Assessment Tool
SC	Stockholm Convention
SIP	SAICM Implementation Plan
SME	Small and Medium Enterprises

SRF	Strategic Results Framework
STAP	Scientific and Technical Advisory Panel (to GEF)
TTR	Terminal Tripartite Review
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
UNDP	United Nations Development Programme
UNDP-CO	United Nations Development Programme Country Office
USD	United States Dollar
WARMA	Water Resource Management Authority
WHO	World Health Organization

I. SITUATION ANALYSIS

Context and global significance

Kenya and the Stockholm Convention

The Republic of Kenya is part of the East African region and is located in Sub-Saharan Africa. Kenya shares its boundaries with Somalia and the Indian Ocean to the East, Ethiopia to the North, Sudan to the North-west, Uganda to the West and Tanzania to the South. Kenya is divided into 47 semi-autonomous counties each headed by a Governor.

Kenya is categorized as a Lower Middle Income economy[2] with a Gross Domestic Product (GDP) per capita of USD 1,338, approximately 45% of the population living on less than USD1.25 per day and a Human Development Index (HDI) of 0.509 in 2011 (UNDP, 2011). The economy grew by more than 7% per annum through 2007. The real GDP growth rate is expected to remain above 5% in 2014 - 2019.

Kenya is the most industrially developed country in East Africa and manufacturing accounts for about 14 percent of GDP. Due to urbanization, the industrial and manufacturing sectors have become increasingly important to the Kenyan economy. Industrial activity is concentrated around the three largest urban centres, Nairobi, Mombasa, and Kisumu and is dominated by agro / food-processing industries such as grain milling, beer production, sugarcane crushing and foodstuff.

Since attaining independence in 1963, agriculture has remained the main economic activity driving the economy. The use of chemicals mainly in agriculture, and health sectors over time has shown an upward increase as the country pursues its goals of meeting domestic and export needs of agricultural production and for controlling pests. After political independence, the population living in urban areas started to increase as most of the educated moved to urban areas in search of office jobs. By 1999, the population of urban dwellers had increased to 34.5% and is expected to increase to 50% by the year 2015 with implications of increased loads of solid wastes including hazardous wastes.

At regional level, a free-trade area was launched by the East African Community (EAC) in 2005 and a Common Market in July 2010. Kenya has to maintain both global and regional competitiveness. This will necessarily imply that the country will face an increased demand in use of chemicals and generation of UPOPs and hence the need to closely monitor the use of chemicals and generation of UPOPs from a policy perspective.

Kenya is a party to the Stockholm Convention on Persistent Organic Pollutants (POPs), having ratified the Convention in September 2004. The country subsequently developed its National Implementation Plan (NIP) in 2007. Like other signatories to the Convention, Kenya completed the process of updating the NIP in accordance with the provisions of Article 7 of the Convention and in view of the amendments made to the convention since ratification. Through this process, Kenya developed and amended in a systematic and participatory manner, priority policy and regulatory reforms as well as capacity building needs and required investment programs for POPs since 2004. The process also enabled Kenya to establish inventories of products/articles containing POPs, industrial processes using them and to provide useful information on the concentration levels and distribution of POPs across the country.

In addition to the Stockholm Convention, Kenya has ratified a number of other chemicals related Multi-lateral Environmental Agreements (MEAs), listed in Table 1 below.

[2] http://data.worldbank.org/country/kenya

Table 1. International conventions and multilateral agreements signed, ratified and acceded to by Kenya

Multilateral Environmental Agreement	Ratification/ Accession	Responsible Institution
Stockholm Convention on POPs	Ratified on 24/09/2004	MENR
Basel Convention on the Trans-boundary Movement of Hazardous Waste and their Disposal	Ratified on 01/06/2000	MENR
Ban Amendment to the Basel Convention	Acceded on 09/09/2009	MENR
Rotterdam Convention on Prior Informed Consent for Certain Chemicals and Pesticides in International Trade	Ratified on 03/02/2005	MENR
Minamata Convention on Mercury	Signed on 10/10/2013	MENR
Global Harmonized System of Classification and Labelling of Chemicals	Not addressed	Not decided
Vienna Convention	Ratified on 09/11/1988	MENR
Montreal Protocol	Ratified on 09/11/1988	MENR
• London Amendment to the Montreal Protocol	Ratified on 27/09/1994	MENR
• Copenhagen Amendment to the Montreal Protocol	Ratified on 27/09/1994	MENR
• Montreal Amendment to the Montreal Protocol	Ratified on 12/07/2000	MENR
• Beijing Amendment to the Montreal Protocol	Ratified on 09/10/2013	MENR
Development of a National Profile on chemicals management (SAICM implementation)	National profile developed in August 2011	MENR
UN Framework Convention on Climate Change	Ratified on 30/08/1994	NCCC
Kyoto Protocol	Ratified on 25/02/2005	MENR
UN Convention to Combat Desertification	Ratified on 17/07/2005	MENR
Convention on Biological Diversity	Ratified on 24/1994	MENR
Cartagena Protocol on Bio-safety	Signed in May 2000	National Council on Science and technology
Convention on Chemical Weapons	Ratified on 25 April, 1997	Government Chemist Department

c) GEF projects launched in the framework of the SC convention

The proposed project is the first post-NIP project being launched in Kenya with the support of GEF and UNDP to address the priorities identified in the NIP. Kenya however participated in a number of regional projects, out of which the two UNEP projects on global monitoring plan are the most relevant in relation with the activities of this project. The coordination with those UNEP projects will therefore be essential and ensured in the course of project implementation. More specifically, coordination will be ensured through periodical meeting with UNEP and project staff (either in person or through conference calls). The monitoring data related to U-POPs in Kenya will be shared between the two projects to avoid duplication, increase the coverage and detail of the environmental monitoring and increase cost-effectiveness of both projects.

Table 2. GEF projects on POPs launched or implemented in Kenya

Project title	Agency	Project type	GEF Grant	Co-financing	Status
Enabling Activities for the Stockholm Convention on (POPs)	UNEP	Enabling Activity	425,900	41,000	Completed
Kenya NIP Update: Reviewing and Updating the National Implementation Plan under the Stockholm Convention	Direct Access	Enabling Activity	172,66	34,000	Completed

Table 3. GEF regional projects on POPs with Kenya as participating country

Project title	Agency	Project type	GEF Grant	Co-financing	Status
DSSA Malaria Decision Analysis Support Tool (MDAST): Evaluating Health Social and Environmental Impacts and Policy Trade-offs	UNEP	MSP	999,000	1,013,888	Under implementation
Supporting the Implementation of the Global Monitoring Plan of POPs in Eastern and Southern African Countries	UNEP	MSP	440,000	460,000	Project completed
Demonstration of Effectiveness of Diversified, Environmentally Sound and Sustainable Interventions, and Strengthening National Capacity for Innovative Implementation of Integrated Vector Management (IVM) for Disease Prevention and Control in the WHO AFRO Region	UNEP	FP	15,491,700	118,720,000	PPG Approved
Continuing Regional Support for the POPs Global Monitoring Plan under the Stockholm Convention in the Africa Region	UNEP	FP	4,208,000	8,462,000	CEO Endorsed
Integrated Health and Environment Observatories and Legal and Institutional Strengthening for the Sound Management of Chemicals in Africa (African ChemObs)	UNEP	FP	10,500,000	23,000,000	Council Approved

Baseline analysis

General Environmental legislation.

The Constitution of Kenya (2010) has devolved the overall governance matters to the counties. It has also created new administrative and legislative rules. Some of these new interventions have been juxtaposed on the old multiplicity of implementing institutions and sectors. The National Environment Management Authority (NEMA), which has the national mandate of coordination and supervision of all matters of

environmental management including POPs, has also devolved some of its national mandate to the counties.

Institutions in charge of chemical management and environmental protection

Ministry of Environment and Natural Resources. The Ministry is the government agency charged with principal responsibility of protecting Kenya's environmental resources. The MENR also has overall responsibility for coordinating the work of all Lead Agencies whose work directly impacts on environment through the National Environment Management Authority (NEMA). Specific responsibilities for the ministry are to initiate environmental policies; coordinate the activities of sectorial agencies; and advise government on environmental issues;

National Environmental Management Authority. The National Environmental Management Authority (NEMA) was established under the Environmental Management and Coordination Act (EMCA) No. 8 of 1999, as the principal instrument of the government in the implementation of all policies relating to the environment. NEMA has the mandate to safeguard, restore and enhance the quality of the environment through coordination and supervision of stakeholders for sustainable development; exercise general supervision and coordination over all matters relating to the environment and implementation of environmental law; and supervise and coordinate all environmental matters and implement all policies relating to the environment for sustainable development.

NEMA has to date considerably developed its human and technical resource capacity to coordinate the environmental management activities of agencies and institutions whose activities impact on the environment; oversee the management and smooth functioning of the semi-autonomous government agencies - MENR, KFS and KEFRI and support the country's implementation of MEAs conventions.

Ministry of Health: With specific reference to the Health Care Waste Management (HCWM) related activities (Components2 and 3) the missions of MOH are:

- to establish systems and infrastructure on waste management;
- to identify provisions of HCW management equipment, materials and supplies to health facilities; to develop and disseminate standards and guidelines on HCW management;
- to promote continuing professional development for health workers on HCW management;
- to train HCW handlers on proper waste management;
- to promote the segregation, storage, collection, pre-treatment, transportation and proper disposal of waste.

County and District Level Institutions. The national institutions, established under the new constitution are required to decentralise their functions by establishing County and District Officers. Existing institutions already have a presence in the Counties and have or are in the process of establishing offices in the new Districts. The Constitution of Kenya 2010 creates an ambitious County Government structure based on principles of democracy, revenue reliability, gender equity, accountability and citizen participation. The roles allocated to the county governments include the implementation of national policies on environment and natural resources (including soil and water conservation and forestry) and local tourism, among others.

District Environmental Committees. The EMCA mandated the creation of several institutions at national, county and district levels to facilitate the fulfilment of its functions. The District Environment Committee (DEC) is responsible for the proper management of the environment in the Districts. They develop the environment action plans of their districts and pass them on to the National Environmental Action Plan Committee.

Environmental Regulations

Environmental Management and Coordination Act, 1999 (EMCA 1999). This Act aims at improving the legal and administrative co-ordination of the various sectorial initiatives in the field of environment. It provides a framework for ensuring that environmental considerations are successfully integrated to the country's overall economic and social development. NEMA has promulgated the following regulations under EMCA 1999 to ensure protection of human health and environment in line with Basel Convention, and with increasing compliance with the Stockholm Convention:

- Environmental (Impact Assessment and Audit) Regulations, 2003.
- Waste Management Regulations, 2006, for sound waste management (Basel & POPs Conventions). Follows the Basel Convention.
- Water Quality Regulations, 2006, to protect water resources from pollution. Follows WHO guidelines.
- Controlled Substances Regulations, 2007, for Control of Ozone-Depleting Substances (ODS). (Vienna Convention & Montreal Protocol).
- Air Quality Regulations awaiting promulgation. They aim to domesticate the Stockholm Convention.

The following draft regulations are currently under development or approval:

- Draft Chemicals Mgt. Regulations finalized awaiting the due process of promulgation (Rotterdam, POPs and Minamata Convention on Mercury taking into account Rotterdam, Stockholm, Montreal, and Minamata Conventions).
- E-waste management regulations developed awaiting promulgation.
- Asbestos handling and disposal guidelines developed.
- Regulations on used oil, waste tires and plastic wastes are being developed
- End of life tires regulation (awaiting promulgation).

Specific regulation on Health Care Waste

The Public Health Act Cap. 242, the Environmental Management and Coordination Act, (EMCA) 1999 and the Occupational Safety and Health Act, 2007 of the Laws of Kenya provide the legal basis for the formulation and implementation of the Health Care Waste Management in Kenya. These guidelines also cover the national policy on injection safety and medical waste management, 2007.

Kenya has developed the following documents related to safety in the health sector:

- Occupational Health and safety guidelines for health sector, 2014.
- Biosafety and bio security guidelines, 2014
- Healthcare waste management strategic plan, 2015 – 2020 yet to be finalized
- Infection Prevention and Control strategic plan, 2014 – 2019
- Health sector strategic Plan III, 2013 – 2017

Policies and guiding principles that direct organizational goals and objectives on various HCW issues include:

- National Policy on injection safety and Medical waste management.
- National Health Care Waste Management plan (2008 – 2012)

- National Health Care Waste Management Guidelines, 2011
- Infection Prevention and Control Policy
- Infection Prevention and Control guidelines.

Specific regulation on Chemicals Management

Legal provisions on Sound Management of Chemicals and waste in Kenya are established under a number of regulations among which the most relevant are the Environmental Management and Coordination Act, the Public Health Act, the Waste Management Regulations, 2006 (Legal Notice No.121), the Pest Control Products Act, cap. 346, the Fertilizer and Animal Foodstuff Act, cap 345, the Controlled Substances Regulations (dealing with ODSs), 2007 (Legal Notice No.73 of 2007), the Food Drug and Chemical substances Act (revised in 2013), as well other regulations of more wider application like the Energy Act and Petroleum Acts. Most of these regulations need to be amended to ensure they address the MEAs related to chemicals and waste, with special reference to the Stockholm Convention, Rotterdam Convention, the Minamata Convention, the Basel Convention and the other conventions signed or ratified by the country. The environmental regulatory system currently in place does not provide an integrated and consistent framework for the management of chemicals and waste as well as chemical pollution in the Country.

Based on the information provided in the Kenya national profile, the enforcement of laws for the management of chemicals is very critical, as there is the need to improve the following:

- Prosecution of offenders failing to meet the provisions of EMCA (1999), environmental standards, regulations and guidelines;
- Coordination of environmental matters amongst all lead agencies/stakeholders;
- Environmental planning, research, inventorying and monitoring;
- Implementation of actions in the Multilateral Environment Agreements on chemicals and wastes;
- Integration of environmental concerns into national development policies, plans and programmes;
- Incentive mechanisms for best environmental practices at district, provincial and national levels.

Table 4 below shows the summary of various legal instruments and subsidiary regulations for managing chemicals in Kenya.

Table 4: Relevant Chemical Legislation in Kenya (source: Kenya National Chemical Profile)

Legal regulatory/Instruments	Responsible party
Sessional Paper No. 6 of 1996 on Environment and Development	Ministry of Environment and Natural Resources
National Environmental Sanitation and Hygiene Policy, 2007	MOHS
National Policy on Injection Safety and Medical Waste Management , 2007	MOHS
Occupational health and safety Policy, 2007	Ministry of Labour, DOHSS
Bio safety Policy (BioSafety Act of 2009)	Ministry of Agriculture
Water Act, 2002	Ministry of Environment
Environmental Management and Coordination Act ,1999	Ministry of Environment
The Pest Control and Products Act, Cap346 (1984)	Ministry of Agriculture, PCPB
Energy Act, 2006	Ministry of Energy
Radiation Protection Act	Ministry of Environment
Explosives Act	Ministry of Environment
Revenue Act	Kenya Revenue Authority

Traffic Act, Cap403	Ministry of Transport
Finance Act	Ministry of Finance
Standards Act	Ministry of Industries
Trade Act	Min. Of. Trade
Waste management regulation, 2006	NEMA
Pesticides disposal regulation	Pest Control Products Board (PCPB)
Non-Regulatory mechanisms for managing chemicals	**Institutions**
Hazardous gaseous emission awards	National Cleaner
Energy efficiency awards	Kenya Association Of Manufacturers
Code of practice on distribution and transport and disposal of pesticides	PCPB
Voluntary code of conduct for businesses around lake Victoria basin region	Kenya National Cleaner Production Centre (KNCPC)

Specific regulation on Municipal Waste

The objective of the Kenyan regulations on municipal waste is to provide the most suitable legal arrangement for enabling institutions in the effective and efficient control of the solid waste management activities in the country.

The Waste Management Regulations, 2006 (Legal Notice No.121) establishes a number of rules for the management of municipal waste, including provisions for licensing of collection, transportation, and operating landfills.

Being a relatively new area, there is no specific legislation in Kenya aimed at reducing the release of unintentionally produced POPs.

However, there are a number of regulations that can be modified to integrate the requirements of the Stockholm Convention on U-POPs, namely:

- Waste incineration: Local Government Act, Public Health Act, EMCA, Public nuisance Act;
- Medical Waste Incineration subsidiary legislation under Public health act, that requires medical facilities to separate and segregate medical waste;
- Hazardous Wastes: the draft regulation under NEMA Pest Control Products Act has a new regulation on medical waste that prescribes incineration (without specifying detailed standards for the equipment)

The situation of the Sound Management of Chemicals in Kenya

Kenya is not a major producer of synthetic chemicals. However in Kenya there is extensive extraction of minerals that contributes to chemical manufacturing including soda ash, fluorspar, diatomite and titanium. Prospection for gold, iron ore, petroleum, rare earth metals, etc., are high. The other major source of chemicals is their recovery from waste products, including WEEE. Therefore, mainstreaming chemicals management into development processes is important to ensure that developers and policy makers understand the linkages between chemicals and waste management in relation to development activities and poverty reduction programmes.

About 25% of the overall import of chemicals in 2010 was from chemicals fertilizers and plastics in primary and non-primary forms. Toxic chemicals currently regulated under the Stockholm convention are not produced in Kenya, and their import is not specifically tracked by customs. The Kenya Bureau of Statistics registers the import of these substances, if any, under "all other commodities".

Chemical manufacturing and processing enterprises represent an estimated 6% to 8% of the GDP[3]. Other sectors using extensively chemical products are the transport and energy sectors, which use chemicals and petroleum products and generate toxic waste through automobile service stations, garages etc. The Energy sector includes chemicals used in power generation such as fossil fuels, batteries, oil, refrigeration/metal treatment etc.

In Table 5, figures concerning imports and exports of different categories of chemicals are provided.

Table 5: Imports and Exports of Chemicals by type

Articles	**Units**	**2008**	**2009**	**2010**
Pigments, paints, varnishes etc	Tonnes	15,534	16,135	22,342
Soaps and cleansing preparations, perfumes	Tonnes	10,014	12,304	15,974
Waxes, polishes paste etc	Tonnes	489	546	448
Nitrogenous fertilizers	Tonnes	129,057	110,915	122,226
Phosphate fertilizers	Tonnes	14,718	16,474	24,069
Other agricultural formulations	Tonnes	331,932	321,515	272,737
Synthetic plastic materials	Tonnes	222,761	266,935	308,070
Insecticides, fungicides, disinfectants etc.	Tonnes	9,972	10,056	10,803

Source: Kenya National Bureau of Statistics, 2011

Kenya needs to assess the impact of chemicals and hazardous waste as well as introducing alternatives to hazardous chemicals in all fields, as well as Best Available Technologies and Best Environmental Practices in all productive sectors. Though some regulations related to the use of chemicals in specific sectors are in place (for instance healthcare, manufacturing, agriculture), still there is the need to ensure a more consistent approach based on international standards, integrating risk assessment and lifecycle approaches.

On the side of chemical classification, although Kenya agreed to implement GHS by 2008, this is yet to come. There is an urgent need to assess conformity with the labelling requirements as per the GHS for dangerous goods, pesticides, consumer products, occupational health and safety and industrial chemicals.

The Kenya National Chemicals Profile (KNCP, 2010) identified a number of risks for human health and the environment in Kenya, and identified priorities for sound chemicals management. The highest were air pollution, improper management of hazardous waste and storage of obsolete pesticides.

Chemical risks are many and diverse in Kenya. For example, there have been several cases of acute poisoning in industries and farms[4], as well as very large intoxication accidents related to methanol poisoning from the consumption of adultareted alcoholic drinks (more than 80 deaths in the last case,

[3] KAM 2012

[4] Nyamu D.G. et al., Trends of Acute Poisoning Cases Occurring at the Kenyatta National Hospital, Nairobi, Kenya, East and Central African Journal of Pharmaceutical Sciences, Vol. 15 (2012) 29-34.

dated May 2014[5]). There are no information related to the long-term effects associated to the exposure to carcinogenic chemicals. So far the facts are not systematically compiled because of lack of institutional coordination among the many stakeholders. Thus the risk associated to chemicals is likely to continue being at the same time outstanding and largely unknown in the absence of decisive intervention. Some actions have been however undertaken. Since the adoption of SAICM at the international level in 2006, Kenya has taken steps to link its SAICM concrete activities within a national comprehensive development framework for the sectors of agriculture and environmentally sound management of chemicals. There is the need to ensure the exchange of information on chemicals among relevant institutions like the Pest Control Products Board (PCPB), the National Environment Management authority (NEMA), the Water Resources Management Authority (WARMA), the Kenya Association of Manufactures (KAM) and the MENR.

SAICM recognised the need for interministeral coordination mechanism and developed a charter for inter-ministerial coordination which could be used to help in the mainstreaming of chemicals management. The SAICM Quick Start Programme funded projects aimed at improving chemicals management. In Kenya, the SAICM implementation Plan and a Kenya Draft Chemicals Policy were developed, and a proposal to develop Kenya's Chemicals Database has been elaborated a spart of this effort.

The situation of Health-Care Waste in Kenya

In Kenya, the hospital system with a total of 306 hospitals (out of which, 158 public hospitals and sub district hospitals, 74 Faith-based organizations (FBO) and non-Governmental Organizations (NGO), and 74 Private hospitals)[6] and 191 nursing homes is the backbone of the health care system. The health sector has facilities ranging from the national referral and provincial, district and sub district hospitals that provide integrated curative, rehabilitative care and support activities for peripheral facilities. The facilities offering health care services in Kenya are inclusive of government-managed facilities through the MOH, Ministry of Devolution, Local Governments, and Faith-based institutions. The project focuses on facilities representative of four counties, Nairobi, Mombasa, Nakuru and Kisumu, which are tentatively listed below (the definitive list will be decided at inception).:

1. Coast General Hospital
2. Port Reitz Hospital
3. Likonio Hospital
4. Kisauni Dispensary
5. Mbagathi Hospital
6. Mathare Hospital
7. Lucy Kibaki Hospital
8. Naivasha Subcounty Hospital
9. Nakuru Provincial Hospital
10. Molo Hospital
11. Kisumu District Hospital
12. Jaramogi Oginga Odinga Hospital
13. Ahero Hospital

The government of Kenya drafted in 2008 - 2012, in cooperation with the WHO, the Health Care Waste Management plan, outlining the HCWM status in the counties, defining priorities and objectives, stressing the fact that the management of HCW is an integral part of hospital hygiene and infection control. In the course of the plan preparation, the waste produced in 23 hospitals in Kenya was measured.

[5] http://news.bbc.co.uk/2/hi/africa/1025120.stm and http://allafrica.com/stories/201405080784.html
[6] MOH, 2007

Table 6 below reports the production factor for different categories of healthcare waste, expressed as Kg of waste produced per patient per day.

Table 6: Production rate of different categories of healthcare waste

Material	Overall Average waste per patient per day (kg/day)
Sharps	0.031
Infectious waste	0.175
Non Infectious waste	0.135
Food waste	0.184
Total waste produced per person per day	0.525

The conclusion of the survey carried out for the preparation of the Kenya HCWM plan was that:

- *"With regard to the amount of waste generated per patient, the selected results presented just reinforce the disparity observed from the measurements from the WHO expected standard practice on HCWM."*
- *"Most of the hospitals visited were treating their waste on site. The most common method of waste treatment was incineration at 62% using functional incinerators. Most of the wastes taken from hospitals for treatment off-site were glass waste and domestic waste while open burning, open dumping was still being practiced along with incineration. Of those taking their waste off-site, it was found out that most facilities never kept records of the waste they contract for off-site disposal."*
- *"For the incinerators observed in hospitals, a majority of them were in functional status while a quarter were dysfunctional - either undergoing repair or in a non-working status."*
- *"The assessment revealed that good segregation practice was at only 27%, with most hospital departments mixing their waste. The wanting segregation practices coupled with lack of colour-coded bags, poor labelling practices and inadequately provided bins for waste containment encouraged the mixing of waste."*
- *"Poor transport facilities (mainly wheelbarrows) used also encouraged the spillage (in 63% of hospitals visited) of waste and only helped to make the situation deplorable and an obvious potential for injury and infection."*

U-POPs generated by Health-Care Waste Incineration or burning in Kenya

Based on the updated estimation provided in the Kenya NIP update, the disposal of medical waste generates yearly around 490.1 g TEQ/yr of U-POPs (page 63 of the NIP update). The NIP update also reports that HCW disposal equipment normally operate in a batch-type mode, and that only in a couple of cases, incinerators work more than eight hours per day for five days per week. Incineration of waste as a whole generates 837.1 g TEQ/yr."

Under the PPG activities, the UNDP team visited 9 out of the 12 candidate hospitals as project HCFs to verify their health care waste management practices and to update the knowledge on the status of the available disposal facilities (see Table 7).

The site visits proved the urgent need to improve the management of healthcare waste in the country. All the hospital facilities visited routinely dump a significant amount of their waste in the open, in most of the cases performing also open burning. The best incinerator found during the visit (delivered in July 2014), although equipped with a secondary combustion chamber and an afterburner, is without any Air Pollution Control System (APCS) and was operated at a very low temperature.

None of the incinerators checked during the site visits met the requirements of the Stockholm Convention (SC). Except for the double chamber incinerators, all the other incinerators (single chamber) are comparable with open burning of waste in terms of environmental release of U-POPs.

Even the use of small-scale double chamber incinerators like the ones installed at the Coast Hospital can be temporarily tolerated only for processing healthcare waste which cannot be recycled or processed by autoclaving, provided that the waste to be processed does not include any plastic materials containing chlorine, or toxic metals. Therefore, the use of this kind of batch incinerators, either at hospital facilities or in centralized treatment facilities, should be always preceded by a very effective segregation of waste. The establishment and enforcement of rules specifying clearly what are the types of wastes which can be provisionally treated by this equipment, pending the establishment of a more environmentally-sound disposal facilities, is highly recommended.

There is the need to rationalize the HCW management by establishing a sound segregation of waste, setting small systems for the disinfection of waste in small/medium facilities, and establishing an APCS on an existing medium-size incinerator to make it SC-compliant, if the feasibilities studies show this last option is viable.

Table 7: Estimated PCDD/F emissions for the candidate project HCFs visited during PPG activities, based on the UNEP Toolkit for Identification and Quantification of Releases of Dioxins, Furans and Other Unintentional POPs (January 2013)

Hospital visited	Number of beds	Disposal modality / comments	Emission factor	Tons of waste generated daily	Estimate of PCDD/F released in the air (gTEq / year)
Mbagathi subcounty Hospital	400	The stack of the single-chamber incinerator is clogged. Fumes exit from the chamber inlet. The situation is not better than open burning and the worker working in this place is facing a severe risk for his health	40,000	0.21	3.07
Naivasha Subcounty hospital	240	A minimal part of the waste is burnt in a basic incinerator, whilst most of them are dumped in a pit and burnt.	40,000	0.126	1.84
Nakuru general hospital	400	Most of the waste is burnt in the open air	40,000	0.21	3.07
Kisumu district hospital	200	Small double chamber incinerator without APCS	3,000	0.105	0.11

Hospital visited	Number of beds	Disposal modality / comments	Emission factor	Tons of waste generated daily	Estimate of PCDD/F released in the air (gTEq / year)
Kisumu teaching hospital	Not communicated	Recently installed double chamber incinerator without APCS	3,000	0.2	0.22
Ahero sub-district hospital	60	Open burning	40,000	0.0315	0.46
Mombasa coast hospital	700	Dumped in the open - possibly open burning	40,000	0.3675	5.3
Port Reitz hospital	178	Dumped in the open - possibly open burning	40,000	0.09345	1.36
				Total	15.49

The situation of Municipal Waste in the main Kenyan cities.

Rapid urbanisation, fuelled by both natural growth and rural-urban migration, has strained the capacity of Kenyan cities to provide critical services to urban residents. It is estimated that 34.8% (i.e. 10 million) of the total population of Kenya reside in the urban centres, with the largest five cities (Nairobi, Mombasa, Kisumu, Nakuru and Eldoret) accounting for a third of the urban population. The most recent UN estimates indicate that Kenya's urban population will expand to 38 million by the year 2030, accounting for 62.7 percent of the national population.[7] According to these projections, the annual urban population growth rate could have reached 5.2 percent from 2000 to 2010, and reach 4.2 percent from 2010 to 2020 and 3.2 percent from 2020 to 2030. The scale of future urbanisation will pose further socio-economic, environmental and institutional challenges for Kenyan cities. The Government's launch of its *Vision 2030* highlighted rapid urbanisation as one of four key challenges for the country alongside income inequality, unemployment and low savings.

The management of domestic waste in Kenya is not adequate. Currently about 40% of the population receive inadequate or no domestic waste service. There is no waste segregation at source within the towns, whilst the recovery of recyclable items like plastics, papers, glass and metals is done by informal groups who mostly recover waste directly at the dumpsite.[8] The composition of the domestic waste streams directed to landfill varies considerably across different locations based on a variety of factors, including income and opportunities for recycling. Based on statistics from the JICA master plan (2007), food and organic waste represent more than the 60% of waste produced, where plastic represents around 12% of the waste. However, these statistics are rather old and need to be updated.

Nairobi city, with about three million inhabitants, generates around 2,400 tons per day of **solid waste.** The amount of solid waste generated is increasing, mainly due to large-scale migration into four counties. A study from ITDG (ITDG, 2004) puts the daily solid waste generation at a relatively higher value of 2,400 tons (i.e., estimated per capita solid waste generation of about 253 kg per person per year). Kenya has problems in solid waste management that are very representative of other countries in Sub-Saharan Africa, but heightened due to the country's high growth.

[7] Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: the 2004 Revision and World Urbanization Prospects.
[8] NEMA. The National Solid Waste Management Strategy. August, 2014

In the Nairobi county, based on UNEP data[9], only 25% of the waste generated in low-income area is collected. Open dumping is the only method of waste disposal practiced by the municipal council. Usually, landfills are only pieces of land where dumping of waste is allowed: the dumpsites of Kachoki in Kisumu, Gioto in Nakuru, Kibarani and Mwakirunge in Mombasa, or Dandora in Nairobi, are clear examples of the above. Dandora has been classified as one of the most polluted sites in the world, and being operated without any environmental protection for more than 30 years, is currently the source of a massive environmental pollution, illness, social and crime issues.

Nakuru is perhaps one of few major towns in Kenya with an inherent reputation as a clean town. It is located 160 km Northwest of Nairobi and is the fourth largest urban centre in Kenya. It is located at an altitude of 1859 m above the sea level and within the region of the Great Rift Valley. The district has a population of approximately 1,800,000. The high growth rate has been attributed to its location within a region with high agriculture potential, Nakuru town being the County headquarters and administrative centre.

The major economic sectors of the Nakuru urban economy are commerce, industry, tourism, agriculture and tertiary services. The commercial sector in Nakuru contributes about 19% of the economy of the town. Within the Central Business District (CBD), retail activity occupies 26%; wholesale 10%, the informal sector enterprises representing 18% of all the commercial activity space. The most dominant forms of business in the Nakuru economy include retail in hardware, general wholesale, outlets for agro-industrial machinery, motor vehicle trade, spare parts and servicing, agro-chemical retail and wholesale outlets.

Kisumu is the business centre for the Nyanza Region and the main national and international administrative centre. The key economic activities are sugar cane growing, fishing and small-scale agriculture. It is also a regional hub supporting intensive trans-boundary trade between Kenya, Uganda, Tanzania and the Central African republics of Rwanda, Sudan, Burundi, and the Eastern part of the Democratic Republic of Congo.

The high economic activities and population resulted in the increased waste generation that has exerted pressure to Nakuru and the Kisumu Counties. In the course of this project's preparation, overall fruitful consultations were made with the Nakuru and Kisumu Counties Environment Department officials. Each county has issues with managing chemicals and need to protect its key products from the risks posed by chemicals: for Nakuru it is the horticulture and floral industry while for Kisumu it is the fish products. In addition, each has a systematic partnership with CBOs who are mandated to collect waste from zoned sections of the county in addition to collecting waste levies from residents on behalf of local authorities. In Nakuru, there are eight dumps, while in Kisumu there are three large and five small dumps. In Nakuru, the biggest is Gioto, which is currently in deplorable state due to absolute negligence and POPs emissions were evident from open burning of solid waste, while in Kisumu it is in Nyalenda. The County Governments are doing what is possible to initiate environmentally-sound disposal of the waste to reduce negative impacts such as health hazards; as well as to enforce laws that deter littering of solid waste. However, participation of the public in supporting waste management initiatives is generally low and much sensitization on 3Rs needs to be undertaken.

Solid wastes include plastics, scrap metals and other goods. In Kenya, the per capita generation of waste ranges between 0.29 and 0.66 kg/day within the urban areas. Among the wastes generated in the urban centres, 21% emanate from industrial areas and 61% from residential areas. Generally, about only 20 % of the total wastes generated in the urban centres are collected and disposed of at the designated disposal

[9] Solid Waste Management in Nairobi: A Situation Analysis. Prepared by: Allison Kasozi, and Harro von Blottnitz, Environmental & Process Systems Engineering Group University of Cape Town For the City Council of Nairobi on contract for the United Nations Environment Programme Draft: 17 February 2010.

sites. The rest of the generated wastes composed of chemicals including heavy metals, salts detergents and medical waste is either dumped or burnt in the open, generating dioxins and furans.

In cities like Mombasa, only 68%, i.e. around 1,000 tons per day of the generated waste is collected, with the remaining fraction being either dumped on the road, in illegal landfills, or burnt in the open air.

In general, there are a number of issues related to the management of municipal waste, among which the most relevant are:

- The municipal councils do not have sufficient resources for waste collection and management: in most cases, trucks for waste collection are insufficient in number and in bad condition;
- Roads to the dumps are very often in bad shape, making the transportation of waste very difficult or even impossible during the rainy seasons;
- Private services for the collection of waste are available, however these services cannot be accessed by poor people and are only provided on irregular basis in low income areas.
- There is no substantial control of the landfill sites, where fires occur from time to time;
- There is no segregation of waste before being dumped, and very often healthcare waste or any other kinds of hazardous waste are dumped mixed together with municipal waste;
- Waste "scavengers", for which the "dumpsite economy" is the only source of income, are heavily exposed to all kinds of chemical pollutants and biological hazards (UNEP, Implication of the Dandora Municipal Dumping Site in Nairobi, Kenya);
- Being their only source of income, people living in the dumpsites and relying on the "dumpsite economy" will oppose enforcement of strict regulation of dumpsites, or the closure of unsafe dumpsites;
- Community Based Organisations (CBOs) represent an important reality in the management of municipal waste in Kenya. There are a number of CBOs, including charitable organizations, welfare societies, village committees, self-help groups, and residential (or neighborhood) associations (RAs). The majority of the CBOs are engaged in waste composting although NGOs and international organizations support CBOs through training, marketing and provision of tools and equipment, among other ways. About 55.6 per cent of the CBOs report having been sponsored or facilitated by local and international NGOs and such United Nations agencies like the UNFPA and UNCHS (HABITAT) (Ikiara et al., 2004). Important NGOs include Disaster Concerns, Catholic Diocese of Kisumu, and the Green Belt Movement, Integrated Waste Management of Mombasa and Safi organisation in Mombasa.

In summary, the management of municipal waste is at the crosslink of relieving poverty, environmental policy, prevention of U-POPs and POPs spreading into the environment.

U-POPs generated by open burning of Municipal Waste in Kenya

Based on the NIP update, open burning of waste and landfills generates 247 g TEQ, i.e. about 7% of the national releases. Though it is not the highest source, it should be noted that this form of releases is widespread and thus has the potential to affect far more people. The lack of controls in open air burning and indeed its encouragement for purposes of reducing the volume of waste is a key concern.

Baseline of the project

A.3.1. Sound Chemical management

SAICM and SAICM Implementation Plan (SIP). The Kenya national chemicals profile was completed in 2010. Since then the constitution has been revised putting some chemical management issues under national government and others under counties. As such the chemical profile and other documents will need to be updated. In the meantime, there have been the following developments:

- A Kenya SAICM Implementation Plan streamlining chemicals management;
- Draft chemicals Policy streamlining chemicals management;
- Draft proposal for a chemicals data base;
- Draft Chemicals Management regulations streamlining chemicals management;

The *SAICM Implementation Plan for Kenya (2011-2014)*[10], has the goal of reducing the identified risks to human health and the environment due to exposure to chemicals. Risks occur in agriculture, manufacturing and day-to-day life. The plan lists specific priority risks and hazardous activities. It provides a framework with themes and actions that Kenya needs to implement to address risks posed by chemicals.

The plan proposes to strengthen national mechanisms such as policies, legislations, commissions, education programmes, information networks, etc. to facilitate the implementation of specific chemicals management activities at the national, county and enterprise levels.

The SAICM Implementation Plan (SIP) is based on the National Chemicals Profile and the technical contributions of the SAICM stakeholders compiled during the process of capacity assessment and stakeholder consultation.

The plan recognizes that all interventions on chemicals production, import, export, use, transport and disposal are all a priority in Kenya. Kenya needs to make greater efforts to integrate fully the objectives of sound management of chemicals into national budgets and development cooperation.

The link between chemical safety and sustainable development needs to be fully reflected in the normal national budgeting processes under Medium-Term Expenditure Framework and multilateral project funding decisions of bilateral development cooperation agencies.

The SIP established critical links to priorities for Kenya for management of chemicals. It offers cross-sectorial overarching objectives such as "pro-poor growth", economic stimulus programmes or "fiscal sustainability" that involves a series of sectorial targets and measures with direct links to environment and health issues. This is an aspect that can benefit from the technical assistance of UNDP.

The plan envisages the following:

- Technical by-laws, state and municipal guidance covering waste management.
- At least 50% of laboratory analyses in research and monitoring institutions required to monitor the implementation of national policy on hazardous chemicals and wastes being carried on a cost recovery basis
- 70% of universities nationwide include issues of hazardous chemicals and wastes, risks and legislation in their curriculum.

The plan is expected to deliver the following outputs:

- An inter-ministerial charter, for which a detailed terms of reference has been drafted, for inter-ministerial coordination in matters of chemicals and hazardous waste will be established;

[10]http://www.environment.go.ke/saicm/

- Increased competitiveness in the global market since products from Kenya (food, industrial manufactured goods) will meet international standards with environmentally friendly alternatives for intentionally produced and used chemicals; thus reducing UPOPs pollution and contamination to water, soil, and ecosystems.
- Improved energy efficiency, reduced emissions of U-POPs, SO_2, NO_x, CO_2 and other pollutants such as mercury, in the case of unintentional production.
- Reviewed existing legislation to make it more comprehensive in light of new international instruments that govern chemicals and hazardous waste, as well as risk management
- Building capacity for institutions and agencies to enforce those regulations and implement guidelines that touch on extracted minerals, industrial chemicals, petroleum products, consumer goods and electrical and electronic waste
- Spin-off effects concerning strong institutional management support, strengthening of environmental legal frameworks and environmental monitoring capacities of Kenya resulting from these actions.

Guidelines developed under the EMCA: The following draft guidelines and regulations have been developed under the Environmental Management and Coordination Act:

- E-waste guidelines (addressing the new industrial POPs);
- Draft e-waste regulations addressing the new industrial POPs;
- Draft air quality regulation, which has new requirements for incineration and open burning and requires compliance with standards on dioxin and furan emissions;

The updated Kenya NIP. The Kenya National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants has been updated and submitted to the Stockholm Convention Secretariat. Among others, it establishes the following priorities related to the sound management of chemicals:

- Promoting Technology Transfer, Cleaner Production, industry and civil society participation in POPs management
- Enhancing Laboratory services, research for monitoring of POPs pollutants and assessment of alternatives to toxic POPs
- Promoting safer POPs alternatives as suggested by the National Implementation Plan (mostly concerning the use of non POPs or non chemical pesticides, alternatives to PBDE flame retardants and alternatives to these processes which are generating POPs)

Despite such important effort being carried out, there are still difficulties in the completion of the related activities with special reference to the establishment and enforcement of an integrated chemicals and waste regulation which takes into account: guidance on waste classification based on their chemical composition; standards on substances recovered from waste; sound management of chemical waste; etc. It should also be noted that currently there are no plans for the implementation of the GHS for classification, labelling and packaging of hazardous chemicals.

Synergy and co-financing will be provided by the following financing sources

- GoK Activities related to the SAICM implementation plan
- GoK Activities related to the National Implementation plan on Stockholm Convention
- Contribution from industries and private sector

- Contribution from Universities and Research Institutions
- Bilateral donors.

A.3.2 Management of healthcare and municipal waste.

To reduce UPOPs releases the country strategy aims at organizing and bringing the informal sector into the formal waste management sector through proposals contained in the Integrated solid waste management strategy (ISWMS) of 2010[11]. UPOPs are covered in Articles 5 and 6 of the Stockholm Convention. According to the NIP (2007):

- The major sources of U-POPs are incineration of medical wastes, open burning of municipal and agricultural wastes, and pulp and paper production. The only pulp and paper mill in operation in Kenya is however currently closed.
- There are inadequate air pollution control measures in place.
- The level of understanding of the management of incinerators by the operators is generally low and needs enhancement.
- There are inadequate analytical facilities and monitoring capacities of U-POPs.
- On wastes and stockpiles, the survey established that there are significant quantities not only of stockpiles but also of POPs contaminated wastes in Nairobi, Mombasa and Nakuru where open burning has been the practice for years.

The strategy for the minimisation of releases of UPOPs from open burning of waste will ensure that the national government will enforce the existing rules of handling waste, provide for proper documentation and control of the waste disposal, control that the personnel handling the waste wear protective clothing (gloves, shoes) during collection, transportation and storage to reduce exposure. Activities for establishing standards and guidelines for incinerators are also envisaged.

In addition the County Government of Nairobi together with UNEP and JICA has completed an Integrated Solid Waste Management Study for Nairobi County (providing the basis for replication in the other cities of Mombasa, Kisumu and Nakuru) (http://www.nairobi-swm-project.or.ke)

The Greenbelt Movement (GBM) has already done some groundwork on plastic waste. Specific interventions to remove plastic waste from waste streams have been identified, and GBM is mobilizing its civil society network in preparation of this task. Community based organizations in all the participating counties are eager to take part in the project.

Currently, the following financing sources support the baseline project:

- GoK Activities related to the HCWM (MOH, MENR)
- GoK Activities related to the National Implementation plan on Stockholm Convention:
- Contribution from project HCFs
- Contribution from Universities and Research Institutions
- Bilateral donors
- Private industry
- NGOs

[11] http://www.unep.or.jp/ietc/GPWM/data/T3/IS_6_4_Nairobi_ISWMplan_draft1_19Feb.pdf

Barriers analysis

Sound Management of Chemicals. Based on the Kenya National Chemicals Profile, the following have been identified as main barriers hindering the sound management of chemicals in the country:

1. **Regulatory and Policy Barriers**

- Kenya has ratified most multilateral environmental agreements on chemicals and wastes covered by the Overarching Policy Strategy of SAICM such as the Stockholm, Basel, Rotterdam Conventions, and ILO among others. However, integration of some of the conventions and agreements within the national legislation has not been completed due to financial and technical impediments.

  There is adequate legal framework across the sectors, and these are under constant review for necessary adjustments. In addition, there are also non-regulatory voluntary instruments for chemicals risk reduction and general management. However, enforcement of the legislation is still weak. Regulation on U-POPs releases from industries and waste disposal facilities are missing.

  There is significant importation of chemicals into the country of chemicals designated by international regulatory instruments as highly toxic. Unfortunately, the fact that GHS implementation still seems far to come makes the management of toxic chemicals very difficult.

2. **Technical Barriers**

   The chemicals and hazardous waste industry, public interest groups and research institutions do conduct activities addressing chemical risks management at different levels of the chemicals life cycle. However, most of the risk management projects and programmes are short-term with limited follow-up activities.

   There have been several chemical accidents and incidences that have resulted in deaths and injuries as a result of the low level of chemical emergency preparedness, response and follow-up in the country. This calls for putting in place emergency preparedness and response structures and mechanisms at national and local levels.

3. **Awareness and training barriers**

   The key challenges pertaining to chemicals management in the country arise from abuse and mishandling during importation, transport, export and use. The significance of this is exemplified by the increasing cases of chemical accidents, poisoning, air, and water and soil pollution. For a discussion of these types of accidents, please see the section on "The situation of the Sound Management of Chemicals in Kenya" on pages 14-16 above.

   There is insufficient information and data on chemical incidences and toxicity available to the public. Efforts towards generating and availing information to stakeholders are underway though there is limited cooperation between the stakeholders who have the information and those who need to use the information for decision making.

   There are chemicals monitoring, pollution and health data available with both public and private sectors' entities, that address various aspects of chemical risks management. Access to the information and its application in chemical management is poor due to their mode of storage and retrieval, making the establishment of a chemicals data exchange portal an urgent need.

   There are national institutions charged with mandates of creating awareness among the workers and ensuring occupational safety at work places. However, awareness on chemicals management

among the public is still very low leading to misuse and mishandling of toxic chemicals with adverse effects on human health and environment.

4. **Institutional Barriers**

There are specialized enforcement/ regulatory and research institutions and agencies in the country that address chemicals management at different levels of the chemicals lifecycle. However, they lack coordination arrangements and synergy in execution of their mandates and activities.

There are ad-hoc inter-ministerial coordination mechanisms for chemicals and wastes that are specific and time bound. However, the country lacks a well-organized inter-ministerial coordination mechanism for chemicals management to enhance collaboration among ministries and agencies in implementing their respective mandates and competencies and facilitate information sharing. Consequently, resource mobilization and optimization to foster a comprehensive approach to the management of chemicals is inefficient.

There are national institutions with specialized human risk assessment capacities and technical infrastructure. Basic technical training in various aspects of chemicals risk and hazard management is available locally at universities and specialised training institutions. However, there is a major deficiency in specialised training on chemicals of global concern and related technical infrastructure which require support from the government, development partners, private sector and the civil society.

There are institutional and administrative structures in the ministries and agencies to address chemicals risk management. However, there are deficiencies in terms of human and financial resources for chemicals management at all levels of the chemicals life cycle.

HCWM: The following barriers have been identified that prevent Kenya to consistently implement an integrated system for the sound management and disposal of HCW in the country and minimize negative health and environmental consequences from HCWM practices:

- **Regulatory and Policy Barriers**:

Although a substantial amount of regulation on HCWM is in force in the country, the level of enforcement is very low. It has been very often observed, in course of the site visits, that HCW is dumped or open burnt near the hospitals. Most of the incinerators operate out of control without fulfilling the minimal requirements for occupational and environmental safety. The regulations need to be updated to become compliant with the WHO guideline on HCW and with the technical and environmental standards suggested by the SC BAT for the disposal of hazardous waste. No Hazardous Waste Manifest System for keeping track of waste production, transportation and disposal is in place.

- **Technical Barriers:**

Many incinerators in operation are of very basic design, badly maintained and/or inadequately operated, and as such are very far from the recommended value of 0.1 ngTEq/m^3 under the BAT guidances of the Stockholm and Basel Conventions. There is very low awareness in the country concerning the BAT and BEP for HCWM disposal. There is a lack of national-level or county-level planning on the management of HCWM, therefore most of the hospitals operate in the logic to dispose their own waste.

Because of financial constraints and insufficient budget allocation for HCWM, many HCFs lack the necessary equipment/supplies/infrastructure to be able to practice good segregation, adhere to best environmental practices for HCWM and safeguard staff, patients and surrounding communities. This includes color-coded bags, waste bins, Personal Protection Gear (PPG) for

those handling the waste; waste carts for transportation; (intermediate) storage facilities; designated HCW transportation vehicles; and (functioning) HCW treatment facilities adhering to BAT requirement (including fuel to operate them and budgets for spare parts and maintenance).

As the monitoring capacity for U-POPs is lacking, no measurement of the emissions of PCDD/F from the existing incinerators / burning chambers have been attempted: this contributes to the lack of awareness of the hazards posed by the improper management of HCW.

- **Organizational/Institutional Barriers:**

  The most obvious reasons for identified shortcomings appear to result from insufficient training and awareness of staff in combination with limited financial and human resources allocated to HCWM at national, county and HCF levels.

Municipal Waste: The following barriers have prevented Kenya to consistently implement a sound management and disposal of municipal waste:

- **Regulatory and Policy Barriers.**

  Although a significant body of regulation on municipal waste is in place, it is evident that an enormous gap exists between the rules and their implementation. Indeed, the common way for managing municipal waste in Kenya is open dumping and open burning without any substantial environmental control.

  There is no evidence of any Waste Manifest System to keep track of municipal waste collection, transportation and disposal. Most of the transportation and collection of waste is carried out in an informal way. In many cases, the waste is simply not collected and remains near the residential areas where they are produced.

- **Economic Barriers:**

  A 3R economy aimed at recycling valuable resources from waste is still missing. The economic model for waste recycling is centred on the dumpsite itself: informal communities are self-organized for collecting waste at the dumpsite, and informal buyers go directly to the dumpsite to buy waste. The low quality of waste segregated and resold at the dumpsite has the detrimental effect to depress the market for recycled materials, therefore perpetuating the poverty of people relying on the "dumpsite" economy.

  Door-to-door collection of specific waste stream is rare, and covers usually only the richest areas in the cities.

  Dumpsite communities resist any modification on the municipal waste management because of poor performance of previous attempts and because they perceive that modifications may hinder their only source of income.

  The access to the national market for recycled material is not well organized. It is very common to see foreign buyers buying recycled waste at the dumpsite, with the double effect to impoverish the communities because of the low price offered, and to spoil the country of valuable resources which if better used could contribute to the creation of jobs and business opportunities.

- **Technical Barriers:**

  Lack of technologies and knowledge for the recycling of specific waste stream (for instance, Low-density polyethylene (LDPE) plastic from plastic bags, organic waste) hinder their economic recycling. Therefore, these wastes are often burnt at dumpsites.

  Lack of monitoring capability and related environmental standards for POPs and U-POPs generated by the waste management processes represents another technical barrier. At many

dumpsites, infrastructures are poor. Electricity and water are missing and roads may become inaccessible during the rainy season.

Most of the dumpsites are substantially out of control. The waste are not spread and compacted regularly because of the lack of compactors. Open burning is common. Fire control systems are missing in all the dumpsites. All the other services and equipment like office and sanitary facilities, security, fencing, PPEs, are missing in the majority of the cases.

Most of the dumpsites are simply too big to be remediated, therefore the only option seems to be the monitoring of their releases, prevention of open burning, and reuse and recycling of waste upstream. This however is a process which still needs to be implemented.

- **Awareness and Training Barriers:**

  It is obvious that most of the members of the dumpsite communities are either not aware of the substantial risk they face by exposing themselves to the noxious substances and pathogens existing at the dumpsites; or being somehow aware, they nevertheless opt to bear the risk because the work at the dumpsite is their only source of income. Therefore, raising awareness activities may be successful only as long as valid alternatives are offered.

  Awareness-raising on the management and segregation of municipal waste is also strongly needed for the general population, to increase the willingness to reduce waste generation and to segregate waste at the source.

Stakeholders analysis

The main beneficiaries of the project activities are the general public, consumers and communities which may be exposed to U-POPs released by the disposal of healthcare waste, and to toxic substances (including POPs) contained or released into the environment as a result of improper disposal of municipal waste.

Health risks for people will decrease once a proper legislation regulating hazardous waste management is in place and enforced and environmentally sound technologies for the management of waste are in place. The enforcement of environmental legislation will present not only a benefit for the environment, but also a key development factor.

At the decentralized level, project stakeholders are the county health and environmental authorities, were the HCFs have been selected for the project activities, as well as the administration of the selected facilities.

On the municipal waste side, industries who are currently using materials which may be derived from a sound waste recycling operation, or which intend to invest or operate in the 3R economy are relevant stakeholders and will participate as project partners of the project.

Community-based organizations are key stakeholders in the municipal waste sector: however, the involvement of informal recyclers/collectors depends also on their willingness to adhere to a formal waste management system, regulated by a licensing system and compliant with norms and procedures for the environmentally sound management of waste.

County and District Level Institutions

The national institutions, established under the new constitution, are required to decentralise their functions by establishing County and District Offices. Existing institutions already have a presence in the Counties and have or are in the process of establishing offices in the new Districts. The Constitution of Kenya (2010) creates an ambitious County Government structure based on principles of democracy, revenue reliability, gender equity, accountability and citizen participation. The roles allocated to the

county governments include the implementation of national policies on environment and natural resources (including soil and water conservation and forestry) and local tourism, among others. The county governments established in each county have to include environment management committees to ensure sustainable use and management of natural resource.

Nairobi County – which is also the capital of Nairobi - has a population of 3,5 million and is the most industrialised county, contributing some 50% of Kenya Gross Domestic Product.

Mombasa County is the entry and exit point for Kenya's imports and exports. In terms of chemicals, most of the chemicals enter Kenya through this port, whether destined for Kenya or for the East African land-locked countries of Uganda, Burundi, Rwanda, the Eastern regions of the Democratic Republic of Congo and Southern Sudan.

The city has about 150 manufacturing units employing 41,000 people in 2010 (KAM).

Nakuru County is home to 600,000 people with agriculture, tourism and manufacturing being the backbones of the county's economy. Nakuru is also home to the Naivasha sub county that hosts the largest conglomeration of flower farms, which use chemicals.

Kisumu is the outlet through Lake Victoria and for goods destined to Busia and Malaba border points. It hosts several regional institutions that deal with water quality of Lake Victoria and the water of the Nile River.

Civil society and development partners

NGOs in Kenya are involved in a number of social, economic, environmental and political issues. Their work covers gender, human rights, environment, advocacy and participatory development. The majority have been assisting in strengthening civil society through informing and educating the public on various issues, such as their legal rights, entitlement to services or by helping them attune to government policies.

Table 8: Key Stakeholders and their roles in the project

STAKEHOLDER	RELEVANT ROLES
Ministry of Environment and Natural Resources (MENR)	Leadership and coordination for the implementation of the project. Executing and implementing the project. Providing co-finance. Technical consulting and capacity building.
National Environment Management Authority (NEMA)	Advisory oversight at executive level. Support at a policy advisory level.
Ministry of Health (MoH)	Leadership and coordination for implementation of the project. Executing and implementing the project. Providing co-finance. Day-to-day operational execution of the project. Technical consulting and capacity building. Marketing and infrastructure development.
Government Chemist Department (GCD)	Providing co-finance. Executing and implementing the project. Marketing and infrastructure development. Support to development and growth.
Water Resource Management Authority (WARMA)	Providing co-finance. Implementation of the project activities.

STAKEHOLDER	RELEVANT ROLES
University of Nairobi (UON)	Implementation of selected project activities under guidance and support of UPOPs Monitoring.
Agrochemicals Association of Kenya (AAK)	Executing and implementing the project. Marketing and infrastructure development. Support to development and growth of the Southern Rangelands conservancies
Kenya Association of Manufacturers (KAM)	Providing co-finance. Implementation of the project activities. Support to development and growth of the private sector
Kenya Disaster Concern (KDC)	Providing co-finance. Implementation of the project activities.
Greenbelt Movement (GBM)	Providing co-finance. Executing and implementing the project. Marketing and infrastructure development. Support to development and growth of the Southern Rangelands conservancies
Mombasa Integrated Solid Waste Management Group (North Mombasa County)	Responsible for the implementation of the project activities. Participating in education and capacity building activities.
Catholic Association (a group of CBOs in the county of Kisumu).	Providing linkage between the capacitated Southern Rangelands conservancies, Northern Rangelands Trust, investors and conservancy owner-managers on a national level

II. STRATEGY

General considerations underpinning project strategy

As illustrated by the above, Kenya can be described as a country that is progressively reaching a fairly stable economic situation and which is proactively proceeding with addressing its immediate major POPs issues as well as initiating the implementation of a Sound Chemicals Management program. The country, being at a critical turning point of its development, needs to address urgently the main POPs issues, such as:

- U-POPs generated during the open-air disposal of municipal and hospital waste,
- the lack of coordination among the authorities in charge of implementing the SC and the other MEAs,
- the lack of integration of the SC convention requirements into the existing regulations.

These three points need to be done in a more coordinated manner which would be integrated with the broader SCM framework being developed. This is the basic rationale for overall GEF-5 Chemical Focal Area Programmatic approach, which applies to this project.

The GEF support is crucial and catalytic for enhancing and completing the ongoing process of environmental law-making. The technical and financial GEF support is also critical for reducing the amount of U-POPs generated by improper management of waste: by adopting a 3R approach (reduce, reuse, recycle) in the relevant sectors, and by piloting alternative solutions for the disposal of healthcare waste, developed specifically for African countries in the course of the Global Healthcare Waste Management Project.

Strategy related to the Sound Management of Chemicals

The Kenya government, by reviewing and updating its NIP and by approving its SAICM implementation plan, has already established strong pillars toward the sound management of chemicals. There is now the need to start in an effective way the implementation of the plans envisaged by both the Stockholm National Implementation Plan (NIP) and the SAICM Implementation Plan (SIP). The NIP identified the need to increase awareness among the industry and civil society on cleaner production, and on alternatives to POPs; at the same time both the NIP and the SIP identified the need for the increase in analytical service and the establishment of more sustainable laboratory services. Both the NIP and the SIP listed the improvement of regulatory texts and their enforcement as a key stage towards the implementation of a sound management of chemicals.

At the same time, it is clear that under the project not all the issues related to the management of chemicals can be solved. Therefore the project component dealing with the Sound Management of Chemicals will focus on the chemicals-related activities which have more synergies with the other two project components. The project is therefore expected to boost the technical capacity of the country through the following activities:

- Improve the country legislation on chemicals, with the objective to assist the environmentally sound management of hazardous chemical, define quality and technical standards for disposal processes;
- Increase the knowledge and awareness of risks related to chemicals with a life cycle perspective, promoting alternatives to POPs and other hazardous substances, preventing the use of materials that may generate / release POPs as a consequence of their improper disposal, ensuring the proper disposal of chemicals to avoid their release in the environment ;

- Ensure that the country has the capacity to monitor the presence of POPs in the relevant environmental media, with specific focus on air quality, atmospheric emissions and specific waste streams.

This will be done by a number of different project activities encompassing gap analysis of the current regulation, classroom training and practical training (on the field and in the laboratory), establishing dedicated institutions and committees, procuring and demonstrating sampling equipment.

Strategy related to the health-care waste management.

The objective of the project pertaining to HCWM is to protect human and environmental health by reducing releases of UPOPs and Mercury from the unsound management of HCW, in particular the sub-standard incineration and open burning of healthcare waste. The project will build capacity at national, county and HCF level for the introduction of Best Available Technologies (BAT) and Best Environmental Practices (BEP) to improve the management and treatment of HCW wastes. These efforts will be further enhanced by drafting and disseminating technical guidance on HCWM, officially endorsed by the government, strengthening the legislative and policy framework governing HCWM and Mercury at national and county level, as well as improving HCWM awareness and education.

The proposed project is fully aligned with Kenyan national policies and priorities related to HCWM as well as UPOPs reduction priorities taken up in the NIP update, from which it results that U-POPs emission from the healthcare waste is a key priority.

Increase segregation and minimisation of waste. One of the key aspects reported in the National Health Care Waste Management Plan for Kenya (2008-2012) is that "Poor segregation, and poor choice of technology for treatment and disposal of waste, are two problems identified that are due in part to inadequate management practices or simply because of absence of adequate provision of waste receptacles." This was indeed confirmed during the preparatory activities of the project.

Minimisation and segregation of HCW to reduce the volume of waste to be disposed of. Poor segregation results at the same time in:

- higher disposal cost for the hospital (due to the higher volume of hazardous waste to be treated),
- higher infection risk (due to larger volume of hazardous waste which are improperly disposed of)
- higher release of U-POPs, dust, and toxic substances in the atmosphere (due to the fact that plastic-containing wastes are often improperly incinerated or open burnt because this is the cheapest and most immediate option available to the hospitals).

The first step to be taken by the project will therefore be to ensure that wastes are minimised and properly segregated at the source. This will be done mostly by establishing and enforcing HCW management units in the HCFs (in some cases already existing but ineffective) and providing on-site continuous training and technical assistance to the personnel of each project HCF throughout the whole duration of project implementation. In addition, key waste management equipment (bags, bins, cart, sharp boxes) will be provided to the project HCFs.

Improvement of HCW disposal technology and increased centralisation of waste disposal.

Even in areas where the transport infrastructure is relatively in good condition, the logic of "one disposal equipment per HCF" prevails. The result is that each hospital is being equipped, in most cases, with small, sub-standard or non-functional disposal equipment; in many cases, the wastes are either dumped not far from the hospital, or open burnt. In many of the hospitals visited, the air within the facility was heavily polluted by the noxious fumes emitted by these unhealthy waste disposal equipment. It is evident that a progressive shift toward centralization of waste disposal is necessary. Therefore the strategy of the project is to rank project facilities in 3 categories:

1) Small facilities where no treatment or disposal plant will be installed under the project. In these facilities, the project assistance aims instead at ensuring minimization of waste production, proper segregation, and safe storage/transportation. Basic waste disposal equipment will be provided to these hospitals (bags, bins, carts, sharp boxes).

2) Large or medium size facilities currently equipped with out of order or sub-standard incinerators, which can be replaced under the project by non-incineration equipment for the treatment of waste, generated by the same facility or by the small facilities in point (1) above. It is envisaged that under the project a maximum number of 4 medium size non-incineration equipment composed by shredders and non-combustion equipment will be deployed to these facilities. In these facilities, the project will provide training and technical assistance, basic waste disposal equipment, and the waste treatment equipment.

3) A large or medium size HCF currently equipped with a working double-chamber incinerator, which can be used to dispose waste generated by the same facility or by the small facilities in previous point 1. In this facility, after proper technical and financial feasibility study, the incinerator will be upgraded by installing a complete APCM train which may include quencher, bag-filter, neutralizer, and an activated charcoal column. The upgraded incinerator will be used for disposing only the hazardous waste which cannot be processed differently. The incinerator will dispose therefore the hazardous waste generated by the hospital itself or by the HCF listed under the previous point (2) after steam disinfection. Please note that this still synergizes with the activities described below as part of the "Clean Teach East Africa" initiative, as the latter will focus on the Nairobi area and this project can focus on another geographic area.

This component will be complemented by the development / endorsement of official guidance document on the management and disposal of HCW, training either in the facilities or in training centres, improvement of the existing legislation, drafting, endorsement and enforcement of technical and environmental standards for HCW treatment.

In addition to the above, an important aspect of this project component is its integration with the "Clean Tech East Africa (CTEA)" initiative sponsored by JICA related to the development of an incinerator for hazardous waste in Nairobi. The CTEA project aims at developing an integrated system which is centred on a large rotary kiln incinerator equipped with state-of-the-art APCS, compliant with the Stockholm Convention, and including containerized systems for transport of waste. The CTEA project includes also a training centre to build local personnel capacity.

There are many areas under which this UNDP project and the CTEA project will find synergies:

1. The CTEA project will provide a technology integrating the disposal or pre-treatment of waste by local steam disinfection and treatment at the incinerator, since part of the Health Care Waste (for instance chemical waste or anatomical waste) cannot be processed by steam autoclave or other non-combustion equipment;

2. The transportation system which will be developed under the CTEA project perfectly complements the UNDP project which mainly deals with the optimization of waste management within hospital facilities. From one side, the transportation system will ensure the safe transport and traceability of waste sent by the facilities for disposal; on the other side, the improvement of the segregation of HC waste will ensure that the transportation system is utilized in the most efficient way.

3. The GEF/UNDP project will be complementary to the CTEA project by improving the existing guidance and criteria for the proper management of healthcare waste, assisting GOK in enforcing the regulation on HCW, and therefore securing the sustainability of both the UNDP and CTEA projects.

Strategy related to the Municipal Waste

This project's strategy on solid waste management will aim at 3 main targets to improve practices:

- Creation of alternative approaches to composting in pilot counties
- Support to the development of a new stream of recycling for plastics in these counties
- Development of emergency measures in one priority site, particularly to avoid accidental or voluntary burning of wastes

It will rely on strong assets for its success:

- The engagement of communities already involved in the informal management of solid waste
- The active involvement of three sets of actors that are essential to build an alternative, sustainable scenario: the private sector, the CSOs and the counties.
- Learning from other successful programmes that have been successful in such piloting of activities, for example the Nigeria-based GEF project on "Less Burnt for a Clean Earth: Minimization of Dioxin Emission from Open Burning Sources".

In the priority area of integrated solid waste management to reduce releases of dioxins and furans, emphasis will be placed on pilot experiences of improved practices for the management of solid wastes. This will include waste separation and recycling, such as those already financed by JICA and the European Union, and for the development of small businesses based on waste recycling and composting. GEF funds would be used in an incremental manner to support the systematization, replication and diffusion of the dispersed pilot initiatives supported by other donors, resulting eventually in improved waste management nationwide; awareness raising regarding the health implications of dioxin and furan emissions from waste disposal; and the strengthening of municipal governments in this field of work.

The project will enhance the country strategy to organize and bring the informal sector into the formal waste management sector through proposals contained in the integrated solid waste management strategy (ISWMS) of 2010. Although the project will identify emergency measures to put in place at waste dumpsites, the main objective will be to prevent waste flows from being burnt at these dumpsites. This will be achieved by enhancing the "3R" economy and enabling municipalities to establish Public Private Partnerships (PPP) schemes with the support of NGOs that can at the same time reduce the waste flows being burnt, reduce poverty and provide an alternative opportunity for people living at the dumpsites.

One of the key aspects that the project intends to enhance is the improvement of the quality of the entire supply chain of recyclable materials: specifically waste plastic and waste organic. The quality of both recycled plastic and organic waste may be enhanced by securing the collection of waste before they are dumped in the landfills.

For plastic, this entails the demonstration of door-to-door collection of the main type of plastic waste and the direct selling to local industry. This will prevent a number of social and environmental issues, like the accidental burning of plastic at the dumpsites, the contamination of plastic waste resulting in the loss of their quality and market price and the consequent selling of this valuable resource at a very low price, to foreign investors. However, enhancing the collection scheme needs to be paralleled by the individuation of market access for specific plastic materials. Whilst there are a number of applications for the industry-level recycling of PET bottles, the recycling of LDPE bags is much more challenging. Therefore, for LDPE, the strategy will be both aimed at enhancing the re-use, promoting degradable materials, and enhancing the collection of used, clean plastic bags directly by means, for instance, of collection points to be established at shops and supermarket.

Considering the lack of HCWM equipment observed in the visited HCFs, one of the possible initiatives which have been explored was to establish a production line for plastic bins, cart and bags made of recyclable plastic.

The meetings with representatives of the plastic recycling industry and with plastic waste collectors brought to evidence the following aspects, which are integrated in the project strategy:

1. In Kenya 4-5 large plastic recycling plants are operational. In Nairobi a large facility visited in the course of project preparation recycles between 400 and 700 t/months of plastic waste. It has the capacity to produce many different products from recycled plastic, including plastic bags, and may be a good candidate for producing good quality plastic bins and carts for the collection and transportation of healthcare waste within the hospitals.
2. Plastic article manufacturers can even contribute to the transportation of plastic waste using the same trucks they are using for transporting plastic products.
3. Plastic recyclers can receive the following benefits from their partnership with the project:
    a. An increase in plastic waste quality, which may be achieved by ensuring proper training of the waste collectors, proper storage, and by ensuring that the plastic wastes are collected at the source before they reach the dumpsites. This may decrease the energy requirements of plastic recycling factories.
    b. A decrease in plastic waste cost. This may be supported by the project either by a limited degree of subsidizing plastic collectors, or providing proper equipment to the waste collectors (plastic waste shredders, storage facilities, transportation vehicles). Subsidizing would not be sustainable in the long term after project closure.
    c. Promoting a better regulation of the sector. The interviewed manufacturers complained about the difficult regulatory environment they have to operate in; about the double taxation to which they are subjected as they are simultaneously waste processor and manufacturers; about transportation taxes which are charged each time they cross the border of a county with their trucks. They also reported difficulties to comply with the certification established by the Kenyan Board of Standards. Due to these difficulties, in the factory visited by the delegation, the amount of waste processed monthly was reduced from 700 t/month to less than 400 t/month. In few words, it seems that the current situation is that plastic recycling is discouraged. The project can bring significant support on this aspect by establishing an "end of waste" regulation / guidance. This regulation can be based on a quality certification scheme at the side of waste collectors, to ensure that certified plastic waste may be formally considered as "non waste". Certified plastic waste may therefore be sold as raw material to the manufacturers, avoiding them to be licensed as waste processors. The project can also assist the government in the establishment of standards for plastic recovered material, and assist the industries in carrying out the test for certifying their plastic products.
    d. The project, by promoting, in agreement with the government, a policy of "green procurement" in relevant sectors (including healthcare waste), may further enhance the demand for specific types of products like bins for waste collection, cart for waste transportation within hospital facilities, etc.

It should be noted that the project established a sound partnership with KAM (Kenya Association of Manufacturers) with the general aim to involve the private sector in the project especially on the side of closing the recycled waste circle and demonstrating waste recycling technologies and methods.

For the civil society such as the Greenbelt Movement and other community-based organizations in Mombasa and Nakuru, the project will also develop specific institutional capacities in support of the concrete investments. Practical guidelines will be developed and staff training provided on the management and disposal of solid wastes in ways that avoid the emission of dioxins and furans, such as waste separation and recycling.

In terms of appropriate roles for NGOs, CBOs and local authorities, there are evidences that communities are more than willing to provide for themselves, urban services like waste management when local authorities are unable to do so in line with the BAT/BEP guidelines of the Stockholm Convention. With the provision of advice, training, and credit to these organizations, NGOs will have an important role to play in meeting the convention's objectives. The resources of local authorities will therefore be best employed in regulating, coordinating and advising CBO and NGO efforts in the provision of urban services like waste management. The Greenbelt Movement can use its superior community mobilization skills to achieve this.

The project will also strive at drafting and implementing risk-based emergency countermeasures to prevent and reduce the exposure of people to hazardous substances released from landfills. These countermeasures will take into due consideration the social and resettlement issues that may arise from the restricted access to landfills for people who were relying on the "dumpsite economy"; landfill surveillance and management plans; implementation of temporary activities / infrastructures aimed at preventing the dispersion of contaminants in the environment.

Addressing gender issues with specific reference to impact of HCW

The main project objective is to prevent and reduce health and environmental risk related to POPs and harmful chemicals through their release reduction achieved by provision of an integrated institutional and regulatory framework covering environmentally sound Health Care Waste and Solid waste management.

However, in addition to reducing UPOPs and PTS releases, improved HCWM practices in a healthcare facility generally also reduce the occurrence of hospital-acquired infections (nosocomial infections) associated with unsafe waste management practices currently in place in many facilities. Improved HCWM leads to a reduction in human suffering as well as lower cost implications for national healthcare systems.

Medical staff, nurses and patients are at a high risk for infectious diseases in hospitals, therefore they will be the direct beneficiaries of project activities. In addition, nurses, as in other similar projects, have usually a key role in ensuring that the proper management of healthcare waste is adopted in the day-to-day practices, and are therefore among the key resources for the day-to-day project implementation.

This GEF project emphasizes building awareness of the links between waste management and public health (including occupational exposures), with a specific focus on the health implications of exposure to dioxins and Mercury for vulnerable populations, such as female workers, pregnant women, and children. In addition to relevant national ministries, hospitals, and health clinics, key partners in the program include healthcare professionals, waste workers, and providers of waste management services (among the most vulnerable sub-populations), as well as NGOs and civil society organizations operating in the area of health, women and the environment.

Women represent a large portion of workers employed in healthcare services (according to the U.S. Bureau of Labor Statistics, 73% of medical and health service managers are women). Although similar statistics are not available for Kenya, it can be assumed that the majority of healthcare workers are female. This automatically places women as key stakeholders for the project. Additionally, the project will encourage, in the model HCFs, the emergence of 'champions' of better HCWM practices. Experience from the Global Medical Waste project demonstrates that this values-based effort can reinforce women empowerment within the HCF staff and administration.

In both developed and developing countries, many healthcare workers (such as nurses) receive low remuneration and face hazardous working conditions, including exposure to chemical agents that can cause cancer, respiratory diseases, neurotoxic effects, and other illnesses. As developing countries strengthen and expand the coverage of their healthcare systems, associated releases of toxic chemicals can rise substantially, magnifying the risks experienced by healthcare workers and the public.

As part of this project, capacity building, training, curricula, etc. are developed and tailored to different training recipients within the healthcare sector, such as i) Trainers; ii) Medical staff, such as doctors, nurses and paramedical staff; iii) Hospital maintenance and sanitary staff; iv) Administrators, etc. Training is also tailored and provided to support services linked to healthcare facilities, such as laundries, waste handling and transportation services, treatment facilities, as well as workers in waste disposal facilities. At national level awareness on HCWM issues is created among the general public, patients and family but also among decision-makers at national, regional and district levels that have significant influence on the development and approval of HCWM related budgets.

On the side of municipal waste, women and children are often among the most exposed to the dangerous substances and pathogen organisms contained in waste, emitted during waste fermentation and degradation, and released during the open burning of waste. Although the project does not differentiate activities based on sex or age of the involved communities, nevertheless it is well known that, due to their physiological characteristics (lower weight and similar respiratory volume) women and children may have a comparatively higher benefit from activities aimed at reducing the exposure to toxic substance and pathogens.

Policy context

Kenya has ratified the Stockholm Convention on POPs on 24/09/2004, and the Basel Convention on the Trans-boundary Movement of Hazardous Waste and their Disposal on 01/06/2000. Kenya has also ratified the Rotterdam Convention, and is signatory of the Minamata Convention on Mercury.

Kenya has been the first African country to submit its reviewed and updated NIP in compliance with article 7 of the Stockholm Convention.

Kenya also drafted its National Chemical Profile under the SAICM Enabling Activity, completed in August 2011.

The above prove the strong importance the country attaches to the issue of sound management of chemicals and waste.

On the other side, the fact that Kenya, although committed, has not yet adopted the GHS for the classification of hazardous substances is a sign of the need for further assistance in the complex field of classification of hazardous substances. This aspect is crucial for the country to access the international market of chemicals.

The project is compliant with the policy and action plan established by the country under the updated NIP, as well as under the National Chemical Profile.

Legal context

The project is fully compliant with the Kenyan environmental regulations, and more specifically with the regulations established under the Environmental Management and Coordination Act (EMCA) on Waste Management Regulation, Air Quality Regulation, Environmental Impact Assessment, and with the existing specific regulation on Health Care Waste.

All the facilities and technologies established under the project will be permitted in compliance with the requirements set by the above regulations and with the relevant provisions and guidelines established under the Stockholm and Basel conventions.

In addition to that, specific outputs of the project are aimed at improving the integration of the Stockholm Convention provisions within the national regulatory system, and at enhancing the enforcement of specific provisions on healthcare waste management and municipal waste management.

The project will ensure the improvement of the existing regulation on Health Care Waste by integrating and customizing the WHO guideline in HCWM under the National regulation on HCWM.

Project Rationale and Policy Conformity.

The project is fully compliant with the Global Environment Facility (GEF5) Chemicals strategy objective 1 and 3 as it will support GEF intervention addressing POPs and U-POPs. In supporting sound chemicals management it will in effect extend support to other chemicals of global concern beyond POPs in order to capture additional global environmental benefits.

The ultimate intention is to improve Kenya's compliance with the Stockholm Convention on Persistent Organic Pollutants, particularly as regards dioxins and furans. The project will support the GEF commitment to address air quality by avoiding emissions of POPs among other air pollutants such as greenhouse gases. Indeed, in Kenya, open burning of waste is the most used method of waste disposal though it is known to be a major source of UPOPs. The project is in line with the GEF global priorities related to the financing mechanism for the Stockholm Convention because Kenya, as a developing country, is eligible for this assistance. Further, the project is eligible in the context of the guidelines provided by the Conventions Conference of Parties (COP) such as it will:

1. Support implementation of the chemicals and waste multilateral environmental agreements and enable Kenya to fulfil its obligations under these agreements
2. Implement the commitments made at the 1st Session of the International Conference on Chemicals Management (ICCM1)
3. Develop and implement activities identified in the Kenya National Implementation Plan (NIP);

The project will support or promote capacity-building, including human resource and institutional development for both governmental and non-governmental institutions at both central and local levels.

The project will contribute to the achievement of GEF's main indicators under this strategic programming area for the GEF5 cycle, through the interventions described in the Project Description and in the Result Framework.

Although the project has been developed under the GEF5 strategy framework, it is also fully consistent with the GEF-6 Chemical and Waste area strategy, 1: " CW 1: Develop the enabling conditions, tools and environment for the sound management of harmful chemicals and wastes". It is also consistent with the GEF-6 Chemical and Waste area strategy, 2: " CW 2 Program 3: Reduction and elimination of POPs."

Project Description

Project Goal, Objective, Outcomes and Outputs/activities

The **Objective** of the project is the "Reduction of the release of U-POPs and other substances of concern and the related health risks, through the implementation of environmentally sound management of municipal and healthcare wastes and of an integrated institutional and regulatory framework covering management of and reporting on POPs."

The project intends to achieve this objective through improving the regulatory system, enhancing its enforcement, raising awareness on POPs, and by establishing the capacity for safe handling, transport and improved disposal of POPs-containing or POPs-generating waste.

This will contribute to the reduction of risks for the human health and the environment by avoiding the release of POPs in the environment and preventing people's exposure to POPs.

The project encompasses five components (including Monitoring and Evaluation) as following:

- Component 1. Streamlining sound management of chemicals and waste into national and county development activities through capacity building of MENR, MOH, county governments of Nairobi, Kisumu, Nakuru and Mombasa and the NGOs.

- Component 2. Introducing environmentally sound management of health care waste in selected healthcare facilities; policy and strategic plans to prepare them to adopt BAT and BEP disposal.
- Component 3. Demonstration of sound healthcare waste disposal technologies in a selected number of healthcare facilities in each county.
- Component 4. Minimizing releases of unintentionally produced POPs from open burning of waste.
- Component 5. Monitoring, learning, adaptive feedback, outreach and evaluation.

The detailed project design inclusive of cost estimates is elaborated by components against each outcome and outputs/detailed activities in Table 9 below. Detailed descriptions and explanation of cost estimates follow in this Section. This is further defined in Annex A in the Project Results Framework, in terms of indicators, corresponding baselines and project cycle targeted outputs.

Table 9 Elaborated project design framework and cost estimates by Outcome and Output/Activity

Outcome	Output/Activity Description	Cost Estimate (US$)		
		GEF	Co-financing description	Co-financing budget
Component 1. Streamlining sound management of chemicals and waste into national and county development activities through capacity building of MENR, MOH, county governments of Nairobi, Kisumu, Nakuru and Mombasa and the NGOs				
		GEF grant	Co-financing	Co-financing budget
Outcome 1.1 Policies, strategies Regulatory and policy framework integrating the provisions of streamlining chemicals management into development activities and specifically those of the Stockholm convention and the SAICM recommendations, adopted and institutional capacity on U-POPs and waste management enhanced	Output 1.1.1: Overall policy framework and specific regulatory measures covering environmentally sound management of chemicals in general and POPs in particular through chemicals life cycle management developed and implemented.		GoK law-making and enforcement activities on POPs, personnel and office space: MENR 50,000 USD; NEMA 88,900 USD. KAM providing technical support on regulatory and training as well as in kind co-financing for workshop and training infrastructures (100,000 USD)	238,900
	Output 1.1.2: Key institutions have knowledge and skills to formulate and implement necessary chemicals and waste environmental policies, consistent with sound chemicals management principles and obligations to international agreements		GoK activities on training and policy making, personnel and office space (MENR 50,000 USD). KAM providing technical support on regulatory and training as well as in kind co-financing for workshop and training infrastructures (100,000 USD)	150,000
	Output 1.1.3 Key institutions have incorporated sound management of chemicals and wastes, including POPs, in their activities.		GoK (MENR) activities on enforcement and supervision. (50,000 USD). KAM providing technical support on regulatory and training as well as in kind co-financing for workshop and training infrastructures (100,000 USD)	150,000
	Output 1.1.4 National coordinating meetings on POPs held regularly (4 times per year). without GEF financial support		Meeting to be carried out under the budget of MENR (200,000 USD)	200,000
Outcome 1.2 Monitoring activities intensified and strengthened and PRTR database in place.	Output 1.2.1 At least 70% of laboratory analyses in research and monitoring institutions required to monitor the implementation of national policy on hazardous chemicals and wastes being carried on a cost recovery basis		Labs providing in kind and grant co-financing: cooperation with laboratory facilities under MENR (1,000,000 USD) (University of Nairobi providing training services 40,112 USD) WARMA providing analytical services, analytical equipment, laboratory and office space and personnel (250,000 USD)	1,290,112
	Output 1.2.2 70% of universities nationwide include issues of hazardous chemicals and wastes, risks and legislation in curriculum		University of Nairobi providing training facilities, teachers, office space (371,741 USD) and providing technical support for graduate and post-graduate courses (106,741 USD)	478,482
	Output 1.2.3. PRTR Database and reporting system in place.		NEMA providing infrastructures, equipment and personnel for hosting the PRTR database (9,000 USD)	9,000
Total Component 1		500,000		2,516,494
Component 2. Introduce environmentally sound management of health care waste in selected healthcare facilities; policy and strategic plans to prepare them to adopt BAT and BEP disposal.				

Outcome 2.1 Personnel of hospital facilities and control authorities at central and county level have enough capacity guidance and equipment to manage healthcare waste in an Environmental Sound Manner	Output 2.1.1 Procedures and guidelines for the assessment and implementation of hazardous waste management at healthcare facilities built on lessons and examples from the application of the I-RAT tool under GEF4 /UNDP projects worldwide and on the WHO bluebook "Safe Management of Wastes from Health-care Activities" developed and adopted		MOH team to lead the drafting and revision of procedures and guidelines: experts, office space, meeting facilities (200,000 USD)	200,000
	Output 2.1.2 A national healthcare waste handbook containing guidelines for HCWM drafted and adopted by the MOH, including introduction of non-mercury devices in the HCFs		MOH coordinating the drafting and revision of the HCWM (experts, meeting facilities) (200,000 USD)	200,000
Outcome 2.2 Implementation of BAT/BEP at selected hospital facilities successfully demonstrated and measured against the baseline	Output 2.2.1 Hospital personnel at all level trained on the implementation of the above procedures		Counties of Nairobi Mombasa, Nakuru, Kisumu and supporting training and providing training facilities	0
	Output 2.2.2 Baseline assessment of each healthcare facility based on the assessment procedures developed in 2.1.1 carried out, and waste management plans based on the baseline assessment level drafted and implemented		Counties of Nairobi Mombasa, Nakuru, Kisumu and supporting baseline assessment through making available personnel and necessary equipment (60,000 USD)	60,000
	Output 2.2.3 ESM management of healthcare waste (based on WHO bluebook) implemented in 4 facilities in each county (12 facilities) including replacement of mercury devices with non mercury		Counties of Nairobi Mombasa, Nakuru, Kisumu and supporting management of healthcare waste (personnel, necessary equipment and infrastructures) (60,000 USD) (MENR 320,000 USD for personnel, 608,433 USD for Tec. Spec. and procurement of HCW ESM equipment)	988,433
	Output 2.2.4 Final assessment of the healthcare facility to measure results achieved with the implementation of the ESM management against baseline is carried out and estimate amount of U-POP release avoided.		Counties of Nairobi, Mombasa, Nakuru, Kisumu and supporting final assessment through making available personnel and necessary equipment (MENR 60,000 USD)	60,000
Total Component 2		**900,000**		**1,508,433**
Component 3. Demonstration of sound healthcare waste disposal technologies in a selected number of healthcare facilities in each county				
Outcome 3.1. Feasibility analysis and procurement of ESM technologies for healthcare waste disposal completed	Output 3.1.1 Feasibility study and term of reference for non-combustion or low-U-POPs emission technologies for healthcare waste disposal in selected hospitals or waste management facilities drafted.		GoK (MOH) to provide experts and meeting facilities for feasibility study (100,000 USD)	100,000
Outcome 3.2 BAT/BEP technologies for the disposal of healthcare waste successfully	Output 3.2.1 Demonstration and performance assessment of the technologies in the selected facilities completed (at least 4 facilities or an overall amount of waste in the order of 630t/yr		Cooperation with the JICA / CTEA project under MENR aimed at integrating large-scale incineration with HCW management and pre-treatment (MENR 8,900,000 USD)	8,900,000

established and demonstrated, with a potential reduction of U-POPs emission in the order of 19gTeq/year	Output 3.2.2 Waste disposal activities of hospital facilities/programs are documented and their performance is evaluated to exemplify best practices in health-care waste management		MOH providing funding to counties for upgrading waste storage and disposal facilities in health care waste facilities even through coordinate projects and making available infrastructures for HCWM through counties (2,680,000 USD)	2,680,000
	Output 3.2.2 Useful replication toolkits on how to implement best practices and techniques are developed		GoK (MOH) providing experts and meeting facilities for replication toolkit (100,000 USD)	100,000
Total Component 3		**1,750,000**		**11,780,000**
Component 4. Minimizing releases of unintentionally produced POPs from open burning of waste.				
Outcome 4.1. Awareness raising and capacity strengthening on ESM management of solid waste ensured.	Output 4.1.1 Awareness raising activities for the communities and the municipalities aimed at enhancing 3Rs of waste		GBM and KDS providing co-financing on training and awareness raising (GBM 239,929 USD, KDS 20,000 USD) (MENR 150,000 USD for local experts, training and training facilities). KAM providing technical support on training, awareness raising, incentive mechanisms, technology assessment as well as in kind co-financing for workshop and training infrastructures (100,000 USD)	504,429
	Output 4.1.2 Regulatory framework for the recovery of waste material (glass, organic, plastic) and for licensing of the recovery activity at county and central level improved to integrate SC requirements		MENR supporting the project by means of law-making and law-enforcement activities, personnel and meeting facilities (200,000 USD). NEMA supporting regulatory work (30,000 USD). KAM providing technical support on training, awareness raising, incentive mechanisms, technology assessment as well as in kind co-financing for workshops and training infrastructures (100,000 USD).	330,000
	Output 4.1.3. Counties provided with training, manual, and technical assistance for the management of solid wastes.		NEMA supporting counties with office space, and personnel cost (100,000 USD); KAM providing technical support on training, awareness raising, incentive mechanisms, technology assessment as well as in kind co-financing for workshops and training infrastructures (100,000 USD)	200,000
Outcome 4.2 Sound Management of solid waste in targeted municipalities implemented with the support of NGOs, with a reduction of unintentionally produced POPs from the burning of solid waste of 23 g I-TEQ/year (10 % of the	Output 4.2.1 Communities selected for demonstrating plans and actions for the reduction of solid waste open burning by increasing 3Rs of waste.			0
	Output 4.2.2. Initiatives for reducing, reuse and recycle of waste and for composting, collection of compostable municipal waste for communities in three counties of Nairobi, Mombasa and Nakuru implemented with a PPP approach and supervised with the support of NGOs.		NGOs providing equipment and facilities for the segregation and collection of organic waste. (GBM through office space (39,390 USD) and integration with related project and personnel (550,000 USD); KDS through analytical services, and equipment, CBOs mobilisation, other equipment (58,000 USD); MENR (867,000 USD, for monitoring activities and support on solid waste management in selected provinces).	1,914,390

current estimate of 247g I-TEQ/year) .Emergency plan to reduce exposure of population to harmful substances implemented.			Private industries providing co-financing under KAM coordination with specific investment, manpower, technology improvement, industrial infrastructures etc. (400,000 USD)	
	4.2.3. Local initiative for the re-use / recycling of other non-hazardous waste streams (i.e. plastics).		Local and central NGOs providing equipment and facilities for the segregation and collection of plastic waste (GBM through office space (39,390 USD) and integration with related project and personnel (518,847 USD); KDS through analytical services, and equipment, CBOs mobilisation, other equipment 50,000 USD). MENR (1,000,000 USD for monitoring activities and support on solid waste management in selected provinces); Private industries providing co-financing under KAM coordination with specific investment, manpower, technology improvement, industrial infrastructures etc. (500,000 USD)	2,108,237
4.3 Municipal waste disposal sites with adequate management practices (non-burn).	4.3.1 Prioritization of open-burning landfills to be closed and cleaned up, emergency plans including social and resettlement issues and clean-up plans for at least 3 landfills drafted.		MENR providing technical assistance on the prioritization of interventions on landfills. (100,000 USD); NEMA supporting with analytical services (10,000 USD).	110,000
	4.3.2. Emergency measures for reducing release of contaminant in the environment and the exposure of the population implemented in one high priority site.		NGOs providing assistance on landfill surveillance and training (200,000 USD); NEMA supporting with enforcement of emergency measures (36,720 USD).	236,820
Total Component 4		**1,000,000**		**5,203,876**
Component 5: Monitoring, learning, adaptive feedback, outreach and evaluation		**150,000**		
Total All Components		**4,300,000**		**21,008,803**
Project Management Budget		**215,000**		
Project Total		**4,515,000**		**21,008,803**

The following provides the description of Outcome and Output(s) under each of the project's components.

Component 1. Streamlining sound management of chemicals and waste into national and county development activities through capacity building of MENR, MOH, county governments of Nairobi, Kisumu, Nakuru and Mombasa and the NGOs (GEF Grant: 500,000 USD; Co-Financing: 2,516,494 USD)

Outcome 1.1 Policies, Strategies, Regulatory and policy framework integrating the provisions of streamlining chemicals management into development activities (specifically those of the Stockholm convention and the SAICM recommendations) adopted and institutional capacity on U-POPs and waste management enhanced.

Activities leading to this outcome are mainly aimed at strengthening the Kenyan regulatory framework and its enforcement in the field of U-POPs with specific reference to the establishment of technical and environmental standards related to the emission of U-POPs from waste management. Under this outcome, the following outputs will be delivered:

- Output 1.1.1: Overall policy framework and specific regulatory measures covering environmentally sound management of chemicals in general and POPs in particular through chemicals life cycle management developed and implemented. Based on the SAICM and NIP priorities, a gap analysis of the key Kenyan environmental regulations will be completed. Its aim will be to prepare a policy and legislation review roadmap, addressing technical and environmental standards for waste treatment equipment including health care waste; regulation related to the risk-based acceptable level of hazardous chemicals (at least for POPs and heavy metals) in recyclable waste; and the development and of a PRTR decree. The new / updated regulations will then be submitted to the GoK regulatory body for approval and promulgation.
- Output 1.1.2: Key institutions have knowledge and skills to formulate and implement necessary chemicals and waste environmental policies, consistent with sound chemicals management principles and obligations of international agreements. This output will be the result of activities aimed from one side at assessing and from the other side at satisfying capacity building needs for central and local institutions. Innovative approaches will be adopted to ensure that the training and capacity building are efficient, effective and sustainable: the trainings will be preceded and followed by assessment of the trainees; successful trainees will receive a certificate in Chemicals management; an award for the most successful trainees which will be determined during project implementation but could lead to contracts on Chemical Management at key Kenyan institutions.
- Output 1.1.3 Key institutions have incorporated sound management of chemicals and wastes, including POPs, in their activities. The activities leading to this output will mainly consist in the drafting of specific documents, integrating the risk assessment criteria, on the guidance and procedures for the integration of POPs issues in production processes and waste management. This guidance will have to be streamlined in the procedures existing at national and local levels for the permitting of production processes and waste management. Staff from local and national authorities will be trained and inspections and verifications for the fulfilment of POPs regulations in the country carried out.
- Output 1.1.4 National coordinating meetings on POPs held regularly (4 times per year) *without GEF financial support.* A National Chemical Management Coordination office established at the Ministry

of Environment, composed by representatives of relevant governmental Ministries, will be established. Coordination Meetings of the National Chemical Management Coordination Office will occur at least four times per year, without the need for GEF financial support.

Outcome 1.2 Monitoring activities intensified and strengthened and PRTR database in place.

- Output 1.2.1 At least 70% of laboratory analyses in research and monitoring institutions required to monitor the implementation of national policy on hazardous chemicals and wastes being carried on a cost recovery basis. One of the main shortcomings of project-funded monitoring systems lies in the fact that sustainability of laboratory operations is not ensured after project end. Therefore, this output, rather than including the procurement of equipment, will consist in the development and implementation of a national plan concerning environmental and industrial monitoring, identifying POPs monitoring obligations for key industrial and waste management activities. In addition, proper training conducted at key Kenyan laboratories on POPs monitoring will be carried out, and two key laboratories will receive the ISO 17025 accreditation for specific sampling and monitoring activities.
- Output 1.2.2 70% of universities nationwide include issues of hazardous chemicals and wastes, risks and legislation in curriculum. University curricula for chemical risk assessment and management of hazardous chemicals and hazardous waste adopted by at least 70% of the relevant public training institutions in the country (at least 10 universities).[12] One cycle of curricula completed in at least 2 universities within the project timeframe.
- Output 1.2.3. PRTR Database and reporting system in place. A pilot POPs/PTS database will be established to contain data related to industrial sources, and POPs-contaminated sites in at least 2 Kenyan counties, and available POPs environmental data countrywide.

Component 2. Introducing environmentally sound management of health care waste in selected healthcare facilities; policy and strategic plans to prepare them to adopt BAT and BEP disposal. (GEF GRANT: 900,000 USD. Co-Financing: 1,508,433 USD)

Outcome 2.1 Personnel of hospital facilities and control authorities at central and county levels have enough capacity guidance and equipment to manage healthcare waste in an Environmental Sound Manner.

All the outputs delivered under this outcome have the purpose to strengthen HCWM in hospital facilities with the twofold objective to minimise the generation of hazardous waste and to implement Best Available Techniques and Best Environmental Practices for the management and disposal of medical waste. This outcome will benefit from the experience and lessons learned through many other HCWM - related projects implemented by UNDP worldwide, and will be based on the exhaustive guidance developed by WHO on HCWM.

- Output 2.1.1 Procedures and guidelines for the assessment and implementation of hazardous waste management at healthcare facilities built on lessons and examples from the application of the Introduction-Rapid Assessment Tool (I-RAT) developed under the GEF4 / UNDP global project and on the WHO 'bluebook' on "Safe Management of Wastes from Health-care Activities" developed and adopted. This entails the revision of the Kenyan HCWM guidelines based on the latest edition of the WHO bluebook (tailored to various facility types) which includes tools and procedures for rapid assessment of HCWM, management rules for the proper segregation and monitoring of HCW, etc. The new guidelines will be a practical document to be disseminated in all Kenyan HCFs. The above guidelines are officially adopted by all the selected project HCFs.

[12] There are at least 15 universities with technical/scientific curriculum in Kenya.

- Output 2.1.2 A national healthcare waste handbook containing guidelines for HCWM drafted and adopted by the MOH, including introduction of non-mercury devices in the HCFs. The national healthcare waste handbook will contain at least general management rules for the implementation of HCWM scheme at county level, based on the progressive centralization of disposal facilities; it will include recommendations for the selection of the proper waste treatment or disposal equipment, and technical / environmental standards for establishing, operating, testing and monitoring of combustion and non-combustion disposal technologies. It will also include emission and discharge standards for U-POPs in compliance with SC BAT and BEP.

Outcome 2.2 Implementation of BAT/BEP at selected healthcare facilities successfully demonstrated and measured against the baseline.

All the outputs delivered under this outcome are related to the practical implementation of HCWM best practices in the 12 selected facilities.

In summary, this will envisage: the quantitative baseline assessment of the performance of each selected facility in terms of HCWM, based on the IRAT tool; delivery of training and technical assistance at facility level; final assessment at project end of the HCF performance.

- Output 2.2.1 Hospital personnel at all levels trained on the implementation of the above procedures (see 2.1). All staff of the selected facilities will be trained on the BAT and BEP for HCWM, based on the guidance document developed under Outcome 1, including the proper use of PPE. National experts to be deployed to HCFs will be trained under this output.

- developed in 2.1.1 carried out, and waste management plans based on the baseline assessment level drafted and implemented .With the technical assistance of national and international experts, all the HCFs will be assessed through the application of the I-RAT tools. In addition, the U-POPs emissions attributable to the baseline situation of each facility will be calculated.

- Output 2.2.3 ESM of healthcare waste (based on WHO bluebook) implemented in 4 facilities in each county (12 facilities in total) including replacement of mercury devices with non mercury. For each HCF, this will envisage the signature of Memoranda of Understanding (MoUs); HCWM committees of all HCFs strengthened or established where missing; HCWM policies, procedures and plans developed and implemented at each project HCF; HCFs supported in minimizing waste streams, improving segregation and introducing recycling activities; each HCF evaluated to verify introduction of BEP. HCF staff will be trained for the introduction of non-mercury devices in replacement of the mercury ones. In addition, the necessary HCWM equipment will be provided for each facility, based on the assessment needs identified under Output 2.2.2.

- Output 2.2.4 Final assessment of the healthcare facility to measure results achieved with the implementation of the ESM against baseline is carried out, and estimated amount of U-POP release avoided calculated. Final assessment will be conducted for each of the HCF participating/ benefitting from the project with the assistance of properly trained project consultants. UPOPs emission reductions after implementation of best practices in HCWM determined for each project facility.

Component 3. Demonstration of sound healthcare waste disposal technologies in a selected number of healthcare facilities in each county (GEF grant: 1,750,000 USD. Co-Financing: 11,780,000 USD).

Outcome 3.1. Feasibility analysis and procurement of ESM technologies for healthcare waste disposal completed.

The output delivered under this outcome will have the main purpose to implement the HCW disposal strategy envisaged by the project, i.e. demonstration of non-combustion pre-treatment equipment in a limited number of HCF, and upgrading of an existing incinerator in a selected facility if this is technically and economically feasible. This latter strategy requires some pre-conditions which will need to be

carefully verified. Concerning the establishment of non-combustion pre-treatment equipment these will be installed in medium-size facilities where the staff are already at least partially knowledgeable about best HCWM practices. This is because the proper operation of non-combustion pre-treatment facilities at hospital level will require an effective implementation of segregation procedures to ensure that the proper waste streams are fed to the equipment. A proper waste manifest system will be also enforced to ensure that waste treated - either from the same facility or from other facilities - is properly tracked. A careful technical and economic feasibility analysis for the upgrade of a double chamber, up-to-date incinerator will be carried out.

- Output 3.1.1 Feasibility study and term of reference for non-combustion or low-U-POPs emission technologies for healthcare waste disposal in selected hospitals or waste management facilities drafted. Based on the analysis of baseline assessment of the served facilities, the proper size and technical characteristics of the treatment facilities will be identified. Technical specification and terms of reference will be drafted with the purpose to issue international bids for the procurement of the equipment. Under this output, a double-chamber incinerator will also be assessed to verify whether it can be upgraded with proper APCS to ensure the fulfilment of Stockholm Convention recommended BAT standards for the release of U-POPs. In case of positive outcome of this assessment, technical specification and term of reference will be drafted with the purpose to issue international bids for the procurement of the APCS, otherwise a non-combustion technology will be proposed to replace the incinerator as for the other facilities. Outcome 3.2 BAT/BEP technologies for the disposal of healthcare waste successfully established and demonstrated, with a potential reduction of U-POPs emissions in the order of 19gTeq/year

This outcome is the result of implementation of non-combustion HCW treatment equipment (very likely shredding and non-incineration technology which may include steam-based technology / autoclaves) in a limited number of HCFs (from 3 to 4), and if technically and economically feasible, of the upgrading of one incinerator to SC BAT standards in one HCF.

- Output 3.2.1 Demonstration and performance assessment of the technologies in the selected facilities completed (at least 4 facilities or an overall amount of waste treated in the order of 630t/yr). This output will encompass the following activities: non-combustion equipment installed and tested in at least 4 HCFs (or 3 HCFs plus the upgrading of a double chamber incinerator to the SC BAT standard). Procurement of an initial set of HCWM-related supplies for all the project HCFs. Staff trained in the operation and maintenance of the technologies installed at the HCFs. HCFs supported in the implementation of their plans (including recycling activities) as well as monitoring practices. Agreements between CTFs and Project Facilities (PFs) drafted and signed for each PF served by a CTF.

- Output 3.2.2 Waste disposal activities of hospital facilities are documented and their performance is evaluated to exemplify best practices in health-care waste management. The release of at least 19gTEq / yr of PCDD/F prevented thanks to the installation of BAT disposal technologies. Proof of performance test for at least three non-combustion disposal facilities and at least one upgraded incinerator carried out.

- Output 3.2.3 Useful replication toolkits on how to implement best practices and techniques are developed. A practical toolkit for the replication of CTFs or single-facility BAT/BEP in other counties drafted and endorsed by the government. The toolkit will be properly disseminated to relevant stakeholders.

Component 4. Minimizing releases of unintentionally produced POPs from open burning of waste. (GEF grant: 1,000,000 USD. Co-Financing: 5,203,876 USD)

Outcome 4.1. Awareness raising and capacity strengthening on ESM of solid waste ensured.

Starting from pilot areas, the project will strive to enhance the awareness on the management of municipal waste, both for the general population, the communities operating on waste recycling, and the local environmental authorities. Increasing awareness of the environmental, social and economic benefits of a better management of municipal waste, based on the 3Rs (Reduce, Reuse, Recycle) is a key aspect to ensure project success. Particularly on the side of communities operating on waste recycling, it is essential to communicate that the project could lead not only to the reduction of risks for the health, but also in the creation of more profitable businesses and new jobs. Therefore the careful design of communication of the project activities is key for the start of this project component. Communication will have necessarily to start from listening and learning: preparatory meeting with the communities and the local authorities is a fundamental step for the design of awareness raising activities.

- Output 4.1.1 Awareness raising activities for the communities and the municipalities aimed at enhancing 3Rs of waste. Awareness raising material (printed or broadcasted) on 3Rs of materials which, if wasted, can generate U-POPs and toxic substances, developed, published and communicated for the 3 municipalities of Mombasa, Kisumu and Nakuru. At least 3 awareness raising workshops on 3Rs dedicated to the representatives of environmental authorities performed. At least 3 awareness raising events for the public at large in the 3 regions of Mombasa, Nakuru and Kisumu carried out.
- Output 4.1.2 Regulatory framework for the recovery of waste material (glass, organic, plastic) and for licensing of the recovery activity at county and central levels improved to integrate SC requirements. Waste management regulation and its enforcement improved to facilitate the 'Reduce, recycle and recovery' approach with specific reference to waste which may generate toxic substances when dumped. Specific legal and economic provisions facilitating communities to perform upstream collection of recyclable wastes and prevent unsafe dumping will be drafted and endorsed at the proper level.
- Output 4.1.3. Counties provided with training, manual, and on-site technical assistance for the management of solid wastes. At least 6 field training initiatives for communities and 3 training-for-trainer initiatives for municipalities in Mombasa, Kisumu and Nakuru, aimed at enhancing 3Rs of specific waste streams on the basis of the 3R approach performed. At least 50 people trained for each training initiatives.

Outcome 4.2 Sound Management of solid waste in targeted municipalities implemented with the support of NGOs, and Emergency plan to reduce exposure of population to harmful substances implemented with a reduction of unintentionally produced POPs from the burning of solid waste of 23 g I-TEQ/year (10 % of the current estimate of 247 g I-TEQ/year),

- Output 4.2.1 Communities selected for demonstrating plans and actions for the reduction of solid waste's open burning by increasing 3Rs of waste. At least one community for each site (Nairobi, Nakuru and Kisumu) is engaged and supported for conducting project activities. Selected communities and their representatives identified and officially recognized under the project. Memorandum of understanding and community-driven projects on 3R with resources, list of activities, timeframe and quality check modalities are agreed and signed by government and community representatives.
- Output 4.2.2. Initiatives for reducing, reusing and recycling of waste and for composting, collection of compostable municipal waste for communities in three counties of Kisumu, Mombasa and Nakuru implemented with a PPP approach and supervised with the support of NGOs. At least one initiative aimed at collecting and recycling organic or compostable waste

which, if burnt, would generate U-POPs is identified, designed and implemented for each of the three sites. An overall amount of at least 500 tons / months of compostable materials successfully collected from the source (not on the dumpsites) and re-used or re-cycled (waste to energy through the combustion of waste made briquettes being not considered as suitable recycling activity due to the potential release of U-POPs) documented by a proper waste accounting system in place. The recycling activity is organized at industrial scale with the support of national industrial partners which will ensure the access to the market of the recycled materials. Industrial partners will cooperate with testing and qualification of the recycled material and will provide feedback on the quality of the segregation and collection scheme adopted, to increase quality of the material. The release of at least 2 g TEq/yr of PCDD/F is to be avoided by means of activities implemented under this output aimed at preventing recyclable waste to be burnt in the dumpsite.

- Output 4.2.3. Local initiative for the re-use / recycling of other non-hazardous waste streams (i.e. plastics). At least one initiative aimed at collecting and recycling plastic waste which, if burnt, would generate U-POPs is identified, designed and implemented for each of the three sites. An overall amount of at least 30 tons / month of plastic and at material successfully collected from the source (not on the dumpsites) and re-used or re-cycled, documented by a proper waste accounting system. A specific activity will be implemented for the reduce, re-use and recycle of plastic bags (LDPE) which are usually not easily recovered and which are a significant source of U-POPs and other environmental nuisance. Domestic industrial stakeholders involved for facilitating the placing on the national market of recovered plastic at industrial scale, and for providing feedback on the quality of the segregation and collection scheme adopted, to increase the quality of the recovered material. The release of at least 1 g TEq/yr of PCDD/F avoided by means of activities implemented under this output aimed at preventing recyclable waste to be burnt in the dumpsite.

Outcome 4.3 Municipal waste disposal sites with adequate management practices (non-burn).

- Output 4.3.1 Prioritization of open-burning landfills to be closed and cleaned up, emergency plans including social and resettlement issues, and clean-up plans for at least 3 landfills drafted. Dumpsites in the 3 main Kenyan cities prioritised for intervention and emergency countermeasures based on health risk assessment, ecosystem risk assessment and socio-economic criteria, taking into account the lessons learned and the reasons why previous emergency or clean-up plans turned out to be not implementable. Emergency plans for three priority dumpsites, aimed at reducing release of U-POPs and other toxic chemicals, and at reducing exposure to POPs of the population, drafted. At least one remediation plan for a priority dumpsite, based on the economy of waste recycling, drafted with the involvement of dumpsite communities.
- Output 4.3.2. Emergency measures for reducing release of U-POPs in the environment and the exposure of the population implemented in one high priority site (in one of the 3 counties). The exposure of at least 5,000 people to chemicals released from dumpsites is halved, thanks to the adoption of emergency measures. The release of at least 20 g TEq/yr of PCDD/F avoided by means of emergency measures directly aimed at preventing open burning of waste.

- **Component 5: Monitoring, learning, adaptive feedback, outreach and evaluation. (GEF Grant: 150,000).** This is described in details in a later section.

Project Indicators, Risks and Assumptions

A number of indicators have been identified (see table 15) to estimate the expected Global Environmental Benefits, in terms of POPs reduction, which will be achieved by the project.

Indicators relative to each project outputs are provided in the Strategic Results Framework (SRF) table in Section II, Part II.

In the table below, an estimate of the expected release reductions of U-POPs from project implementation is reported.

Table 10: **Main project indicators for components 3 and 4.**

Sector	**Baseline** **g TEq**	**Interventions**	**Target reduction at the end of the project g TEq**	**Further potential release reduction from replication (4 years)**	**Comments / Assumptions**
HCW	Totally 837.1 g TEq/yr are generated by waste incineration. Of these, 490.1 are generated by HCW incineration, out of which 15 by the facilities visited, 20 extrapolated to all the project facilities.	Better segregation of HCW, avoidance of open burning, demonstration of BAT/BEP disposal	19	100	Assumption: extension to additional 60 facilities
Organic waste	148.2 U-POPs from open burning of organic waste countrywide (as from NIP) (Organic waste representing around 60% of the municipal waste)	Demonstration of 3Rs of organic waste (500 t/month)	2	8	Potential for replication: 4 times the demonstrated capacity in 4 year
Plastic waste	Open burning of plastic waste countrywide (as from NIP) 30 (plastic representing around 12% of the municipal waste)	Demonstration of 3Rs of plastic waste	1	4	Assumption: Collection of around 30t/month of plastic upstream will be demonstrated. Potential for replication: 4 times the demonstrated capacity in 4 years
Dumpsites	247 as from NIP	Municipal waste - prevention of open burning at one dumpsites	20	80	Assumption: fire reduction of at least 50% in a large landfill. Potential for replication: 4 times the demonstrated capacity in 4 years
Overall PCDD/F release			**42**	**192**	

reduction					

In summary is expected that the project allow for the reduction of at least 42gTEq year, as follows:

1. Health-Care Waste Management: UPOPs emissions will be reduced by at least 19gTEq/yr for the 12 facilities in total.
2. Assuming that in the course of the project at least 6,000 tons per year of compostable waste, plus 360 tons per year of PET and LPDE plastic will be collected and recycled, at least further 3g/TEq year of PCDD/F release reductions can be achieved. Note that, as this is expected to lead to a profitable business, the doubling of the capacity is the minimum amount expected as replication target.
3. The implementation of emergency plan and fire prevention at one large landfill will allow for the reduction of at least 20gTEq of PCDD/F release.
4. Through the project, around 2000 mercury containing devices will be replaced by non mercury thermometers and sphygmomanometers and safely disposed, allowing a reduction in mercury release in the environment of around 4kg.

In addition to the above, through replication and adoption of BEP and BAT for Health-Care Waste Management across the country, it is expected that an additional 100 g-TEQ/yr UPOPs (PCDD/PCDF) reduction may be achieved.

Sustainability

The project will ensure sustainability of actions through 5 main pillars:

1) Regulations: sustainability of any activity undertaken to implement the Stockholm Convention is first ensured by a clear, consistent and well enforced regulation. Only in the presence of a soundly enforced regulation, the addressees of that regulation will be motivated to take the necessary actions to be in compliance.
2) By amending the necessary regulation in an integrated and consistent way (with specific reference to the necessary upgrading of the regulation on Health Care Waste, hazardous waste, hazardous waste manifest, licensing system for waste processors and collectors, introduction of the Stockholm Convention requirements) the project will ensure the sustainability of POPs reduction throughout all the activities related to the management of municipal and healthcare wastes.
3) On the municipal waste side, the other pillar for sustainability is the need to establish a profitable business on waste recycling. Indeed, waste recycling is already a very profitable business in many countries and in Kenya it seems that the main strategy needs to be soundly founded on the increase of recovered waste (**by collecting waste at the source and not on the dumpsites**) and on the **support from the local industry** interested in the use of recyclable materials.
4) The project will also ensure sustainability through awareness raising. Only when the stakeholders (not only project beneficiaries and partners, but also the general public and the consumers) are aware of the benefits brought by a safer waste management and the elimination of POPs substances, will there be enough pressure on the authorities to ensure enforcement of the legislation. This principle will be applied to both the HCWM component and the municipal waste component.
5) Training will be another essential part of the sustainability policy of the project. The training modules will be designed to be easily upgradable after project closure. A two-level training approach (training for trainers, and beneficiary training) will ensure the success of training

activities. Training in both the sectors of HCW and municipal waste will benefit from a substantial amount of on-field training.

Replicability

On the side of HCWM, the project will be largely based on practices and technologies, which have been proved successful in many other countries and projects, including African and Arab countries (see for instance the experience derived from the UNDP Global Healthcare Waste Management Project which recently concluded). These procedures and practices have been officially adopted and standardized by WHO in its "bluebook" ("Safe management of wastes from health care activities", second edition). Technologies, including non-combustion treatment and safe incineration, are largely commercially available technologies, which are available and replicated worldwide.

The replicability is high also for the municipal waste sector. The "circular economy", with specific reference to plastic and organic waste recycling, is a common concept worldwide and successful and profitable initiatives are common. As the main hindrance to this type of activities in the country are concerns from the dumpsite communities of losing their source of income, and availability of access to the market of the recyclable materials, the project will focus on the social and market approaches to ensure the success of project activities and their replication.

Global Environmental Benefits

As explained above, the project will ensure concrete reductions of U-POPS emission releases in the following ways:

<u>At project implementation:</u>

- Health-Care Waste Management: UPOPs emissions will be reduced by at least 19gTEq/yr.
- At least 3gTEq/yr of PCDD/F release reduction may derive from municipal waste recycling activities.
- The implementation of emergency plan and fire prevention at one large landfill will allow for the reduction of at least 20 g TEq of PCDD/F releases.
- Through the project implementation, at least 2000 medical mercury devices will be safely disposed and replaced by non-mercury devices, preventing the release of around 4kg of mercury.

<u>At project replication:</u>

- Through replication and adoption of BEP and BAT for Health-Care Waste Management across the country it is expected that an additional 100 g-TEQ/yr UPOPs (PCDD/PCDF) reduction may be achieved.
- Through replication of recycling activities, it is expected that a further reduction of 10 g TEq/yr of PCDD/F release can be achieved.
- Through enhancement of measures aimed at preventing fires at landfills, an additional amount of around 80gTEq/yr of PCDD/F release can be achieved.

- **PROJECT RESULTS FRAMEWORK:**

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD:
Country Programme Outcome Indicators: UNDAP Outcome 4.1: Policy and legal framework: By 2016 Kenya has robust policies and legal frameworks linking issues of environmental sustainability, climate change and land management to human security and resilience therefore requiring an integrated & coordinated response at all phases **UNDAP Outcome Indicator: № of integrated operational action plans developed Baseline: 0; Target single integrated action plan 2015: in place; MoV: Integrated action plan. № of reported land and natural resource use conflict and disaster incidences in disaster prone counties Baseline TBD, Target 30% reduction, MoV Mapping reports**
Applicable GEF Strategic Objective and Program: CW1 and CW3
Applicable GEF Expected Outcomes: Outcome 1.3 POPs releases to the environment reduced; Outcome 1.5 Country capacity built to effectively phase out and reduce releases of POPs; Outcome 3.1 Country capacity built to effectively manage mercury in priority sectors; Outcome 3.2 Contribute to the overall objective of the SAICM of achieving the sound management of chemicals throughout their life-cycle in ways that lead to the minimization of significant adverse effects on human health and the environment.
Applicable GEF Expected Outputs: Output 1.3.1 Action plans addressing un-intentionally produced POPs under development and implementation; Output 1.5.1 Countries receiving GEF support to build capacity for the implementation of the Stockholm Convention; Output 3.1.1 Countries receiving GEF support for mercury management and reduction, on a pilot basis; Output 3.2.1 Countries receiving GEF support to implement SAICM relevant activities, including addressing persistent toxic substances and other chemicals of global concern (other than mercury), on a pilot basis.

	Indicator	**Baseline**	**Targets** **End of Project**	**Source of verification**	**Risks and Assumptions**
Project Objective: Reduction of the releases of U-POPs and other substances of concern and of the related health risk through the implementation of ESM of municipal and healthcare waste and of an integrated institutional and regulatory framework covering management and reporting of POPs.	Existence of a SC compliant institutional and regulatory framework covering management and reporting of POPs. Amount of U-POPs releases in the environment from HCW disposal avoided. Amount of U-POPs release in the environment from municipal waste disposal avoided.	Chemicals have received heightened attention in Kenya. Kenya is an active participant in SAICM, being current president of ICCM4, a Party to Rotterdam, Basel, Stockholm Conventions and signatory to the Minamata Convention on Mercury. Despite having good policies, strategies, guidelines and	Guidelines for relevant institutions on how to streamline chemicals management into their policies, strategies and action plans Updated pieces of relevant legislation Review of the HCWM guidelines Selection of health care facilities that can be used to demonstrate environmentally sound management of HCW At least 50% of HCW is disposed in ESM	Guidelines in place Economic instruments in manufacture, use, import, export of chemicals in use reflecting the hazards that specific chemicals pose NEMA audit reports for the participating facilities Interim Review of the HCF on how much has been disposed through 3R, non burn technologies incineration Report on UPOPs	Assumptions The MENR and MOH continue to have joint plans. MENR liaises properly with the National Treasury and the Ministry of Planning to highlight importance of chemicals in national development MOH prioritises HCW in its strategic plan 2015-2020 The selected CBOs and NGOs participate effectively in the project The steering committee operates in an effective way. Risks (low): Institutions losing momentum and commitments.

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
		legislation on solid waste, the country continues to dump most of its waste in sites that require eventual open burning.	30% of Municipal waste recycled through recycle, reuse and recovery methods	emission Reduction Reports from participating NGOs and CBOs	Difficulties in securing and sustaining co-financing. Difficulties related to procurement and permitting of equipment.
COMPONENT 1. STREAMLINING SOUND MANAGEMENT OF CHEMICALS AND WASTE INTO NATIONAL AND COUNTY DEVELOPMENT ACTIVITIES THROUGH CAPACITY BUILDING OF MENR, MOH, COUNTY GOVERNMENTS OF NAIROBI, KISUMU, NAKURU AND MOMBASA AND THE NGOs - CBOs					
Outcome 1.1 Policies, strategies regulatory and policy framework integrating the provisions of streamlining chemicals management into development activities (specifically those of the Stockholm convention and the SAICM recommendations) adopted and institutional capacity on U-POPs and waste management enhanced.					
1.1.1: Overall policy framework and specific regulatory measures covering environmentally sound management of chemicals in general and POPs in particular through chemicals life cycle management developed and implemented.	Availability of a completed and comprehensive gap analysis. Availability of a nationally endorsed roadmap for improving the existing regulations. Number of new or reviewed regulatory acts to take into account in a consistent manner the current provisions of the SC convention on POPs, with respect to the overall number of relevant regulatory norms to be reviewed identified in the gap analysis.	A preliminary analysis of the Kenyan policy and legal framework on chemicals affected by the SC has been carried out under the SAICM activities. Most of the existing regulations need to be amended for ensuring compliance with the Stockholm Convention, Rotterdam Convention, the Basel Convention and the Minamata Convention on Mercury and other related MEAs[13]	Gap analysis completed within 12 months from the project start. A policy and legislation review roadmap approved within 24 months from project start. The identified polices and legislation regulation/s or their associated norms are amended for compliance with the SC requirements.	Intermediate and final review reports of gap analysis. Minutes of meetings, consultation workshops reports, etc. Formal acts related to the submission/ approval of new or amended norms.	**Assumptions** Although it is recognized that the improvement of regulations is not sufficient, nevertheless it is assumed that a better and sustainable regulatory system is the first step toward a sound management of POPs and Chemicals in general (covered by SAICM). The GoK is committed in ensuring compliance with SC requirements. **Risk (Low):** Law making process is relatively straightforward in Kenya thus this activity presents a low risk rating. The subsequent steps (enforcement and implementation) are much more complex.

[13] Those closely related to chemicals such as the Vienna Convention, Montreal Protocol and its amendments, UN Framework convention on Climate Change and

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
		ratified by the country. The existing legislation is not adequately providing an integrated and consistent framework for the management of waste, chemicals and chemical pollution in the Country in line with Kenya's international obligations as party and signatory to the said MEAs.			
1.1.2: Key institutions[14] have knowledge and skills to formulate and implement necessary chemicals and waste environmental policies, consistent with sound chemicals management principles and obligations under international agreements	Availability of capacity building needs assessment report. Existence of a Training Institution on Chemical Management.	Based on the outcome of the Kenya chemical profile (2011), there is a general need in Kenya to provide training programs on chemical information work or about collecting, collating, storing, retrieving and disseminating information on risks and hazards of chemicals. In addition, there is an urgent need to review the capacity	Capacity building needs assessment for central and local institutions in charge of chemical management completed within 12 months from project start. Training materials tailored to the Kenyan situation, developed on POPs management, POPs monitoring, chemical emergency response and 3R of waste. At least 2 Excellence Training Centres on chemicals management established at a main Academic institution. At least 200 staff coming from all Kenyan counties and affiliated to	Capacity building needs assessment report. Training material (presentations and textbooks) Training plan and curricula of the Chemical Training Centre. Training reports. Records of trainee examinations before and after the training (acceptance tests and post-training tests).	**Assumption.** The GoK is committed in improving the capacity of governmental and industrial staff in the sound management of chemicals and waste, by facilitating and supporting a certified training of key personnel. Willingness of institutions to take on-board new staff on Chemicals Management **Risk (Low):** If well planned, a good and effective training activity will be successfully implemented. Adoption of advanced training techniques and of a formal training assessment are key for reducing risk of ineffective training.

health regulations.

[14]**MENR, MOH, COUNTY GOVERNMENTS OF NAIROBI, KISUMU, NAKURU AND MOMBASA, AND THE NGOs (selected at the start of project implementation).**

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
		of institutions that implement existing chemical management and environmental regulations.	governmental institutions, chemical industry and waste management companies selected and trained At least 2 training cycles (totally 10 days each) performed during project implementation. Effectiveness of training measured by means of pre-training and post-training examination of the participants Trainees who successfully pass post-training examination receive a certificate in Chemical management. . An award for most successful trainees consisting in contracts on Chemical Management at key Kenyan Institutions established.		
1.1.3 Key institutions have incorporated sound management of chemicals and wastes, including POPs, in their activities.	Number of POPs units at local and central environmental authorities trained and established. Availability of guidance documents on POPs and chemical management for local and central authorities. Availability of inspection reports.	The management of chemicals and waste in Kenya is very low at all levels (national / county). Although a certain number of regulations are in place, their enforcement in specific areas is minimal. Existence of Public Health Officers in the selected HCFs	Guidance and procedures for the integration of POPs issues in: chemical management, environmental permitting, waste management are developed for the local and central environmental authorities. Units on POPs management are trained and established in key local and central institutions. At least 6 inspections / year on the fulfilment of POPs regulation in the country performed.	Guidance documents for central and local authorities. Training reports. Service contracts for staff of local environmental authorities. Meeting and site visit reports	**Assumptions** Willingness to meet obligations to MEAs is strengthened by the current constitution. NEMA and MOH increases their inspection staff **Risks (medium):** The trained inspectors are not retained by the respective institutions, especially the counties and NEMA, meaning that the institutional memory must be strong to maintain the benefits of the training in the longer run.
1.1.4 National coordinating meetings on POPs held regularly (4 times per year) without GEF financial	Availability of the formal act for the establishment of the National Chemical Management	Because of lack of policy requirement, the committee is formed on a need basis.	A National Chemical Management Coordination Office (NCMCO) established at the Ministry of Environment, composed by representatives of relevant	Regulation establishing the National Chemical Management Coordination office.	**Assumptions** The key institutions will dedicate at least one officer to the work of the committee

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
support	Coordination Office (NCMCO). Number of coordination meetings held.	Considering the Terms of Reference for inter-ministerial coordination developed under SAICM, the project will operationalise this coordination in a sustained manner.	Ministries. Coordination Meetings of the National Chemical Management Coordination Office	Meeting reports of the NCMCO.	**Risks (medium):** The key institutions will not dedicate enough resources to the work of the committee.
Outcome 1.2 Monitoring activities intensified and strengthened and PRTR database in place.					
1.2.1 At least 70% of laboratory analyses in research and monitoring institutions required to monitor the implementation of national policy on hazardous chemicals and wastes being carried out on a cost recovery basis	Availability of a national plan for monitoring of POPs which establishes a market-based mechanism.	Based on the Kenya National Profile, most laboratories lack sufficient equipment for proper analysis. There are few laboratories which are equipped with analytical instruments for analysing POPs. The most serious issue is however the fact that the laboratories work mainly with discontinuous project funds therefore their operation is not fully sustainable.	Capacity building and equipment upgrading needs identified. National plan for environmental and industrial monitoring, which identifies POPs monitoring obligations for key industrial and waste management activities developed and implemented. A financial mechanism for ensuring the sustainability of POPs laboratories based on incentives and environmental taxes established and piloted for at least one year. • Two key laboratories on POPs analysis accredited following ISO 17025 standards and associated accreditation schemes • Up to 80 laboratories technicians and government staff trained on POPs monitoring related activities following international standards and requirements.	Capacity building report on POPs analysis. Preliminary and final national plans on POPs monitoring obligations. Reports on the implementation and piloting of a financial mechanism on POPs monitoring. The selected labs are (or not) accredited or in the process of accreditation. Number of lab technicians trained and regularly analysing POPs.	**Assumptions.** The analytical laboratories (GCD/WARMA) are interested in expanding their capability to POPs. **Risks (medium)** Lack of expertise in the institutions National plans are not implemented

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
1.2.2 70% of universities nationwide include issues of hazardous chemicals and wastes, risks and legislation, in their curriculum	Number of universities including curricula on chemical risk assessment and management of hazardous chemicals and hazardous waste.	Undergraduate and postgraduate programmes in various areas of chemicals management are offered at various universities which include both public and private universities. However a coordinated approach towards addressing matters pertaining to chemicals management is missing.	▪ University curricula for chemical risk assessment and management of hazardous chemical and hazardous waste adopted by at least 70% of training institution. ▪ One cycle of curricula completed in at least 2 universities within the project timeframe.	Revised curricular Number of universities with training, and reporting changes in their curriculum	**Assumptions** Universities are ready and interested to include POPs issues in their curriculum. **Risks (medium):** Lack of willingness and capacity to revise curriculum. Lack of dedicated personnel.
1.2.3. PRTR Database and reporting system in place.	Regulatory tool for the implementation and enforcement of POPs / PTS reporting and PRTR established.	No PRTR Database and reporting system in place.	By the end of the project, a circular drafted and submitted to GoK for approval related to implementation and enforcement of POPs monitoring and PRTR system to ensure sustainability of the PRTR related Demonstration of an Information Management System to support PRTR A POPs/PTS database established to contain data related to industrial sources, and POPs contaminated sites in 2 Kenyan provinces, and all the country-wide available data on POPs environmental monitoring.	Draft and final PRTR regulation PRTR preliminary reports.	**Assumptions** The institutions are aware and interested in establishing a PRTR system to improve the control of emission sources. **Risks (medium):** Funds will not be allocated to run PRTR Lobbies opposing the establishment of PRTR
COMPONENT 2. INTRODUCE ENVIRONMENTALLY SOUND MANAGENENT OF HEALTH CARE WASTE IN SELECTED HEALTHCARE FACILITIES; POLICY AND STRATEGIC PLANS TO PREPARE THEM TO ADOPT BAT AND BEP DISPOSAL.					
Outcome 2.1 Personnel of hospital facilities and control authorities at central and county levels have enough capacity guidance and equipment to manage healthcare					

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
waste in an Environmental Sound Manner					
2.1.1 Procedures and guidelines for the assessment and implementation of hazardous waste management at healthcare facilities built on lessons and examples from the application of the I-RAT tool under the GEF4 /UNDP Global projects and on the WHO bluebook "Safe Management of Wastes from Health-care Activities" developed and adopted	Evidence that the guidelines for the Environmentally Sound Management of HCW, including rapid assessment based on the I-RAT tool, have been developed and officially adopted.	The "National Guidelines for the Safe management of HCW" are not currently implemented in the pre-selected HCFs, do not contain any indication on the assessment of HCWM effectiveness, and are not fully compliant with the chemicals-related MEAs, especially the SC.	▪ Revision/development of HCWM guidelines based on the last edition of the WHO bluebook (tailored to various facility types) which include tool and procedures for rapid assessment of HCWM ▪ The above guidelines are officially adopted by all the pre-selected HCFs.	Draft of revised HCWM guidelines Meeting minutes Draft regulations Acts of official adoption of the reviewed HCW guidelines by the MOH administration and the project HCFs.	**Assumptions** Project HCFs have the willingness and need to adopt an official guidance on best HCWM practices. **Risks (high):** The guidance is formally adopted but not fully enforced.
Output 2.1.2 A national healthcare waste handbook containing guidelines for HCWM drafted and adopted by the MOH, including introduction of non-mercury devices in the HCFs	Availability of the healthcare waste management handbook and documentary evidence that it has been officially adopted. Updated and reviewed Waste Regulations dating from 2006	The "National Guidelines for Safe Management of Healthcare waste" need to be updated to be compliant with best HCWM practices. Based on the preliminary survey of project HCFs, even the existing guidelines are not being implemented.	▪ Revision/development of emission and discharge standards on monitoring HCWM practices. ▪ Development of technical regulations for HCWM equipment and supplies. ▪ Development of standards on technologies for the processing and final disposal of HCW. ▪ Development of procedure and guidance for the replacement of mercury devices with non mercury	▪ Draft, revised or adopted of the national healthcare waste handbook. ▪ Workshop and meeting minutes concerning the development and approval of the handbook. .	**Assumptions** The government of Kenya and specifically the MOH are available to update and disseminate guidelines on HCWM compliant with the SC. **Risks (low):** Lack of agreement on specific issues (for instance, technical specifications for incineration)
Outcome 2.2 Implementation of BAT/BEP at selected hospital facilities successfully demonstrated and measured against the baseline					
Output 2.2.1 Hospital personnel at all levels trained on the implementation of the above procedures	Number of staff from the project HCFs trained.	Very limited training has been carried out in a small number of the preselected HCFs.	▪ All the staff of the HCF will receive training on HCWM. ▪ At least 200 staff from the project HCFs trained	Training reports. Certificate of attendance. Outcome of post-training tests	**Assumptions:** All the project HCFs are willing to have their staff trained on BAT/BEP of healthcare waste. **Risk (low):** Due to the shortage of staff or

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
					frequent turnover in hospital staff, not all the staff can participate in the training.
Output 2.2.2 Baseline assessment of each healthcare facility based on the assessment procedures developed in 2.1.1 carried out, and waste management plans based on the baseline assessment level drafted and implemented	Baseline assessments conducted for all project facilities	None of the preselected HCFs underwent a detailed baseline assessment	▪ I-RATs conducted for each of the HCFs participating / benefitting from the project. ▪ UPOPs releases before implementation of BAT/BEP determined for each project facility.	Baseline reports (including I-RAT reports and UPOPs release assessments).	**Assumptions**: All project HCFs are willing to participate in baseline assessments and are open to sharing information related to their current HCWM practices. **Risk (low):** Baseline assessment incomplete / carried out in an unsatisfactory way.
Output 2.2.3 ESM management of healthcare waste (based on WHO bluebook) implemented in 4 facilities in each county (12 facilities in total) including replacement of mercury devices with non mercury	All the project HCFs have introduced BEP in a satisfactory manner.	The preliminary surveys conducted during PPG stage indicated that all the HCFs need a substantial improvement concerning the segregation, collection, transport, storage, and disposal of HCW.	▪ Memoranda of Understanding (MoUs) signed with all project HCFs. ▪ HCWM committees of all HCFs strengthened or established where missing. ▪ HCWM policies, procedures and plans developed and implemented at each project HCF. ▪ HCFs supported in minimizing waste streams, improving segregation and introducing recycling activities. ▪ Each HCF evaluated to verify introduction of BEP practices. ▪ At least 2000 mercury devices replaced by non mercury devices and safely stored pending disposal- .	▪ MOUs ▪ HCWM plans of project HCFs ▪ Assessment report after HCWM plan implementation.	**Assumptions**: HCFs are willing to sign MOUs and the MOU signature process does not slow down the launch of the HCF's HCWM activities. The implementation of best HCWM practices is sustained for the whole duration of the project and beyond. **Risks:** Turnover of the staff/consultant in charge of implementing environmentally sound practices in the hospital
Output 2.2.4 Final assessment of the healthcare facility to measure results achieved with the implementation of the	Availability of final assessment report based on the HCWM guidance.	Although figures from preliminary assessment of some HCFs have been reported in the National HCW	▪ Final assessment conducted for each of the HCFs participating/ benefitting from the project with the assistance of properly trained project consultants. ▪ UPOPs after implementation of	▪ Final assessment reports. ▪ UPOPs release estimation reports.	**Assumptions** Project healthcare facilities sustain the best HCWM practices in compliance with the guidance developed by the project and establish a reliable monitoring

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
ESM against baseline is carried out and estimates amount of U-POP releases avoided.		management plan, no measurement of the effectiveness of implementation of BET/BAP has ever been attempted in any HCF in Kenya.	best practices in HCWM determined for each project facility.		procedure. **Risks (medium):** Previous project demonstrated the key role of project consultant in sustaining best HCWM practices in HCFs.
COMPONENT 3. DEMONSTRATION OF SOUND HEALTHCARE WASTE DISPOSAL TECHNOLOGIES IN A SELECTED NUMBER OF HEALTHCARE FACILITIES IN EACH COUNTY					
Outcome 3.1. Feasibility analysis and procurement of ESM technologies for healthcare waste disposal completed					
Output 3.1.1 Feasibility study and terms of reference for non-combustion or low-U-POPs emission technologies for healthcare waste disposal in selected hospitals or waste management facilities drafted.	Availability of feasibility study. Availability of cost-effectiveness analysis.	The existing "National Guidelines for Safe management of health care waste" and the "National Health Care Waste Management Plan for Kenya 2008-2012" do not contain any indications on the compliance of the technology with the SC, and still mention the Montfort incinerator as a viable option for the disposal of HCW	▪ Cost-effectiveness and feasibility analysis of centralized treatment facilities in comparison with the current situation (one small treatment facility for each HCF) carried out. ▪ Technical specifications for HCW treatment technologies drafted and approved. ▪ Technical specification for APCS and for the upgrading of a recent double chamber incinerator to be compliant with the SC drafted and approved.	Feasibility analysis report Technical specification and term of reference for non-combustion disposal equipment and for APCS.	**Assumptions** The government of Kenya and more specifically the Ministries in charge of HCWM recognize the need for better specification for HCW treatment. Technologies for the disposal of HCW that suit the specific Kenyan situation are identified. **Risks (low):** Feasibility studies and TOR not suitable for the specific Kenyan situation.
Outcome 3.2 BAT/BEP technologies for the disposal of healthcare waste successfully established and demonstrated, with a potential reduction of U-POPs emissions in the order of 19gTeq/year					
Output 3.2.1 Demonstration and performance assessment of the technologies in the selected facilities completed (at least 4 facilities or an overall amount of waste in the order of 630t/yr)	Number of non-incineration technologies that are operational. Number of incinerators reviewed and upgraded to the SC BAT/BEP	Currently in none of the pre-selected HCFs a non combustion technology for the treatment of HCW is operational. Currently none of the incinerators	▪ Non-incineration technologies procured, installed and tested servicing at least 11 HCFs. ▪ Procurement of an initial set of HCWM related supplies for at least 12 HCFs. ▪ Staff trained in the operation and maintenance of the technologies installed at the HCFs	▪ Photos of procured non-incineration equipment and of the revamped incinerator. ▪ Certificates of training completion and attendance sheets of training sessions. ▪ HCF visit reports ▪ Photos of recycling	**Assumptions** Thanks to UNDP experience in the field, procurement of non-incineration technologies and procurement of HCWM supplies does not run into major challenges. There is at least one incinerator among the existing incinerators in the pre-selected facilities which may be

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
	requirements, and operational. Amount of U-POPs release prevented by means of implementation of better disposal practices.	installed at pre-selected HCFs fulfil SC BAT criteria; in some cases even the most elementary APCSs are missing. The current emissions of PCDD/F of the pre-selected facilities amount to an estimated 19 gTEq. Currently in Kenya there are no Centralized Treatment Facilities - each HCF has its own treatment plant.	▪ HCFs supported in the implementation of their plans (including recycling activities) as well as monitoring practices. ▪ Agreements between CTFs and PFs drafted and signed for each PFs served by a CTF.	practices.	successfully revamped to fulfil SC requirements. A proper HCWM upstream will sustain the establishment of non-combustion technologies. **Risks** (medium): Although some of the existing incinerators are very new and provided with a secondary combustion chamber, their limited size may still prevent their upgrading with sophisticated APCPS. Procurement of equipment may present uncertainties which are not completely under the control of the project stakeholders.
Output 3.2.2 Waste disposal activities of hospital facilities/programs are documented and their performance is evaluated to exemplify best practices in health-care waste management.	Proof of Performance test reports available Proof of performance tests in at least three non-combustion disposal facilities and at least one revamped incinerator available. HCW hazardous waste manifests available for at least 630 t of HCW yearly.	Due to the lack of monitoring equipment, measurements of PCDD/F at the stack of incinerators were never taken in Kenya. Experience on the conduction of Proof of Performance tests for both combustion and non-combustion technologies is missing in the country.	The release of at least 19 gTEq / yr of PCDD/F prevented thanks to the installation of BAT disposal technologies. Proof of performance tests for at least three non-combustion disposal facilities and at least one revamped incinerator carried out.	▪ Certificate of analysis of PCDD/F at the stack of incinerator facilities before and after their upgrade ▪ Hazardous waste manifests for the HCW processed by means of non-combustion equipment or by revamped incinerators. ▪ Monitoring and progress reports	**Assumptions.** At least one pre-selected project facility is keen to have the incinerator revamped to BAT/BEP and sustain it after project end. At least three pre-selected project facilities are keen to shift from incineration to non-combustion technologies for the disposal of HCW and to sustain the technology after project end. **Risks (medium):** Difficulties / delay in procurement, installing, testing, the equipment. Lack of the required infrastructures or utilities to run the equipment smoothly.

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
					Delay in permitting of the new equipment.
Output 3.2.3 Useful replication toolkits on how to implement best practices and techniques are developed	Toolkit for replication of best practices made available.	The existing national guidelines and plans do not include any toolkit for the implementation of SC compliant disposal technologies.	A practical toolkit for the replication of CTFs or single-facility BAT/BEP in other counties is drafted and endorsed by the government. The toolkit will be properly disseminated to relevant stakeholders.	Draft and final toolkit Meeting / workshop minutes. Official toolkit endorsement document	**Assumptions** The dissemination of a practical toolkit on HCW disposal technologies to relevant stakeholders will effectively facilitate the implementation of BAT disposal technologies **Risks (low):** Toolkit not adequately disseminated / understood by the target institutions.
COMPONENT 4. MINIMIZING RELEASES OF UNINTENTIONALLY PRODUCED POPS FROM OPEN BURNING OF WASTE.					
Outcome 4.1. Awareness raising and capacity strengthening on ESM of solid waste ensured.					
Output 4.1.1 Awareness raising activities for the communities and the municipalities aimed at enhancing 3Rs of waste	Level of awareness on 3Rs of different stakeholders as from interviews and questionnaires significantly raised.	Awareness of the environmental impacts of improper management of municipal waste practices is generally limited. In addition, there is limited public awareness of the regulatory and institutional framework regarding POPs and hazardous chemicals in general.	Awareness raising materials (printed or broadcasted) on 3Rs of materials which, if wasted, can generate U-POPs and toxic substances, developed and published for the 3 municipalities of Mombasa, Kisumu and Nakuru. At least 3 awareness raising workshops on 3Rs dedicated to the representatives of environmental authorities performed. At least 3 awareness raising event for the public at large in the 3 regions of Mombasa, Nakuru and Kisumu carried out.	Awareness raising materials. Awareness raising workshop minutes.	**Assumptions** The most effective way to prevent open burning of plastics and other PCDD/F generating waste is to raise awareness on the benefits of recycling. **Risks (Low):** Low awareness resulting in the difficulties in the collection of sufficient amount of plastic. Difficulties in the promotion of upstream waste segregation. Limited response from the public to the awareness campaigns

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
Output 4.1.2 Regulatory framework for the recovery of waste materials (glass, organic, plastic) and for licensing of the recovery activity at county and central levels improved to integrate SC requirements	Availability of improved regulatory framework which includes rules for 3Rs and preventing U-POPs emissions through cessation of open burning Waste guidelines include SC provisions Prioritisation of plastic waste	The Waste Management Regulations (2006) establish rules for the management of municipal waste, including provisions for licensing of collection, transportation, and running landfills. However the enforcement of this regulation is low.	Waste management regulation and its enforcement improved to facilitate the reduce, recycle and recovery approach with special reference to waste which may generate toxic substances when burnt. Special provisions facilitating communities to perform upstream collection of recyclable waste and prevent unsafe dumping.	Gap Analysis of existing municipal waste regulation in Kenya Final and preliminary draft of improved regulation or of planned measures for its better enforcement	**Assumptions** Although not sufficient, proper waste regulation and enforcement rules are necessary conditions for ensuring the safe management of waste **Risks (Medium):** Although necessary, proper waste regulation and enforcement rules are not sufficient for ensuring the safe management of waste
Output 4.1.3. Counties provided with training manuals, and technical assistance for the management of solid wastes.	Availability of training manuals tailored for counties. Number of staff from counties who received technical assistance.	Inadequate training on 3Rs of specific municipal waste streams is carried out for municipality and local authorities in charge of municipal waste management at the counties.	At least 6 field training initiatives for communities and 3 training-for-trainer initiatives for municipalities in Mombasa, Kisumu and Nakuru, aimed at enhancing 3Rs of specific waste streams waste on the basis of the 3R approach performed. At least 50 people trained for each training initiative.	Training reports Training materials Attendance sheets	**Assumptions** The most effective way to prevent open burning of plastics and other PCDD/F generating waste is to train local communities to carry out up-stream recycling of waste. **Risk (high):** Communities not interested / not committed in undertaking upstream segregation of plastic. .
Outcome 4.2 Sound Management of solid waste in targeted municipalities implemented with the support of NGOs, with a reduction of unintentionally produced POPs from the burning of solid waste of 23 g I-TEQ/year (20 % of the current estimate of 247 g I-TEQ/year). Emergency plan to reduce exposure of population to harmful substances implemented.					
Output 4.2.1 Communities selected for demonstrating plans of actions for the reduction of solid waste open burning by increasing 3Rs of waste.	Number of communities which are engaged in recycling of waste under the project.	In Kenya there are a number of CBOs (Community Based Organizations) which are already operating in the field of waste recycling, however the limit of these	At least one community for each site (Nairobi, Nakuru and Kisumu) is engaged and supported for conducting project activities. Selected communities and their representatives identified and officially recognized under the project.	Meeting minutes. Preliminary and final list of selected communities. Memorandum of understanding signed by the selected communities.	**Assumptions** Although communities are mostly informal entities, it will be possible to identify communities and their representatives and to establish a mechanism to coordinate and monitor their activities. **Risks (Medium)**

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
		activities is that most of the waste is recycled only after being dumped in landfills, therefore the quality is very low.	Memorandum of understanding and community driven projects on 3Rs with resources, list of activities and timeframe are agreed and signed by government and community representatives.	Community projects on 3Rs signed by local or central GoK representatives and the communities.	Difficulties related to the low level of coordination and planning in community may hinder a community-based project if a continuous coordination with the project is not ensured.
Output 4.2.2. Initiatives for reducing, reuse and recycle of waste and for composting, collection of compostable municipal waste for communities in three counties of Nairobi, Mombasa and Nakuru implemented with a PPP approach and supervised with the support of NGOs.	Number of initiatives identified, properly designed and implemented on 3Rs. Waste accounting system in place. Amount of organic compostable waste collected at the source (not at the landfill) and processed for recycling. Amount of U-POPs releases prevented due to recycling activities and open burning avoidance.	Currently, although a certain number of initiatives on waste recycling are being carried out by communities operating directly at the dumpsites, the recycling of compostable waste occurs mainly by processing paper or wood in briquettes for replacing coal in domestic stoves. These initiatives are in general not SC compliant and may imply exposure of people to U-POPs. Non-recyclables are open burnt by the communities which operate at landfill.	At least one initiative aimed at collecting and recycling organic or compostable waste which, if burned, would generate U-POPs is identified, designed and implemented for each of the three sites. At least 500 tons of compostable material successfully collected from the source (not on the dumpsites) and re-used or re-cycled (waste to energy being not considered as suitable recycling activity), documented by a proper waste accounting system in place. The recycling activity is organized at industrial scale with the support of industrial partner(s).	Preliminary and final text of collection and recycling projects agreed. Reports generated by the waste accounting system (by means of simplified waste manifest system) Project Monitoring reports Project site visit minutes and photos. Workshop reports	**Assumptions.** There is a potential market for recyclable organic waste which may sustain an activity of collection and recycling upstream of the dumpsite. Local community's authorities may benefit from waste recycling economy both in terms of improvement of health conditions and creation of new, more formal jobs. **Risks (high):** Existing dumpsite communities may oppose the development of any activity which will prevent waste to enter the dumpsites.
4.2.3. Local initiative for the re-use / recycling of other non-hazardous waste streams (i.e. plastics).	Number of initiatives identified, properly designed and implemented on 3Rs of plastic waste. Waste accounting system for recycled plastic in place.	Currently, although a certain number of initiatives on waste recycling are being carried out by communities in all the landfills, the recycling occurs mainly by collecting	At least one initiative aimed at collecting and recycling plastic waste which, if burned, would generate U-POPs is identified, designed and implemented for each of the three sites. At least 30 tons/month of plastic successfully collected from the	Preliminary and final text of collection and recycling projects agreed. Reports generated by the waste accounting system (by means of simplified waste manifest system)	**Assumptions.** The potential market for recyclable plastic waste is big enough to sustain an activity of collection and recycling upstream of the dumpsite. Local communities' authorities may benefit from the waste recycling economy both in terms of improvement of health condition and

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
	Amount of plastic collected at the source (not at the landfill) and processed for recycling. Amount of U-POPs releases prevented due to recycling activities and open burning avoidance.	plastic or other materials at the dumpsites and by selling it at very low cost to waste traders. The direct selling of artisanal articles made of recovered plastic is very ineffective The issue of recycling of plastic bags is largely unanswered. Non-recyclable plastics are often open burnt by the communities which operate at landfill.	source (not on the dumpsites) and re-used or re-cycled, documented by a proper waste accounting system in place. Domestic industrial stakeholders involved for facilitating the placing on the market of recovered plastic at industrial scale.	Project Monitoring reports, Project site visit minutes and photos. Workshop reports	creation of new jobs. **Risks (medium**): Existing dumpsite communities may oppose the development of any activity which will prevent waste to enter the dumpsites. Previous bilateral project on plastic recycling at dumpsite failed.
4.3 Municipal waste disposal sites with adequate management practices (non-burn).					
4.3.1 Prioritization of open-burning landfills to be closed and cleaned up, emergency plans including social and resettlement issues and cleanup plans for at least 3 landfills drafted.	Prioritisation of dumpsites in Kenya established. Emergency plans for limiting the release of U-POPs and other toxic chemicals from dumpsite are available for at least 3 dumpsites. Clean-up plans for 1 landfill are available.	A number of clean-up and remediation plans have been drafted in the recent years for the Nairobi dumpsite; however none of these plans have been implemented. Remediation plans need to be designed involving communities living at the dumpsite to increase probability of implementation.	Dumpsites in the main Kenyan cities prioritised for intervention and emergency countermeasures based on health risk assessment, ecosystem risk assessment and socio-economic and criteria. Emergency plan for three priority dumpsites, aimed at reducing release of U-POPs and other toxic chemicals, and at reducing exposure to POPs of the population, drafted. At least one remediation plan for a priority dumpsite, based on the economy of waste recycling, drafted with the involvement of dumpsite communities.	List of priority dumpsites agreed with the GoK. Emergency plan for 3 priority dumpsites. Clean-up plan	**Assumption** Although none of the previous clean-up plans was implemented, is still useful to study the situation at priority landfills with a wider perspective to integrate lessons learnt and propose more feasible clean-up plans. Emergency plans, which objectives are limited to the prevention of U-POPs release and reduction of people exposure, have a greater probability of being implemented. **Risks (high):** Historically, the risk of failure is very high. The risk may be minimized by reducing the scope of remediation plans to prevention of U-POPs releases and limitation of people's

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
					exposure to chemicals.
4.3.2. Emergency measures for reducing release of contaminants in the environment and the exposure of the population implemented in one high priority site.	Number of people who benefit from reduction of exposure to chemicals released by the dumpsite. Amount of the release reduction of U-POPs and other chemicals from implementation of emergency measures.	None of the clean-up plans drafted in the past was implemented. No emergency measure for reduction of U-POPs release from open burning at dumpsites or reduction of people exposure to chemicals released by the dumpsite ever attempted.	The exposure of at least 5,000 people to chemicals released from dumpsites is halved, thanks to the adoption of emergency measures. The release of at least 20 gTEq/yr of PCDD/F avoided by means of emergency measures directly aimed at preventing open burning of waste. The release of at least 3 gTEq/yr of PCDD/F avoided by means of activities implemented under output 4.2.3. aimed at preventing recyclable waste to enter dumpsites burning of waste.	Reports from site visits. Surveillance reports conducted at the dumpsites where emergency measures have been put in place. Monitoring reports. Sampling and analysis reports. Documented interviews with people from local communities.	**Assumptions.** Simple emergency measures (surveillance; fencing; incentives) may be effective in preventing open burning at landfills and at avoiding exposure to U-POPs. **Risks (high):** The effectiveness of any measure to be implemented at dumpsites requires a sound approach for involving dumpsite communities and ensuring their support.
Component 5. Project Monitoring and evaluation					
Outcome 5.1. Project monitoring, including PIR, Annual and quarterly workplans, Annual and Quarterly Progress Reports.					
Output 5.1.1 Project steering committee established.	Steering committee appointed.	N/A	National Steering Committee established		
Output 5.1.2 Progress report drafted and approved	Availability of Quarterly progress reports (QPRs) and annual ones (APRs)	N/A	Inception report and progress report as per monitoring plan drafted and approved.		
Output 5.1.3 Workplans drafted and approved	Availability of Quarterly (QWP) and Annual (AWP) workplans	N/A	Quarterly and Annual workplans as per monitoring plan drafted and approved		
5.2. Project evaluation and audit					
5.2.1.Mid term evaluation completed.	Availability of completed mid-term evaluation report.	N/A	Mid-term evaluation completed.		
5.2.2 Terminal	Availability of terminal evaluation	N/A	Terminal evaluation completed.		

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
evaluation completed	report.				
5.2.3 Financial audit completed.	Availability of financial audit report.	N/A	Financial audit completed.		

TOTAL BUDGET AND WORKPLAN

Award ID:	TBC		
Award Title:	Country: Kenya		
Business Unit:	KEN10		
Project Title:	Sound Chemicals Management Mainstreaming and UPOPs reduction in Kenya.		
PIMS no.	5361		
Implementing Partner (Executing Agency)	Ministry of Environment and Natural Resources (MENR)		

GEF Outcome/Atlas Activity	Output	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
Outcome 1													
Component 1. Streamlining sound management of chemicals and waste into national and county development activities through capacity building of MENR, MOH, county governments of Nairobi, Kisumu, Nakuru and Mombasa and the NGOs - CBOs	**Output 1.1.1: Overall policy framework and specific regulatory measures covering environmentally sound management of chemicals in general and POPs in particular through chemicals life cycle management developed and implemented.**	**MENR**	**62000**	**GEF**	71200	International Consultants	2000	4000				6000	1
					71300	Local Consultants	10000	10000	3000			23000	2
					71600	Travel	2000	4000				6000	3
					74500	Miscellaneous	1000	1000	1000	1000	1000	5000	4
						Total Output	**15000**	**19000**	**4000**	**1000**	**1000**	**40000**	
	Output 1.1.2: Key institutions have	**MENR**	**62000**	**GEF**	71200	International Consultants		2000				2000	5

GEF Outcome/Atlas Activity	Output	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
	knowledge and skills to formulate and implement necessary chemicals and waste environmental policies, consistent with sound chemicals management principles and obligations to international agreements				71300	Local Consultants	4000	5000				9000	6
					72100	Contractual services	4000	4000				8000	7
					75700	Training, Workshops and Conferences	5000	5000				10000	8
					71600	Travel	2000	4000				6000	9
					74500	Miscellaneous	1000	1000	1000	1000	1000	5000	10
						Total Output	**16000**	**21000**	**1000**	**1000**	**1000**	**40000**	
	Output 1.1.3 Key institutions have incorporated sound management of chemicals and wastes, including POPs, in their activities	**MENR**	**62000**	**GEF**	71200	International Consultants	3000	3000				6000	11
					71300	Local Consultants	10000	10000	4000			24000	12
						Total Output	**13000**	**13000**	**4000**			**30000**	
	Output 1.2.1 At least 70% of laboratory analyses in research and monitoring institutions required to monitor the implementation of national policy on hazardous chemicals and wastes being carried on a cost recovery basis	**MENR**	**62000**	**GEF**	71200	International Consultants		3000		3000		6000	13
					71300	Local Consultants		10000	6000	6000	5000	27000	14
					72100	Contractual services		90000	35000	35000	35000	195000	15
					75700	Training, Workshops and Conferences		4000		4000		8000	16
					71600	Travel	1000	3000	1000	3000	1000	9000	17
					74500	Miscellaneous	1000	1000	1000	1000	1000	5000	18
						Total Output	**2000**	**111000**	**43000**	**52000**	**42000**	**250000**	
	Output 1.2.2 70% of universities nationwide include issues of hazardous chemicals and wastes, risks	**MENR**	**62000**	**GEF**									
					71300	Local Consultants	10000	10000	2000			22000	19
					72100	Contractual services		18000	18000	18000	18000	72000	20

GEF Outcome/Atlas Activity	Output	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
	and legislation in curriculum				71600	Travel		1000	1000	1000	1000	4000	21
					74500	Miscellaneous	500	500	500	500		2000	22
						Total Output	**10500**	**29500**	**21500**	**19500**	**19000**	**100000**	
	Output 1.2.3. PRTR Database and reporting system in place	**MENR**	**62000**	**GEF**	71200	International Consultants		3000				3000	23
					72100	Contractual services			13000			13000	24
					75700	Training, Workshops and Conferences		6000	6000	6000		18000	25
					71600	Travel		3000	1000	1000	1000	6000	26
						Total Output	**0**	**12000**	**20000**	**7000**	**1000**	**40000**	
						Total Comp. 1	**56500**	**205500**	**93500**	**80500**	**64000**	**500000**	
Outcome 2													
Component 2. Introduce environmentally sound management of health care waste in selected healthcare facilities; policy and strategic plans to prepare them to adopt BAT and BEP disposal	**Output 2.1.1 Procedures and guidelines for the assessment and implementation of hazardous waste management at healthcare facilities developed and adopted**	**MENR**	**62000**	**GEF**	71200	International Consultants		6000				6000	27
					71300	Local Consultants	8000	8500	7000			23500	28
					71600	Travel	2000	4000	2000			8000	29
					74500	Miscellaneous	500	500	500	500	500	2500	30
						Total Output	**10500**	**19000**	**9500**	**500**	**500**	**40000**	
	Output 2.1.2 A national healthcare waste handbook containing guidelines for HCWM drafted and adopted by the MOH, including introduction of non-mercury devices in the HCFs	**MENR**	**62000**	**GEF**	71200	International Consultants	4500	4500				9000	31
					71300	Local Consultants	9000	10000	3000			22000	32
					72100	Contractual services		4000		4000		8000	33
					71600	Travel	2000	4000				6000	34
					74500	Miscellaneous	1000	1000	1000	1000	1000	5000	35
						Total Output	**16500**	**23500**	**4000**	**5000**	**1000**	**50000**	
	Output 2.2.1 Hospital personnel at all levels	**MENR**	**62000**	**GEF**	71200	International Consultants	3000		3000			6000	36

GEF Outcome/Atlas Activity	Output	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
	trained on the implementation of the above procedures				71300	Local Consultants	16000	32000	32000	32000	16000	128000	37
					71600	Travel	3000	1000	3000	1000	1000	9000	38
					74500	Miscellaneous	1000	1000	1000	1000	1000	5000	39
						Total Output	23000	34000	39000	34000	18000	148000	
	Output 2.2.2 Baseline assessment of each healthcare facility based on the assessment procedures developed in 2.1.1 carried out, and waste management plans based on the baseline assessment level drafted and implemented	**MENR**	**62000**	**GEF**	71200	International Consultants	6000					6000	40
					71300	Local Consultants	16000					16000	41
					72100	Contractual services	4000					4000	42
					71600	Travel	6000					6000	43
						Total Output	**32000**					**32000**	
	Output 2.2.3 ESM of healthcare waste (based on WHO bluebook) implemented in 4 facilities in each county (12 facilities) including replacement of mercury devices with non mercury	**MENR**	**62000**	**GEF**									
					72100	Contractual services	120000	120000	120000	120000	120000	600000	44
						Total Output	**120000**	**120000**	**120000**	**120000**	**120000**	**600000**	
	Output 2.2.4 Final assessment of the healthcare facility to measure results achieved with the implementation of the ESM against baseline is carried out and estimate amount of U-POP releases avoided	**MENR**	**62000**	**GEF**	71200	International Consultants					6000	6000	45
					71300	Local Consultants					16000	16000	46
					72100	Contractual services					4000	4000	48
					71600	Travel					4000	4000	49
					74500	Miscellaneous							
						Total Output					**30000**	**30000**	
						Total Comp. 2	**202000**	**196500**	**172500**	**159500**	**169500**	**900000**	
Outcome 3													
Component 3.	**Output 3.1.1 Feasibility**	**MENR**	**62000**	**GEF**	71200	International		30000				30000	50

GEF Outcome/Atlas Activity	Output	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
Demonstration of sound healthcare waste disposal technologies in a selected number of healthcare facilities in each county	**study and terms of reference for non-combustion or low-U-POPs emission technologies for healthcare waste disposal in selected hospitals or waste management facilities drafted**					Consultants							
					71300	Local Consultants		30000				30000	51
					72100	Contractual services		4000				4000	52
					71600	Travel		5000				5000	53
					74500	Miscellaneous		500	500			1000	54
						Total Output	**0**	**69500**	**500**			**70000**	
	Output 3.2.1 Demonstration and performance assessment of the technologies in the selected facilities completed (at least 4 facilities, or an overall amount of waste in the order of 630t/yr).	**MENR**	**62000**	**GEF**	71200	International Consultants		30000	30000	30000	30000	120000	55
					71300	Local Consultants		60000	60000	60000	36000	216000	56
					72100	Contractual services		334000	780000	160000	4000	1278000	57
					71600	Travel		8000	8000	8000	2000	26000	59
					74500	Miscellaneous						0	
						Total Output	**0**	**432000**	**878000**	**258000**	**72000**	**1640000**	
	Output 3.2.2 Useful replication toolkits on how to implement best practices and techniques are developed	**MENR**	**62000**	**GEF**	71200	International Consultants	2000	4000		4000	6000	16000	60
					72100	Contractual services				4000	18000	22000	61
					72400	Communication					2000	2000	62
						Total Output	**2000**	**4000**	**0**	**8000**	**26000**	**40000**	
						Total Comp. 3	**2000**	**505500**	**878500**	**266000**	**98000**	**1750000**	
Outcome 4													
Component 4. Minimizing	**Output 4.1.1 Awareness raising activities for the**	**MENR**	**62000**	**GEF**									
					71300	Local Consultants		2000	2000	2000		6000	63

GEF Outcome/Atlas Activity	Output	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
releases of unintentionally produced POPs from open burning of waste.	**communities and the municipalities aimed at enhancing 3Rs of waste**				72100	Contractual services		4000	4000	4000		12000	64
					74500	Miscellaneous		500	1000	500		2000	65
						Total Output		6500	7000	6500		20000	
	Output 4.1.2 Regulatory framework for the recovery of waste material (glass, organic, plastic) and for licensing of the recovery activity at county and central levels improved to integrate SC requirements	**MENR**	**62000**	**GEF**	71200	International Consultants	3000					3000	66
					71300	Local Consultants	6000	6000				12000	67
					71600	Travel	2000	1000				3000	68
					74500	Miscellaneous	1000	1000				2000	69
						Total Output	**12000**	**8000**				**20000**	
	Output 4.1.3. Counties provided with training manuals and technical assistance for the management of solid wastes.	**MENR**	**62000**	**GEF**	71200	International Consultants	3000					3000	70
					71300	Local Consultants		12000				12000	71
					71600	Travel	2000	1000				3000	72
					74500	Miscellaneous		2000				2000	73
						Total Output	**5000**	**15000**	**0**	**0**	**0**	**20000**	
	Output 4.2.1 Communities selected for demonstrating plans of actions for the reduction of solid waste open burning by increasing 3Rs of waste.	**MENR**	**62000**	**GEF**									
					71300	Local Consultants	8000					8000	74
					71600	Travel	1000					1000	75
					74500	Miscellaneous	1000					1000	76
						Total Output	**10000**	**0**	**0**	**0**	**0**	**10000**	
	Output 4.2.2. Local initiatives for the re-use / recycling of organic waste (composting)	**MENR**	**62000**	**GEF**	71200	International Consultants		6000	6000	6000	6000	24000	77
					71300	Local Consultants		12000	12000	12000	12000	48000	78
					72100	Contractual services		250000	50000	50000	40000	390000	79
					75700	Training, Workshops and Conferences		4000		4000	4000	12000	80

GEF Outcome/Atlas Activity	Output	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
					71600	Travel		3000	3000	3000	3000	12000	81
					74500	Miscellaneous		1000	1000	1000	1000	4000	82
						Total Output	**0**	**276000**	**72000**	**76000**	**66000**	**490000**	
	Output 4.2.3. Local initiative for the re-use / recycling of other non-hazardous waste streams (i.e. plastics)	**MENR**	**62000**	**GEF**	71200	International Consultants		6000	6000	6000	6000	24000	83
					71300	Local Consultants		12000	12000	12000	12000	48000	84
					72100	Contractual services		100000	30000	30000	30000	190000	85
					75700	Training, Workshops and Conferences		4000		4000	4000	12000	86
					71600	Travel		3000	3000	3000	3000	12000	87
					74500	Miscellaneous		1000	1000	1000	1000	4000	88
						Total Output	**0**	**126000**	**52000**	**56000**	**56000**	**290000**	
	Output 4.3.1 Prioritization of open-burning landfills to be closed and cleaned up, emergency plans including social and resettlement issues and clean-up plans for at least 3 landfills drafted.	**MENR**	**62000**	**GEF**	71200	International Consultants		4500	4500			9000	89
					71300	Local Consultants		10000	9000	3000		22000	90
					72100	Contractual services		4000		4000		8000	91
					71600	Travel		4000	3000			7000	92
					74500	Miscellaneous		1000	1000	1000	1000	4000	93
						Total Output	**0**	**23500**	**17500**	**8000**	**1000**	**50000**	
	Output 4.3.2. Emergency measures for reducing release of contaminant in the environment and the exposure of the population implemented in one high priority site.	**MENR**	**62000**	**GEF**	71200	International Consultants			3000	3000	3000	9000	94
					71300	Local Consultants			3000	3000	3000	9000	95
					72100	Contractual services			25000	25000	25000	75000	96
					71600	Travel			2000	2000	2000	6000	97
					74500	Miscellaneous			500	500		1000	98

GEF Outcome/Atlas Activity	Output	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget notes
						Total Output	**0**	**0**	**33500**	**33500**	**33000**	**100000**	
						Total Comp. 4	**27000**	**455000**	**182000**	**180000**	**156000**	**1000000**	
Outcome 5													
Component 5. Project Monitoring and evaluation	**5. M&E**	**MENR**	**62000**	**GEF**	71200	International Consultants			25000		25000	50000	99
					71300	Local Consultants	7500	15000	15000	15000	15000	67500	100
					72100	Contractual services			4000		4000	8000	101
					74100	Professional services (audit fees)			10000		10000	20000	102
					71600	Travel			2000			2000	103
					74500	Miscellaneous	500	500	500	500	500	2500	104
						Total Output	**8000**	**15500**	**56500**	**15500**	**54500**	**150000**	
						Total Comp. 5	**8000**	**15500**	**56500**	**15500**	**54500**	**150000**	
Outcome 6													
Project Management Cost	**PMC (including DPC)**	**MENR**	**62000**	**GEF**									
					71300	Local Consultants	32250	32250	32250	32250	32250	161250	105
					72500	Office supplies	6750	0	0	4000		10750	106
					71600	Travel	4300	4300	4300	4300	4300	21500	107
		UNDP			74500	Miscellaneous – Direct Project Costs	4300	4300	4300	4300	4300	21500	108
						Total PMC	**47600**	**40850**	**40850**	**44850**	**40850**	**215000**	
						Project total	**343100**	**1418850**	**1423850**	**746350**	**582850**	**4515000**	

Budget notes:

1) International consultant with a total 2 weeks at 3,000 USD/week for assisting in gap analysis
2) National consultant to draft Gap analysis report, amended legislation,
3) National and international travel
4) Office expenses, translation, communication, meeting rooms
5) International consultant for totally 3 days of work at 3000 USD/week for assisting in preparation of training courses
6) National consultant for preparation of guidance documents and training materials, training reporting and assessment
7) Contractual services for training facilities
8) Fee for trainers
9) National and international travel for national and international project staff to attend the workshops
10) Office expenses, translation, communication, meeting rooms
11) One international expert for 2 weeks providing assistance in drafting guidance documents
12) 2 national experts for 12 weeks drafting guidance documents
13) One national expert for two weeks providing training on POPs sampling and analysis
14) Two national experts for 27 weeks providing training on certification, sampling and analysis of POPs and heavy metals
15) Contractual services for laboratory analysis, procurement of sampling equipment (isokinetic probes and samplers)
16) Renting of training facilities, preparation of training materials
17) National and international travel
18) Office expenses, translation, communication, meeting rooms
19) National experts and university teachers designing and implementing curricula
20) Service contracts with universities and training facilities
21) National travel
22) Office expenses, translation, communication,

23) An international expert for one week assisting on the design of PRTR system and requirements

24) Development of software for PRTR and data entry services

25) Professional services to collate, check, systematize and format data on POPs and hazardous chemicals countrywide to be reported through the PRTR system

26) National and international travel

27) International consultant for totally 2 weeks at 3000 USD/week for assisting in the development of procedures on HCW management

28) Local consultant for totally 2 weeks at 1000 USD/week for 23.5 weeks developing and testing procedures on HCW management

29) National and international travel

30) Office expenses, translation, communication, printing

31) International consultant for totally 3 weeks at 3000 USD/week for assisting in the adapting of WHO bluebook to Kenyan situation

32) Local consultant for totally 2 weeks at 1000 USD/week for 23.5 weeks developing and testing procedures on HCW management

33) Contractual services for conference facilities

34) National and international travel

35) Office expenses, translation, communication, printing

36) International consultant recruited for 2 weeks to provide training of trainers

37) 2 local consultants recruited part-time for 4 years (total of 120 weeks) to provide periodic training to the hospitals

38) National and international travel

39) Office expenses, translation, communication, printing

40) International consultant recruited for 2 weeks to provide training and supervision on I-RAT

41) Team of 4 national consultants recruited each for 4 weeks to carry out baseline assessment in the 12 hospitals and draft the reports

42) Contractual services for conference facilities

43) National and international travel

44) Waste management equipment and mercury free devices for twelve (12) model hospitals (assuming on average 200 beds)

45) International consultant recruited for 2 weeks to provide training and supervision on I-RAT

46) Team of 4 national consultants recruited each for 4 weeks to carry out final assessment in the 12 hospitals and draft the reports

48) Contractual services for conference facilities

49) National and international travel

50) One international consultant recruited for 10 weeks to carry out feasibility studies for disposal facilities in the 12 hospitals

51) National expert recruited for 30 weeks to support the international consultant and carry out on-site surveys

52) Contractual services for conference facilities

53) National and international travel

54) Office expenses, translation, communication, printing

55) Two international consultants recruited each 5 week / year x 4 years to supervise equipment delivery, installation, operation and testing in all the facilities

56) 4 national consultants recruited for 10 weeks each to supervise installation and operation of disposal facilities and to support the international consultants.

57) Procurement of disposal facilities servicing 12 hospitals: small non-combustion equipment + shredder + accessories, transportation cost and insurance for 9 hospitals (55k x 9 = 495k); large non-combustion equipment + shredder + accessories for 2 hospitals (435k); retrofitting of one incinerator with APCS system (at least airbag system - plus activated carbon column, 200k USD); ESM disposal of mercury devices (80k). Procurement services (60k). Contractual services for conference facilities (8,000 USD)[15]

59) National and international travel

60) International consultant recruited for 2 weeks through draft the replication toolkit

61) Contractual services for conference facilities

62) Communication, printing

63) One national consultant for six weeks to design and coordinate drafting of awareness materials

64) Contractual services for awareness raising events at communities and municipalities

65) Office expenses, printing, communication, sundries

66) International consultant for 1 week at 3000 USD/week for assisting in amendment of regulatory framework

67) National consultants to draft amendments on waste regulation (12 weeks)

68) National and international travel

[15] There is no Budget note # 58.

69) Office expenses, translation, communication, meeting rooms.

70) One international consultant for one week to provide training for trainers

71) 4 national experts to provide training in the 4 demonstration counties

72) National and international travel

73) Office expenses, printing of training material, communication

74) National consultants to coordinate with communities to be selected for the 3R activities demonstration

75) National travel

76) Office space, printing of awareness raising materials, communication

77) International consultant to provide technical assistance (2 weeks/year)

78) National consultants recruited for 6 weeks/year to provide training and coordinate with activities on organic waste recycling (total of 48 weeks)

79) Equipment for processing compost, support to local CBOs for carrying out the collection, treatment and selling of recycled compost

80) Cost for the organisation of 3 workshops

81) National and international travel

82) Office expenses, printing, communication, sundries

83) International consultant to provide technical assistance (2 weeks/year)

84) National consultants recruited for 6 weeks/year to provide training and coordinate with activities on organic waste recycling (total of 48 weeks)

85) Equipment for processing plastic waste, support to local CBOs for carrying out the collection, treatment and selling of recycled plastic

86) Cost for the organisation of 3 workshops

87) National and international travel

88) Office expenses, printing, communication, sundries

89) International consultant for a total of 3 weeks at 3000 USD/week for assisting in the prioritization of landfills and drafting emergency plans

90) National consultant for a total of 2 weeks at 1000 USD/week for 23 weeks: Drafting emergency, social and resettlement plans

91) Renting of meeting facilities for workshops on municipal waste management in Kenya

92) National and international travel

93) Office expenses, translation, communication, printing

94) International consultant (1wk/yr for 3 years) to assist in drafting TORs for emergency measures at landfills

95) National consultants (3wks/yr for 3 years)

96) Contractual service to landfill managers and NGOs/CBOs to implement and monitor emergency measures

97) National and international travel

98) Communication / Sundries

99) International consultant(s) for carrying out mid-term and terminal evaluation

100) National consultants for project monitoring and planning

101) Contractual services for conference facilities

102) Financial audit services (mid-term and final)

103) National and international travel

104) Office expenses, communication, translation services

105) Includes fees for the components of the Project Management Unit

106) Equipment and furniture for the Project Management Unit office

107) Travel of the Project Management staff

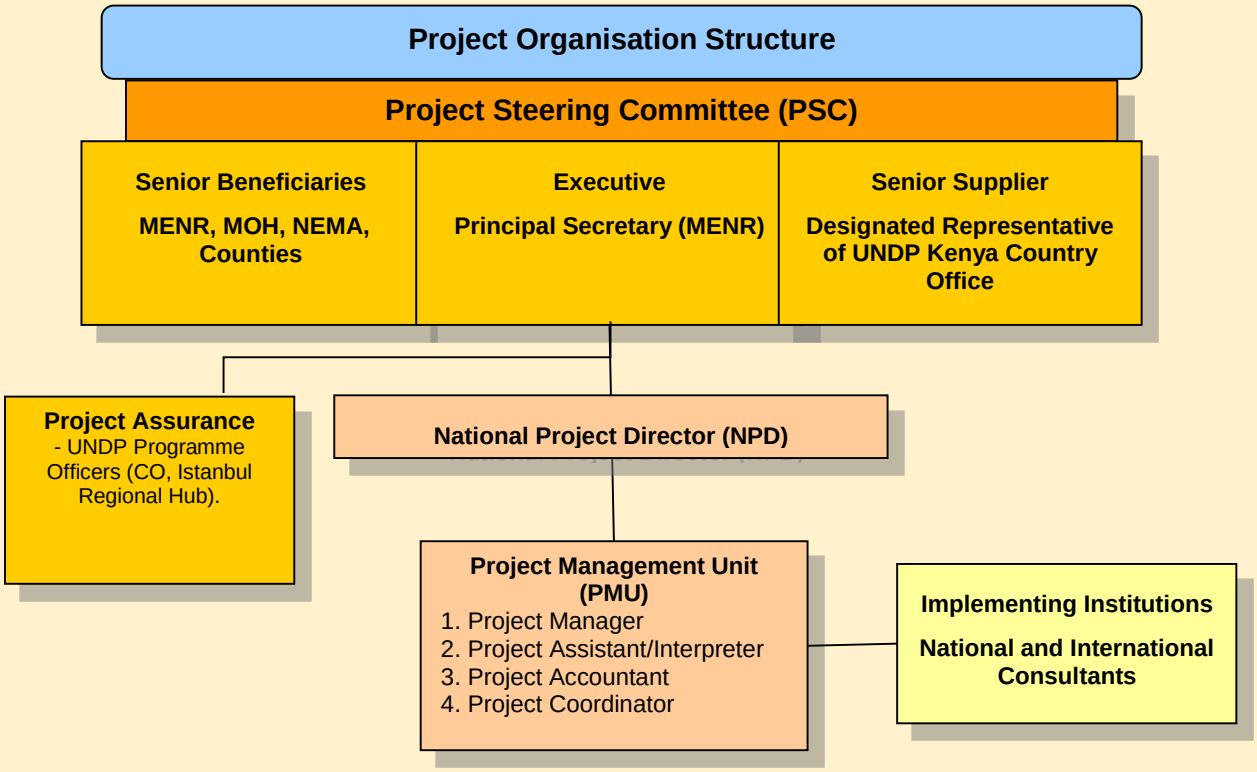
108) Direct Project Costs. Please refer to details in Annexes IV and V.

III. MANAGEMENT ARRANGEMENTS

Project Organization Structure

1. The project has been financed by the GEF and UNDP acts as the GEF Implementing Agency. The project will be executed by the Ministry of Environment and Natural Resources (MENR), which will assume the overall responsibility for the achievement of project results as UNDP's Implementing Partner (IP). This IP will be subject to the micro assessment and subsequent quality assurance activities as per Harmonized Approach to Cash Transfers to Implementing Partners (HACT) framework. UNDP will provide overall management and guidance from its Country Office in Nairobi and the Regional Hub in Istanbul, and will be responsible for monitoring and evaluation of the project as per normal GEF and UNDP requirements. MENR will designate a senior official as the National Project Director (NPD) for the project. The NPD will be responsible for overall guidance to project management, including adherence to the Annual Work Plan (AWP) and achievement of planned results as outlined in the Project Document, and for the use of UNDP funds through effective management and well established project review and oversight mechanisms. The NPD also will ensure coordination with various ministries and agencies, provide guidance to the project team to coordinate with UNDP, review reports and look after administrative arrangements as required by the Government of Kenya and UNDP. The project will be executed according to UNDP's National Implementation Modality (NIM), as per the NIM project management implementation guidelines agreed by UNDP and the Government of Kenya.

Project Organization Structure



2. The Project Steering Committee (PSC) will assume oversight of the Project Management Unit (PMU). The PSC will consist of a Chairperson (MENR) and a co-chair representing the UNDP Country Office; with PSC members from MENR, MOH, HCF management teams, representatives of County Environmental Authorities

and UNDP Kenya. The primary functions of the PSC will be to provide the necessary direction that allows the Project to function and achieve its policy and technical objectives, and to approve the Annual Work Programmes (AWP) and M&E reports.

3. The PMU will report to the National Project Director. The PMU will assume the responsibility of the project's implementation under the lead of MENR/NEMA, MOH, the PSC and UNDP, planning activities and budgets, recruiting specialists, conducting training workshops and other activities to ensure the Project is executed as per approved work plans.

4. As a senior supplier, UNDP also has a role of project assurance. This role will be exercised by the UNDP Programme Officer responsible for the project, based in the UNDP Country Office (CO), and the Programme Officer from the UNDP Montreal Protocol and Chemical Unit (Regional Technical Advisor based in Istanbul regional Hub). They can consult for this purpose an International Technical Specialist, funded by the project.

5. Both the PMU and the NPD will implement mechanisms to ensure ongoing stakeholder participation and effectiveness with the commencement of the Project by conducting regular stakeholder meetings, issuing a regular project electronic newsletter, conducting feedback surveys, implementing strong project management practices, and ensuring close involvement with UNDP Kenya as the GEF implementing agency. A list of Project stakeholders and their projected roles in the Project is provided in Table 5.

General

UNDP support service

6. MENR/NEMA will enter into an agreement with UNDP for support services in the form of procurement of goods and services during the project implementation process. In such a case, appropriate cost recovery will be charged as per UNDP rules and regulations. The support services will be outlined in the form of Letter of Agreement signed between MENR/NEMA and UNDP.

Collaborative Arrangements with Related Projects

7. The PMU will consult and involve the implementers of the relevant ongoing POPs related projects and programmes as well as other chemical management or environmental protection programmes in the country in the design and development of the Project to explore synergies and avoid overlaps.

8. With regards to other initiatives in the region, the Project will promote learning and knowledge sharing and forge partnerships between Kenyan entities and other country partners to replicate best practices and facilitate technology transfer.

Prior Obligations and Prerequisites

9. There are no prior obligations and prerequisites.

Audit Arrangements

10. The Government will provide the UNDP Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds

according to the established procedures set out in the programming and finance manuals. The audit will be conducted according to UNDP financial regulations, rules and audit policies by the legally recognized auditor of the Government, or by a commercial auditor engaged by the Government.

Agreement on Intellectual Property Rights and Use of Logo on Project Deliverables

11. To accord proper acknowledgement to GEF for providing funding, a GEF logo should appear on all relevant GEF-supported project publications, including among others, project hardware, if any, purchased with GEF funds. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgement to GEF.

12. The project team and the UNDP Office in Nairobi supported by the UNDP-GEF Regional Coordination Unit in Istanbul will be responsible for project monitoring and evaluation conducted in accordance with established UNDP and GEF procedures. The Project Results Framework provides performance and impact indicators for project implementation along with their corresponding means of verification. The GEF CC Tracking Tool will also be used to monitor progress in reducing GHG emissions. The M&E plan includes: inception workshop and report, project implementation reviews, quarterly and annual review reports, independent mid-term evaluation, and independent final evaluation. The following sections outline the principle components of the Monitoring and Evaluation Plan and indicative cost estimates related to M&E activities. The M&E budget is provided in Table 6.

Monitoring Framework and Evaluation

The project will be monitored through the following M&E activities. The M&E budget is provided in the table below.

1. *Project start*: A Project Inception Workshop will be held within the first 4 months of the project starting with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders will be invited. The Inception Workshop is crucial to building ownership for the project results and to plan the first year's annual work plan. The Inception Workshop would address a number of key issues including:

    a) Assisting all partners to fully understand and take ownership of the project;
    b) Detailing the roles, support services and complementary responsibilities of UNDP CO and RCU staff vis-à-vis the project team;
    c) Discussing the roles, functions, and responsibilities within the Project's decision-making structure including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference of project staff will be discussed again as required;
    d) Finalization of the first annual work plan based on the project results framework and the relevant GEF Tracking Tool if appropriate. A review and agreement on the indicators, targets and their means of verification will be required as well as a re-check of assumptions and risks;
    e) Providing a detailed overview and reach consensus on reporting, monitoring and evaluation (M&E) requirements, the M&E work plan and budget;
    f) Discussion of financial reporting procedures and obligations, and arrangements for annual audit;
    g) Planning and scheduling Project Board meetings; and,
    h) Clarification of roles and responsibilities of all project organization structures as well as planned dates of meetings where the first PSC meeting should be held within the first 12 months following the inception workshop.

2. An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

3. *Quarterly Progress Report*: Contents of the QPR include:
    - Progress made as reported in the Standard Progress Report (SPR) and monitored in the UNDP Enhanced Results Based Management Platform;

Table 6: M&E Work Plan and Budget

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team staff time*	Time Frame
Inception Workshop and Report	Project Manager UNDP CO, UNDP GEF	Indicative cost: USD 45,000	Within first four months of project start up
Measurement of Means of Verification of project results.	UNDP GEF RTA/Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members.	To be finalized in Inception Phase and Workshop.	Start, mid and end of project (during evaluation cycle) and annually when required.
Measurement of Means of Verification for Project Progress on *output and implementation*	Oversight by CTA with support from the Project Manager Project team	To be determined as part of the Annual Work Plan's preparation.	Annually prior to APR/PIR (Annual / Project Implementation review) and to the definition of annual work plans
APR/PIR	Project manager and team UNDP CO UNDP RTA	None	Annually by July
Periodic status/ progress reports	Project manager and team	None	Quarterly
Mid-term Evaluation	Project manager and team incl.travel UNDP CO UNDP RCU External Consultants (i.e. evaluation team)	Indicative cost: USD 42,500	At the mid-point of project implementation.
Terminal Evaluation	Project manager and team incl. travel UNDP CO UNDP RCU External Consultants (i.e. evaluation team)	Indicative cost: USD 42,500	At least three months before the end of project implementation
Project Terminal Report	Project manager and team UNDP CO		At least three months before the end of the project
Audit	UNDP CO Project manager and team	Indicative cost per year: 4000 x 5 years	Yearly
Visits to field sites	UNDP CO UNDP RCU (as appropriate) Government representatives	For GEF supported projects, paid from IA fees and operational budget	Yearly
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		150,000 (+/- 5% of total budget)	

- Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS). Risks become critical when the impact and probability are high;
- Project Progress Reports (PPR) as generated in the Executive Snapshot and based on the information recorded in Atlas will be monitored; and,
- Other ATLAS logs that are used to monitor issues and lessons learned will be used. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

4. *Annual Project Review /Project Implementation Reports (APR/PIR)*: APRs/PIRs are key reports prepared to monitor progress since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements, and includes, but is not limited to, reporting on the following:

   - Progress made toward project objective and project outcomes, each with indicators, baseline data and end-of-project targets (cumulative);
   - Project outputs delivered per project outcome (annual);

- Lessons learned/good practices;
- AWP and other expenditure reports;
- Risk and adaptive management;
- ATLAS QPR; and,
- Portfolio level indicators (i.e. GEF focal area tracking tools) that are used by most focal areas on an annual basis.

5. *Periodic Monitoring through site visits:* UNDP CO and the UNDP RCU staff will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Board members.

6. *Mid-term of project cycle*: The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation. The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Centre (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

7. *End of Project*: An independent Final/Terminal Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

8. The Final Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Centre (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation. During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

9. *Learning and knowledge sharing*: Results from the project will be disseminated within and beyond the Project intervention zone through a number of existing information sharing networks and forums. In addition:

   - The Project will participate, as relevant and appropriate, in UNDP/GEF sponsored networks, organized for senior personnel working on projects that share common characteristics;
   - The Project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned; and,
   - The Project will identify, analyse, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Identifying and analysing lessons learned is an on-going process and the need to communicate such lessons as one of the project's central contributions is a requirement to be delivered not less frequently than once every 12 months. UNDP/GEF shall provide a format and assist the project team in categorizing, documenting and reporting the lessons learned. To this end a percentage of project resources will also need to be allocated for these activities;

- This GEF-funded Project will endeavour to compile and share its development results within a monitoring framework that is designed to meet the goals of the UN One Plan outcomes.

LEGAL CONTEXT

1. This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Kenya and the United Nations Development Program, signed by the parties on 21 March 1978. The host country-implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that Agreement.

2. Consistent with the Article III of the SBAA, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner. The implementing partner shall:

    - Put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
    - Assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

3. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

4. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via: http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm**.**

5. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

6. **Audit** will be conducted according to UNDP Financial Regulations and Rules and applicable Audit policies.

ANNEXES

ANNEX I: RISK ANALYSIS

OFFLINE RISK LOG

Project Title: Sound Chemicals Management Mainstreaming and UPOPs reduction in Kenya.	**Project ID: 5361**	**Date: September 2015**

#	Description	Date Identified	Type	Impact (L, M. H) & Probability (L, M, H)	Countermeasures / Management responses	Owner	Submitted, updated by	Last Update	Status (compared with previous evaluation)
1	Lack of coordination of the relevant institutions and ministries	September 2015	Institutional	M/M	Coordination and solution of conflicts among different stakeholders will be achieved by involving them in the project steering committee and/or in specific project activities and establishing a well-staffed PMU for project management.	PM GOV	UNDP	10/08/2014	N/A at this stage
2	New legislation compliant with the SC or amendment of the current legislation cannot be drafted and adopted within project timeframe due to length of the law-making process	September 2015	Institutional	M/H	The selection of the proper law-making process (i.e., decrees or official guidance embedded in existing regulations) will ensure that the implementation and enforcement of an improved regulatory framework on waste compliant with the Basel and Stockholm convention is achieved within the project timeframe.	PM GOV	UNDP	10/08/2014	N/A at this stage
3	Lack of cooperation of relevant stakeholders (Community Based Operators, dumpsite communities, Private sector) to cooperate in the	September 2015	Management	M/H	The project will aim at generating income by means of establishing of a better quality market chain for recyclable waste. This will represent an incentive for all the partners and stakeholders	PM	UNDP	10/08/2014	N/A at this stage

	establishment of a sound management of recyclable waste				to collaborate together.				
5	Awareness raising activities on municipal not effective or do not reach the proper target	September 2015	Management	L/M	Awareness raising will be the result of a targeted communication effort which will occur by using both electronic media (TV, internet) and face-to-face meetings and communication. The awareness raising activities will be designed after carefully listening to the stakeholders' needs.	PM GOV	UNDP	10/08/2014	N/A at this stage
8	Issues in the procurement of non-incineration technologies	September 2015	Management / Technical	M/L	This risk may be minimized thanks to the sound experience UNDP already gathered in similar projects, including a global project involving the procurement of this equipment in 8 countries	PM	UNDP	10/08/2014	N/A at this stage
9	Project HCFs not willing to enter into contracts with the CTFs for treatment of the HCW.	September 2015	Institutional	L/L	Joining the project represents an evident technical and financial benefit for HCFs, which will be self-sustainable also after project closure.	PM GOV	UNDP	10/08/2014	N/A at this stage
10	Ministry of Health and national medical training institutions unwilling to revise the national training modules by integrating international best practices in HCWM training.	September 2015	Institutional	L/L	MoH already recognised the need for review of training modules. In any case, any modification to the national training modules will be discussed in advance to ensure MoH involvement, and the WHO country office will be consulted as well in the process.	PM GOV	UNDP	10/08/2014	N/A at this stage
11	Government of Kenya unwilling to consider making	September 2015	Institutional	L/L	MENR and NEMA are already aware of the need to improve the regulation on	PM GOV	UNDP	10/08/2014	N/A at this stage

	necessary changes to the national laws and plans pertaining to HCWM.				hazardous waste				
13	Project HCFs are unwilling to participate in baseline assessments and are not open to sharing information related to their current HCWM practices.	September 2015	Management	M/L	The project will work with facilities which are interested in participating in baseline assessment and to share information. The benefit obtained in these facilities will be disseminated to ensure replicability and sustainability of the project	PM	UNDP	10/08/2014	N/A at this stage

ANNEX II: TOR FOR KEY PROJECT PERSONNEL

Project Title	Protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste
Consultancy Title	Project Manager of the Project Management Unit
Contractual Modality	Full time – one year renewable up to 5 years.
Duty Station	Nairobi with travel in Kenya
Supervision	Project Steering Committee / UNDP CO Kenya - Team Leader, Energy Environment and Climate Change

Duties and responsibilities

Overall, the PM will be responsible for the day-to-day running of the project, including overall coordination, planning, management, implementation, monitoring & evaluation and reporting of all project activities:

- Prepare and update project work plans, and submits these to the NPD and UNDP for clearance.
- Participate in quarterly work planning and progress reporting meetings with the NPD, PMU, and UNDP;
- Ensure that all agreements with implementing agencies are prepared, negotiated and agreed upon.
- Prepare TORs for key inputs (i.e. personnel, sub-contracts, training, and procurement) and submits these to the NPD and UNDP for clearance, and administers the mobilization of such inputs.
- With respect to external project implementing agencies/ sub-contractors:
    a. ensuring that these agencies mobilize and deliver the inputs in accordance with their letters of agreement or contracts, and
    b. providing overall supervision and/or coordination of their work to ensure the production of the expected outputs.
- Assume direct responsibility for managing the project budget by ensuring that:
    a. project funds are made available when needed, and are disbursed properly,
    b. expenditures are in accordance with the project document and/or existing project work plan,
    c. accounting records and supporting documents are properly kept,
    d. required financial reports are prepared,
    e. financial operations are transparent and financial procedures/regulations for NEX projects are properly applied; and
    f. S/he is ready to stand up to audits at any time.
- Assume direct responsibility for managing the physical resources (e.g. vehicles, office equipment, and furniture) provided to the project by UNDP.
- Supervise the project staff and local or international short-term experts/consultants working for the project.
- Prepare project progress reports of various types and the Final Project Report as scheduled, and organizes review meetings and evaluation missions in coordination with UNDP.

- Report regularly to and keeps the NPD and UNDP PO up-to-date on project progress and problems.

Required Qualifications

University degree (preferably post-graduate degree) in environment management, chemicals or related fields;

Knowledge of Result-based management and at least 5 years of experience in project management and implementation;

Strong analytical skills, good inter-personal and team building skills – Leading skills;

Full time availability for project management duties;

Working level of English language is an absolute necessity;

Familiarity with technical assistance projects and UNDP programme in Kenya is an asset.

Project Title	Protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste
Title	Technical Officer of the Project Management Unit
Contractual Modality	Full time – one year renewable up to 5 years.
Duty Station	Nairobi with travel in Kenya
Supervision	PMU Project Manager

Duties and responsibilities

This assignment is for a full-time PMU Technical Officer who will be recruited with the objective to provide PMU with technical assistance and advice on all the activities to be carried out under the Project, to help on routine technical coordination and supervision and to prepare or assist in the preparation of relevant project documentation and training materials. The TO will work under overall supervision of the Project Manager.

The Technical Officer will, in general, be responsible for:

1. Assisting PMU in drafting the inception report of the project;
2. Assisting PMU in overall technical management and coordination of all project activities;
3. Technical support to PMU on the supervision of all the technical activities related to institutional strengthening, policy framework, POPs and PTS clean-up plans, project monitoring and evaluation, and replication program development;
4. Technical support to PMU in participating in meetings with UNDP and the PSC;
5. Technical support to PMU in coordinating the work of international consultants;
6. Providing comments on project implementation progress at different stages;
7. Assisting PMU in drafting Term of References for all the services and equipment to be procured under the project;
8. Assisting PMU in drafting technical reports and management reports like the Project Implementation Reports, (PIR), Annual and Quarterly Progress Reports (APR, QPR) and Annual and Quarterly Workplans (AWP, QWP);
9. Assist PMU in drafting minutes of the meetings with special reference to the technical part;
10. Perform site visits and inspections at project implementation sites during various implementation stages (site visits and contaminated sites, industrial sites, trainings)
11. Provide comments on the reports related to the technical activities and review the related plan under the Project to ensure their technical feasibility and most appropriate measures and actions taken.
12. Supervise the work of service provider to guarantee the quality and consistency of the reports and deliverables, and help them finalize reports before their dissemination to concerned parties;
13. Timely and proactively provide recommendation for the improvement of all project activities.

Duration of this assignment, duty station and expected places of travel

This is a full time assignment of the duration of one year. The contract may be renewed yearly for maximum 5 years (the duration of the Project) on the basis of the satisfactory evaluation of the performance of the work carried out by the Technical Officer in the preceding year.

The Technical Officer will work at the PMU office to be established in Nairobi.

The Technical Officer is expected to travel within the country at the implementation sites, to supervise project implementation activities. The exact number of travels will be specified in the course of project implementation based on project needs. Travel and subsistence during travel will be paid by the project.

Deliverables

The following deliverables will be submitted to the PMU by the Technical Officer:

Short quarterly work-plan of the activities to be carried out under this assignment;
Draft Inception report of the Project;
Quarterly reports of the activities carried out under this assignment
Comments reports and supervision reports as relevant for the different project activities;
Draft TORs for the required project activities;
Draft PIR, APR, QPR, AWP, QWP
Mission report and debriefing for the field visit;
Meeting minutes, with special reference to the technical parts.

Required qualifications

The Technical Officer shall have as a minimum the following qualifications:

Advanced degree (Master of Science as a minimum) in Engineering, Industrial Chemistry, Environmental Science, Biology.
Sound experience on POPs and Stockholm Convention,
At least 5 year experience in the field of chemical risk assessment, or in projects related to the implementation of Stockholm Convention on POPs, or in the management of hazardous chemicals and waste;
Previous experience as supervisor / Technical Officer in projects related to environmental protection or hazardous waste management;
Previous experience in the implementation or supervision of projects related to the management and disposal of POPs

In addition, the Technical Officer should be independent and should not have any personal interest related to project activities which may hinder her/his independency and which may distort or bias her/his performance.

Project Title	Protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste
Title	Accountant Secretary of the Project Management Unit
Contractual Modality	Full time – one year renewable up to 5 years.
Duty Station	Nairobi with travel in Kenya
Supervision	PMU Project Manager (PM) and PSC National Project Director (NPD).

Duties and responsibilities

This Account Secretary Position has two roles: as an Administrative Assistant and as an Accountant with the following duties:

a. As a Project Administrator

i. Provide assistance in the operational management of the project according to the project document and the NIM/NEX procedures.
ii. Undertake all preparation work for procurement of office equipment, stationeries and support facilities as required;
iii. Provide support in preparing project events, including workshops, meetings (monthly, quarterly and annual), study tours, trainings, etc., as required.
iv. Take care of project telephone, fax, and email system;
v. Assist with preparation of TORs and contracts for consultants for project activities.

b. As a Project Accountant

i. Prepare quarterly advance requests as required to get advance funds from UNDP in the format applicable.
ii. Assist the PM and NPD in project budget monitoring and project budget revision.
iii. Set up accounting system, including reporting forms and filling system for the project, in accordance with the project document and the NEX procedures;
iv. Maintain petty cash transactions. This includes writing of receipts, preparation of payment request form, receipt and disbursement of cash and clearance of advances;
v. Prepare cheques and withdraw money from the bank;
vi. Prepare project financial reports and submit to PC and NPD for clearance and furnish to UNDP as required;
vii. Enter financial transactions into the computerised accounting system;
viii. Reconcile all balance sheet accounts and keep a file of all completed reconciliation;
ix. Check and ensure that all expenditures of projects are in accordance with NEX procedures. This includes ensuring receipts to be obtained for all payments;
x. Check budget lines to ensure that all transactions are booked to the correct budget lines;
xi. Ensure documentation relating to payments are duly approved by the NPD;
xii. Bring any actual or potential problems to the attention of the NPD and PM;
xiii. Follow up bank transfers. This includes preparing the bank transfer requests, submitting them to the bank and keeping track of the transfers;
xiv. Ensure Petty Cash to be reviewed and updated ensuring that there is up-to-date records;
xv. To continuously improve system & procedures to enhance internal controls to satisfy audit requirements.
xvi. Ensure that bank statements be collected from the banks on the 2nd working day of each month;
xvii. Ensure that bank accounts should be reconciled and reported on or before 3rd of each month;
xviii. Prepare monthly bank reconciliation statement, including computation of interests gained to be included into reports.
xix. Maintain the inventory file to support purchases of all equipment/assets.
xx. Undertake other relevant matters assigned by the NPD and PM.

Required Qualifications

i. University degree in accounting, finance or related fields;
ii. Solid experience of budgeting, planning and reporting on foreign funded projects; and experience with international auditing requirements.
iii. Good secretarial skills and good organizational capacity;
iv. Knowledge in administrative and accounting procedures of the Government
v. Good computer skills in common word processing (MS Word), spreadsheet (MS Excel), and accounting software.
vi. Appropriate English language skills, both spoken and written.

Project Title	Protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste
Title	Project Interpreter/ Secretary (PIS)
Contractual Modality	Full time – one year renewable up to 4 years.
Duty Station	Nairobi with travel in Kenya
Supervision	PMU Project Manager

Duties and responsibilities

Under overall supervision of National Project Director, the PIS will work under the direct supervision of and provide support to the Project Manager in the discharge of his/her responsibilities in the overall management of the day-to-day activities of the project. The PIS will work closely with the NPD, the PM, staff from the PMU and other international and national consultants. The main duties of the PIS are relating to secretarial and Interpretation/translation.

a. Responsibilities of the Project Secretary:

i. Provide necessary assistance in the operational management of the project according to the project document and the NEX procedures.
ii. Draft correspondence on administrative and program matters pertaining to the Project Office responsibilities;
iii. Provide support in preparing project events, including workshops, meetings (monthly, quarterly and annual), study tours, trainings, etc., as required. This also includes preparation of background materials for use in discussions and briefing sessions on project matter;
iv. Logistical arrangements. This includes visa, transportation, hotel bookings for project staff, consultants and invited guests coming for project activities;
v. Be responsible for project filing system. This includes setting up the filing, numbering of all incoming and outgoing correspondence.
vi. Prepare regular list of events for sharing of information within project staff and outside;
vii. Assist with project communication activities, including publications;

b. Responsibilities as Project Interpreter:

i. Providing interpretation services to the Project activities, including meetings, small-scale workshops, and relevant events;
ii. Acting as interpreter for NPD, PM and international consultants as required;
iii. Translating project documents, materials, papers, letters etc. from Swahili into English and vice versa.

Qualifications

i. University degree in English language, administration or related fields;
ii. Good command of both written and spoken English and Swahili at least four (4) years of working experience in the positions of secretary or interpreter/ translator.
iii. Good secretarial skills and good organizational capacity;
iv. Knowledge in administrative procedures of the Government
v. Good computer skills in common word processing (MS Word), spreadsheet (MS Excel),;
vi. Knowledge and experience in working with UN agencies and international organizations is an advantage.

ANNEX III – UNDP PROJECT CYCLE MANAGEMENT SERVICES DEFINED BY THE GEF COUNCIL

UNDP Project Cycle Management Services

Stage	Country Office[16]	UNDP/GEF at regional and global level
Identification, Sourcing/Screening of Ideas, and Due Diligence	Identify project ideas as part of country programme/CPAP and UNDAF/CCA.	Regional technical Adviser (RTA) role: • Technical input to CCA/UNDAFs and CPAPs where appropriate. • Input on policy alignment between projects and programmes. • Provide information on substantive issues and specialized funding opportunities (SOFs). • Policy advisory services including identifying, accessing, combining and sequencing financing. • Verify potential eligibility of identified idea.
	Assist proponent to formulate project idea / prepare project idea paper (e.g. GEF PIF/PPG), and ensuring it is aligned with country outcomes and UNDP Strategic Plan key results, and included in Country Office Integrated Work Plan in the ERBM Platform.	RTA role: • Research and development. • Provide up-front guidance. • Sourcing of technical expertise. • Verification of technical reports and project conceptualization. • Guidance on SOF expectations and requirements. • Undertake pre-screening of potential environmental and social opportunities and risks. • Training and capacity building for the Environmental Officers at the Country Offices, as part of annual Regional Community of Practice meeting or during the RTA's mission(s) in the country.
	Appraisal: • Review and appraise project idea. • Undertake capacity assessments of implementing partner as per UNDP POPP. • Monitor project cycle milestones.	RTA and principal technical Adviser (PTA) roles: • Provide detailed screening against technical, financial, and risk criteria. • Determine likely eligibility against identified SOF.

[16] As per UNDP POPP with additional SOF requirements where relevant.

Stage	Country Office[16]	UNDP/GEF at regional and global level
	Partners: • Assist proponent to identify and negotiate with relevant partners, co-financiers, etc.	RTA role: • Assist in identifying technical partners. • Validate partner technical abilities.
	Obtain clearances: • Government, UNDP, Implementing Partner, LPAC, co-financiers, etc.	RTA and PTA role: • Obtain SOF clearances.
Project Development	*Initiation Plan:* • Coordination, management and financial oversight of UNDP Initiation Plan • Discuss management arrangements	RTA and PA role: • Assist in preparation of UNDP Initiation Plan • Technical support, backstopping and troubleshooting. • Support discussions on management arrangements • Facilitate issuance of DOA
	Project Document: • Support project development, assist proponent to identify and negotiate with relevant partners, co-financiers, etc. • Undertake environmental and social screening of project before PAC. Ensure Environmental and Social Screening Procedure (ESSP) documentation is signed by the Resident Representative or Chair of PAC meeting and attached as Annex to the Project Document. • Review, appraise, finalize Project Document. • Negotiate and obtain clearances and signatures – Government, UNDP, Implementing Partner, co-financiers, etc. Coordinate LPAC and document meeting decisions. • Respond to information requests, arrange revisions etc. • Prepare operational and financial reports on development stage as needed.	RTA role: Sourcing of technical expertise. • Verification of technical reports and project conceptualization. • Guidance on SOF expectations and requirements. • Negotiate and obtain clearances by SOF • Respond to information requests, arrange revisions etc. • Quality assurance and due diligence.

Stage	Country Office[16]	UNDP/GEF at regional and global level
Key UNDP/GEF management performance indicators/targets for Project Development: 1. Time between PIF approval to CEO endorsement for each project: • Target for GEF trust fund project: FSP = 18 months or less, MSP 12 months or less. • Target for LDCF and SCCF FSP/MSP = 12 months or less. 2. Time between CEO endorsement to project document signature: • Target = 4 months or less		
Project Oversight	*Management Oversight and support*	*Technical and SOF Oversight and support*
	Project Launch/Inception Workshop • Preparation and coordination. • Participate in Inception Workshop	RTA role: • Technical support in preparing TOR and verifying expertise for technical positions. • Participate in recruitment process for Chief Technical Advisor and/or Project Manager, if RTA elects to do so. • Verification of technical validity / match with SOF expectations of inception report. • Participate in Inception Workshop
	Management arrangements: • Facilitate consolidation of the Project Management Unit, where relevant. • Facilitate and support Project Board meetings as outlined in project document and agreed with UNDP RTA. • Provide project assurance role if specified in project document. • Ensure completion of timesheets as required.	RTA role: • Technical input and support to TOR development. Troubleshooting support. • Support in sourcing of potentially suitable candidates and subsequent review of CVs/recruitment process.
	Annual Work Plan: • Issuance of AWP. • Monitor implementation of the annual work plan and timetable.	RTA and PA role: • Advisory services as required • Review AWP, and clear for ASL where relevant.

Stage	Country Office[16]	UNDP/GEF at regional and global level
	Financial management: • Conduct budget revisions, verify expenditures, advance funds, issue combined delivery reports, and ensure no over-expenditure of budget. • Ensure necessary audits.	RTA, PA and Finance Unit roles: • Allocation of ASLs, based on cleared AWPs • Return of unspent funds to donor • Monitor projects to ensure activities funded by donor comply with agreements and project document • Oversight and monitoring to ensure financial transparency and clear reporting to the donor
	Results Management: • Alignment: link project output to CPAP Outcome in project tree in Atlas, link CPAP outcome in project tree to UNDP Strategic Key Result Area as outlined in project document during UNDP work planning Gender: In ATLAS, rate each output on a scale of 0-3 for gender relevance. • UNDP monitoring requirements: Monitor progress on quarterly basis in IWP, and monitor risks in Atlas. • Submit annual APR/PIR report. • Arrange mid-term review: prepare TOR, hire personnel, plan and facilitate mission / meetings / debriefing, circulate draft and final reports. • Submit GEF Focal Area Tracking Tool completed by Project Team to mid-term review team. • Ensure tracking of committed and actual co financing as part of mid-term review. • Ensure translation of mid-term review into English. • Prepare management response to mid-term review. • Annual site visits – at least one site visit per year, report to be circulated no later than 2 weeks after visit completion.	RTA role: • Advisory services as required. • Quality assurance. • Project visits – technical support visit during life of Project as required.

Stage	Country Office[16]	UNDP/GEF at regional and global level
	Evaluation: • Integrate project terminal evaluation into CO evaluation plan. Identify synergies with country outcome evaluations. • Arrange terminal evaluation: prepare TOR, hire personnel, plan and facilitate mission / meetings / debriefing, circulate draft and final reports. • Submit GEF Focal Area Tracking Tool completed by Project Team to evaluation team. • Ensure tracking of committed and actual co financing as part of terminal evaluation. • Ensure translation of terminal evaluation into English. • Prepare management response to terminal evaluation and post both terminal evaluation report and management response in UNDP ERC. • Facilitate and participate in other UNDP and GEF evaluations as necessary.	RTA, PA, RKS roles: • Technical support and analysis. • Quality assurance. • Compilation of lessons and consolidation of learning. • Dissemination of technical findings. • Participate as necessary in other SOF evaluations.
	Project Closure: • Final budget revision and financial closure (within 12 months after operational completion). • Final reports as required by donor and/or UNDP-GEF.	RTA, PA role: • Advisory services as required. • Technical input. • Quality assurance.

***Key UNDP GEF management performance indicators/targets for Project Oversight**:*

1. Each project aligned with country outcomes and UNDP Strategic Plan key results, and included in Country Office Integrated Work Plan in the ERBM:
    - Target = 100%
2. Quality rating of annual APR/PIRs: Once completed and submitted, the quality of each project APR/PIR is rated by an external reviewer
    - Target = Rating of Satisfactory or above
3. Quality rating of Terminal Evaluation report: Once completed, the quality of the terminal evaluation report is rated by the UNDP Evaluation Office
    - Target = Rating of Satisfactory or above
4. Quality of results achieved by project as noted in terminal evaluation: the independent evaluator assigns an overall rating to the outcome achieved by the project and this rating is validated by the UNDP Evaluation Office
    - Target = Satisfactory or above

ANNEX IV - STANDARD LETTER OF AGREEMENT BETWEEN UNDP AND THE GOVERNMENT OF THE REPUBLIC OF KENYA FOR THE PROVISION OF SUPPORT SERVICES

HOW TO USE THIS LETTER OF AGREEMENT

- This agreement is used to provide appropriate legal coverage when the UNDP country office provides support services under national execution.
- This agreement must be signed by a governmental body or official authorised to confer full legal coverage on UNDP. (This is usually the Minister of Foreign Affairs, the Prime Minister /or Head of State.) The UNDP country office must verify that the government signatory has been properly authorised to confer immunities and privileges.
- A copy of the signed standard letter will be attached to each PSD and project document requiring such support services. When doing this, the UNDP country office completes the attachment to the standard letter on the nature and scope of the services and the responsibilities of the parties involved for that specific PSD/project document.
- The UNDP country office prepares the letter of agreement and consults with the regional bureau in case either of the parties wishes to modify the standard text. After signature by the authority authorised to confer immunities and privileges to UNDP, the government keeps one original and the UNDP country office the other original. A copy of the agreement should be provided to UNDP headquarters (BOM/OLPS) and the regional bureau.

Dear Honourable Minister,

1. Reference is made to consultations between officials of the Government of ***the Republic of Kenya*** (hereinafter referred to as "Ministry of Environment and Natural Resources (MENR)") and officials of UNDP with respect to the provision of support services by the UNDP country office for nationally managed programmes and projects. UNDP and the Government hereby agree that the UNDP country office may provide such support services at the request of the Government through its institution designated in the relevant programme support document or project document, as described below.

2. The UNDP country office may provide support services for assistance with reporting requirements and direct payment. In providing such support services, the UNDP country office shall ensure that the capacity of the Government-designated institution is strengthened to enable it to carry out such activities directly. The costs incurred by the UNDP country office in providing such support services shall be recovered from the administrative budget of the office.

3. The UNDP country office may provide, at the request of the designated institution, the following support services for the activities of the programme/project:

(a) Identification and/or recruitment of project and programme personnel;

(b) Identification and facilitation of training activities;

(c) Procurement of goods and services;

4. The procurement of goods and services and the recruitment of project and programme personnel by the UNDP country office shall be in accordance with the UNDP regulations, rules, policies and procedures. Support services described in paragraph 3 above shall be detailed in an annex to the programme support document or project document, in the form provided in the Attachment hereto. If the requirements for support services by the country office change during the life of a programme or project, the annex to the programme support document or project document is revised with the mutual agreement of the UNDP resident representative and the designated institution.

5. The relevant provisions of the **[Agreement between Government of Kenya and the United Nations Development Programme on [DATE] (the "SBAA"),** including the provisions on liability and privileges and immunities, shall apply to the provision of such support services. The Government shall retain overall responsibility for the nationally managed programme or project through its designated institution. The responsibility of the UNDP country office for the provision of the support services described herein shall be limited to the provision of such support services detailed in the annex to the programme support document or project document.

6. Any claim or dispute arising under or in connection with the provision of support services by the UNDP country office in accordance with this letter shall be handled pursuant to the relevant provisions of the SBAA.

7. The manner and method of cost-recovery by the UNDP country office in providing the support services described in paragraph 3 above shall be specified in the annex to the programme support document or project document.

8. The UNDP country office shall submit progress reports on the support services provided and shall report on the costs reimbursed in providing such services, as may be required.

9. Any modification of the present arrangements shall be effected by mutual written agreement of the parties hereto.

10. If you are in agreement with the provisions set forth above, please sign and return to this office two signed copies of this letter. Upon your signature, this letter shall constitute an agreement between your Government and UNDP on the terms and conditions for the provision of support services by the UNDP country office for nationally managed programmes and projects.

Yours sincerely,

_____

Signed on behalf of UNDP

Name/title: Country Director

Date:

_____

For the Government

Name/title:

Date:

ANNEX V - DESCRIPTION OF UNDP COUNTRY OFFICE SUPPORT SERVICES

1. Reference is made to consultations between **Ministry of Environment and Natural Resources**, the institution designated by the Government of *the Republic of Kenya* and officials of UNDP with respect to the provision of support services by the UNDP country office for the nationally managed project ***"The Project"*.**

2. In accordance with the provisions of the letter of agreement signed on **[Date] (the "SBAA")** and the project support document, the UNDP country office shall provide support services for the Project as described below.

3. Support services to be provided:

Support services*	**Schedule for the provision of the support services**	**Cost to UNDP of providing such support services (where appropriate)**	**Amount and method of reimbursement of UNDP (where appropriate)**
1. Payments, disbursements and other financial transactions	During project implementation	Universal Price List	Support Services
2. Recruitment of staff, project personnel, and consultants	During project implementation	Universal Price List	Support Services
3. Procurement of services and equipment, and disposal/sale of equipment	During project implementation	Universal Price List	Support Services
4. Organization of training activities, conferences, and workshops, including fellowships	During project implementation	Universal Price List	Support Services
5. Travel authorizations, visa requests, ticketing, and travel arrangements	During project implementation	Universal Price List	Support Services
6. Shipment, customs clearance, vehicle registration, and accreditation	During project implementation	Universal Price List	Support Services

* UNDP direct project support services will be defined yearly, and for those executed during the period, direct project costs will be charged at the end of each year based on the UNDP Universal Pricelist (UPL) or the actual corresponding service cost. Total DPC shall not exceed $21,500.

4. Description of functions and responsibilities of the parties involved:

As described in the Project Document (Management Arrangements), the project will be executed under national implementation modality (NIM), with execution by the Ministry of Environment and Natural Resources (MENR) following UNDP's Programme and Operations Policies and Procedures, per its role as implementing agency. Execution of the project will be subject to oversight by a Project Steering Committee (described in the Project Document). Day-to-day coordination will be carried out under the supervision of a Project Coordination Unit and corresponding staff. The MENR will take responsibility for different outcomes/activities according to existing capacities and field realities, ensuring effective and efficient use of GEF resources.

As described in the Project Document, the functions of the Participants are the following:

The Ministry of Environment and Natural Resources (MENR) is responsible for the fulfilment of the project's results. Its main responsibilities are to:

- Lead the project implementation with the support of the PCU.
- Nominate one Co-Chair of the Project Steering Committee and the national project coordinator (Government employee).
- Prove the technical and administrative capacity to develop the project.
- Monitor the project's work plan and progress.
- Approve Terms of Reference for technical personnel and consultancies for project implementation.
- Participate in the selection process of the consultants and approve all hiring and payment request.
- Provide the name and describe the functions of the person or persons authorized to sign the project's budget and/or substantive revisions of the project.

United Nations Development Programme (UNDP) has the responsibility to:

- Designate a programme officer responsible for providing substantive and operational advice, supervise the National Project Manager and to follow up and support the project's development activities.
- Nominate one Co-Chair of the project Steering Committee.
- Advise the project on management decision making, as well as to guarantee quality assurance.
- Be part of the Project's Steering Committee and other Committees or Groups considered part of the project structure.
- Administer the financial resources agreed in the revised work plan and approved by the Project's Steering Committee, and inform the National Implementing Partner of its origin and destination.
- Co-organize and participate in the events carried out in the framework of the Project.
- Use national and international contact networks to assist the project's activities and establish synergies between projects in common areas and/or in other areas that would be of assistance when discussing and analyzing the project.
- Provide Support on the gender dimension of project implementation.

ANNEX VI - SOCIAL AND ENVIRONMENTAL SCREENING

The completed template, which constitutes the Social and Environmental Screening Report, must be included as an annex to the Project Document. Please refer to the Social and Environmental Screening Procedure for guidance on how to answer the 6 questions.]

Project Information

Project Information	
1. Project Title	UPOPs Reduction and Mainstreaming of Sound Chemicals Management in Kenya
2. Project Number	5361 (UNDP – PIMS) – 5689 (GEF)
3. Location (Global/Region/Country)	Kenya

Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?
Briefly describe in the space below how the Project mainstreams the human-rights based approach

The project proposes a comprehensive response to several Chemicals and Waste related challenges which are faced by Kenya, in particular threats to health and environment related to Health Care Waste management and open burning of solid waste. In this regard it supports Kenya's compliance with its obligations as per Multilateral Environmental Agreements and its commitment to the Strategic Approach to International Chemicals Management's (SAICM) principles. It also aims to protect human rights insofar as allowing greater access of the population to an environment safe from harmful chemicals.

The Universal Declaration of Human Rights proclaimed by the General Assembly, contains a number of articles that are closely linked to the scope of the proposed project. These articles and the manner in which the project will ensure that the human-rights based approached is mainstreamed in the project, are the following:

Article 3. "Everyone has the right to life, liberty and security of person". The project will remove harmful sources of pollution, both for workers in the impacted sectors as well as in the general population.

Article 19. "Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers".

The project will engage with the relevant stakeholders at every stage of its preparation and implementation, and will contribute to diffusion of key information related to environment in Kenya. It has an important awareness raising dimension, both for the general public and for specific populations, such as workers in waste management sectors. This awareness raising will reduce chances of environmental pollution as well as direct threats to public health linked to improper management of Health Care Waste (HCW).

Article 23 (2) "Everyone has the right to work, to free choice of employment, to just and favorable conditions of work and to protection against unemployment".

The project will reduce the exposure to mercury, infected sharps / medical waste and to UPOPs emissions, particularly for the workers in the health sector. Better HCWM also reduces the occurrence of hospital-acquired infections (nosocomial infections), to which health-workers are exposed. It will also address informal communities that are currently drawing resources from unregulated – and unhealthy – management of solid waste dump sites in Kenya. It will encourage the progressive transformation of this sector towards a more formal organisation of work. Thus, economic mechanisms will be explored to sustain these systems into the future, and focus on green jobs' elements.

Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment

As a note of context for this project, the Constitution of Kenya (2010) creates an ambitious County Government structure based on principles of democracy, revenue reliability, *gender equity*, accountability and citizen participation. This project falls clearly within the sustainable development dimension of these increased responsibilities at County level.

Gender mainstreaming will be ensured in the project by taking in due consideration the following aspects:

In terms of equal participation in project activities and decision making: in the course of the recruitment processes, the project will favor the participation of women to ensure that they are engaged at all levels of project development and implementation.

This GEF project emphasizes building awareness of the links between waste management and public health (including occupational exposures), with a specific focus on the health implications of exposure to dioxins and Mercury for more vulnerable populations, such as female workers, pregnant women, and children.

It has to be noted that the project will encourage, in the model HCFs, the emergence of 'champions' of better HCWM practices. Experience from the UNDP/WHO/HCWH GEF Global Medical Waste project demonstrates that this values-based effort can reinforce women empowerment within the HCF staff and administration.

On the side of municipal waste, women and children are often among the most exposed to the dangerous substances and pathogen organisms contained in waste, emitted during waste fermentation and degradation, and released during the open burning of waste. Although the project does not differentiate activities based on sex or age of the involved communities, nevertheless it is well known that, due to their physiological characteristics (lower weight and similar respiratory volume) women and children may have a comparatively higher benefit from activities aimed at reducing the exposure to toxic substances and pathogens. Particular attention will thus be given to this gender dimension during this part of project implementation.

The UNDP Training Manual "Gender Mainstreaming - a Key driver of Development in Environment and Energy (UNDP 2007)", the 2011 UNDP resource publication "Chemicals and Gender", as well as the GEF policy on gender mainstreaming will guide the process of gender mainstreaming. Specific objectively verifiable indicators relevant to gender mainstreaming will be included in the results framework of the Full Size Project Document. The project team will consider including a specific gender analysis / component as part of the Mid-Term Evaluation process.

Briefly describe in the space below how the Project mainstreams environmental sustainability

Kenya has ratified the Stockholm Convention on POPs on 24/09/2004, and the Basel Convention on the Trans-boundary Movement of Hazardous Waste and their Disposal on 01/06/2000. Kenya has also ratified the Rotterdam Convention, and is a signatory to the Minamata Convention on Mercury. Kenya was the first African country to submit its reviewed and updated National Implementation Plan (NIP) in compliance with article 7 of the Stockholm Convention. Kenya also drafted its National Chemical Profile under the SAICM Enabling Activity in August 2011. The above prove the strong importance that the country attaches to the issue of sound management of chemicals and waste. However, implementation of these principles is still lacking in several fields of work.

The project has a whole component (USD 500,000) focusing on mainstreaming environmental priciples of safe management of chemicals in the regulatory framework at the national and locals levels: "Streamlining sound management of chemicals and waste into national and county development activities through capacity building of MENR, MOH, county governments of Nairobi, Kisumu, Nakuru and Mombasa and the NGOs".

Also, the project's objective is to ensure protection of human health and the environment through implementation of environmentally sound management (ESM) for healthcare waste. In particular the project will strive to achieve environmental sustainability through:

- Enhancing the national institutional capacity to manage HCW, to demonstrate minimization of U-POPs and mercury releases, through strengthening of associated regulatory frameworks, training and provision of appropriate equipment
- Strenghthening of the cooperation of the Environment authorities with the respective Ministries of Health (and generally Health Care Facilties). Authoriries on Environment and Health both look at the management of medical waste but often address these issues through different approaches, with varying types of priorities and not necessarily in a coordinated way. This project will demonstrate and build on the benefits of an integaretd apporach beween

health and environmental concerns.

Generally, this goes in the direction and framewok of the **Libreville Declaration on Health and Environment**.[17] Ministries of Health and Environment in Kenya are among the 53 African countries that adopted the Libreville Declaration in August 2008 which recognized the problems of poor waste management and toxic substances. In the Declaration, these African Governments committed to develop regional, sub-regional, and national frameworks to address environmental impacts on health through policies and national plans; and build regional, sub-regional, and national capacities to prevent environment-related health problems.

In that sense, the project will generally encourage the mainstreaming of environmental sustainability, particularly related to safe management of chemicals, within the national priorities and best practices in Kenya.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any "Yes" responses).*	**QUESTION 3: What is the level of significance of the potential social and environmental risks?** *Note: Respond to Questions 4 and 5 below before proceeding to Question 6*			**QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?**
Risk Description	***Impact and Probability (1-5)***	***Significance*** ***(Low, Moderate, High)***	***Comments***	***Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.***
Risk 1: Risk to communities and workers' health and safety posed by the improper handling of hazardous healthcare waste segregation and solid waste unregulated management in dumpsites.	I = 3 P = 1	**Low**	Hazardous and/or infectious healthcare waste can pose health and safety risks to communities when HCW is improperly transported, stored and/or disposed.	The project aims to develop and demonstrate application of ESM regulations governing all aspects of the handling of healthcare waste, including by introducing better waste sorting and pilot technologies. The project will supply required tools and equipment and train workers and companies in best practices. As regards municipal waste, the situation can only improve through the project in terms of health and safety for the involved

[17] http://www.idrc.ca/EN/Documents/LibrevilleDeclarationEN.pdf

				communities. For example, the emergency plan in the one priority facility proposed in the 4th component of the project will reduce the risk of major fires breaking up in the dumpsites, which are an environmental and safety hazard for the local communities.
Risk 2: Generation of waste (both hazardous and non-hazardous).	I = 1 P = 5	**Low**	The project aims to improve waste management practices (including through new practices and equipment), reduce waste streams and ensure better segregation of hazardous wastes. However, waste (both hazardous and non-hazardous) will continue to be generated by project healthcare facilities and obviously at the selected dumpsites.	Demonstration projects and capacity building will aim at improving practices at selected pilot sites. As the main project's scope is to improve waste management practices, the generation of waste and its mishandling cases will be reduced as a result of project activities. The country will be equipped with tools and improved regulatory controls to safely handle medical waste and solid waste management.
Risk 3: Local communities at dumpsites refuse to change their economic model	I = 3 P = 3	**Moderate**	There could be a lack of cooperation of relevant stakeholders (Community Based Operators, dumpsite communities, Private sector) to cooperate in the establishment of a sound management of recyclable waste, as they could see it as a threat to their current social and economic status.	The project will aim at generating income for the currently involved communities by means of establishing a better quality market chain for recyclable waste. This will represent an incentive for all the partners and stakeholders to collaborate together. Additionally, awareness raising – particularly related to the health risks represented by the current practices – will be a priority.

	QUESTION 4: What is the overall Project risk categorization?		
	Select one (see SESP for guidance)		**Comments**
	Low Risk	☐	
	Moderate Risk	X	Strong oversight and safety principles will be applied by UNDP Kenya and the partners for the project, during the project implementation. Regular communication with UNDP MPU/Chemicals for technical support on key

			project's milestones such as recruitment of international expertise, step-wise project implementation, and oversight missions are advised.
	High Risk	☐	
	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?		
	Check all that apply		**Comments**
	Principle 1: Human Rights	☐	
	Principle 2: Gender Equality and Women's Empowerment	☐	
	1. Biodiversity Conservation and Natural Resource Management	☐	
	2. Climate Change Mitigation and Adaptation	**X**	The adoption of non-combustion technologies to treat HCW sometimes requires, at least initially, additional electricity consumption, which can be associated to increase GHG emissions and costs of operation if one analyses this all other things unchanged. However, an overall analysis shows that the total emissions are far reduced in comparison with traditional incinerator operations or, of course, open burning of HCW. Positive side-effects can also be expected from diversion of plastic (RDF) from reaching landfills (where they would be treated by open burning).
	3. Community Health, Safety and Working Conditions	**X**	
	4. Cultural Heritage	☐	

	5. Displacement and Resettlement	☐	
	6. Indigenous Peoples	☐	
	7. Pollution Prevention and Resource Efficiency	X	

Final Sign Off

Signature	***Date***	***Description***
QA Assessors - David Githaiga UNDP CO Kenya - Team Leader, Energy Environment and Climate Change - Etienne Gonin UNDP MPU/Chemicals Istanbul Regional Hub		UNDP staff member responsible for the Project, typically a UNDP Programme Officer. Final signature confirms they have "checked" to ensure that the SESP is adequately conducted.
QA Approver		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.
PAC Chair		UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks	
Principles 1: Human Rights	**Answer (Yes/No)**
1. Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No. The biggest positive impact will be for those living in communities near dumpsites or hospitals, where waste incineration or open burning took place prior to the project.
2. Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? [18]	No
3. Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No
4. Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5. Are there measures or mechanisms in place to respond to local community grievances?	Yes: communities will be involved from the inception and initial phases of the project, in order to ensure that concerns and grievances as well as expectations are recorded and incorporated in the work plan of activities. This is particularly important to prevent the occurrence and impact of Risk 3 identified above (mostly a social risk of the project)
6. Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	No

[18] Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to “women and men” or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender people and transsexuals.

7. Is there a risk that rights-holders do not have the capacity to claim their rights?	No
8. Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
9. Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Principle 2: Gender Equality and Women's Empowerment	
1. Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
2. Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	No
3. Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
3. Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? *For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being*	No
Principle 3: Environmental Sustainability: Screening questions regarding environmental risks are encompassed by the specific Standard-related questions below	
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management	
1.1 Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services?	No

	For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes	
1.2	Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	No.
1.3	Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4	Would Project activities pose risks to endangered species?	No
1.5	Would the Project pose a risk of introducing invasive alien species?	No
1.6	Does the Project involve harvesting of natural forests, plantation development, or reforestation?	No
1.7	Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	No
1.8	Does the Project involve significant extraction, diversion or containment of surface or ground water? *For example, construction of dams, reservoirs, river basin developments, groundwater extraction*	No
1.9	Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	No
1.10	Would the Project generate potential adverse transboundary or global environmental concerns?	No
1.11	Would the Project result in secondary or consequential development activities which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area? *For example, a new road through forested lands will generate direct environmental and social impacts (e.g. felling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate encroachment on lands by illegal settlers or generate unplanned commercial development along the route, potentially in sensitive areas. These are indirect, secondary, or induced impacts that need to be considered. Also, if similar developments in the same forested area are planned, then cumulative impacts of multiple activities (even if not*	No

	part of the same Project) need to be considered.	
Standard 2: Climate Change Mitigation and Adaptation		
2.1	Will the proposed Project result in significant[19] greenhouse gas emissions or may exacerbate climate change?	No (as argued above, it will not be significant GHG emissions). Moreover, the project will aim at addressing the cost of operation represented by the new non-combustion equipment to be used for treatment of health care waste. For example, it is envisaged that one pilot HCF could be equipped with a solar panel system, to compensate for the possibly increased need in electricity due to operation of, for example, an autoclave or another similar non-combustion system. Funding will come from other sources than the GEF grant for this project.
2.2	Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	No
2.3	Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)? *For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding*	No
Standard 3: Community Health, Safety and Working Conditions		
3.1	Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	Yes. Particular attention will be given to this aspect, particularly in the component related to solid waste management in dumpsites, and for the one emergency plan to be drafted and implemented. Social and environmental dimensions will obviously be assessed prior to the activity, in consultation with local communities. Any local EIA assessments will be performed with support of the Government, where required by national law.
3.2	Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	Yes, see point 3.1 above.
3.3	Does the Project involve large-scale infrastructure development (e.g.	No, although there will be adaptation of the current environment,

[19] In regards to CO_2, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation and Adaptation provides additional information on GHG emissions.]

	dams, roads, buildings)?	particularly at the one dumpsite selected for the priority action plan.
3.4	Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	No
3.5	Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions?	No
3.6	Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	No
3.7	Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	Partially yes. The Government of Kenya will be assisted in the development and implementation of strategies to facilitate the registration and licensing of informal collection activities. Additionally, hospital personnel that would otherwise be routinely engaged in such waste handling are subject to occupational health risks resulting from manual work with it. The introduction of new practices will require appropriate training and equipment, which the project will provide. New non-incineration equipment shall result in changing such bad waste disposal practices.
3.8	Does the Project involve support for employment or livelihoods that may fail to comply with national and international labor standards (i.e. principles and standards of ILO fundamental conventions)?	No. the objective will be to get communities working informally on waste management to reach closer to international labor standards.
3.9	Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
Standard 4: Cultural Heritage		
4.1	Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.2	Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		

5.1	Would the Project potentially involve temporary or permanent and full or partial physical displacement?	No
5.2	Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No
5.3	Is there a risk that the Project would lead to forced evictions?[20]	No. The emergency plan at the one priority dumpsite may require some review of the current settlements of local communities but it will be based on consultative approaches.
5.4	Would the proposed Project possibly affect land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	No
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	Would the proposed Project potentially affect the rights, lands and territories of indigenous peoples (regardless of whether Indigenous Peoples possess the legal titles to such areas)?	No
6.4	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.4	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.5	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No
6.6	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No

[20] Forced evictions include acts and/or omissions involving the coerced or involuntary displacement of individuals, groups, or communities from homes and/or lands and common property resources that were occupied or depended upon, thus eliminating the ability of an individual, group, or community to reside or work in a particular dwelling, residence, or location without the provision of, and access to, appropriate forms of legal or other protections.

6.7	Would the Project potentially affect the traditional livelihoods, physical and cultural survival of indigenous peoples?	No
6.8	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No
Standard 7: Pollution Prevention and Resource Efficiency		
7.1	Would the Project potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	Yes. Please see explanations under Item 3.1.
7.2	Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	No. No new waste will be generated by the project. Note that resulting non-infectious municipal waste category materials (increased through the improved sorting process) will be subject to handling in line with existing regulations on non-infectious waste.
7.3	Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs? *For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol*	No.
7.4	Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No
7.5	Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No. There is a potential increase in use of electricity and water when installing new non-combustion technologies (such as autoclaves), but it is compensated by general improvement of the environmental performance and reduction of pollutants' emissions. See Item 2.12 above.

ANNEX VII – GEF POPs TRACKING TOOL

Please find it as an Attachment to this document in Excel tabular format.