



GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

Naoko Ishii
CEO and Chairperson

February 10, 2016

Dear Council Member:

UNIDO as the Implementing Agency for the project entitled: ***Regional (Botswana, Lesotho, Madagascar, Mozambique, Swaziland, Tanzania, Zambia): Promotion of BAT and BEP to Reduce uPOPs Releases from Waste Open Burning in the Participating African Countries of COMESA-SADC Subregions*** has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with UNIDO procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by Council in March 2014 and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by UNIDO satisfactorily details how Council's comments and those of the STAP have been addressed. I am, therefore, endorsing the project document.

We have today posted the proposed project document on the GEF website at www.TheGEF.org. If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

Naoko Ishii
Chief Executive Officer and Chairperson

Attachment: GEFSEC Project Review Document
Copy to: Country Operational Focal Point, GEF Agencies, STAP, Trustee



REQUEST FOR CEO ENDORSEMENT

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

For more information about GEF, visit TheGEF.org

PART I: PROJECT INFORMATION

Project Title: Promotion of BAT and BEP to reduce uPOPs releases from waste open burning in the participating African countries of SADC subregion			
Country(ies):	Botswana, Lesotho, Madagascar, Mozambique, Swaziland, Tanzania and Zambia	GEF Project ID: ¹	5322
GEF Agency(ies):	UNIDO (select) (select)	GEF Agency Project ID:	150060
Other Executing Partner(s):	Ministry of Environment, Wildlife and Tourism (Botswana), Ministry of Tourism, Environment and Culture (Lesotho), Ministry of Environment and Forests (Madagascar), Ministry of Land, Environment and Rural Development (Mozambique), Swaziland Environment Authority (Swaziland), Vice President's Office-Division of Environment (Tanzania), Zambia Environmental Management Agency (Zambia) and Basel and Stockholm Regional Centre (BSRC-Africa Institute), South Africa	Submission Date: Resubmission Date:	2015-08-20 2016-01-25
GEF Focal Area (s):	Persistent Organic Pollutants	Project Duration(Months)	60 months
Name of Parent Program (if applicable): ➤ For SFM/REDD+ <input type="checkbox"/> ➤ For SGP <input type="checkbox"/> ➤ For PPP <input type="checkbox"/>		Project Agency Fee (\$):	628,425

A. FOCAL AREA STRATEGY FRAMEWORK²

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount (\$)	Cofinancing (\$)
(select) CHEM-1	Outcome 1.3: POPs releases to environment reduced	Output 1.3.1 Action plans addressing unintentionally produced POPs under development and implementation	GEF TF	6,087,000	26,198,000
(select) CHEM-1	Outcome 1.5: Country capacity built to effectively phase out and reduce	Output 1.5.1 Countries receiving GEF support for the implementation of the	GEF TF	528,000	2,163,000

¹ Project ID number will be assigned by GEFSEC.

² Refer to the [Focal Area Results Framework and LDCF/SCCF Framework](#) when completing Table A.

	releases of POPs	Stockholm Convention			
(select)	(select)		(select)		
(select)	(select)		(select)		
(select)	(select)		(select)		
(select)	(select)		(select)		
(select)	(select)		(select)		
(select)	(select)		(select)		
Total project costs				6,615,000	28,361,000

B. PROJECT FRAMEWORK

Project Objective: To achieve continuing minimization of unintentionally produced POPs (uPOPs) releases in the open burning sector of participating African countries of SADC region through introduction of best available techniques and best environmental practices (BAT/BEP) measures at selected priority demonstration sites

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Grant Amount (\$)	Confirmed Cofinancing (\$)
1. uPOPs baseline information on open burning practices and inventory of major dumpsites/landfills in participating countries	TA	Updated regional information on current open burning practices and establishment of uPOPs baseline inventories	1.1 National information on current locations of open burning practices validated and updated uPOPs inventories of participating countries reviewed 1.2 Regional information on open burning practices and data on uPOPs releases exchanged and respective regional cooperation and networking consolidated	GEF TF	196,000	787,000
2. Regulatory / Legal framework review, policy development and institutional strengthening	TA	Strengthened legislation and human resources capacity in implementing BAT/BEP at selected priority sites of open burning	2.1 Regulatory measures aimed at discouraging open burning practices of different waste streams and agricultural residues formulated or amended 2.2 Country action plans for managing and phasing out open burning of wastes and agricultural residues reviewed and strengthened. 2.3 Regional	GEF TF	528,000	2,163,000

			BAT/BEP guidances for uPOPs reduction formulated for respective Ministry of Environment's adoption at country level for substantial reduction and/or collective elimination of waste and agricultural residues in open burning practices 2.4 Adequate technical infrastructure for implementing BAT/BEP and waste management best practices built			
3. Pilot demonstration of BAT/BEP in selected priority sites	TA	Implementation of BAT/BEP to reduce uPOPs releases in the open burning sector at national and regional levels	3.1 Waste management best practices carried out in two (2) selected priority demonstration municipalities in each participating country 3.2 Waste management plans introducing BAT/BEP measures developed and implemented in two (2) selected major dumpsites and landfills in the participating countries using PPP models 3.3 Biomass waste recycling and disposal options promoted in two (2) demonstration sites through alternative waste management plans for better value addition 3.4 Harmonized methodology developed to set up	GEF TF	4,966,000	23,346,500

			uPOPs release reduction targets for open burning sector at regional level 3.5 Socio-economic impacts of the project intervention on private and informal sectors including recycling business plan assessed			
4. Information dissemination and awareness raising	TA	Knowledge transfer on BAT/BEP for replicability and awareness raising on uPOPs related risks and exposure in open burning sector	4.1 One regional targeted training of trainers emphasizing health and environmental risks and exposure hazards of open burning practices and awareness raising campaigns for all relevant target groups observing appropriate gender representations (decision makers, professional associations, community leaders, farmers, private industries, waste pickers, NGOs, media and the public at large) carried out in each participating countries 4.2 Educational programmes for introduction of lessons learned and alternatives to open burning practices established at all levels in each of the participating countries 4.3 Regional cooperation on BAT/BEP and uPOPs and information sharing established through the BAT/BEP	GEF TF	379,000	1,007,500

			Forum			
5. Monitoring and evaluation of results	TA	Design and implementation of M&E framework in accordance with UNIDO and GEF requirements	5.1 Project interventions monitored and project progress evaluated	GEF TF	216,000	236,000
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
Subtotal					6,285,000	27,540,000
Project management Cost (PMC) ³				GEF TF	330,000	821,000
Total project costs					6,615,000	28,361,000

C. SOURCES OF CONFIRMED COFINANCING FOR THE PROJECT BY SOURCE AND BY NAME (\$)

Please include letters confirming cofinancing for the project with this form

Sources of Co-financing	Name of Co-financier (source)	Type of Cofinancing	Cofinancing Amount (\$)
National Government	Government of Botswana	In-kind	2,664,300
National Government	Government of Botswana	Cash	700
National Government	Government of Lesotho	In-kind	2,132,000
National Government	Government of Lesotho	Cash	533,000
National Government	Government of Madagascar	In-kind	3,211,000
National Government	Government of Mozambique	In-kind	2,665,000
National Government	Government of Swaziland	In-kind	2,660,000
National Government	Government of Swaziland	Cash	5,000
National Government	Government of Tanzania	In-kind	2,665,000
National Government	Government of Zambia	In-kind	2,665,000
GEF Agency	UNIDO	Cash	60,000
GEF Agency	UNIDO	In-kind	100,000
Bilateral Aid Agency (ies)	Mozambique/Korean Government	Cash	2,300,000
Bilateral Aid Agency (ies)	Mozambique/Korean Government	In-kind	2,700,000
Private Sector	Botswana Meat Commission/Botswana International University Science and Technology Thhoeko Sanitary Solutions (Pty) Ltd., Lesotho	In-kind	4,000,000
Total Co-financing			28,361,000
<i>During the project implementation, actual co-financing from Private Sector will be confirmed.</i>			

³ PMC should be charged proportionately to focal areas based on focal area project grant amount in Table D below.

D. TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY¹

GEF Agency	Type of Trust Fund	Focal Area	Country Name/ Global	(in \$)		
				Grant Amount (a)	Agency Fee (b) ²	Total c=a+b
(select)	(select)	(select)				0
UNIDO	GEF TF	Persistent Organic Pollutants	Botswana	945,000	89,775	1,034,775
UNIDO	GEF TF	Persistent Organic Pollutants	Lesotho	945,000	89,775	1,034,775
UNIDO	GEF TF	Persistent Organic Pollutants	Madagascar	945,000	89,775	1,034,775
UNIDO	GEF TF	Persistent Organic Pollutants	Mozambique	945,000	89,775	1,034,775
UNIDO	GEF TF	Persistent Organic Pollutants	Swaziland	945,000	89,775	1,034,775
UNIDO	GEF TF	Persistent Organic Pollutants	Tanzania	945,000	89,775	1,034,775
UNIDO	GEF TF	Persistent Organic Pollutants	Zambia	945,000	89,775	1,034,775
(select)	(select)	(select)				0
(select)	(select)	(select)				0
Total Grant Resources				6,615,000	628,425	7,243,425

¹ In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

² Indicate fees related to this project.

F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Grant Amount (\$)	Cofinancing (\$)	Project Total (\$)
International Consultants	161,000	180,000	341,000
National/Local Consultants	102,000	767,000	869,000

G. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? No

(If non-grant instruments are used, provide in Annex D an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/NPIF Trust Fund).

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF⁴

1. Information presented in this document builds on those provided in the original PIF, the structure and budget of the document closely follows the project design of the PIF. As part of the PPG activities, project partners (UNIDO and the participating countries) interacted during the initial consultation meeting held in Lusaka, Zambia in May 2014 to prepare the workplan for the preparatory phase. A subcontract was given to each participating country for the collection of baseline data on open burning practices, conduct national survey of dumpsites/landfills, identify demonstration sites where to implement BAT/BEP, identify public and private laboratories and other monitoring networks for uPOPs sampling and analysis and identify key and relevant stakeholders that will be involved in the project implementation. Questionnaires were circulated and filled in by participating countries (Annex I). As a result of this, the project document was drafted taking into account the data and information provided by the participating countries. The validation workshop took place in November 2014 in Gaborone, Botswana where the draft project document was reviewed by all partners. Project activities to be supported by the co-financing (in-kind/cash) from the Governments of the participating countries were detailed in Annex D (Co-financing budget) as per commitment letters (Annex I) from the Governments of the participating countries. Co-financing commitment from private sector and other project beneficiaries has been mobilised and presented in Annex Ia .
- A.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NCSA, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.
2. All participating countries have ratified the Stockholm Convention (SC) and completed their national implementation plans (NIPs). The NIP inventories concluded that uncontrolled combustion processes are the most significant sources of unintentionally produced persistent organic pollutants (uPOPs) releases. Consequently, the reduction of uPOPs releases is among national priorities of the participating countries related to the implementation of the SC. Data and information from NIP update projects in the participating countries (wherever is available) will be built in and support the project.
3. The common aim at reducing the harmful effects of open burning practices has led the participating countries to promote and sustain immediate actions to fully address this issue. Waste management is a pressing problem for the governments, because of the general lack of specific infrastructure (sanitary landfills, high temperature waste incinerators, etc.) and insufficient coverage of this topic in the supporting legislations. Some countries are in the process of developing and implementing various municipal waste management strategies and action plans. Governments are seeking advice and assistance from the international community concerning advanced management practices and technologies complying with best available techniques and best environmental practices (BAT/BEP) that could reduce or minimize the negative environmental impacts of open burning of wastes. These issues are reflected in the national action plans in the NIPs of the participating countries.
4. More specifically, following examples of strategies to address uPOPs reduction could be cited: in **Botswana**, the NIP follows the national development process as defined in the country's National Development Plan (NPD), District Development Plans (DDPs) and Urban Development Plans (UDPs). The main activities regarding uPOPs include the revision and enacting of the respective legislation, especially concerning incineration guidelines and awareness campaigns. In **Lesotho**, the development of an Integrated Waste Management and Pollution Control policy framework, the amendment of relevant legislation to ensure significant reduction of uPOPs releases, and training of law enforcement officers to implement the laws are foreseen. The implementation of cleanup systems and proper waste management for stockpiles and waste directly address the open burning issue. Other actions involve the promotion of recycling of plastics and setting up two (2) new sanitary landfills. In **Madagascar**, the NIP aims at reducing the releases of uPOPs from the main region Analamanga by 50% within 5 years through the implementation of waste management of municipal and hazardous wastes and setting up a pilot incinerator. In **Mozambique**, the establishment of Mozambique Center for Chemical Management (MCCM), as an inter-sectoral body to oversee the control of chemicals in the country, is planned. In the NIP of **Swaziland**, the main activities related to waste reduction include a construction of medical waste incinerators and an overall increase of efficiency

⁴ For questions A.1 –A.7 in Part II, if there are no changes since PIF and if not specifically requested in the review sheet at PIF stage, then no need to respond, please enter “NA” after the respective question.

and quality of the existing disposal facilities for health-care/medical waste. As far as biomass burning is concerned, the aim is to strengthen the implementation of the Rural Electrification project to reduce the use of firewood by rural poor communities and promote advanced harvesting methods for green cane. In **Tanzania**, the NIP prioritizes the development of PCDD/PCDF control programs covering waste management strategies, the research on BATs and BEPs that include alternative materials and technology, as well as the identification of feasible technological options for waste incineration. The NIP also foresees investment programs on BATs and BEPs for major sources, including uncontrolled combustion. In **Zambia**, deliberate efforts were made to formulate a NIP that conforms to the **Zambian Fifth National Development Plan (FNDP)**, **Vision 2030** and the **Millennium Development Goals (MDGs)**. Specific activities are planned to reduce releases from uncontrolled domestic waste burning by 75%, such as increasing domestic waste collection in peri-urban and rural districts, implementing the Zonal system to promote waste segregation at source, recycling technology for plastics and composting of biodegradable materials, as well as increasing taxes on importers and producers. In order to reduce PCDD/PCDF releases from agricultural residue burning and forest fires, the NIP foresees development and implementation of awareness raising campaigns for landfill managers, as well as the introduction of financial incentives and alternative income generation mechanisms for waste pickers. The Ministry of Science, Technology and Vocational Training (MSTVT) has set up a Bureau to review all technologies currently in use in the country, with the objective of recommending BAT/BEP in the context of POPs management.

5. All participating countries are parties to the Basel Convention for the control of transboundary movement and management of hazardous wastes, and some are parties to the Bamako Conventions that include promotion and provision of trainings in sound environmental management of hazardous wastes, technology transfer, information dissemination, research and consulting among African States.
6. Participating countries are parties at the regional economic co-operation agreement, the Southern African Development Community (SADC). The SADC's goal is to improve the living standards in peace and security and to enable sustainable economic and social development of the member countries through co-operation in trade, customs and monetary affairs, technology, industry and energy, transport and communication, agriculture and environment. Specifically, the SADC Secretariat developed and updated the Regional Indicative Strategic Development Plan (RISDP) in order to sustain the operations of institutions and provide a clear mid- and long-term orientation for policies and programmes of the organisation. The ultimate objective of RISDP is to deepen integration in the region with a view to accelerate poverty eradication and the attainment of other economic and non-economic development goals, among them environment as cross-sectoral intervention area has a priority.
7. Moreover, the New Partnership for Africa's Development (NEPAD), an African Union strategic framework for pan-African socio-economic development, is both a vision and a policy framework for Africa in the twenty-first century. The environmentally sound management of chemicals including POPs is identified as a key issue under the environmental initiative in Chapter 38 of the NEPAD Plan of Action. Additionally, participating countries are represented in the Strategic Approach to International Management of Chemicals (SAICM), the policy framework created to promote the sound management of chemicals throughout their life-cycle and control the potential adverse impacts of chemicals on the environment and human health.
8. The GEF funded project implemented by UNIDO/UNEP on "*Capacity strengthening and technical assistance for the implementation of NIPs in African Least Developed Countries and Small Island States (LDC project)*" provided technical capacities and human resources that would be used in this project.

A.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities.

9. The project is consistent with the focal area objective CHEM-1 of the GEF-5, which aims at phasing out and reducing POPs releases. Under Outcome 1.3 "POPs releases to the environment reduced" (Indicator 1.3.1 Amount of unintentionally produced POPs releases avoided or reduced from industrial and non-industrial sectors; measured in grams TEQ against baseline as recorded through the POPs tracking tool), following NIP priorities, the investments that address implementation of BAT/BEP for release reduction of unintentionally produced POPs from open-burning of waste, including burning of landfill sites, will be supported by the GEF.
10. The PCDD/PCDFs inventories reported in the NIPs of the participating countries of SADC region indicated the open burning sector as the most significant source of PCDD/PCDF releases, accountable for an estimated total of

2011.201 g-TEQ/a. This sector includes, among others, the commonly practiced biomass burning activities, such as agricultural residue burning, sugar cane burning, forest and grassland fires, etc., as well as uncontrolled burning/accidental fires including dumpsite fires and backyard waste burning. The reduction of uPOPs releases from these major sources requires coherent legislative, institutional and executive capacity of the government, significant investments and technical capacity from the private/public sector, and substantial international support.

A.3 The GEF Agency's comparative advantage:

11. The mandate of UNIDO is to support developing countries and countries with economies in transition to achieve inclusive and sustainable industrial development (ISID) through its existing institutional networks such as national cleaner production centres (NCPCs), investment and technology promotion centres (ITPOs), field and local UNIDO desk offices and BAT/BEP Global Forums in ESEA, CEECCA, GCC and Africa.
12. UNIDO has gained an overall capacity through working on industry related technical assistance and capacity building projects. UNIDO provides technical assistance based on an environmentally sustainable industrial development approach that includes POPs pollution reduction and/or elimination, industrial process changes, cleaner production methods, substitute or modified materials and products, BAT and BEP and the environmentally sound management for minimization and disposal of POPs chemicals and wastes. UNIDO has also been developing and implementing projects dealing with e-waste management and mercury and has contributed to the efforts made in implementing sound management of chemicals and wastes through SAICM and other bilaterally financed projects.
13. UNIDO's priority areas within the POPs programme are based on the provision of Article 5 and 6 of the Stockholm Convention that are mainly focused on industrial sectors mentioned on Annex C of the Convention including Part III: Source categories - open burning of wastes/burning of landfill sites. The project falls within the comparative advantage of UNIDO as it focuses on the creation of resource efficient waste management systems to abate open burning practices. The organization has successfully implemented BAT/BEP projects focusing on the introduction of BAT/BEP in priority industrial source categories and is currently implementing a regional open burning project in East and South East Asia (ESEA) and a country project in Senegal. The proposed project will benefit on the lessons learned and experiences gained in implementing the above-mentioned projects.
14. UNIDO has implemented a large number of GEF financed National Implementation Plans (NIPs) and currently assisting more than 50 NIP review and update projects including those of Lesotho, Mozambique, Swaziland, Tanzania and Zambia. This provides an opportunity to have an in-depth assessment of the current POPs management challenges in the countries, including those in the open burning source categories.
15. UNIDO has established the regional Africa BAT/BEP Forum to support the countries in developing and formulating a regional action plan on BAT/BEP in order to implement the requirements of the Stockholm Convention. The Forum has been launched in September 2012 during the high-level African Ministerial Conference on Environment (AMCEN) held in Arusha, Tanzania whose objective is to create enabling, non-legally binding framework for regional cooperation to facilitate the development, diffusion and deployment and transfer of BAT/BEP through concrete and substantial initiatives. The Forum identified the open burning of wastes as its first priority sector that needs immediate attention. All the participating countries in this project are members of the Africa BAT/BEP Forum.
16. UNIDO is part of the expert group that has developed and continuously improves the BAT/BEP guidelines of the Stockholm Convention on POPs. This project will integrate both aspects of technology transfer and investment promotion in introducing BAT/BEP in the open burning source category.
17. UNIDO has recently embarked on the UN Secretary General initiative "Sustainable Energy for All", which is expected to achieve record increases in global access to energy, and at the same time double the levels of overall energy efficiency and the share of renewable energy. This important collaboration will also contribute to the reduction of uPOPs releases and ensure effective oversight and control of the linkages between releases of chemicals and climate change effects.

A.4. The baseline project and the problem that it seeks to address:

BASELINE SCENARIO

18. The implementation of integrated waste management practices in Africa is generally still at an infancy stage. Waste treatment facilities (such as properly managed incinerators or sanitary landfills) are very few, as well as the reuse/recycling practices. Municipal wastes and other types of wastes are usually dumped in open dumpsites and eliminated by open burning practices. Municipal waste in urban areas is mainly composed of food residues, packaging of goods and some hazardous wastes (such as batteries and electronic devices), whereas in sub-urban or rural areas the shares of those wastes decrease in favour of country/region specific agricultural wastes.
19. Hazardous wastes streams are commonly diverted to some uses other than final disposal, or mixed and disposed of with other waste streams. Contaminated ashes from burning processes (incinerators, cement kilns or industrial boilers) are often dispersed in open fields. Waste oils are usually burnt as fuel. Medical waste collection and management is usually carried out only in large healthcare facilities. In most of the small hospitals, especially in remote countryside and private clinics, the medical waste is not properly collected for special treatment and it ends in an uncontrolled disposal. This practice can result in breakage of mercury-containing devices (such as thermometers and blood pressure meters) causing the release of these global contaminants in the environment. Moreover, new types of wastes are emerging, such as electrical and electronic waste. The chlorinated precursors and catalytic metals (copper, iron, etc) from electrical, electronic and medical devices have been recognized as the main factors contributing to the formation and releases of uPOPs in open burning processes.
20. Several participating countries are promoting policies to increase the productivity of agricultural fields through investments in river waters management projects or land reclamation, though many environmental problems come from the adverse impacts of climate change. Given that, the project will result in an increased quantity of the agricultural wastes being treated or disposed in an environmentally sound manner, and introduce climate change adaptation considerations in this sector.
21. High level of exposure to uPOPs over time (as experienced by waste management workers and waste pickers) may lead to increased birth defects, dysfunctional immune and reproductive systems, greater susceptibility to diseases, and some types of cancer. Since open burning of mixed wastes and agriculture residue wastes is not properly addressed, uPOPs releases will increase with the expected overall increase of waste in the future. Therefore, in addition to the negative environmental impacts, this development poses a significant long-term threat to the health of local population.
22. Decision-makers in the region are aware of the need to set up waste management programmes and to upgrade open dumps to sanitary landfills. At the national and municipal levels, however, only few countries have taken steps to set up a regulatory framework and construct, operate and maintain sound waste management facilities. In several countries, the Environmental Protection Acts (EPA) deal with pesticides and PCB control and disposal, and the existing legislations in some countries include certain provisions to control waste disposal or prevent agricultural residues burning. Also, within the above mentioned initiatives and policies to increase the productivity of agricultural fields, some countries are in the process of setting up waste management regulations and restrictions in this sector. However, in most of the participating countries, the EPA do not address all aspects of uPOPs releases from open burning, and usually do not contain considerations about impacts of climate change on this sector of waste management.

BASELINE PROJECT

23. The participating countries, except Botswana, Madagascar and Zambia, are involved in the GEF/UNIDO/UNEP ongoing regional AFLDCs project "*Capacity strengthening and technical assistance for the implementation of the Stockholm Convention National Implementation Plans (NIPs) in Africa Least Developed Countries (LDCs) of the SADC region*". UNEP is currently developing a model legislation for chemicals regulatory system, and this document will be available for use and adaption to specific national requirements. UNIDO has been conducting training of trainers and workshops to identify and assess contaminated sites, municipal solid waste management as well as pilot demonstrations of BAT/BEP measures and capacity building in selected sectors such as textile and tanneries at the regional level. The Tshwane University of Technology (TUT), Pretoria, South Africa, supported by the regional LDCs project as reference laboratory in the SADC region, has conducted the 1st workshop on environmental research and pollution monitoring of environmental POPs in April 2015 where 8 experts from

SADC subregion were trained on sample preparation and chemical analysis of the environmental samples. TUT offers this workshop twice a year and will be extended to this project to strengthen capacity of national experts as well as existing laboratory facilities of the participating countries in implementing BAT/BEP. The Africa BAT/BEP Forum established under the LDC project has identified this project as its 1st priority to facilitate development, deployment and transfer of BAT/BEP through regional cooperation. The RISDP developed and updated by the SADC Secretariat will deepen integration of the participating countries in the region to attain sustainable socio-economic development through cooperation on trade, industry and energy, technology, transport and communication, agriculture and environment. In addition, the GIZ, Germany has conducted 2 workshops on contaminated legacy sites and contributed US\$100,000. Experiences gained through the above mentioned projects and activities, as well as the strengthened regulatory framework and enhanced technical and institutional capacities will be used and further extended by this project to ensure comprehensive coverage of all aspects of the uPOPs from open burning and achieve continuous and sustainable reduction of uPOPs releases.

24. The participating countries have different baseline projects, mainly depending on their specific financial, economic and socio-economic status. The PCDD/F estimated releases for each country, the ongoing activities and projects both at local and national levels are presented hereafter. These baselines have been considered in designing the specific activities of the project.
25. In **Botswana**, the results of inventory made during the NIP demonstrated that uncontrolled combustion processes are potentially one of the most significant sources of PCDD/F and releases are estimated at a total of 26.644 g-TEQ/a. Uncontrolled dumping sites and landfill fires play a significant role in the releases of uPOPs, followed by domestic waste burning. The category of biomass burning accounts for 29.877 g-TEQ/a, coming mainly from accidental forest fires and in a much lesser extent from burning of grassland. This data has been available, but the data on the amounts of harvest residues in agricultural fields are not available. These source categories contribute to approximately 90% of the estimated total PCDD/F releases. The NIP follows the national development process of the National, District and Urban Development Plans in addressing uPOPs reduction.
26. Botswana has enacted several laws including the Atmospheric Pollution Act, Public Health Act and Waste Management Act (WMA) of 1998 but regulations are general and do not contain the provisions on POPs chemicals. The WMA indirectly prohibits burning of waste by applying the “duty of care” responsibility, which renders persons found performing that act liable to punitive actions. There is no waste management implementation plan in Botswana. The Gaborone City Council (GCC) has closed the old and largest landfill in 1992 and another one in 2008. The landfill in the South East District was built without any Environmental Impact Assessment (EIA) study. A new advanced landfill was built in Kweneng district, located between Molepole and Gamodubu, about 30 km west of Gaborone. It has been built after several delays and it is a modernized landfill with advanced machinery, expected to be the largest in the country. As far as the healthcare waste management is concern, incinerators used for disposal of medical wastes are single chambered and not properly operated. There are no public or private entities to monitor uPOPs or perform uPOPs sampling. The National Environmental Laboratory was established in 2002 to facilitate proper and accurate monitoring of pollutants in air, but POPs such as PCDD/F (dioxins and furans) have not been monitored. The NIP has identified relevant NGOs in the field of environment and chemicals management that have the capacity to do the research and carry out public awareness campaigns on hazardous chemicals and waste management demonstration. No educational institution in Botswana has the topic of environmentally sound disposal operations as part of its curriculum.
27. The Government has made investments in the agricultural sector with a view to improve productivity, enhance rural incomes and diversify the economy, thus accelerating achievement of the Vision 2016 program. Among others, there will be investments in infrastructure, mainly for water conveyance from Chobe-Zambezi River to Zambezi Integrated Agro-Commercial Development site for irrigation and improvement of arable land. Consequently, this initiative will cause an increase of agricultural waste to be managed.
28. In **Lesotho**, the total PCDD/F releases estimated within the inventory made during the original NIP were 1,708.1g-TEQ/a, mainly caused by burning of waste at illegal and uncontrolled dumping sites. The releases from waste disposal or landfilling accounted for 1,124 g-TEQ/a and uncontrolled combustion for 347.91 g-TEQ/a.
29. Industrial solid waste is disposed together with domestic solid waste at dumpsites or burned at the industries in open fire places. All hospitals in the country have medium technology incinerators. However, all devices have been found either out of order or not functioning in a proper way, which leads to the burning of medical waste in an

incomplete combustion process. Lesotho does not have a legislation that deals specifically with the management of chemicals, especially the POPs. Air pollution regulations and guidelines do not exist in the country. The existing laws are fragmented and do not address POPs chemicals. However, the government is aware of these limitations, and is in the process of addressing them. The amendment of relevant legislation to ensure significant reduction of uPOPs releases and training of law enforcement officers to implement the laws are foreseen. Lesotho has prepared two plans for waste management namely Integrated Solid Waste Management Plan for the city of Maseru/Lesotho of 2008 and National Healthcare Waste Management Plan of 2005. There is only one medium size official dumpsite in the country. The waste is not treated, but simply buried and/or covered with soil and compacted on a daily basis. The NIP highlighted that a special attention was needed for the Ha-Tsosane (near the capital city Maseru) and Maputsoe dumpsites, which both receive all sorts of waste, including industrial wastes. The implementation of cleanup systems and proper waste management of stockpiles and wastes directly address the open burning issues. The promotion of recycling of plastics involving the private sector (Tlhoeko Sanitary Solutions (PTY) Ltd.) and setting up two (2) new sanitary landfills are among the actions foreseen for the future. Lesotho is currently implementing the NIP review and update project and data and information collected during the situation analysis of the NIP will be taken into account during the implementation of this project. No educational institution in Lesotho has the topic of environmentally sound disposal operations as part of its curriculum. There are no public or private entities to monitor uPOPs or perform uPOPs sampling.

30. In **Madagascar**, the inventory made in 2002 as part of the NIP indicated an estimated total of 334 g-TEQ/a PCDD/F, 252.4 g-TEQ/a caused by uncontrolled burning processes and 32 g-TEQ/a by disposal/landfill operations.
31. In the urban areas and in the six (6) provinces, the collection of municipal waste is undertaken by the municipalities with the support of NGOs and local businesses. The management of waste is identical across the provinces where municipal waste is collected and transported to the dumpsites by contracted private companies or NGOs, depending on the community funds available, and without any screening or special treatment. Household wastes are mixed with all kinds of wastes (electronic materials, plastics, hospital wastes, etc.). In Mahajanga and Fianarantsoa provinces, certain activities on recovery of waste exist, such as organic waste composting and recycling of plastic tiles and pavers with the support of local NGOs and local businesses. At the dumpsites in urban areas, the waste pickers collect useful wastes and burn the remaining ones. In sub-urban areas, household waste is burned near the residential areas or at remote locations. Madagascar does not have a legislation that deals directly with municipal waste, but it has environmental considerations, national policy of medical waste management, legislation on the management and control of industrial pollution policy and strategy on CDM promotion. Two research centres specialised on the environment exist in Madagascar. Analytical laboratories exist, but significant capacity building is necessary to enable the technicians to analyse PCDD/F.
32. In **Mozambique**, the national initiatives originated from the NIP. However, there are no guidelines on POPs wastes management and the enforcement of the existing legislation relevant to the management of POPs is weak. Some of the sources of PCDD/F such as releases from crematoria, fires at waste disposal sites and accidental fires in factories were not quantified due to missing baseline information. However, according to some report, 72.5 g-TEQ/a accounts for PCDD/F emissions from uncontrolled burning in dumpsites/landfills. There are dumpsites in each municipality of the 10 provinces, with the largest one placed in Hulene near Maputo. Medical wastes are generally incinerated in hospitals using small ovens. Private, bilateral and financial sector initiatives have resulted in a few projects in the country. One industrial waste landfill has been in operation in Maputo since 2006, accepting waste from aluminum industry. It has two cells with a capacity of 6 years per cell. It was built from the funds from DANIDA, DHV, MOZAL and Mozambique Government. It is currently managed by Interwaste Ltd. from the Republic of South Africa. The project activities will seek linkages to the Korean initiative on setting up new landfills in each province for the next 10 years where preliminary phase for the master plan has been prepared. Investments are foreseen in the cities of Beira-Dondo, Nampula, Nacala, Quelimane in the period 2013-2016. Feasibility studies for waste treatment facilities are also being prepared for the cities of Maputo and Matola. In Mozambique, the Ministry of Land, Environment and Rural Development (MITADER), formerly MICOA and AQUA have the capacity to monitor uPOPs and Inveron-service and Interwaste have the capacity to perform uPOPs sampling. In addition, the establishment of the MCCM as an inter-sectoral body to oversee the control of chemicals in the country is planned.
33. In **Swaziland**, as far as the national initiative is concerned, the estimated uncontrolled open burning process category accounted for some 107.715 g TEQ/a PCDD/F emissions out of the total releases of 117.2 g-TEQ/a, as

reported in the original NIP. The open burning processes include several activities, such as field sugar cane trash burning before harvesting, accidental plantation forest fires, wild grass and savannah fires, accidental fires in municipal landfills and domestic waste burning, with the latter accounting for some 86% of the total releases. The majority of the population rely on open burning for the reduction and management of their wastes. According to the NIP update inventory of May 2014, the uPOPs emissions of open burning processes are 11.67 g-TEQ/a out of the total releases of 74.44 g-TEQ/a.

34. The National Solid Waste Management Strategy (NSWMS) was developed in 2001 with the assistance of DANCED (Danish Cooperation for Environment and Development) and is being implemented. It encompasses waste management and planning, including recycling strategies, general and hazardous waste disposal strategies from all sources. There is a draft legislation that aims to introduce levies on the use of plastic bags and other plastic wrapping products in an attempt to prevent waste generation. The other act related to open burning is the Grass Fires Act, No. 44/ 1955 that prescribes a general prohibition of grass burning. Grass fires can only be lit and set upon the issuance of a permit by the Director of Agriculture. There are four properly constructed and licensed small and medium scale general waste landfills (Mbabane, Piggs Peak, Matsapha and Simunye) in the country, while other fourteen (14) are mainly improperly managed waste dumpsites, with only three (3) of them licensed. Usually the local authorities collect the waste, but some private companies can operate at their own premises as well. Some components of waste control have been introduced in a few peri-urban and rural areas, and the collection of waste is being undertaken. No NGO is involved in waste collection at the moment. There are seven municipalities in the country that have landfills (Mankayane, Nhlengano, Hlatikulu, Lavumisa, Siteki, Ngwenya and Vuvulane). There are also six (6) waste control areas at Buhleni, Lomahasha, Mpaka, Siphofaneni, Kwaluseni and Lobamba. Existing biomass waste recycling activities in the country are currently taking place within the municipalities, driven mainly by economic forces and implemented primarily by the private sector. The biomass burning aim to strengthen the implementation of Rural Electrification project to reduce the use of firewood by rural poor communities and promote advanced harvesting method for green cane at Big Bend and Simunye. The University of Swaziland, in Mbabane Campus, has a module on waste management and environmental disposal initiatives within the Degree Programme on Environmental Management. However, the POPs related capacity is weak and the institution does not have research laboratory. There are no public or private entities to monitor uPOPs or perform uPOPs sampling in the country.
35. According to the NIP preliminary inventory in **Tanzania**, the uncontrolled burning represented 785.395 g- TEQ/a PCDD/F emissions out of the total of 946.60 g-TEQ/a of PCDD/PCDF estimated releases. Biomass burning covered mainly forest and grassland fires (166.33 g-TEQ/a and 244.96 g-TEQ/a respectively). No data was available for agricultural residue burning. The rest of releases were caused by domestic waste burning. It was assumed that the major portion of solid waste in rural areas was of organic origin and that it was used on farms or as animal feed. The remaining portion, containing inorganic waste materials, was not burned but buried. In urban areas, less than 30% of domestic waste is collected for final disposal at municipal disposal sites, while the rest is burned or buried at a household level. This subcategory accounts for some 172.11 g-TEQ/a. However, according to the NIP update inventory of January 2015, air emissions of fires at waste dumps are 10.14 gTEQ/a generated by 33,800 t/a wastes, while open burning of domestic waste generates 54.8 g-TEQ/a uPOPs from 1,352,000 t/a waste. The annual biomass burning of 1,301,315 tonnes generates 36.55 g-TEQ/a uPOPs.
36. Some programs in the waste management sector started in 1994, including training in cleaner production concept for industry workers, sustainable cities programs in five municipalities, solid waste collection in Dar Es Salaam City, and the establishment of water and waste water authorities in certain urban centers. Several tools have been introduced (i.e. the cost sharing method in waste management in Dar es Salaam), the researches on waste treatment and disposal technologies have been conducted, and community based environmental sanitation projects have been promoted. There is only one large sanitary landfill of approximately 65 hectares in Tanzania, but it is not working properly due to lack of funding. Waste collection and transport are undertaken by private sector, municipalities and NGOs. No specific waste management technologies are applied, with the exception of a few small incinerators in hospitals to treat medical wastes. Ilala and Kinondoni Municipalities are the biggest municipalities in the country and both are using Pugu Kinyamwezi dumpsite, which is an open dumpsite located about 29km from Dar es Salaam city center. Its capacity averages about 800-1000 tons of wastes from the two municipalities. Other collection points or methods are skip buckets. Biomass waste recycling is done informally at household and/or community levels through informal private sector. There are several institutions specialized in providing training

on waste management and environmentally sound disposal operations in Tanzania such as the College of Engineering and Technology (CoET) of the University of Dar es Salaam; ARDHI University, Dar es Salaam; Government Chemist Laboratory Agency (GCLA) that provides training on Management and Disposal of Chemical wastes to stakeholders and to inspectors of facilities for compliance; Sokoine University of Agriculture, Morogoro; and Nelson Mandela African Institute of Science and Technology, Arusha. Waste management and environmentally sound disposal operations are also part of their curriculum. There are no public or private laboratories that perform uPOPs sampling and analysis in Tanzania. The GCLA can be made capable of conducting such analysis through specific training on uPOPs. The GCLA already has the basic facilities for doing the analysis as the laboratories are equipped with modern devices such as GC-MS and HPLC. Furthermore, GCLA staff are experienced in doing the analysis of most environmental samples. Experience in analysing uPOPs is limited because monitoring of uPOPs has not been recently conducted. There is no private or financial sector initiative relevant to the project except the above-mentioned biomass waste recycling by informal private sector.

37. In **Zambia**, national initiatives emerged from the original NIP. According to the 2004 national inventory, the releases of PCDD/F were 483.1 g-TEQ/a and this was shared as follows: air 289.7 g-TEQ/a; residue 144.9 g-TEQ/a; land 48.4 g-TEQ/a. The largest source of these releases were uncontrolled combustion processes, (438.0 g TEQ/a) i.e. forest fires and open air burning, which emitted significant amounts to all release sectors. According to the NIP update inventory of March 2014, open air burning processes releases 12.71 g-TEQ/a uPOPs.
38. A number of legal instruments have been promulgated to regulate various aspects of the environmental management including the use of chemicals such as POPs. Specific activities are planned to reduce PCDD/PCDF releases from uncontrolled domestic waste burning by 75%, such as increasing domestic waste collection in peri-urban and rural districts (increasing number of waste collection trucks) and implementing the Zonal system in pilot districts to promote waste collection and segregation in municipal councils of major cities as well as increasing taxes on importers and producers. With the support from the Danish International Development Agency (DANIDA), the first engineered sanitary landfill with environmental protection mechanisms was built at the cost of about US\$ 2.8 million. It covers 24 hectares with five cells. The expected life is 20-25 years for the entire site. Some 200 tonnes of waste are received daily. The collection rate has improved from about 5-10% to 35-40% within three years. Only licensed and approved waste transporters and generators are permitted to operate. Other methods used for waste storage locations include temporal-skips such as primary collection into the skips and the Secondary collection from the skips to the landfill. In order to reduce PCDD/PCDF releases from agricultural residue burning and forest fires, the NIP foresees development and implementation of awareness raising campaigns for landfill managers as well as the introduction of financial initiatives and alternative income generation mechanisms for waste pickers. There are also biomass waste recycling practices, which include recycling of biomass in Solwezi and by Enviroserve in Livingstone. These waste recycling operations are dominated by private sector. The Ministry of Science, Technology and Vocational Training (MSTVT) has set up a bureau to review all technologies currently in use in the country with the objective of recommending BAT/BEP in the context of POPs management. The University of Zambia of Great East Campus- Department of Geography and Environmental Studies and Mulungushi University- Department of Environment offer training in waste management, and waste management and environmentally sound disposal operations are also part of the latter two universities' curriculum. Zambia is using the guidelines provided in the SC to monitor POPs including uPOPs. There are no public or private entities performing uPOPs sampling in the country.
39. Several initiatives mentioned above have been incepted, and most of the participating countries have made attempts to control the releases of chemicals. However, it is necessary to accelerate, broaden and further facilitate the implementation of these initiatives in order to ensure their sustainability. The identified gaps on relevant regulatory framework, institutional and human capacity to manage and treat uPOPs releases in an environmentally sound manner and lack of awareness on the effects of uPOPs releases on the environment in the participating countries should be addressed so that all aspects of uPOPs releases from open burning are covered in national and regional contexts. Special attention is required for awareness raising and law enforcement, and considerations on climate change adaptation in waste management sector should be introduced. Innovative business approaches in waste management should be developed and involvement of private entities and other financial sector in the implementation of the BAT/BEP interventions should be explored in the project for sustainability and replicability.

- A. 5. Incremental /Additional cost reasoning: describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

THE GEF PROJECT

40. The primary objective of the project is the continuous minimization of uPOPs releases in the open burning sector of participating countries of SADC region in a sustainable manner through the introduction of BAT and BEP measures at selected priority demonstration sites.
41. The incremental reasoning for the project implementation relies on the fact that the project complements initiatives in participating countries and substantially contributes to the achievements of global environmental objectives in the region. More precisely, given the overall very initial stage of integrated waste management in all participating countries and lack of awareness of the effects of uPOPs releases on the environment, the ongoing improvements in waste management sector show several gaps to avoid generation of uPOPs from open burning. The implementation of all components of the project will ensure a holistic and cost effective approach in developing waste management sector in the region, by introducing missing aspects of uPOPs topic and filling in the gaps. In addition to this reasoning, as a general rule, each government should provide guidance for the private and public sectors for inclusive and sustainable development, put in place the relevant regulatory framework and ensure sustainability of its implementation. However, given other priorities in participating countries, the governments need substantial external support to fulfill these task in the case of uPOPs reduction. The project targets institutional gaps and provides examples of BAT/BEP on selected demonstration sites. Addressing these two aspects will enable comprehensive assessments of costs and benefits of developing environmentally sound waste management options that take into account the uPOPs reduction, and eventually lead to the implementation and effective enforcement of legally binding agreements aligned with and integrated into the national development policies and regulatory frameworks.
42. With the GEF support, the participating countries will enhance their institutional capacity and the technical capability of public and private stakeholders, by reviewing and updating current regulations and policies and filling in the gaps. The best practice examples will be identified and used as references, and the BAT/BEPs will be designed to maximize the impacts in the local contexts and implemented on the selected local demonstration sites. The project will build on the opportunities provided by the existing regional and international conventions and/or agreements, and ensure all relevant stakeholders involvement in an inclusive and sustainable manner.
43. From the outset, the main project activity will be to collect comprehensive information on the current uPOPs inventories of the open burning practices. Special attention will be given to the existing major source categories, such as dumpsites, landfills, agricultural residue burning practices, taking as a reference the recently modified releases factors in the UNEP dioxins toolkit of January 2013. The proposed project will conduct the validation of the reported releases of uPOPs from open burning practices in each participating country. The GEF support will enable adequate technical assistance through local and international experts capable of collecting reliable on-site data and correctly evaluating the methodologies to be used. In order to sustain national capabilities, training of trainers in inventory validation will be carried out. National baseline inventories and the regional baseline inventory will be projected, and the regional action plan will be developed on the basis of these inventories. The implementation of the regional action plan developed in such way will ensure the achievements of long-term global environmental objectives.
44. The management and regulation of waste and biomass disposal are usually addressed by different ministries or public/private organizations entrusted with environment and agriculture sectors. The support of the project and the international assistance will encourage participating countries to develop and maintain their own national programmes to address uPOPs releases problem in open burning.
45. The participating countries lack the technical and institutional capacity, regulations and financial support to monitor the releases of uPOPs and other harmful contaminants arising from open burning practices. Several project activities will focus on strengthening monitoring capabilities of selected regional laboratories or scientific institutions through the introduction of standardized analytical procedures, data collection and reporting. Moreover, targeted training programmes will be carried out for laboratory technicians on the internationally used methods for uPOPs sampling and analysis, and updated instrumentation will be provided in order to progressively

enhance the internal skills. Technicians will be trained in each participating country in required analytical techniques. The monitoring and analytical capacity in SADC region will increase ensuring that uPOPs releases will be monitored not only in open burning activities but in other Annex C sectors of the SC as well. All the activities will be carried out in cooperation with similar ongoing international projects in order to maximize the results, use synergies and ensure cost-efficient use of international financial resources. There are Government laboratories in some participating countries to perform sampling and preparation of samples, however, the project will use TUT laboratory in Pretoria to perform the analysis.

46. The proposed project will be based on viable BAT/BEP with the main goal of establishing a solid basis for progressive phasing out of open burning practices, by setting up demonstrative programmes in some selected dumpsites, landfills (possibly with different waste streams) and sites where agricultural residues are disposed. At least two (2) demonstration program in each participating countries will be developed. The demonstration activities will be carried out at sites where the environmental, economic and social benefits can be maximized not only at the national, but at the regional level as well. Such holistic approach will further contribute to the efficient use of international financial resources.
47. More specifically, immediate measures to improve management of waste during disposal operations will be implemented at several selected major dumpsites. These will involve the integration of waste pickers living close to the selected dumpsites in the waste management process. They will focus on the reduction and, where possible, the complete segregation of the mixed and hazardous materials. The overall aim is to demonstrate that feasible and inexpensive measures can be implemented to reduce uPOPs releases and the releases of other harmful contaminants (particulate matter, polycyclic aromatic hydrocarbons, heavy metals and mercury) from these types of sources. Semiautomatic collecting/recycling systems will be implemented in major dumpsites in the participating countries for the separation of glass, tins and bulk metals and paper from the main stream of organic waste. Waste containing chlorine (such as PVC) and/or bromine waste oils known as precursors or catalysts for the formation of PCDD/PCDFs will also be addressed. The recycling of materials will offer opportunities to local public or private waste management companies to open new markets and sustain the process.
48. Concerning biomass waste burning, demonstration sites in the participating countries that are close to industrialized areas will be selected for the implementation of demonstrative collection programmes on alternative use of the seasonal agricultural waste streams (such as sugar cane, cotton, edible oil, animal wastes, etc.) as fuels for industrial boilers or as raw materials for compost based products. Climate change mitigation aspects of using waste for energy production will be emphasized.
49. Institutionalizing the informal sector by groupings into NGOs/CBOs will enable provision of dedicated trainings on recycling activities and health safety protection, introducing more efficient and innovative business practices and awareness raising on risks connected with the exposure and accident prevention. These activities will be carried out with the cooperation of local authorities and with the support of international organizations operating in the region.
50. As described in the baseline scenario, there are already landfills operating in some of the participating countries. However, in most cases the current waste management practices do not include all technological and economic measures required for the environmentally sound operations, usually due to the lack of expertise and funding. The long term measures on selected landfills will specifically address existing obstacles by providing necessary international support to introduce proper BAT/BEP measures and ensure their sustainable implementation after the project. The means of cooperation and innovative financial schemes for environmental interventions such as leverage, combined finance and importantly the alternative sources of financing the small and medium sized enterprises (SMEs) will be explored with selected municipalities as public-private partnership (PPP) projects. PPP models has been recognized as the most suitable way to introduce modern waste management practices including BAT/BEP measures in developing countries. In SADC region, there are very few examples of successful and sustainable PPPs. However, the project will support PPPs in biomass waste-to-energy and waste segregation as well as recycling pilot demonstration programmes. These regional examples would pave the way to similar pilots in each participating countries and thus create regional cooperation for dissemination and replication of these new technologies.
51. Options to set up waste separation and pretreatment plants before the final disposal in the landfill will be investigated at sites where other programmes are being implemented, in order to segregate and send for recycling

the composite waste of the municipality. Different types of composting plants will also be evaluated on the basis of similar activities carried out in the SADC region and following the current approaches in developed countries (i.e. the policies for progressive reduction of the biodegradable part of waste in the European Union before sending waste to landfill).

52. Selected municipalities will be involved in the waste collection and segregation programmes for local authorities. This will promote more rational and effective approach to waste disposal at the demonstration sites and enable local authorities to gain experience on using new systems. The separation of organic matter and all other recyclable wastes directly from households and public offices will be encouraged through proper awareness raising programmes for the public, education of the scholars, as well as through the introduction of technical and financial measures and regulations.
53. Monitoring programmes will be set up before and after the implementation of modifications at the selected facilities. They will provide comprehensive information on the changes in uPOPs releases and releases of other related contaminants, such as particulate matter, mercury and greenhouse gases in the main environmental media. The project will therefore deliver valuable data and contribute to the further enhancement of the UNEP Dioxin Toolkit.
54. Moreover, the project will facilitate efforts to develop quantifiable indicators for economic and social impacts, such as the cost-effectiveness ratios for pollutant reduction and the return rate on investment of BAT/BEP measures in different sub sectors of open burning. It will also increase knowledge and awareness of climate change risks by introducing climate change mitigation component in this sector of waste management. All participating countries are vulnerable to climate change, and these considerations are not present in this sector in most of them.
55. With the GEF project, the participating countries will undertake open burning related programmes within a coordinated regional cooperation and information sharing platform (BAT/BEP Forum). The lessons learnt from the local interventions will be available for other countries in the African region and abroad for replication, thus the global impacts of the project on the environment and human health will be maximized.

Five (5) substantive Components/Outcomes are anticipated to achieve the project objectives.

Component/Outcome 1: Updated regional information on current open burning practices and establishment of uPOPs baseline inventories

56. Outcome 1 is expected to provide a platform for updating information on current open burning practices at the regional level and establishing uPOPs baseline inventories at the national level. The participating countries will be supported to establish a national database information system that will be linked to a regional database information system established within the SADC region to enhance information sharing on waste management best practices and regional networking among the participating countries. National inventories on locations of open burning practices and uPOPs releases, which are identified by the participating countries in the original NIP and NIP update will be reviewed and validated to establish a uPOPs baseline inventories. A workshop to train the trainers in preparing inventories of uPOPs releases from open burning of wastes will be conducted at regional level for at least 14 national experts (2 experts from each participating country). The trained experts will then conduct the national workshop to sensitize relevant stakeholders (at least 20 participants in each participating country) on inventorying uPOPs releases from open burning practices.

Output 1.1: National information on current locations of open burning practices validated and updated uPOPs inventories reviewed

57. The main national institutions (Ministry of Environment) involved in the Stockholm Convention implementation in the participating countries have developed their NIPs and some of them are currently developing their NIP updates. The NIPs and update NIPs have identified current locations of open burning practices, which will be reviewed and validated by this project to identify sites such as dumpsites, landfills and other related hotspots for the environmentally sound waste management and BAT/BEP intervention. A regional workshop to train the trainers will be conducted and national workshops (one each in the participating countries) will be carried out to sensitize relevant stakeholders (at least 20 participants in each participating country) on the inventory process of uPOPs releases from open burning of waste.

Activities	Responsibility
<i>Activity 1.1.1:</i> Conduct a regional workshop in preparing inventories of uPOPs releases from open burning of wastes with participation of at least 2 national experts from each participating country	UNIDO, Government departments, Municipalities, BSRC- SADC, Academia, NGOs
<i>Activity 1.1.2:</i> Carry out national inventories identifying locations of dumpsites, landfills and other related hotspots, prioritize and validate open burning sites	Government departments, Municipalities, NCPCs and members of NPMU, NGOs
<i>Activity 1.1.3:</i> Carry out national sensitization seminars for at least 20 participants in each participating country and validation workshops to review NIP updates and make the data on inventory of uPOPs releases from open burning of wastes available	Government departments, Municipalities, NCPCs and members of NPMU, Academia, NGOs, Private Sector

Output 1.2: Regional information on open burning practices and data on uPOPs releases exchanged and respective regional cooperation and networking consolidated

58. National inventories of uPOPs on open burning releases will be reviewed and updated through the NIPs update exercise. A regional database information system will be established in SADC region to share know-how on alternatives to open burning practices and disseminate information on uPOPs releases from open burning of wastes. A national database in each participating country will be established and linked to the regional database and UNIDO website so that data/information on uPOPs releases from open burning sources can be shared and consolidated. Training of at least 2 national experts for each participating country will be carried out for the development and maintenance of the database.

Activities	Responsibility
<i>Activity 1.2.1:</i> Support creation of national database information systems in each of participating country that are accessible for all stakeholders including training of at least 2 national experts capable in developing and maintaining the database	UNIDO, Academia, NCPCs, BSRC- SADC
<i>Activity 1.2.2:</i> Conduct national workshops (one each in participating country) on using established national database on uPOPs releases from open burning practices	UNIDO, Government departments, Academia, NGOs
<i>Activity 1.2.3:</i> Create a regional database information system within the SADC region, linked to UNIDO website, to share and disseminate data/information on alternatives to open burning practices	UNIDO, Academia, BSRC- SADC

Component/Outcome 2: Strengthened legislation and human resources capacity in implementing BAT/BEP at selected priority sites of open burning

59. Outcome 2 is expected to support the participating countries to review existing laws and regulations, and provide additional regulatory provisions with the aim to reduce releases of uPOPs from open burning of waste as well as identifying business opportunities linkages benefiting from these laws and regulations. Under this outcome, support will be provided to participating countries to help them develop a national action plan for ESM and reduction of uPOPs releases from open burning of wastes and agricultural residues as well as supporting activities that aim on preventing irrational dumping and open burning of wastes. BAT/BEP guidance document for the reduction of uPOPs releases in dumpsites/landfills and other sources of open burning practices and agricultural residues that will include regional, local and traditional practices, environmental and socio-economic considerations and introduction of climate change adaptation will be developed and implemented in accordance with the national situations. Adequate technical infrastructure for implementing BAT/BEP and waste management practices will be built where provision of field sampling toolkits and other related sampling devices to measure uPOPs releases from open burning of wastes will be provided to an existing laboratory facility in each of the participating country. Furthermore, using the aforesaid BAT/BEP guidance documents, at least one (1) targeted training in each of the participating country for relevant stakeholders (giving special attention to gender for at least

10 participants) on BAT/BEP concepts, banning of irrational dumping of wastes, preventing open burning practices, promoting occupational health safety and hygienic measures at the landfill sites will be carried out.

Output 2.1: Regulatory measures aimed at discouraging open burning practices of different waste streams and agricultural residues formulated or amended

60. Regulatory measures aimed at discouraging open burning practices of different waste streams and agricultural residues foreseen by existing laws and regulations in all participating countries have been initiated and the process of developing and reviewing existing laws will be undertaken to render enforcement more practical. Given the baseline scenario that shows different countries are moving with different strategies and pace, the project will focus on filling in the gaps in regulatory frameworks and on enabling effective enforcement of laws and regulations related to uPOPs from open burning. In the participating countries such as Botswana, Madagascar and Zambia that were not included in previous GEF projects aimed at updating regulatory framework on uPOP, documents will be revisited. All relevant legislation and rules will also be reviewed on completeness and compliance with the international chemicals agreements, and updated to ensure comprehensive coverage of uPOPs from open burning practices. In other participating countries such as Lesotho, Mozambique, Swaziland and Tanzania where other GEF projects have established the Model Framework Law, the regulatory framework will only be reviewed on completeness. Additional regulatory provisions aimed at creating more business opportunities in the area of chemical wastes management will be included to specifically enhance private sector involvement.

Activities	Responsibility
<i>Activity 2.1.1:</i> Initiate the process for developing and reviewing existing laws and regulations, identify gaps, and provide additional regulatory provisions (with the involvement of relevant stakeholders) to reduce releases of uPOPs from open burning of waste	NPMU, Government departments, Municipalities, Academia, NGOs, Private Sector
<i>Activity 2.1.2:</i> Carry out national multistakeholder consultations with relevant stakeholders including the private sector involved in waste management to identify business opportunities linkages benefitting from enforcement of laws and regulations	NPMU, Government departments Municipalities, Academia, NGOs, Private sector

Output 2.2: Country action plans for managing and phasing out the open burning of wastes and agricultural residues reviewed and strengthened

61. One (1) targeted training in each of the participating country on BAT/BEP concepts will be conducted with the aim to strength the participating countries' capacities in managing and preventing open burning practices. Country action plans for ESM and phasing out open burning practices of wastes and agricultural residues will be reviewed and strengthened by assisting participating countries to further develop their national capacity on the management of open burning of waste, as well as by providing support to the activities aimed at preventing irrational dumping and open burning of waste.

Activities	Responsibility
<i>Activity 2.2.1:</i> Strengthen national capacity on the management of open burning of wastes through targeted training for at least ten (10) relevant stakeholders in each participating country (giving special attention to gender) on BAT/BEP concepts, banning of irrational dumping of wastes, preventing open burning practices, promoting occupational health safety and hygienic measures at the landfill sites	UNIDO, Government departments, BSRC- SADC, NCPCs, Academia, NGOs, Private Sector and the public

<i>Activity 2.2.2:</i> Formulate a national action plan for ESM and reduction of uPOPs releases from open burning of wastes and agricultural residues	NPMU, Government departments, Municipalities, Academia, NGOs, Private sector
<i>Activity 2.2.3:</i> Provide support for implementation of activities to prevent irrational dumping and open burning of wastes	UNIDO, Government departments, BSRC- SADC, NCPCs, Academia, NGOs, Private Sector

Output 2.3: Regional BAT/BEP guidance for uPOPs reduction formulated for respective Ministry of Environment's adoption at country level for substantial reduction and/or collective elimination of wastes and agricultural residues in open burning practices

62. Regional BAT/BEP guidance for uPOPs will be formulated for respective Ministry of Environment's adoption at country level to substantially reduce open burning practices of waste and agricultural residues. The BAT/BEP guidelines and provisional guidance documents will include regional, local and traditional practices and socio-economic considerations, and introduce climate change adaptation aspects. Manuals, procedures, and guidelines on applying BAT/BEP measures to eliminate and/or reduce open burning of waste and agricultural residues on a local level will be prepared. A regional training of trainers/workshop on BAT/BEP guidelines, guidance and procedures on how to reduce and/or eliminate open burning of wastes as well as alternative best practices will be conducted for at least 14 participants (2 each participating country). As a result of these activities, uPOPs releases from open burning will be significantly reduced in all participating countries.

Activities	Responsibility
<i>Activity 2.3.1:</i> Formulate and adopt BAT/BEP guidance document in the reduction of uPOPs releases from open burning practices of wastes and agricultural residues	UNIDO, SC Centres, NCPCs, Academia, NGOs, Private Sector,
<i>Activity 2.3.2:</i> Implement the BAT/BEP guidelines and provisional guidance document at regional and national levels taking into consideration the traditional practices and socio-economic conditions and introduce climate change adaptation aspects	UNIDO, SC Centres, NCPCs, Academia
<i>Activity 2.3.3:</i> Prepare manuals, procedures and guidelines using BAT/BEP measures on how to eliminate and/or reduce open burning of wastes and agricultural residues for local use in the participating countries	UNIDO, Academia, institutions responsible for the environment
<i>Activity 2.3.4:</i> Conduct a regional training workshop to train at least two (2) experts from each participating country on the prepared manuals, procedures, and guidelines on reduction and/or elimination of open burning of wastes and agricultural residues	UNIDO, SC Centres, NCPCs, Academia, BSRC-SADC

Output 2.4: Adequate technical infrastructure for implementing BAT/BEP and waste management best practices built

63. Adequate technical infrastructure for implementing BAT/BEP and waste management best practices will be built by assisting participating countries to improve the capacity of an existing laboratory in each participating country where field sampling toolkits and other related sampling devices to measure uPOPs releases from open burning of waste will be provided. There are Government laboratories in some participating countries to perform sampling and preparation of samples, however, the project will use TUT laboratory in Pretoria to perform the analysis. Participating countries will also receive assistance to train national experts (2 experts each participating country) in research institutions to carry out studies in the area of BEP transfer and adoption.

Activities	Responsibility
<i>Activity 2.4.1:</i> Strengthen capacity of existing national laboratory facilities to implement BAT/BEP and waste management best practices	UNIDO, SC Centres, NCPCs, Academia, TUT
<i>Activity 2.4.2:</i> Provide field sampling toolkits and other related sampling devices to measure uPOPs releases from open burning of wastes (liquid and residues)	UNIDO, TUT
<i>Activity 2.4.3:</i> Train at least two (2) national experts (each participating country) in research institutions to carry out studies in the area of transfer and adoption of BEP	UNIDO, SC Centres, NCPCs, Academia, TUT

Component/Outcome 3: Implementation of BAT/BEP to reduce uPOPs releases in the open burning sector at national and regional levels

64. Under this component, two (2) municipalities in each of the participating country will carry out pilot projects which focuses on implementing waste management best practices with economic incentives and PPP models in managing uPOPs releases from open burning of wastes with due consideration to climate change mitigation. Waste management plans introducing BAT/BEP measures will be developed and implemented by supporting two (2) demonstration pilots for segregation of collected waste materials of added value through provision of equipment such as conveyor belts, sorting, washing, compacting, etc. in identified existing waste recycling enterprises in selected participating countries. Two (2) demonstration pilots to promote alternative waste management plan such as biomass waste recycling and disposal options (waste-to-energy) will also be supported in selected participating countries by creating and contracting national Micro- or small enterprises (MSEs). The reduction of greenhouse gases (GHG) emissions (climate change mitigation aspect) in using biomass for energy production will be emphasized. New innovative financing mechanisms for environmental interventions are emerging such as leverage, combined finance and importantly the alternative sources of financing the Small-and Medium enterprises (SMEs). These innovative financing solutions are expected to play a significant role in mobilizing private sector participation in waste management and making BAT/BEP sustainable and replicable. A regional workshop with the participation of at least 14 experts (2 from each participating country) will be conducted to develop harmonized methodology for setting up regional uPOPs release reduction targets from open burning of wastes. A national survey will be conducted to evaluate and assess socio-economic impacts of the project intervention on private and informal sectors. Alternative waste management plans with recycling plans will be developed and private and informal sectors will be supported to promote recycling. Awareness raising campaigns will be conducted at national level to promote the role of private sector and informal sector.

Output 3.1: Waste management best practices carried out at two (2) selected priority demonstration municipalities in each participating country

65. One (1) regional workshop with at least two (2) participants each from participating country and one (1) national workshops with at least 20 participant each participating country on best practices in waste management in relation to open burning of waste will be carried out. Studies will be conducted at the national level to identify two municipalities in each country for carrying out pilot demonstration projects on managing uPOPs releases from open burning of waste. Selection process criteria for the pilot demonstration projects will be, but not limited to, the dedicated government landfill site, size of daily waste collected, existence of private contractors involved in municipal waste management, available waste recycling facilities and presence of a formal management structure.

Activities	Responsibility
<i>Activity 3.1.1:</i> Conduct a regional workshop on best practices in waste management in relation to open burning of wastes with at least two (2) participants from each participating country	UNIDO, SC Centres, NCPCs, Academia, POPs focal points, BSRC-SADC
<i>Activity 3.1.2:</i> Carry out national workshops with at least 20 participants each participating country on best practices in waste management in relation to open burning of wastes	UNIDO, NPMU, POPs Focal Point, NGOs, Institutions responsible for the environment, Academia, NCPCs

<i>Activity 3.1.3:</i> Identify two (2) municipalities in each participating country to carry out waste management best practices	UNIDO, MoE, Municipalities, NPMU, POPs Focal Point, NGOs, Academia, NCPCs
<i>Activity 3.1.4:</i> Implement waste management plans with economic incentives and PPP mechanisms (e.g creation and contracting of national Micro-and small enterprises) in municipalities where demonstration sites have been identified	UNIDO, SC Centres, NCPCs, Academia, NGOs, Private Sector

Output 3.2: Waste management plans introducing BAT/BEP measures (segregation system) developed and implemented in two (2) selected major dumpsites and landfills in the participating countries using PPP models

66. Waste management plans including the introduction of BAT/BEP measures will be developed and implemented in the selected major dumpsites and landfills in the participating countries using innovative financial mechanisms such as tax incentives, collection of fees and rewards from recycling. Private partners will, most probably, be the private waste collector and transport companies, existing recyclers, etc. Under this output, two (2) existing waste recycling enterprises in the participating countries will be selected to host the BAT/BEP demonstration pilots for segregation systems in collecting waste materials of added value with the provision of equipment such as conveyor belts, sorting, washing, compacting, etc.). The PPP model such as creation and contracting national Micro or small enterprises (MSEs) will be supported by the project. National awareness raising seminars (one each participating country with at least 10 participants) on the waste management plans will be conducted for private sector workers and employees, including SMEs. Climate change adaptation considerations will be introduced.

Activities	Responsibility
<i>Activity 3.2.1:</i> Prepare waste management plans introducing BAT/BEP measures using PPP models and implement them in selected dumpsites / landfills with due consideration to climate change adaptation	UNIDO, SC Centres, NCPCs, municipalities, Academia, Private Sector
<i>Activity 3.2.2:</i> Identify existing waste recycling enterprises in the participating countries and enhance their performance by supporting two (2) pilots of segregation systems for collecting waste materials of added value (conveyor belts, sorting, washing, compacting, etc.)	UNIDO, MoE, Municipalities, NPMU, NCPCs, Private Sector
<i>Activity 3.2.3:</i> Carry out national awareness raising seminars on the waste management plans to workers and employees of the private sector including SMEs with at least ten (10) participants	MoE, Municipalities, NPMU, NCPCs, Academia, NGOs, Private Sector

Output 3.3: Biomass waste recycling and disposal options promoted in two (2) demonstration sites in selected participating countries through alternative waste management plans for better value addition

67. Biomass waste recycling and disposal options will be promoted in two (2) demonstration sites in selected participating countries through alternative waste management plans for better value addition. Existing data will be reviewed and national inventories of existing biomass waste recycling and disposal options will be conducted. Support will be provided to PPP models aimed at the creation and contracting of national Micro- or Small Enterprises to develop alternative waste management plans and promote the use of biomass waste recycling (waste-to-energy). Field testing of biomass waste recycling and disposal options will be conducted through the assistance of research institutions. Climate change mitigation (GHG emissions reductions) aspect of using biomass for energy production (waste-to-energy) will be emphasized. During the implementation of the demonstration sites, participating countries will be encouraged to visit the biomass waste recycling and disposal sites to ensure sustainability and replication of waste-to-energy concepts. A training workshop will be conducted at regional level to "train the trainers" (at least 2 experts each participating country) on biomass waste recycling and disposal options. Trained experts will then conduct the training at national level for at least 10 participants each participating country.

Activities	Responsibility
<i>Activity 3.3.1:</i> Review existing data and conduct national inventory of	MoE, Municipalities, NPMU, Academia, NGOs, private

existing biomass waste recycling and disposal options	sector,
<i>Activity 3.3.2:</i> Support PPP models for creation and contracting of national Micro- or Small Enterprises to produce and promote the use of biomass waste recycling through alternative waste management plans	UNIDO, NPMU, POPs Focal Point, NGOs, private sector, Institutions responsible for the environment, Academia, NCPCs
<i>Activity 3.3.3:</i> Establish two (2) pilot demonstration projects on waste-to-energy (biogas, bricketing, etc.) using PPP models in selected participating countries	UNIDO, MoE, Municipalities, NPMU, NCPCs, private sector
<i>Activity 3.3.4.:</i> Facilitate field testing of biomass waste recycling and disposal options in selected areas in cooperation with research institutions	UNIDO, MoE, Municipalities, NPMU, POPs Focal Point, NGOs, Academia, NCPCs
<i>Activity 3.3.5:</i> Organize one (1) regional "train the trainers" workshop (at least 2 participants each participating country), one (1) national training for at least 10 participants in each participating country and initiate site visit to promote biomass waste recycling and disposal options and consultations with the relevant stakeholders to ensure replication and sustainability of waste-to-energy concepts	UNIDO, MoE, Municipalities, NPMU, NCPCs, Academia, NGOs, Private Sector, BSRC-SADC

Output 3.4: Harmonized methodology developed to set-up uPOPs release reduction targets for open burning sector at regional level

68. A regional workshop with the participation of at least 14 experts (2 experts from each participating country) will be conducted to develop harmonized methodology for setting up regional uPOPs release reduction targets from open burning of wastes. Regional uPOPs release reduction targets in open burning of waste will be developed. Monitoring of uPOPs releases from open burning of waste will be carried out. Replication of the methodology for setting up uPOPs release reduction targets will be promoted at the global level.

Activities	Responsibility
<i>Activity 3.4.1:</i> Conduct regional workshop for at least 14 experts (2 each participating country) to harmonize methodology for setting-up uPOPs release reduction targets from open burning of wastes	UNIDO, SC Centres, Academia, POPs focal point, BSRC-SADC
<i>Activity 3.4.2:</i> Develop uPOPs release reduction targets in open burning of wastes in the participating countries	UNIDO, SC Centres, Academia, TUT
<i>Activity 3.4.3:</i> Carry out monitoring of uPOPs releases from open burning of wastes	MoE, Municipalities, NPMU, NCPCs, Academia, NGOs,
<i>Activity 3.4.4:</i> Conduct series of global workshops (at least 5 during the project life) as part of the Global Annual Conference on Dioxins to promote replication of the methodology for setting up uPOPs release reduction targets	UNIDO, Dioxin Conference Secretariat, academia, BSRC-SADC

Output 3.5: Socio-economic impacts of the project intervention on private and informal sectors including recycling business plans assessed

69. Socio-economic impacts of the project on private and informal sectors will be assessed. The mechanism to engage informal sector will be based on competition, segregation of duties, supervision responsibility and recognition by government on best records of delivery to the society. If waste segregation and recycling become an industrial process, this new industrial activity will employ many waste pickers of informal sector and in such a way at least part of the informal sector will become formal. Alternative waste management plans with recycling plans will be developed, and private and informal sectors will be supported to promote recycling. A socio-economic survey to evaluate the impacts of the project intervention on private and informal sector will be conducted. Awareness raising campaigns and study tours to promote the role of private and informal sectors in waste recycling will be carried out. Environmental and socio-economic impacts on informal sectors will be assessed during and after the project intervention.

Activities	Responsibility
<i>Activity 3.5.1:</i> Support private and informal sectors to promote recycling through alternative waste management plans	UNIDO, SC Centres, MoEAcademia, Private Sector
<i>Activity 3.5.2:</i> Conduct socio-economic baseline and result surveys to evaluate the impacts of the project intervention on private and informal sectors in participating countries	UNIDO, SC Centres, NCPCs, MoE, Academia, Private Sector
<i>Activity 3.5.3:</i> Carry out awareness raising campaigns and study tours to promote the role of private and informal sectors in waste recycling	MoE, Municipalities, NPMU, NCPCs, Academia, NGOs, Private Sector, BSRC-SADC

Outcome 4: Knowledge transfer on BAT/BEP for replication and awareness raising on uPOPs related risk and exposure in open burning sector

70. This component will serve as a platform to raise awareness on uPOPs related risks and exposure in open burning of waste through knowledge transfer on BAT/BEP measures and establishing educational programmes for introducing lessons learned and alternatives to open burning practices. A series of regional training workshops and national awareness raising campaigns to all stakeholders on the health risks resulting from exposure to open burning will be carried out. Furthermore, alternatives to open burning of waste practices will be showcased targeting groups such as decision makers, professionals associations, women and youth group associations, community leaders, farmers, private industries, waste pickers, NGOs, media and the general public observing appropriate gender representations. The already established BAT/BEP Forum in the sub-region, as well as other forums, will also be used as a platform for information sharing amongst the participating countries on the use of BAT/BEP to reduce emission of uPOPs from open burning practices. A national BAT/BEP database and website in the SADC sub-region to share and disseminate data/information collected from alternatives to open burning practices will be created and linked to UNIDO website. Also, a financial mechanism to mobilize funds in the participating countries to support and implement best alternatives to open burning practices will be developed.

Output 4.1: Targeted training and awareness campaigns emphasizing health and environmental risk and exposure hazards of open burning practices for all relevant target groups observing appropriate gender representations (decision makers, professional associations, women/youth group associations, community leaders, farmers, women's groups, private industries, waste pickers, NGOs, media and the public at large) carried out

71. Health and environmental risk and exposure hazards of open burning practices for all relevant target groups observing appropriate gender representation (decision makers, professional associations, women/youth group associations, community leaders, farmers, private industries, waste-pickers, NGOs, media and the general public) will be emphasized and supported by the project through one (1) targeted training and awareness campaigns. Through the participating country's co-financing contribution, several awareness raising campaigns can be conducted at national level. A regional training workshop for at least 14 national experts (2 each participating country) from the relevant institutions about the potential risks and exposure hazards to humans, wildlife and the environment emanating from open burning practices will be conducted. Furthermore, targeted sensitization seminars will be carried out to educate workers and waste-pickers at major dumpsites and landfills about the health risks associated with collection, transport and segregation of waste and measures that have to be taken while handling waste.

Activities	Responsibility
<i>Activity 4.1.1:</i> Organize a regional training workshop for at least 14 experts (2 each participating country) from relevant institutions about the potential risks and exposure hazards to humans, wildlife and the environment emanating from open burning practices	UNIDO, SC and Basel Centres, NCPCs, Academia, POPs focal point, BSRC-SADC
<i>Activity 4.1.2:</i> Organize awareness raising campaigns at national level (one each participating country) for major stakeholders, including decision makers, professional associations, women/youth group associations, community leaders, farmers, private industries, waste pickers, NGOs,	UNIDO, POPs Focal Point, NGOs, SC and Basel Centers, NCPCs, MoE, MoH

media and the general public, on the health risk that may result from the exposure to open burning practices	
<i>Activity 4.1.3:</i> Organize at least one (1) seminar in each participating country to educate workers (men/women) and waste-pickers at major dumpsites and landfills on the health risks associated with collection, transport and segregation of waste and measures that have to be taken while handling wastes	MoE, MoH, Municipalities, NPMU, NCPCs, Academia, NGOs, Private Sector, BSRC-SADC

Output 4.2: Educational programmes for introduction of lessons learned and alternatives to open burning practices established at all levels in each participating country

72. Seminars, workshops and media campaigns will be conducted at national level to educate (men/women) decision makers, experts, workers and the public at large about lessons learned from the NCPCs, SC, Basel and Rotterdam centres concerning alternatives to open burning of waste practices. Furthermore, educational programmes on environmentally sound management (ESM) practices as alternatives to open burning practices will be integrated into the curricula of educational institutions. These curricula will be regularly updated using the knowledge, experience and lessons learned from the aforementioned institutions and other relevant institutions in the alternatives to open burning practices.

Activities	Responsibility
<i>Activity 4.2.1:</i> Conduct seminars, workshops and media campaigns at national level for decision makers, experts, workers and the public on alternatives to open burning of waste practices	UNIDO, SC, Basel and Rotterdam centres, NCPCs, Academia, MoE, MoH, NPMU, NGOs
<i>Activity 4.2.2:</i> Integrate ESM practices and lessons learned from NCPCs, SC, Basel and Rotterdam Centres on alternatives to open burning of waste practices into the educational curricula	UNIDO, POPs Focal Point, MoE, MoH, MoEdu, NGOs, SC, Basel and Rotterdam centres
<i>Activity 4.2.3:</i> Use knowledge, experience, scholarships and lessons learned to disseminate BAT/BEP	MoE, MoH, MoEdu, Municipalities, SC, Basel and Rotterdam centres, NCPCs, Academia, NGOs, Private Sector

Output 4.3: Regional cooperation on BAT/BEP and uPOPs and information sharing established through the BAT/BEP Forum

73. A regional database and website for SADC region linked to UNIDO website will be created to share and disseminate data/information collected from alternatives to open burning practices. Regional workshop for sharing experience and information on BAT/BEP to minimize uPOPs releases from open burning will also be conducted. If the demonstration programmes would show financial viability, it would motivate private investors to enter into waste management business.

Activities	Responsibility
<i>Activity 4.3.1:</i> Create regional BAT/BEP database and website in the SADC region linked to UNIDO website to share and disseminate data/information collected from alternatives to open burning practices	UNIDO, SC centers, NCPCs, Academia
<i>Activity 4.3.2:</i> Conduct a regional and global workshop for sharing experiences and information on BAT/BEP to minimize uPOPs releases from open burning practices in collaboration with BAT/BEP Forums, Ecotown- Kitakyushu and RENPAP	UNIDO, SC centers, NCPCs, Academia, POPs focal points, BSRC-SADC
<i>Activity 4.3.3:</i> Develop mechanism such as the SADC Secretariat strategy to mobilize funds in the participating countries to support and implement	UNIDO, NCPCs, SC Centers, institution

best alternatives to open burning practices	responsible for environment, Private Sector
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Component/Outcome 5: Design and implementation of Monitoring and Evaluation (M&E) framework in accordance with UNIDO and GEF requirements

Output 5.1: Project intervention monitored and project progress evaluated

74. Monitoring and evaluation framework will be designed and implemented in accordance with UNIDO and GEF requirements. The following milestones will be established and/or met: (i) Regional Project Steering Committee (RPSC) and National Project Steering Committee (NPSC); (ii) Organize and hold stakeholder consultation workshop; (iii) Introduce monitoring and impact indicators; (iv) Carry out annual project financial audits, and prepare Annual Project Implementation Reports (PIRs); (v) Hold semi-annual/annual Regional Project Steering Committee meetings; (vi) Carry out mid-term review; (vii) Carry out terminal evaluation; (viii) Prepare Terminal report; and (ix) Establish a project data management system (PDMS) linked to national and regional databases.

Activities	Responsibility
Activity 5.1.1: Organize and hold stakeholder consultation workshop	UNIDO, and SADC governments
Activity 5.1.2: Introduce monitoring and impact indicators	UNIDO, Sub-contractor
Activity 5.1.3: Carry out annual project financial audits, prepare Annual Project Implementation Reports	UNIDO, consultants
Activity 5.1.4: Hold annual Regional Project Steering Committee meetings	UNIDO, GEF, SADC countries
Activity 5.1.5: Carry out mid-term review	UNIDO, consultants
Activity 5.1.6: Carry out terminal evaluation	UNIDO, consultants
Activity 5.1.7: Prepare Terminal report	UNIDO, consultants
Activity 5.1.8: Establish a project data management system (PDMS)	UNIDO, consultants

64. The summary of incremental cost matrix is given in Table 1 below. Detailed project budget is given in Annex C.

Table 1: Summary of Incremental Cost Matrix in US\$

Outcome	Baseline	Increment	Alternative
Outcome 1: Updated regional information on current open burning practices and establishing uPOPs baseline inventories	787,000	196,000	983,000
Outcome 2: Strengthened legislation and human resources capacity in implementing BAT/BEP at selected priority sites of open burning	2,163,000	528,000	2,691,000
Outcome 3: Implementation of BAT/BEP to reduce uPOPs emissions in the open burning sector at national and regional levels	23,346,500	4,966,000	28,312,500
Outcome 4: Knowledge transfer on BAT/BEP and awareness raising on uPOPs related risks and exposure in open burning sector	1,007,500	379,000	1,386,500
Outcome 5: Design and implementation of M&E framework in accordance with UNIDO and GEF requirements	236,000	216,000	452,000

Project Management Cost	821,000	330,000	1,151,000
TOTAL	28,361,000	6,615,000	34,976,000

Innovativeness and potential for scaling up

75. In line with the GEF-5 objectives related to POPs, the project will promote innovative waste management processes and techniques to prevent POPs formation due to open burning of different categories of wastes, such as agricultural residues, municipal, hazardous and medical wastes. It will demonstrate that the waste is not waste but has commercial value that would, if properly managed, sustain newly developed industrial activities. It will also strengthen regulatory measures, institutional capacities and technical capabilities in this part of waste management sector in all participating countries, simplify and foster replication of environmentally sound practices throughout the region. Effort will be made on collection of fees and rewards from recycling to ensure sustainability of the pilots and PPP models. If the value of waste is appreciated, the waste would consciously be collected and segregated having a scaling up effect, which is the strategy of the project. In addition, scaling up would be done through publication of these success stories as well as promotion of the business models for attracting domestic and foreign investments.
76. The Regional BAT/BEP Forum for Africa will be used to accumulate and disseminate knowledge and experience gained through the implementation of the project in the region. The Forum will ensure the continuation of efforts to reduce/eliminate releases of uPOPs including PCDD/PCDF by maintaining and further developing guidelines on different aspects of BAT and BEP in open burning. It will identify best practices in enforcement of relevant laws and regulations and support their replications in the region. An important development component of the Forum's functions is also to facilitate transfer of environmentally sound technologies by building capacity in the region, and to foster cooperation among regions in Africa.

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address these risks:

77. Some particular risks that maybe encountered in the implementation of the project as well as the risk mitigation measures are given in Table 2 below:

Table 2: Risks and risk mitigation measures

Risks	Level	Risk Mitigation Measures
Outcome 1: Updated regional information on current open burning practices and establishing uPOPs baseline inventories		
1. The surveys and the updated uPOPs inventories will not be conclusive as national staff appointed to the surveys and inventory update might not be sufficiently skilled in uPOPs evaluation.	Low	Information collection will address some of the representative regions/provinces and the data will be extrapolated for the whole country. National staff will be trained in proper inventory methodologies by international experts who will be recruited for conducting field surveys and review of inventories.
Outcome 2: Strengthened legislation and human resources capacity in implementing BAT/BEP at selected priority sites of open burning practices		
2. Laws and regulations are partially developed in some countries. Relevant stakeholders and technicians not sufficiently trained in BAT/BEP and uPOPs monitoring and not all participating countries have the required resources to maintain uPOPs laboratory up to the standards.	Low	Special attention and support will be given to national authorities to ensure enforceability and a full coverage of the partially developed regulatory frameworks. This will be done by institutional capacity building and conducting targeted trainings to law enforcement authorities. National technical and laboratory staff will be trained

		<p>on technical aspects of BAT/BEP in open burning sector and the specific methodologies for uPOPs monitoring. The network of laboratories in the SADC region will be enabled to deal with specific requirements of uPOPs analyses. Funding for equipment purchases and supporting institutions will be mobilised.</p> <p>Eventhough it is not expected that all laws and regulations be amended in all participating countries, targeted awareness campaigns and seminars on best practices to manage releases of uPOPs from open burning of waste, will be undertaken focusing on law enforcement personnel and other relevant multistakeholders.</p>
Outcome 3: Implementation of BAT/BEP to reduce uPOPs releases in the open burning sector at national and regional levels		
3. BAT/BEP implementation programs in small dumpsites may not be feasible and cost-efficient; BAT/BEP measures in large landfills will not achieve the assumed positive results, thus will not be cost-effective within the project life-time.	Medium	Upon reviewing the baseline, demonstration sites will be selected and alternative simplified technology adoption programs will be identified. To address costs and time constrains, the project will focus on the existing hot-spot landfills to demonstrate cost-effective BAT/BEP implementation and technology transfers. The BAT/BEP will be developed and implemented using financial models that mobilize private sector participation to ensure cost effectiveness and continuation of new practices after the project life-time.
4. Higher cost of waste management measures may cause stakeholders to abandon the project activities; release reduction targets will not be confirmed and adopted in the national context.	Low	Incentive and regulatory programmes, and direct technical and financial assistance will be included in the project to reduce or eliminate these risks. Adequate mechanisms for mobilizing private sector will be identified, developed and implemented. The release reduction targets will be aligned with the on-going national programs in order to set realistic and achievable targets in each participating country.
Outcome 4: Knowledge transfer on BAT/BEP replication and awareness raising on uPOPs related risks and exposure in open burning sector		
5. Due to low participation and interest of stakeholders and general public the project will not be able to create the critical mass of human resources to support BAT/BEP.	Low	Dedicated workshops will address broader issues than uPOPs, such as waste management and related agricultural activities. BAT/BEP concerning open burning will be integrated in higher level education. Experiences from BAT/BEP Forums of other regions will also be used.
6. Effects of climate change will influence	Medium	National Communications to the UNFCCC

<p>project implementation and minimize the results; GHG emissions from existing open burning activities and BAT/BEPs will not be considered; risks and changes in behavioral patterns arising from climate change (extreme weather events, changes in open burning practices and disaster management, etc.) will disable implementation of project components.</p>	<p>and other relevant assessments of vulnerability of all participating countries to the effects of climate change will be considered. All project components will introduce adaptation aspects in waste management sector of participating countries on the basis of their specific climate change related situation. Given the infancy stage of waste management in all participating countries, open burning activities and improperly managed landfills are significant contributors to greenhouse gas releases including carbon dioxide and monoxide (from improper waste burning) and methane and nitrogen oxides (due to anaerobic digestion of waste). Introducing BAT/BEP at the disposal sites will mitigate GHG emissions compared to the baseline situation. GHG emissions from new practices and BAT/BEP will be estimated and the reductions emphasized. Climate change adaptation aspects will be assessed for each demonstration site and strongly considered when identifying, developing and implementing BAT/BEP. If necessary and appropriate, international climate change expert will be involved to estimate mitigation/adaptation effects and requirements of specific project components and activities in detail.</p>
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A.7. Coordination with other relevant GEF financed initiatives

78. The participating countries are members of the SADC region and participate at the programmes to address pollution control and environment protection and facilitate the introduction of new technologies. UNIDO field offices network as well as National Cleaner Production Centres (NCPCs), Stockholm Convention and Basel Convention Centres will be part of the coordination effort.
79. The participating countries are members of the Regional BAT/BEP Forum in Africa, launched in September 2012. This forum uses experiences of similar regional organizations worldwide (ESEA, CEECCA and GCC). This project is the first priority sector of the Regional Action Plan adopted in Addis Ababa, Ethiopia in January 2012 and will closely cooperate with other existing BAT/BEP Forums and initiatives in other sectors.
80. The project will benefit from the results of the GEF-funded UNIDO project “*Regional project to develop appropriate strategies for identifying sites contaminated by chemicals listed in Annexes A, B and/or C of the Stockholm Convention*”, especially in collecting data for contaminated sites, dumpsites and landfill in the region and will use the UNIDO toolkit methodologies for data collection. Lessons learnt from the GEF supported UNDP/WHO/HCWHS global project on “*Demonstrating and promoting best techniques and practices for reducing healthcare waste to avoid environmental releases of dioxins and mercury*” will also be beneficial for the project. The project will also exchange experiences during project implementation with the uPOPs related activities of the GEF/UNDP project on “*uPOPs Reduction and Mainstreaming of Sound Chemicals Management in Kenya*”.
81. The project will seek linkages with other POPs related ongoing regional projects in Africa and Asia, such as the UNIDO/UNEP projects “*Capacity Strengthening and Technical Assistance for the Implementation of Stockholm Convention National Implementation Plans (NIPs) in African Least Developed Countries (LDCs) of the COMESA,*

ECOWAS and SADC regions” and the GEF supported UNIDO regional project on *"Demonstration of BAT and BEP in open burning activities in response to the Stockholm Convention on POPs"* as well as the GEF/UNDP project on *"Reducing uPOPs and mercury from the health sector of Africa"*, the newly approved GEF funded project on *"Investment Promotion on Environmentally Sound Management of Electrical and Electronic waste: Up-scale and Promotion of activities and initiatives on environmentally sound management of electrical and electronic waste in Ethiopia"* and the GEF-funded UNIDO projects on *"National Implementation Plan (NIP) review and update"* that are already approved for most of the participating countries. It will coordinate with these ongoing projects in the region, use synergies and share experiences with them. Importantly, the project complements some of these initiatives and will build upon the results of some of them - the main objective is to ensure that all aspects and issues connected with the uPOPs releases from open burning will be addressed in each participating country and that this topic is covered in the SADC region in an adequate way.

82. To ensure proper monitoring of the project, the UNEP projects *"Supporting the Implementation of the Global Monitoring Plan of POPs in Eastern and Southern African Countries"* and *"Continuing Regional Support for the POPs Global Monitoring Plan under the Stockholm Convention"*, the activities of the Global Atmospheric Passive Sampling (GAPS) Network and of MONET-Africa-RECETOX Program will be considered. Special attention will be given to avoiding overlappings and maximizing benefits of measures aimed at strengthening regional laboratories.
83. The proposed project will explore linkages with ongoing initiatives of international agencies such as UNHABITAT and others in the SADC region on proper collection and management of wastes to ensure coherence and minimize duplication of work. It will also build linkages with the national and regional on-going plans to set up new landfills, with new waste management programmes and with projects and initiatives that address management of agricultural residues, as described in the baseline scenario.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:

B.1 Describe how the stakeholders will be engaged in project implementation.

84. **UNIDO** is the implementing agency that will primarily provide the support base for technical component of the project. UNIDO will monitor and oversee the overall project implementation through an assigned Project Officer (PO), assisted by a support staff and supervised by a senior professional staff engaged in the management and coordination of UNIDO's Stockholm Convention programme. A project assistant will be recruited to assist the UNIDO PO on the administrative requirements of the project. The project implementation structure is given in Figure 1 below.
85. The Ministry of Environment, Wildlife and Tourism (Botswana), Ministry of Tourism, Environment and Culture (Lesotho), Ministry of Environment and Forests (Madagascar), Ministry for Coordination of Environmental Affairs (Mozambique), Swaziland Environment Authority (Swaziland), Vice President's Office-Division of Environment (Tanzania) and Zambia Environmental Management Agency (Zambia) are the main national counterparts for the project implementation. Further, agencies and institutions in each participating countries will be identified to support project execution at national level. UNIDO will enter into contractual agreements with the above-mentioned national counterparts or their subsidiary departments to support the delivery of some project activities at national level such as Outputs 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 4.1 and 4.2. UNIDO will also enter into contractual agreements with the Basel and Stockholm Regional Centre for SADC region (BSRC-Africa Institute) based in Pretoria, South Africa for some project activities at regional level including arrangements of regional meetings and workshops, developing regional database as well as regular monitoring and analysis of performance of the project. Other contractual arrangements on the agreed BAT/BEP interventions in the pilot demonstration sites will be arranged depending on the requirements of the project.
86. **Regional Project Steering Committee (RPSC)** will consist of representatives from participating countries' MoEF, MoH, MoA, UNIDO, Regional Coordinator (RC), National Project Director (NPD), National Project Coordinators (NPCs), SADC Secretariat, BSRC-Africa Institute, Africa BAT/BEP Forum and others. The RPSC will provide guidance and support to the project as well as to the National Project Management Unit. Every project amendments will be done in accordance with the approved Project Document and the GEF policy (GEF C.39/04). RPSC will meet twice a year during the first three years and once a year thereafter to report on the progress of the project and provide necessary inputs. RPSC will consider networking with other agencies, including state

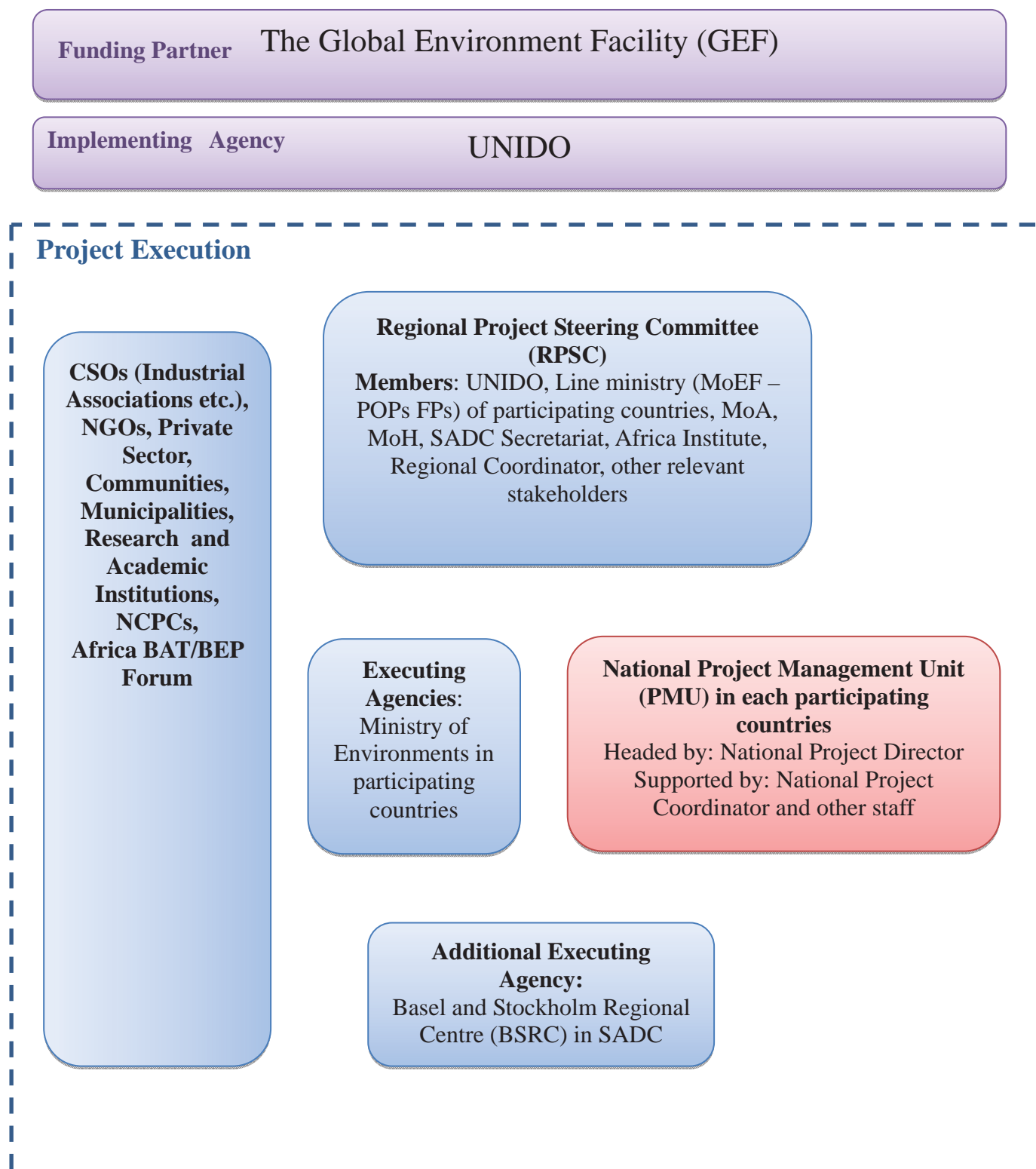
authorities, national and international NGOs and private sector institutions and foster advocacy work.

87. As part of the national level agreements, a **National Project Management Unit (NPMU)** will be established within the main national counterparts/Ministries in the participating countries. NPMU will be headed by the **National Project Director (NPD)** to be appointed by the Government as government co-sharing to the project. The NPD will ensure political and institutional support for the project and be responsible for the supervision of the NPMU as well as for planning and monitoring of the project implementation progress based on the project's annual work plan and its indicators. NPMU will also establish its **National Project Steering Committee (NPSC)** to monitor the project progress at national level. The NPD will be supported by the **National Project Coordinator (NPC)** who will be recruited on a part-time basis. The NPC will be responsible for coordinating the day-to-day implementation of project activities at national level and will prepare national project workplan based on the agreed regional workplan and contribute to the UNIDO and GEF reporting requirements. The NPMU, through the NPD will inform the Regional Coordinator and UNIDO of any delays or difficulties faced during project implementation, so that all appropriate corrective measures can be adopted in a timely and remedial manner.
88. A **Regional Coordinator (RC)** will be recruited by the project under the supervision of UNIDO. The role of the RC includes but not limited to assisting the supervision of the overall project implementation; coordination of timely inputs of different stakeholders, provision of technical assistance supporting the NPCs of the participating countries as required by the annual workplans; assist in organization of regional workshops/project meetings/study tours ensuring the highest coverage by participating countries; prepare annual workplans and ensure that proceedings and reportorial requirement to UNIDO and the GEF including relevant progress reports and annual Project Implementation Reports (PIRs) are delivered in a timely manner. The RC will also ensure that the project database information system is continuously updated with relevant information and accomplishments of the project.
89. Relevant ministerial agencies and other key stakeholders that will be involved in each country are given below:
- a) In **Botswana**, the key stakeholders include: Ministry of Environment, Wildlife & Tourism, Department of Waste Management & Pollution Control; Ministry of Local Government, Environmental Health; Ministry of Health; Ministry of Trade and Industry; Ministry of Minerals Energy and Water resources; Botswana Chamber of Mines; Botswana Confederation of Commerce Industry and Manpower (BOCCIM).
 - b) In **Lesotho**, the Ministry of Local Government-District Councils; Maseru Municipal Council; Water & Sewerage Company; Ministry of Tourism, Environment & Culture – Department of Environment; Ministry of Health – Environmental Health Division (Healthcare waste); Lesotho National Development Corporation (Industrial waste); Lefielo Cleaning Service; Tlhoeko Environmental Consulting Services; Environmental Culture Lesotho; Lesotho Council of Non-Governmental Organisations; Lesotho Consumers Organisation will support project implementation in the country.
 - c) In **Madagascar**, stakeholders in the management of municipal waste are: Ministries of Environment, Health, Urban Municipality, Research centres, laboratories, territory, NGOs, businesses that works with municipalities and other civil society entities.
 - d) Key relevant stakeholders in **Mozambique** include: MITADER, the municipalities, relevant NGOs and other civil society entities.
 - e) In **Swaziland**, Ministries and other governmental agencies such as the Ministry of Health, Ministry of Tourism and Environmental Affairs, Ministry of Agriculture, Ministry of Housing and Urban Development, Ministry of Tinkhudla Administration and Development, Ministry of Labour and Social Security. NGOs: Coordination Assembly for Non-Governmental Organizations; Associations: Consumer Association, SHERQ Forum & Sugar Associations; Private sector: Royal Swaziland Sugar Association, Illovo, Swaziland Electricity Company are the key official stakeholders.
 - f) **Tanzania's** key relevant stakeholders include: Ministries and government agencies: Vice President's Office- Division of Environment (VPO-DoE); National Environment Management Council (NEMC); Cleaner Production Centre of Tanzania (CPCT); Ministry of Industry and Trade (MIT); Ministry of Agriculture, Food Security and Cooperatives (MAFC); Ministry of Health and Social Welfare; Government Chemist Laboratory Agency (GCLA); Prime Minister's Office- Regional Administration and Local Government Authorities (PMO-RALG); Occupational Safety and Health Authority (OSHA); Tropical Pesticides Research Institute (TPRI); Dar es Salaam City Council. NGOs and private sector: AGENDA for Environment and Responsible Development

(AGENDA); Environment, Human Rights Care and Gender Organization (ENVIROCARE); Tanzania Association of Public Occupational Health and Environmental Experts (TAPOHE).

- g) **Zambia** will have the following key stakeholders: Zambia Environmental Management Agency; Ministry of Health; Ministry of Local Government and Housing; University of Zambia; Ministry of Commerce Trade and Industry; Ministry of Lands, Natural resources and Environmental Protection (Department of Environment and Forest Department); Ministry of Finance-Climate Change Secretariat; Zambia Competition and Consumer Protection Commission; Road Safety and Transport Agency; Ministry of Agriculture and Livestock; Ministry of Transport and Communication (Department of Civil Aviation) and The Nature Conservancy.
90. Farmers, cooperatives and NGOs involved in agricultural activities (such as sugar cane harvesting) will receive assistance in implementing advanced waste to energy recovery (such as the use of biomass for compost production or as fuel), and/or alternative solutions.
 91. Women's association groups and others engaged in the healthcare of children will be involved in the activities of waste recycling and in the training of waste pickers to reduce the exposure to harmful contaminants and improve the quality of working and living conditions.
 92. Waste pickers at dumpsites, as well as other informal actors, significantly contribute to solid waste management, by recycling materials that would otherwise need to be handled through the formal sector. They also make a positive contribution to resource management through the recovery of valuable materials from the waste stream.
 93. The project will seek partnerships with private sector to invest in BAT/BEP and sound waste management plans. Terms of cooperation will be promoted at national and international companies already involved in similar activities.
 94. Relevant government institutions, departments and laboratories will be involved in trainings and awareness raising activities in order to develop human resources in the region necessary for carrying out the project activities. The capacity building programmes will contain activities directed at addressing awareness raising and stakeholders' participation already at the early stage. This will help identify other concerned stakeholders representing the private sector, academia, workers and public interest groups that should be invited to participate in the implementation of the project. The responsibilities of other stakeholders will be delineated on a case by case basis. In this regard, BAT/BEP related measures will be integrated into educational curricula to enhance local knowledge and awareness on BAT/BEP.

FIGURE 1: PROJECT ORGANOGRAM



- B.2 Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF):
95. The project's most significant contribution to the achievement of global environmental benefits is the reduction of uPOPs releases. The project targets to decrease uPOPs releases of the open and uncontrolled burning by 17% annually or 341.9 gTEQ/a. However, in dealing with open burning, the project addresses several sections of waste management in the participating countries. The project's components cover regulatory/legal framework and policy development, knowledge transfer and awareness raising as well as pilot demonstrations at selected sites to promote integrated waste management. Such approach enables delivery of additional benefits, and ensures broad and sustainable impacts on local, national and regional levels. Given the large scale of the project and cooperation with various stakeholders, and in particular with the private sector, the implementation of the project will deliver significant socioeconomic and global environmental benefits, and support inclusive and sustainable industrial development (ISID) efforts in the participating countries. The socio-economic and environmental benefits including climate change mitigation co-benefits are given in Annex G.

Global environmental benefits

Climate Change Mitigation

96. The project will introduce best waste management practices, both by promoting them at the regional level and by implementing them at selected sites. Improved practices at demonstration sites will emphasize mitigation effects and contribute to streamlining future developments of waste management sector into the low-carbon development path, supporting long-term reduction of GHG emissions on local, national and regional levels. The implementation of waste-to-energy demonstration plants at selected municipalities will generate measurable GHG emission reductions and encourage implementation of similar measures on other sites; the outcomes of *Monitoring and evaluation* will deliver data to assess Climate Change mitigation effects of BAT/BEP in open burning and enable their utilization in the SADC region.

Climate Change Adaptation

97. Risks connected with climate change and requirements to adapt waste management sector to the expected effects have not been adequately addressed in most of the participating countries. Given that all participating countries are highly exposed to the effects of climate change, the implementation of the project will significantly contribute to the adaptation and disaster management efforts in participating countries, by raising awareness and delivering effective and immediate results. All project components will consider the expected effects of climate change, especially the selection of BAT/BEP. National Communications to the UNFCCC and other relevant sources will be consulted to identify, develop and implement most adequate adaptation measures. There is also a very limited capacity for specific climate change adaptation requirements in waste management (particularly in open burning) in the region; the knowledge gained through the project will be replicable, hence valuable for adaptation and disaster management initiatives in the whole SADC region.

Environmental Benefits

98. Implementation of the project will discourage highly damaging open burning practices and promote the implementation of BAT/BEP practices on a long term. Overall diverting waste streams from burning and promoting reduction, recycling and reuse of articles that will be achieved through the project will reduce the emissions of PAHs, particulate matter, Mercury, NO_x, SO_x, and diminish releases of dust, fly ash and odors, hence significantly contribute to the improvement of air quality on local and national levels. By discouraging open burning practices, the project will also reduce soil contamination. Through the promotion of components of improved and integrated waste management systems on dumpsites and landfills the project will also contribute to preventing soil erosion and support producing/using compost.

Socioeconomic Benefits

99. The implementation of the project will create short and mid-term jobs within all project components. The outcomes of the project will generate new long-term jobs in waste management, government, education and environment NGOs. The project has a potential to create new businesses, and help mobilize investments with

significant employment opportunities. Long term disease prevention and reduction of accidents are major socio-economic benefits of the project. Current research indicates that the practice of open burning is a more serious threat to public health than previously thought. There is enough evidence that high level of human exposure to open burning over the long term, such as those experienced by waste management workers and waste pickers, may contribute to increasing birth defects, fertility problems, greater susceptibility to disease, reduced intelligence and some types of cancers. Collection of adequate data will enable monitoring and evaluation of health and safety impacts of the project, and provide valuable database knowledge for dealing with open burning in the SADC region. The project will deliver major benefits in education and knowledge dissemination, capacity and awareness, particularly for women and youth as they are constituting a high segment of scavengers. The implementation of project components will build the capacity of all relevant stakeholders (observing appropriate gender representation) in the participating countries in various topics connected with open burning and waste management, notably including technical knowledge and expertise. The selection of demonstration programmes and sites will be made with the objective of maximizing the educational/capacity building impacts. Finally, the implementation of the project will improve occupational environment of workers and create a cleaner environment for those who live close to open burning places. These activities will be conducted having in mind gender equity and country-specific socio-demographic circumstances to ensure women's empowerment and the improvement of wealth distribution.

Gender dimension

100. Gender and Development (GAD) considerations will be made an integral part of the project strategy in consideration of the Gender policies of the GEF, UNIDO as well as those of the Governments of the participating countries. Gender is a critical component in the area of sound management of chemicals because men and women have different health reactions when they are exposed to toxic chemicals. The health implications arising from even low levels of POPs and hazardous chemicals for society in general is serious. As a group, POPs are of concern to human health, most notably, because of their potential effects on the endocrine system, but also because of how they affect the immune system, liver, cognitive ability and the reproductive system. Genetic and other biological differences may contribute to differing susceptibility to chemicals between men and women. Susceptibility may be increased or it maybe reduced due to gender. Therefore, patterns of cancer among women exposed to certain chemicals may well differ from pattern observed among men. Gender considerations in POPs management plays a critical role because of the transfer of POPs chemicals from child bearing mothers to unborn children, making this group as well as women intending to have children a particular risk group.
101. Although waste pickers/scavengers and recycling communities have distinctive characteristics, women and children predominate in the lowest levels of waste gathering, that is, those that depend on the least valuable wastes whose retrieval demands the greatest amount of simple labor for the lowest cash returns. Thus, on dumpsites that receive largely organic and inert rubbish in SADC region, one finds women and children, except in rare cases men join them. Waste pickers and informal waste recycling communities working on dumpsites/landfill have negative effect on their health due to unhygienic conditions and nature of their work that exposes them to various infectious diseases and toxic substances that may cause illnesses. The abundance of fleas and offensive odors in waste disposal sites, along with lack of proper protective devices, make working conditions even more unhygienic. In addition, they face social abuse from certain elements of society, which may lead to social problem. However, many people in SADC countries depend on recycling material from waste for their livelihoods.
102. The implementation of the project in each participating country will be conducted having in mind the global and the specific national and local gender dimensions following the principles of the Guidelines on Gender Mainstreaming for Environment Management Projects developed by UNIDO. The project will generate educational, training and employment opportunities for women and the youth, and respecting gender rights in education and employment will be observed. Participation of women and the youth at all activities will be encouraged, and monitored. The project also foresees human resource development at governmental institutions and environmental NGOs. These initiatives are open for all genders, however, the project will encourage the participation of women. In general, given the gender issues in the region, the project implementation will significantly improve long-term gender equality in education and employment, notably at the professional and higher-skilled jobs levels, and contribute to women empowerment.

103. In addition, mandatory UNIDO gender markers will be applied and the project shall be rated for gender relevance. Gender marking entails inclusion in project reporting of the following data by year 2 and completion including: (i) total number of full-time project staff that are men/women; (ii) number of jobs created by the project that are held by men/women; and (iii) number of gender sensitive publications produced.

Sustainability

104. The project will ensure collection of adequate data to enable continuous monitoring of the implementation and the achievements of environmental and socioeconomic impacts. Such data will also be useful for the post-implementation evaluation purposes. Relevant stakeholders and civil society will be included in knowledge and data sharing, and thoroughly informed about the project's results. Communities will be included in the decision making process to an adequate and reasonable extent to ensure project ownership. The valuable data and knowledge gained through the project will be managed and shared to ensure replicability of the project's outcomes, as well as to enhance regional and global impacts of the project. Often, the major difficulty in ensuring sustainability of improved waste management practices in the region is lack of funding; usually once the donor funding is exhausted, all improved practices will also finish. The project will invest more efforts in developing and testing innovative PPP business approaches and improving existing business practices to ensure their self-sustainability.

Supporting Inclusive and Sustainable Industrial Development (ISID) in participating countries:

105. Although participating countries have different baseline situations, waste management systems in all participating countries are at the infancy stage. Current open burning practices have severe negative impacts on health, and health protection has usually the highest priority when dealing with waste management in the region. Hence, the most important effects of the Project for inclusive and sustainable industrial development (ISID) of the participating countries will be in the categories of Air, Health & Safety and Education, followed by Welfare, Energy and Climate Change. Participating countries/municipalities have different development contexts, financial, economic and socio-economic status, as well as the capacities to improve their situation. However, gender equality, poverty, education and energy are among inclusive and sustainable industrial development (ISID) priorities in all of them.

B.3. Explain how cost-effectiveness is reflected in the project design:

106. By addressing broad issues of uPOPs releases in the open burning sector, the project complements other waste management development projects in the region, and contributes to the achievement of global environmental objectives. Such approach enables synergies and cooperation with ongoing activities in the region and ensure cost-effective and holistic implementation of the GEF strategy for chemicals. The project aims at providing an innovative 3-pronged approach to continuously minimize the uPOPs releases from open burning at landfills/dumpsites and from burning of agricultural residues by (i) introducing BEP in two (2) selected landfills / dumpsites in each participating country; (ii) setting up two (2) pilot demonstration segregation systems (including conveyor belt, sorting, washing, compactin, etc.); and (iii) setting up two (2) pilot demonstration projects on waste-to-energy (biogas, bricketing, etc.). The pilot demonstrations will be set up in close cooperation with the private sector through mutually accepted PPP models.
107. As far as project interventions are concerned, the UNEP Toolkit (that is the official PCDD/PCDFs release estimation method for the Stockholm Convention) lists the emission factors for estimating PCDD/PCDFs releases according to different source categories. The main source category No 6 is related both to biomass (category 6a) and waste burning (category 6b). These emission factors take into account waste burning activities in both developed and developing countries. The last update of the Toolkit (January 2013) proposed updated values that specifically addressed the releases of PCDD/PCDFs from open burning activities. Some new and lower emission factors have been introduced for biomass burning and the emission factors for municipal waste burning (at landfills or backyard) have been generally reduced.
108. Additionally, PCDD/PCDFs related to landfills are also addressed in the UNEP Toolkit main source category 9, Disposal/landfill. In this case emission factors consider the PCDD/PCDF releases to landfill leachate and residues. These releases are due to PCDD/PCDF already present in the wastes that are considered as a reservoir source of uPOPs. The UNEP Toolkit recommends emission factors depending on the type of waste (hazardous,

mixed, domestic).

109. Taking into consideration that the project will use the above described UNEP Toolkit methodology, the project targets to decrease uPOPs emissions of the open and uncontrolled burning by 17% annually or 341.9 g-TEQ/annum that would ease the global environmental burden. A cost analysis table showing the estimated revenues from potential recyclables collected at dumpsites/landfills is given below:

Table 3: Estimated revenue from potential recyclables collected at dumpsites/landfills

Country	Volume of waste dumped (t/a)	Uncontrolled burned waste at dumpsites (t/a)	PCDDs/PCDFs releases in air (g-TEQ/a)	Volume of recycled waste (t/a)	Estimated value (USD)	During project life about 10% could be commercialized (USD in million)
Botswana	90,000	27,000	9.00	36,000	28,800,000	2.88
Lesotho	86,900	26,070	8.69*	34,760	27,808,000	2.78
Madagascar	169,200	50,773	16.92	67,680	54,144,000	5.41
Mozambique	120,500	36.15	12.05	48,200	38,560,000	3.86
Swaziland	105,028	7,998	11.67	42,011	33,608,000	3.36
Tanzania	111,266	33,380	10.14	44,506	35,604,800	3.56
Zambia	103,766	31,130	12.71	41,506	33,204,800	3.32

*Estimated from household burning of waste

110. The cost analysis table used the most recent data from NIP update of Swaziland, Tanzania and Zambia using the UNEP Toolkit of 2013. For Botswana, Lesotho and Madagascar the original NIP data were used while the data of Mozambique has been reported by a government official. The prices of secondary materials were taken from Eurostat 2014 at a rate of US\$800/t. For practical reasons, as many of other publications, it was assumed that 30% of the dumped waste was burned and 40% was recycled. It should be noted that the volumes of uncontrolled burning of waste at dumpsites were significantly lower in the NIP update surveys than the same in the original NIP inventories due to the updated values in the UNEP toolkit of January 2013. At the same time it is also worthwhile to mention that the volumes of biomass burning and the open burning of domestic waste are about 40 to 50 times higher than those of waste burning at dumpsites. It is also clearly shown that commercialization of only 10% of potential recyclables collected at the dumpsites would result in good revenues.
111. At this stage it is not possible to estimate the costs of interventions and the possible earnings coming from selling the recyclables and from the waste-to-energy pilots. However, the project will be able to report on it at a later stage of its implementation.

C. DESCRIBE THE BUDGETED M & E PLAN:

112. Project monitoring and evaluation (M&E) are conducted in accordance with established UNIDO and GEF procedures. The M&E activities are defined by Project Component 5 and the concrete activities for M&E that are specified in the strategic results framework (which details the means of verification), and the annual work plans. M&E will make use of the GEF tracking tools, which will be submitted to the GEF Secretariat three times during the duration of the project: at CEO endorsement, at mid-term review and at project closure.
113. UNIDO as the Implementing Agency will involve the GEF Operational Focal Point and project stakeholders at all stages of the project monitoring and evaluation activities in order to ensure the use of the evaluation results for further planning and implementation.
114. According to the M&E policy of the GEF and UNIDO, follow-up studies like Country portfolio evaluations and thematic evaluations can be initiated and conducted. All project partners and contractors are obliged to (i) make

available studies, provide reports or other documentation related to the project and (II) facilitate interviews with staff involved in the project activities. This section of the project document presents a concrete and fully budgeted M&E plan of the project. The types of M&E activities, responsible parties, the budget requirements and timeframe to implement these activities are indicated in table 6 below.

Table 4: Monitoring and Evaluation

M&E activity categories	Feeds into	Timeframe	GEF Budget USD	Co-financing USD	Responsible parties
Measurement GEF Tracking Tool specific indicators	Mid-term Review and Terminal Evaluation Reports	At project mid-term and completion	21,000	14,000	M&E consultant provide feedback to project executing partner / PMUs
Monitoring of project impact indicators (as per logframe)	Project management; semi annual progress report; annual GEF PIR	semi-annually	75,000	125,000	RC and M&E consultant provide feedback to project executing partner; PMU submit inputs for consolidation and approval by RPSC; RPSC submits final reports to UNIDO PM
Periodic Progress Reports	Project management; Annual GEF PIR	semi-annually	65,000	91,000	RC and technical experts submit progress reports to RPSC for approval; RPSC submits final reports to UNIDO PM
Mid-term review	Project management	at project mid-term	25,000	3,000	UNIDO PM or independent evaluator
Independent Terminal Evaluation	Terminal Evaluation Review (TER) conducted by UNIDO EVA and/or GEF IEO	Project completion (at least one month prior to the end of the project and no later than six months after project completion)	30,000	3,000	Independent evaluator for submission to UNIDO PM
Total indicative costs			216,000	236,000	

Monitoring and reporting responsibilities

115. A detailed schedule of project review meetings will be developed by the project management team in consultation with the project implementation partners and stakeholder representatives and incorporated in the first project

stakeholder's consultation report. The schedule will include (i) tentative timeframes for RPSC; and (ii) project related M&E activities.

116. Day to day monitoring of the national project implementation will be the responsibility of the NPCs of the participating countries who will report to RC and UNIDOPO on a regular basis. The NPCs will prepare the Annual Workplan and its indicators in coordination with UNIDOPO and RC. The NPCs will inform UNIDO and RC of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be taken in a timely and remedial fashion.
117. UNIDO PO and the RC will fine-tune the progress and performance/impact indicators for the project in consultation with the project experts team (PET) at the 1st project stakeholder workshop. Specific targets for the first year implementation progress indicators together with their means of verification will be developed in this workshop. These will be used to assess whether implementation is proceeding at the intended pace and in the right direction and will form part of the Annual Work Plan. Targets and indicators for subsequent years will be reviewed annually as part of the internal review and planning processes undertaken by the project management.
118. UNIDO, through RPSC meetings or exchanges with project counterparts, or as frequently as deemed necessary, but not less than semi-annually, will undertake periodic monitoring of the project implementation progress. RPSC meetings will take place at least semi-annually during the first three (3) years and once a year thereafter. The first such meeting will be held within twelve (12) months of the start of the project. This will allow parties to troubleshoot any problems pertaining to the project timely, to ensure the smooth implementation of project activities.
119. Measurement of impact indicators related to global benefits will be done according to the schedules defined in the 1st stakeholder workshop. The measurement of these will be undertaken through subcontracts with relevant institutions, or through specific studies that are to form part of the projects activities. Indicators of project goal, progress and performance will be continuously monitored and evaluated throughout the whole project life. Impact indicators to be measured include but not limited to:
 - Number of institutions adopting BEP and/or cleaner production measures
 - Number of facilities adopting BAT/BEP
 - Quantitative and qualitative change in the process management targeted to the decrease of uPOPs releases
 - Quantitative reduction of uPOPs releases
 - Level of the stakeholder awareness of and participation in adopting BAT/BEP
 - Status of PCDD/PCDF inventories
 - Social and economic benefits from adoption of BAT/BEP
120. UNIDO will conduct periodic visits based on agreed schedules, to be detailed in the 1st project stakeholder's Report /Annual Work Plan to assess project progress. Other members of the PSC may also accompany these visits. A Field Visit Report will be prepared by UNIDO and will be circulated to the project team and the Steering Committee members one month after the visit.
121. A Project Data Management System (PDMS) will be established to support the Project Manager and the project management team to ensure that all project activities will be completed on time, in quality and within budget. The PDMS will include a database containing (in electronic format or scanned PDF) all the project technical and administrative documentations. The PDMS will keep baseline records of annual work plans and contracts with consultants and subcontracts with performance indicators, result reports, responsibilities and budgets, allowing easy comparison of them with the progress of activities. The RC and NPCs will be responsible in updating and uploading the relevant documentation in the PDMS.

Project Inception phase

122. A Project stakeholder workshop will be conducted with the full project team, relevant government counterparts, co-financiers, UNIDO and other partners, as appropriate.

123. The objective of this stakeholder workshop will be to assist the project team in understanding and assimilating the goals and objectives of the project, as well as to finalize the preparation of the project's first annual work plan on the basis of the project's logical framework matrix. This work will include reviewing the logical framework (indicators, means of verification, assumptions), imparting additional detail as needed, and completing an Annual Work Plan (AWP) for the first year of project implementation, including measurable performance indicators.
124. Additionally, the stakeholder workshop will: (i) introduce project staff to the UNIDO team, which will support the project during its implementation; (ii) delineate the roles, support services, and complementary responsibilities of UNIDO staff vis-à-vis the project team; (iii) provide a detailed overview of UNIDO reporting and M&E requirements, with particular emphasis on Annual Project Implementation Reports (PIRs), RPSC meetings, as well as mid-term review and terminal evaluations. Equally, the stakeholder workshop will provide an opportunity to inform the project team on UNIDO project related budgetary planning, budget reviews and mandatory budget rephasing and administrative issues.
125. The stakeholder workshop will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines and conflict resolution mechanisms. The Terms of Reference (TOR) for project staff and decision-making structures will be discussed, as needed, in order to clarify each party's responsibilities during the project's implementation phase.

Project Monitoring Reporting

126. The RC in conjunction with UNIDO will be responsible for the preparation and submission of the following reports that form part of the monitoring process. Items (a) through (f) are mandatory and are specifically related to monitoring.

(a) 1st Project Stakeholder's Report

127. A Project Inception Report (IR) will be prepared immediately following the stakeholder consultation workshop. It will include a detailed First Year AWP divided into quarterly timeframes, which detail the activities and progress indicators that will guide the implementation during the first year phase of the project. The Work Plan will include the dates of specific field visits, support missions from UNIDO and/or UNIDO consultants, as well as timeframes for meetings of the project's decision-making structures. The report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the AWP, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 month timeframe.

128. When finalized, the report will be circulated to project counterparts, who will be given a period of one calendar month in which to respond with comments or queries. Prior to this circulation of the IR, UNIDO will review the document.

(b) Annual Project Report

129. The Annual Project Report (APR) is a UNIDO requirement and part of UNIDO internal oversight, monitoring, and project management. It is a self-assessment report by project management to UNIDO, as well as a key input to the RPSC. The APR will be prepared on an annual basis prior to the RPSC to reflect the progress achieved in meeting the project's AWP and assess performance of the project in contributing to the intended outcomes through outputs and partnership work.

130. The format of the APR is flexible but should include the following:

- Analysis of project performance over the reporting period, including outputs produced and information on the status of the outcome;
- Constraints experienced in the progress towards results and the reasons for these;
- Expenditure reports;
- Lessons learned; and
- Recommendations to address key problems in lack of progress, if applicable.

(c) Project Implementation Report

131. The Project Implementation Report (PIR) is an annual monitoring process mandated by the GEF. It is an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. Once the project will be under implementation for a year, the project team shall complete the PIR. The PIR is prepared observing the GEF cycle (July-June). The PIR includes the following: (a) analysis of the achievement of project objectives; (b) analysis of project performance over the reporting period, including outputs produced and information on the status of the outcome; (c) management of risks; (d) co-financing accounting (resources provided both as in kind or cash contribution). Expenditure reports, lessons learned and recommendations to address key problems, if applicable, are reported. Likewise, part of the PIR is the reporting/updating of the co-financing committed and the UNIDO Stockholm Convention Unit indicators.

(d) Periodic Thematic Reports

132. As and when called for by UNIDO, the project team will prepare Specific Thematic Reports, focusing on specific issues or areas of activity. The request for a Thematic Report will be provided to the project team in written form by UNIDO and will clearly state the issue or activities that need to be reported on. These reports will be used as a form of lessons learned exercise, specific oversight in key areas, or as troubleshooting exercises to evaluate and overcome obstacles and difficulties encountered.

(e) Project Terminal Report

133. During the last three months of the project, the RC will prepare the Project Terminal Report (PTR). This comprehensive report will summarize all activities, achievements and outputs of the project, lessons learned, objectives met (or not met), and structures and systems implemented. The PTR will be the definitive statement of the Project's activities during its lifetime. 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 activities.

134. The UNIDO PO and RC will develop criteria for participatory monitoring of the project activities. Appropriate participatory mechanism and methodology for performance monitoring and evaluation will be established at the very outset of the project. M&E activities will be based on the Logical Framework Matrix. The overall M&E format for the project will follow the instructions and guidelines of the GEF M&E unit and it will be laid out in detail at the stakeholder Workshop.

Independent Evaluations

135. The project will be subjected to at least two (2) independent external evaluations as follows:

- (a) Mid-term review: An independent Mid-term review (MTR) will be undertaken at the end of the third (3) year of project implementation. The MTR, performed by an independent consultant, will measure progress made towards the achievement of outcomes and will identify corrections, if needed. The MTR will focus on the project performance in terms of relevance, effectiveness, efficiency and timelines of project implementation; highlight issues requiring decisions and actions; and present initial lessons learned on project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the second half of the project's terms. The organization, terms of reference and timing of the MTR will be decided after consultation between the parties to the project document. The Terms of Reference for the MTR will be prepared by UNIDO in accordance with the generic TORs developed by the GEF Evaluation Office.
- (b) Terminal Evaluation: An independent Terminal Evaluation (TE) will take place after the operational completion of the project, and will focus on the same issues as the MTR, with a greater focus on project impact and sustainability of results, including the contribution to capacity development and achievement of global environmental goals. The TE should also provide recommendations for follow up activities of future projects, based on lesson learned and success stories. The Terms of Reference for this evaluation will be prepared by UNIDO in accordance with the generic TOR developed by the GEF and UNIDO Evaluation Offices.

Terminal Project Workshop (TPW)

136. The Terminal Project workshop will be held in the last month of project operation. The RC is responsible for the preparation of the draft Terminal Report (TR) and its submission to UNIDO. The draft TR will be prepared at least two months in advance of the TPW in order to allow more time for its review. This will serve as the basis for

discussions in the TPW and a venue to consider the implementation of the project as a whole, paying particular attention to whether the project has achieved its stated objectives and contributed to the broader environmental objective. It decides whether any actions are still necessary, particularly in relation to sustainability of project results and acts as a means, which lessons learned can be captured for use in other projects under implementation or formulation.

Prior Obligations and Prerequisites

137. The Project Document will be signed by UNIDO and the Governments of the SADC participating countries. Any project amendments will be done in accordance with the approved Project Document and the GEF Policy (GEF C.39/04). GEF assistance will be provided subject to UNIDO being satisfied that the obligations and prerequisites listed below have been fulfilled or are likely to be fulfilled. When fulfilment of one or more of these prerequisites fails to materialize, UNIDO may, at its discretion, either suspend or terminate its assistance.

- Prior to project effectiveness: legally binding co-financing agreements other than the GEF and UNIDO specified in the project document and respective commitment letters are made available to the project.
- During project implementation: Progress Reports and Annual Project Implementation Review reports should be prepared. The work plan and consequently the project budget will be updated on a regular basis.

Legal context

Botswana (Republic of)

“The Government of the Republic of Botswana agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed and entered into force on 14 May 1975.”

Lesotho (Kingdom of)

The Kingdom of Lesotho agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed on 31 December 1974 and entered into force on 17 December 1976.

Madagascar (Republic of)

The Government of the Republic of Madagascar agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed on 19 March 1991 and entered into force on 14 April 1992.

Mozambique (Republic of)

“The Government of the Republic of Mozambique agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed and entered into force on 15 September 1976.

Swaziland (Kingdom of)

“The Kingdom of Swaziland agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed and entered into force on 28 October 1977.”

Tanzania (United Republic of)

“The Government of the United Republic of Tanzania agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed and entered into force on 30 May 1978.”

Zambia (Republic of)

“The Government of the Republic of Zambia agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed and entered into force on 14 October 1983.”



PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

- A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S):** (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this form. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Khulekani Mpofu	GEF Operational Focal Point	Ministry of Environment, Wildlife and Tourism, Botswana	01/09/2015
S. M. Damane	GEF Operational Focal Point	Ministry of Tourism, Environment and Culture, Lesotho	11/11/2014
Rabeantoandro Marcellin	Secretary General of Environment, GEF Operational Focal Point	Ministry of Environment, Ecology and Forests, Madagascar	11/19/2014
Marilia Telma Manjate	GEF Operational Focal Point	Ministry of Coordination and Affairs, Mozambique	01/16/2015
Stephen M. Zuke	Executive Director and GEF Operational Focal Point	Swaziland Environment Authority, Swaziland	11/19/2014
Dr. J.K. Ningu	GEF Operational Focal Point	Vice President's Office, Tanzania	01/15/2015
G.F. Gondwe	Director and GEF Operational Focal Point	Ministry of Lands, Natural Resources and Environmental Protection	12/19/2014

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project.

Agency Coordinator, Agency Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Mr. Philippe R. Scholtès Managing Director Programme Development and Technical Cooperation Division UNIDO GEF Focal Point		01-25-2016	E. Galvan 	+431 26026 3953	e.galvan@unido.org

ANNEX I: COMMITMENT LETTERS FROM PARTICIPATING COUNTRIES



Republic of Botswana

Telephone: (267) 3902050
Fax: (267) 3902051/ 3914687
Email: envirobotswana@gov.bw

Department of Environmental Affairs
Ministry of Environment, Wildlife and Tourism
All Correspondence to be addressed to the Director

Private Bag 0068
Gaborone
Botswana

REF: DEA I/12/7 I (9)

9th January 2015

To: Mr. Philippe Scholtès
Managing Director
Programme Development and Technical
Cooperation Division
UNIDO GEF Focal Point
Vienna International Centre
Wagramerstrasse 5, P.O. Box 300
A-1400 Vienna, Austria

Subject: Co-financing commitment for UNIDO regional FSP project "Promotion of BAT and BEP to reduce uPOPs releases from waste open burning in the participating African countries of SADC sub-region" - Botswana.

In my capacity as GEF Operational Focal Point for Botswana, I confirm that the above project proposal is in accordance with the government's national priorities and the commitment made by the Botswana under the relevant global environmental conventions and has been discussed with relevant stakeholders.

I hereby confirm that the total of US\$ 2,664,300 (in-kind) and US\$700 (grant) will be contributed by the Ministry of Environment Wildlife and Tourism, together with other national Ministries and partners to the project as counterpart funding during the five year project implementation period. The funds will be allocated according to the uPOPs BAT/BEP project activities in Botswana for the project document.

Sources of co-financing	Name of Co-financier	Type of co-financing	Amount (in USD)
National Government	Ministry of Environment Wildlife and Tourism Ministry of Local Government and Rural Development.	In-kind	2,664,300
National Government	MEWT	grant	700
TOTAL			2,665,000

Sincerely,

Khulekani Mpofo
GEF-Operational Focal Point (GEF-OFP)

Annex I (a): Additional co-financing from private sector and bilateral



National Environmental Laboratory Building
Plot 20576 Magochanyama Road, Block 8 Industrial,
Gaborone, Botswana
Private Bag BR 132, Gaborone, Botswana
Tel: +267 3911802 / 3934479
Fax: +267 3934486 / 3909953
email: wmpe@gov.bw



ALL CORRESPONDENCE TO BE ADDRESSED TO THE DIRECTOR

REF: WMPC 1/8/2 I (87)

28th September 2015

To: Mr. Philippe R. Scholtès
Managing Director
Programme Development and Technical
Cooperation Division
UNIDO GEF Focal Point
Vienna International Centre
P.O. Box 300
A-1400 Vienna, Austria

Subject: *Co-financing commitment for UNIDO regional FSP project "Promotion of BAT and BEP to reduce uPOPs releases from waste open burning in the participating African countries of SADC sub-region"*

In my capacity as GEF Operational Focal Point for The Republic of Botswana, I hereby confirm that the partners mentioned in table below have expressed their willingness to participate in the subject project and will be contributing a total amount of **US\$ 2,000,000** (Two million US Dollar); for Activity 3.3.3 of the project document: *"Establish two (2) pilot demonstration projects on waste-to-energy (biogas, bracketing, etc) using PPP models"*.

The funds will be allocated according to the aforesaid project activity (Activity 3.3.3) in the project document.

Sources of co-financing	Name of Co-financier	Type of co-financing	Amount (in USD)
Private sector	1. Botswana Meat Commission	In kind	1000,000
	2. Botswana International University of Science & Technology	In kind	1000,000
TOTAL			2,000,000

Yours faithfully

Khulekani Mpofu

GEF Operational Focal Point - Botswana

Our Vision: *To protect the environment; Conserve the country's renewable and natural resources; Derive value out of environment for the benefit of Botswana*





LESOTHO

Ministry of Tourism, Environment and Culture
Department of Environment
Box 10993
Maseru 100

Tel: +266 22 311767
MTEC/NES/CONV/12

Fax: +266 22 311139
25th September 2015

Mr. Philippe R. Scholtès
Managing Director
Programme Development & Technical Cooperation Division
UNIDO GEF Focal Point, Vienna International Centre
Wagramer Strasse 5, P. O. Box 300, A-1400 Vienna, Austria

Dear Sir,

Subject: Co-financing commitment for UNIDO regional FSP project “Promotion of BAT and BEP to reduce uPOPs releases from waste open burning in the participating African countries of SADC sub-region”

In my capacity as GEF Operational Focal Point for Lesotho, I hereby confirm that the partner mentioned in table below has expressed willingness to participate in the subject project and will be contributing (in-kind) a total amount of USD 2, 000, 000 (Two million United States Dollars) over five years period; for Activity 3.2.2 of the project document: *“Identify exiting waste recycling enterprises in the participating countries and enhance their performance by supporting two (2) pilots of segregation systems for collecting waste materials of added value (conveyer belts, sorting, washing, compacting, etc”.*

The funds will be allocated according to the project activity (Activity 3.2.2) in the project document.

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (USDS)
Private Sector	Tlhoeko Sanitary Solutions (Pty) Ltd	In-Kind	2,000, 000
Total Co-financing			2,000, 000

Yours faithfully,

S. M. Damane
GEF Operational Focal Point



REPUBLIC OF MOZAMBIQUE
MINISTRY OF LAND, ENVIRONMENT AND RURAL DEVELOPMENT
NATIONAL DIRECTORATE OF ENVIRONMENT

To: Mr. Philippe R. Scholtès
Managing Director
Programme Development and Technical
Cooperation Division
UNIDO GEF Focal Point
Vienna International Centre
P.O. Box 300
A-1400 Vienna, Austria

Our Ref: 1071 /MITADER/DINAB/032.4/2015

Maputo, 07 October 2015

Subject: *Co-financing commitment for UNIDO regional FSP project "Promotion of BAT and BEP to reduce uPOPs releases from waste open burning in the participating African countries of SADC sub-region"*

Dear Sir,

In my capacity as GEF Operational Focal Point for The Republic of Mozambique, I hereby confirm that the partners mentioned in table below has expressed their willingness to participate in the subject project and will be contributing \$2,300,000 (two million and three hundred thousand US dollars) in cash and \$2,700,000USD (two million and seven hundred thousand US dollars) in kind contribution, over five years period ; for Activity 3.1.3 of the project document: *"Identify two (2) municipalities in each participating country to carry out waste management best practices"*.

The funds will be allocated according to the aforesaid project Activity (Activity 3.1.3) in the project document.

Sources of co-financing	Name of Co-financier	Type of co-financing	Amount (in USD)
Bilateral	Korean Government to establish a landfill for Maputo and Matola in Mozambique	Cash	2,300,000
Bilateral	Korean Government to establish a landfill for Maputo and Matola in Mozambique	In-Kind	2,700,000
Total Co-Financing			5,000,000

Sincerely,

Marilia Telma Manjate

(GEF Operational Focal Point)



LESOTHO

Ministry of Tourism, Environment and Culture
Department of Environment
Box 10993
Maseru 100

Tel: +266 22 311767
MTEC/NES/CONV/12

Fax: +266 22 311139
11th November 2014

Mr. Philippe Scholtès
Managing Director
Programme Development & Technical Cooperation Division
UNIDO GEF Focal Point
Vienna International Centre
Wagramer Strasse 5, P. O. Box 300
A-1400 Vienna, Austria

Dear Sir,

Re: Commitment of Co-financing for UNIDO regional Full Size Project "Promotion of BAT and BEP to reduce uPOPs releases from waste open burning in the participating African countries of SADC sub-region".

In my capacity as GEF Operational Focal Point for Lesotho, I confirm that the above project proposal is in accordance with the government's national priorities and the commitment made by the Government of Lesotho under the relevant global environmental conventions and has been discussed with relevant stakeholders.

I hereby confirm that the total of US\$ 2, 132, 000 (in-kind) and US\$ 533, 000 (grant) will be contributed by the Ministry of Tourism, Environment & Culture, together with other national ministries and partners to the project as counterpart funding during the five year project implementation period. The funds will be allocated according to the project activities in Lesotho for the project document.

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (US\$)
Government of Lesotho	Department of Environment, Ministry of Tourism, Environment & Culture	In-Kind	2, 132, 000

Government of Lesotho	Department of Environment, Ministry of Tourism, Environment & Culture	Grant	533, 000
Total Co-financing			2, 665, 000

Yours faithfully,

S. M. Damane
GEF Operational Focal Point



SECRETARIAT GENERAL

Antananarivo, le 19 NOV 2014

The secretary General of Environment
GEF Operational Focal Point

To

Mr. Philippe Scholtès,
Managing Director, Program Development and Technical
Cooperation Division,
UNIDO GEF Focal Point,
Vienna International Centre
Wagramerstrasse 5, P.O. Box 300, A-1400 Vienna, Austria

N° 763-14/MEEF/SG.

Subject:Co-financing commitment for UNIDO regional FSP project "Promotion of BAT and BEP to reduce uPOPs releases from waste open burning in the participating African countries of SADC sub-region".

In my capacity as GEF Operational Focal Point for Madagascar, I confirm that the above project proposal is in accordance with the government's national priorities and the commitment made by the Madagascar under the relevant global environmental conventions and has been discussed with relevant stakeholders.

I hereby confirm that the total of US\$ 2 834 000 (in-kind) and will be contributed by the Ministry of Environment, Ecology and Forest, together with other national Ministries and partners to the project as counterpart funding during the five year project implementation period. The funds will be allocated according to the project activities in Madagascar for the project document.

Sources of co-financing	Name of Co-financier	Type of co-financing	Amount (in USD)
National Government	Service Autonome de maintenance de la Ville d'Antananarivo	In-kind	2 834 000
National Government		In -Kind	377 000
TOTAL			3 211 000

Sincerely,



RAFAEL ANTOANDRO Marcellin



REPÚBLICA DE MOÇAMBIQUE

MINISTÉRIO PARA A COORDENAÇÃO DA ACÇÃO AMBIENTAL

Direcção da Cooperação

TO
Mr Philippe Scholtes
Managing Director Programme
Development and Technical and Cooperation
Cooperation Division UNIDO/ GEF, Focal Point
Vienna International Centre.
Wagramer strasse 5, P.O Box 300
A-1400 Vienna, Austria

16//January/015

Subject Co- Finance Commitment for UNIDO REGIONAL FSP Project .Promotion of BAT and
BEP on reduce UPOPs released from the waste open burning in the participating African
Countries of SADC Sub -region

In my capacity as GEF Operational focal point for Mozambique I confirm that the above project
proposal is in accordance with the national governments national priorities and commitment made
by the Mozambique under the relevant global Environmental Convention and has been discussed
with relevant stakeholders

I hereby confirm that the total of 2,665.000 USD will be supported by in- kind and 0 grand will be
contributed by Ministry for Coordination Environmental Affair together with other National
Ministries and partners to the project as counterpart funding during five years project
implementation period. The funds will be allows to be allocated according to the project activities
In Mozambique project document.

Sources of co- financing	Name of co-financer	Type of co financing	Amount (USD)
National Government	MICOA –Mozambique	IN-KIND	2,665.000.00 USD
National Government	MICOA Mozambique	GRAN 0	0
TOTAL			2,665,000.00USD

Sincerely,


Maria Telma Mahjate

GEF – Operacional (Focal Point GEF-OFP)



SWAZILAND ENVIRONMENT AUTHORITY

RHUS Office Park
Lot 195, Karl Grant Street
Mbabane

P.O.Box 2602
Mbabane, Swaziland
Tel: 2404 6960/7893 Fax: 2404 1719
Email: reception@sea.org.sz or ceosec@sea.org.sz
www.sea.org.sz

Our Ref: SEA/PRJ/5.2

19 November 2014

Mr. Philippe Scholtès
Managing Director
Programme Development and Technical Cooperation Division
UNIDO GEF Focal Point
Vienna International Centre
Wagramerstrasse 5, P.O. Box 30
A-1400 Vienna, Austria

Subject: Co-financing commitment for UNIDO regional FSP project "Promotion of BAT and BEP to reduce uPOPs releases from waste open burning in the participating African countries of SADC sub-region".

In my capacity as GEF Operational Focal Point for the Kingdom of Swaziland, I confirm that the above project proposal is in accordance with the government's national priorities and the commitment made by the Kingdom of Swaziland under the relevant global environmental conventions and has been discussed with relevant stakeholders.

I hereby confirm that the total of US\$ 2, 660, 000 (in kind) and US\$ 5, 000 (grant) will be contributed by the Ministry of Tourism and Environmental Affairs, together with other national Ministries and partners to the project as counterpart funding during the five year project implementation period. The funds will be allocated according to the project activities in the Kingdom of Swaziland for the project document.

Sources of co-financing	Name of Co-financier	Type of co-financing	Amount (in USD)
National Government	Ministry of Tourism and Environmental Affairs	In-kind	2, 660, 000
National Government	Ministry of Tourism and Environmental Affairs	grant	5, 000
TOTAL			2,665,000

Sincerely,

Stephen. M. Zuke

Executive Director & GEF-Operational Focal Point (GEF-OFPP)

Ensuring the integration of environmental concerns into Swaziland's development

THE UNITED REPUBLIC OF TANZANIA
VICE PRESIDENT'S OFFICE

Telegraphic address: "MAKAMU",
Telephone: +255 22 2113857 /2116995
Fax No. : +255 22 2113856 /2113082
Email: ps@vpo.go.tz



6 Albert Luthuli Street,
P. O. BOX 5380,
11406 DAR-ES-SALAAM,

In reply please quote:

Ref No: **BC/78/276/01**

15th January, 2015.

Mr. Philippe Scholtès
Managing Director
Programme Development and
Technical Cooperation Division
UNIDO GEF Focal Point
Vienna International Centre
Wagramerstrasse 5, P.O. Box 300
A-1400 Vienna
AUSTRIA.

**RE: CO-FINANCING COMMITMENT FOR UNIDO REGIONAL PROJECT
"PROMOTION OF BAT AND BEP TO REDUCE uPOPs RELEASES FROM WASTE
OPEN BURNING IN THE PARTICIPATING AFRICAN COUNTRIES OF SADC SUB-
REGION".**

In my capacity as GEF Operational Focal Point for Tanzania, I confirm that the above project proposal is in accordance with the government's national priorities and the commitment made by the Government of the United Republic of Tanzania under the relevant global environmental conventions and has been discussed with relevant stakeholders.

I hereby confirm that the total of US\$ 2,665,000 (in-kind) will be contributed by the Government of Tanzania, together with other partners to the project as counterpart funding during the five year project implementation period. The funds will be allocated according to the project activities in Tanzania for the project document.

Sources of co-financing	Name of Co-financier	Type of co-financing	Amount (in USD)
National Government	Government of Tanzania	In-kind	2,665,000
TOTAL			2,665,000

Sincerely,


Dr. J. K. Ningu

GEF-Operational Focal Point (GEF-OFP)

Telephone: 252288/252323/252320

Fax: Lusaka 250120

Telefax 40681 MIDLANDS ZA

Telegrams: LANDS



REPUBLIC OF ZAMBIA

**MINISTRY OF LANDS, NATURAL RESOURCES AND
ENVIRONMENTAL PROTECTION**

19th December, 2014

OFFICE OF THE PERMANENT SECRETARY

P.O. BOX 50694
15101 RIDGEWAY
LUSAKA

Mr. Philippe Scholtes
Managing Director
Programme Development and Technical
Cooperation Division
UNIDO GEF Focal Point
Vienna International Centre
Wagramerstrasse 5,
P.O. Box 300
A-1400 Vienna,
AUSTRIA

**RE: CO-FINANCING COMMITMENT FOR UNIDO REGIONAL FSP PROJECT
"PROMOTION OF BAT AND BEP TO REDUCE UPOPs RELEASES FROM
WASTE OPEN BURNING IN THE PARTICIPATING AFRICAN
COUNTRIES OF SADC SUB-REGION".**

In my capacity as GEF Operational Focal Point for **Zambia** I confirm that the above project proposal is in accordance with the government's national priorities and the commitment made by the **Zambia** under the relevant global environmental conventions and has been discussed with relevant stakeholders.

I hereby confirm that the total of US\$ 2,665,000 (in-kind) and US\$ 0 (grant) will be contributed by the Ministry of Lands, Natural Resources and Environmental Protection, together with other national Ministries and partners to the project as counterpart funding during the five year project implementation period. The funds will be allocated according to the project activities in Zambia for the project document.

Sources of co-financing	Name of Co-financier	Type of Co-financing	Amount (in USD)
National Government	GRZ	In-kind	2,665,000
National Government	GRZ	Grant	0
TOTAL			2,665,000

Sincerely,



G. F. Gondwe

Director/GEF Operational Focal Point
Environment and Natural Resources Management Department
for/Permanent Secretary

**MINISTRY OF LANDS, NATURAL RESOURCES AND ENVIRONMENTAL
PROTECTION**

cc. GEF Political Focal Point, Lusaka

Director General, Zambia Environmental Management Agency
Lusaka

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Hierarchy of Objectives	Objectively Verifiable Indicators	Baseline	Target	Sources of Verification	Assumptions
Project Objective: To achieve continuing minimization of unintentionally produced POPs (uPOPs) releases in the open burning sector of participating African countries of SADC region through introduction of best available techniques and best environmental practices (BAT/BEP) measures at selected priority demonstration sites	<ul style="list-style-type: none"> ➤ Status of PCDD/PCDF inventories ➤ Number of facilities adopting BAT/BEP ➤ Quantitative reduction of uPOPs releases ➤ Number of jobs created ➤ Number of male / female trained at national and regional levels ➤ Decreased number of individuals working in poor or ultra-poor households 	<ul style="list-style-type: none"> ➤ Participating countries of SADC uPOPs releases/data on open burning amounts to 2,011.201 g -TEQ/a 	<ul style="list-style-type: none"> ➤ BAT/BEP measures introduced in two (2) selected landfills / dumpsites in each participating country ➤ Waste management plans implemented in one (1) selected municipalities in each participating country ➤ Two (2) pilots of segregation systems for collecting waste materials of added value (conveyor belts, sorting, washing, compacting, etc.) ➤ Two (2) pilot demonstration projects on waste-to- energy (biogas, bricketing, etc.) ➤ Seventeen (17) percent of annual release reduction of uPOPs ➤ 50% improved livelihood of people 	<ul style="list-style-type: none"> ➤ Set of criteria for site selection ➤ Site visits ➤ Technical and monitoring reports ➤ Report on baseline and result surveys 	<ul style="list-style-type: none"> ➤ Relevant technical human resources are trained in BAT/BEP measures for open burning
Outcome 1: Updated regional information on current open burning practices and establishment of uPOPs baseline inventories	<ul style="list-style-type: none"> ➤ Number of uPOPs inventories updated ➤ Number of database created ➤ Number of national workshop undertaken ➤ Number of male/female trained 	<ul style="list-style-type: none"> ➤ NIP updates are being prepared in participating country 	<ul style="list-style-type: none"> ➤ Seven (7) inventories of uPOPs updated ➤ National databases created in 7 participating countries ➤ One regional database established ➤ One regional workshop to train the trainers of at least 14 people on preparation of uPOPs inventories 	<ul style="list-style-type: none"> ➤ uPOPs inventory reports ➤ workshop reports ➤ database operational in each country 	<ul style="list-style-type: none"> ➤ uPOPs inventories have been completed

				<ul style="list-style-type: none">➤ Seven (7) national workshops on inventories of uPOPs undertaken in 7 participating countries	<ul style="list-style-type: none">➤ Regional and national workshop reports	<ul style="list-style-type: none">➤ Location of sites confirmed by MoE of each participating country
<p>Output 1.1: National information on current locations of open burning practices validated and updated uPOPs inventories reviewed</p> <p><i>Activity 1.1.1: Conduct a regional training workshop in preparing inventories of uPOPs releases from open burning of wastes with participation of at least 2 national experts each participating country</i></p> <p><i>Activity 1.1.2: Carry out national inventories identifying locations of dumpsites, landfills and other related hotspots, prioritize and validate open burning sites</i></p> <p><i>Activity 1.1.3: Carry out national sensitization seminars for at least 20 participants in each participating country and validation workshops to review NIP updates and make the data on inventory of uPOPs releases from open burning of wastes available</i></p>	<ul style="list-style-type: none">➤ Criteria for selection of priority dumpsites / landfill sites➤ Number of regional and national training workshops on inventories of uPOPs➤ Number of experts (male / female) trained	<ul style="list-style-type: none">➤ National data on open burning sites	<ul style="list-style-type: none">➤ One (1) regional training workshop for at least 14 experts on preparation of uPOPs inventories➤ One (1) national stakeholders workshop for uPOPs inventories conducted for at least 20 participants in each participating country➤ Appropriate gender representation observed			
<p>Output 1.2: Regional information on open burning practices and data on uPOPs releases exchanged and respective regional cooperation and networking consolidated</p> <p><i>Activity 1.2.1: Support the creation of national database information systems in each participating country that are accessible to all stakeholders including training of</i></p>	<ul style="list-style-type: none">➤ Number of national and regional databases in operation➤ Number of national workshops conducted➤ Number of trainees (men/women)	<ul style="list-style-type: none">➤ Data reporting not harmonized and compiled	<ul style="list-style-type: none">➤ Seven (7) national databases operational for accessibility of all stakeholders➤ One (1) regional database linking the national databases established➤ At least one workshop conducted at national level to train at least 2 national experts each participating country	<ul style="list-style-type: none">➤ Regional IT specialist reports	<ul style="list-style-type: none">➤ National and regional databases are available and accessible for all relevant stakeholders	

<p>at least 2 national experts capable in developing and maintaining the database</p> <p>Activity 1.2.2: Conduct national workshops (one each in participating country) on using established national database on uPOPs releases from open burning practices</p> <p>Activity 1.2.3: Create a regional database information system within the SADC region, linked to UNIDO website, to share and disseminate data/information on alternatives to open burning practices</p>						
<p>Outcome 2: Strengthened legislation and human resources capacity in implementing BAT/BEP at selected priority sites of open burning</p>	<ul style="list-style-type: none"> ➤ Number of legislative updates ➤ Number of national action plans ➤ Number of guidance documents on BAT/BEP ➤ Number of targeted trainings 	<ul style="list-style-type: none"> ➤ Waste management legislations not in place 	<ul style="list-style-type: none"> ➤ Legislations in participating countries to include issues of open burning ➤ National action plans addressing open burning practices ➤ National BAT/BEP guidance documents for priority sectors ➤ Training at national level on BAT/BEP concepts, prevention on open burning and occupational health safety 	<ul style="list-style-type: none"> ➤ Reports on updated legislation in participating countries ➤ National action plans ➤ training reports 	<ul style="list-style-type: none"> ➤ Dedicated municipal staff on waste management made available 	
<p>Output 2.1: Regulatory measures aimed at discouraging open burning practices of different waste streams and agricultural residues formulated or amended</p> <p>Activity 2.1.1: Initiate the process for developing and reviewing existing laws and regulations, identify gaps, and provide additional regulatory provisions (with the involvement of the</p>	<ul style="list-style-type: none"> ➤ Number of existing laws and regulations addressing open burning of wastes ➤ Number of stakeholder consultation involving private sector 	<ul style="list-style-type: none"> ➤ Analysis of SC related legislation in the NIP updates 	<ul style="list-style-type: none"> ➤ Initiation/review of laws and regulations in 7 participating countries ➤ 7 national multistakeholder consultations including private sectors on legislation and business opportunities with at least 10 participants in participating countries ➤ Appropriate gender representation is observed 	<ul style="list-style-type: none"> ➤ Review reports on existing legislation ➤ Materials prepared for national multistakeholder 	<ul style="list-style-type: none"> ➤ Governments of participating countries are committed to update/amend legislative measures 	

relevant stakeholders) to reduce releases of uPOPs from open burning of waste <i>Activity 2.1.2: Carry out national multistakeholder consultations with relevant stakeholders including private sectors involved in waste management to identify business opportunities linkages benefiting from the enforcement of laws and regulations</i>					
Output 2.2: Country action plans for managing and phasing out open burning practices of wastes and agricultural residues reviewed and strengthened <i>Activity 2.2.1: Strengthen national capacity on the management of open burning of wastes through targeted training for at least 10 relevant stakeholders in each participating country (giving attention to gender) on BAT/BEP concepts, banning of irrational dumping of wastes, preventing open burning practices, promoting occupational health safety and hygienic measures at landfill sites</i> <i>Activity 2.2.2: Formulate a national action plan for ESM and reduction of releases of uPOPs from open burning of wastes and agricultural residues</i> <i>Activity 2.2.3: Provide support for implementation of activities to prevent irrational dumping and open burning of wastes</i>	<ul style="list-style-type: none">➤ Number of targeted trainings on BAT/BEP and open burning issues➤ Number of national action plans on reduction of uPOPs from open burning➤ Number of male/female trained➤ Number of participating countries supported on prevention of irrational dumping	<ul style="list-style-type: none">➤ Action plans addressing open burning practices not available at country level	<ul style="list-style-type: none">➤ At least one (1) training on BAT/BEP concepts and management of open burning of wastes at national level➤ At least 10 relevant stakeholders (male/female) in each participating country trained on BAT/BEP concepts➤ National action plans for reducing uPOPs releases in open burning in each participating country➤ All participating countries supported for prevention of irrational dumping	<ul style="list-style-type: none">➤ National action plan reports➤ Training reports	<ul style="list-style-type: none">➤ Financial commitment of participating governments to implement national action plans for open burning
Output 2.3: Regional BAT/BEP guidance for uPOPs reduction formulated for respective MoE's	<ul style="list-style-type: none">➤ Number of guidance documents on BAT/BEP prepared	<ul style="list-style-type: none">➤ Priority sectors and practices of open burning identified	<ul style="list-style-type: none">➤ Guidance document for reducing uPOPs releases in open burning in priority	<ul style="list-style-type: none">➤ Regional guidance reports➤ Manuals, guideline	<ul style="list-style-type: none">➤ All participating countries are committed to

<p>adoption at country level for substantial reduction and/or collective elimination of wastes and agricultural residues in open burning practices</p> <p><i>Activity 2.3.1: Formulate and adopt BAT/BEP guidance document in the reduction of uPOPs releases from open burning practices of wastes and agricultural residues</i></p> <p><i>Activity 2.3.2: Implement the BAT/BEP guidelines and provisional guidance document at regional and national levels taking into consideration the traditional practices and socio-economic conditions</i></p> <p><i>Activity 2.3.3: Prepare manuals, procedures and guidelines using BAT/BEP measures on how to eliminate and/or reduce open burning of wastes and agricultural residues for local use in the participating countries</i></p> <p><i>Activity 2.3.4: Conduct a regional training workshop to train at least two (2) experts from each participating country on the prepared manuals, procedures and guidelines on reduction and/or elimination of open burning of wastes and agricultural residues</i></p>	<p>and adopted at regional and national level</p> <ul style="list-style-type: none"> ➤ Number of training workshops on BAT/BEP guidelines, manuals, procedures, etc. ➤ Number of trainees (men/women) 	<p>through the NIPs</p>	<p>sectors adopted by MoE in participating countries</p> <ul style="list-style-type: none"> ➤ One (1) regional workshop on BAT/BEP guidelines with at least 14 participants (2 each participating country) ➤ Appropriate gender representation observed 	<p>documents, etc.</p>	<p>cooperate in implementing the project</p>
<p>Output 2.4: Adequate technical infrastructure for implementing BAT/BEP and waste management best practices built</p> <p><i>Activity 2.4.1: Strengthen capacity of existing laboratory facilities to implement BAT/BEP and waste management best</i></p>	<ul style="list-style-type: none"> ➤ Number of laboratory facilities upgraded ➤ Provision of sampling toolkits / devices ➤ Number of experts 	<ul style="list-style-type: none"> ➤ National capacities on BAT/BEP lacking in participating countries 	<ul style="list-style-type: none"> ➤ One (1) existing laboratory in each participating country provided with necessary sampling toolkits/devices for implementation of BAT/BEP ➤ Sampling and analysis of uPOPs releases on open burning undertaken in 7 	<ul style="list-style-type: none"> ➤ Laboratory facilities capable on performing sampling and analysis of uPOPs ➤ sampling and analysis reports 	<ul style="list-style-type: none"> ➤ Monitoring and inspection infrastructure are established and operational

<p><i>practices</i></p> <p>Activity 2.4.2: Provide field sampling toolkits and other related sampling devices to measure uPOPs releases from open burning of wastes (liquid and residues)</p> <p>Activity 2.4.3: Train at least 2 national experts (each participating country) in research institutions to carry out studies in the area of transfer and adoption of BAT/BEP</p>	(men/women) trained on BAT/BEP		<p>participating countries</p> <p>➤ At least 2 experts each participating country trained on sampling / analysis of uPOPs and transfer of BAT/BEP</p>	➤ training reports	
<p>Outcome 3: Implementation of BAT/BEP to reduce uPOPs releases in the open burning sector at national and regional levels</p>	<p>➤ Number of sites upgraded to BAT/BEP</p> <p>➤ Waste management plans introducing BAT/BEP</p> <p>➤ Number of pilot projects for waste recycling</p> <p>➤ gTEQ/a of POPs releases avoided annually</p>	<p>➤ Government promoting value addition to waste management</p>	<p>➤ Two (2) municipalities in each participating countries identified to carry out pilot projects on waste management best practices</p> <p>➤ Waste management plans on BAT/BEP developed in all participating countries</p> <p>➤ Two (2) pilot demonstration on biomass waste recycling and disposal in selected participating countries</p> <p>➤ 341.9 g-TEQ/a of uPOPs reduced during project life</p>	<p>➤ Regional and national priority sector reports</p>	<p>➤ BAT/BEP activities are timely carried out at the national and regional level</p>
<p>Output 3.1: Waste management best practices carried out at selected priority demonstration municipalities</p> <p>Activity 3.1.1: Conduct a regional workshop on best practices in waste management in relation to open burning of wastes with at least 2 participants from each participating country</p> <p>Activity 3.1.2: Carry out national workshops with at least 20 participants each participating</p>	<p>➤ Number of municipalities for pilot projects using PPP models</p> <p>➤ Number of men/women trainees on BEP at national and regional levels</p> <p>➤ Number of waste management plans implemented</p>	<p>➤ Inventories of landfills and dumpsites available</p>	<p>➤ BEP introduced in two (2) selected landfills/dumpsites in each participating country</p> <p>➤ One (1) regional workshop on BAT/BEP measures with at least 20 participants (men/women)</p> <p>➤ Two (2) national workshops each in participating countries on BEP with 25 participants (men/women)</p> <p>➤ All participating countries implementing waste</p>	<p>➤ Technical reports on selection process of pilot landfills</p> <p>➤ Workshop reports</p> <p>➤ Waste management plans</p>	<p>➤ Government and municipalities are actively participating in the selection process</p>

<p>country on best practices in waste management in relation to open burning of wastes</p> <p>Activity 3.1.3: Identify two (2) municipalities in each participating country to carry out waste management best practices</p> <p>Activity 3.1.4: Implement waste management plans with economic incentives and PPP mechanisms (e.g creation and contracting national Micro-and small enterprises) in municipalities where demonstration sites have been identified</p>			management plans using PPP model			
<p>Output 3.2: Waste management plans introducing BAT/BEP measures (segregation system) developed and implemented in two (2) selected major dumpsites and landfills in the participating countries using PPP models</p> <p>Activity 3.2.1: Prepare waste management plans introducing BAT/BEP measure using PPP models and implement them in selected dumpsites and landfills with due consideration to climate change adaptation</p> <p>Activity 3.2.2 Identify existing waste recycling enterprises in the participating countries and enhance their performance by supporting two (2) pilots of segregation systems for collecting waste materials of added value (conveyor belts, sorting, washing, compacting, etc.)</p> <p>Activity 3.2.3: Carry out national awareness raising seminars on the waste management plans to</p>	<ul style="list-style-type: none"> ➤ Number of BAT/BEP plans using PPP model ➤ Number of waste recycling enterprises with segregation systems ➤ g-TEQ/a of uPOPs releases avoided ➤ Number of men/women trainees 	<ul style="list-style-type: none"> ➤ Inventories of landfills and dumpsites 	<ul style="list-style-type: none"> ➤ Detailed BAT/BEP plans developed in two (2) selected landfills/dumpsites in each participating country ➤ Two (2) pilots of segregation systems for collecting waste materials of added value (conveyor belts, sorting, washing, compacting, etc) ➤ One (1) national awareness seminar on BAT/BEP plans with at least 10 participants in each participating country ➤ 17% of annual releases reduction of uPOPs ➤ Appropriate gender representation observed 	<ul style="list-style-type: none"> ➤ Reports on PPP models for implementing BAT/BEP measures ➤ Awareness raising reports ➤ BAT/BEP plans ➤ 	<ul style="list-style-type: none"> ➤ Government support of PPP arrangements 	

<i>workers and employees of the private sector including SMEs with at least 10 participants each participating country</i>						
Output 3.3: Biomass waste recycling and disposal options promoted in two (2) demonstration sites in selected participating countries through alternative waste management plans for better value addition <i>Activity 3.3.1: Review existing data and conduct national inventory of existing biomass waste recycling and disposal options</i> <i>Activity 3.3.2: Support PPP models for creation and contracting of national Micro- or Small Enterprises to produce and promote the use of biomass waste recycling through alternative waste management plans</i> <i>Activity 3.3.3: Establish two (2) pilot demonstration projects on waste-to- energy (biogas, bricketing, etc.) using PPP models in selected participating countries</i> <i>Activity 3.3.4: Facilitate field testing of biomass waste recycling and disposal options in selected areas in cooperation with research institutions</i> <i>Activity 3.3.5: Organize one (1) regional "train the trainers" workshop (at least 2 each participating country on biomass waste recycling and disposal option, one (1) national training for at least 10 participants in each participating country and initiate</i>	<ul style="list-style-type: none">➤ Agricultural residues inventoried and selected for value addition➤ Number of pilots for waste-to-energy using PPP model➤ Number of men/women trainees➤ Numer of jobs created➤ gTEQ/a of uPOPs releases avoided➤ Number of additional investments on recycling for replication and sustainability	<ul style="list-style-type: none">➤ Biomass waste recycling exist in some participating countries	<ul style="list-style-type: none">➤ At least two (2) biomass sources identified➤ Two (2) pilot demonstration projects on waste-to-energy (biogas, bricketing, etc.)➤ One (1) regional awareness seminar on BAT/BEP plans with at least 14 participants (men/women)➤ At least two (2) workers employed to operate pilot demonstration projects➤ 17% of annual releases reduction of uPOPs➤ At least 70 men/women trained at national level in all participating countries to promote biomass waste recycling➤ recycling enterprises sustained and replicated in participating countries	<ul style="list-style-type: none">➤ Policy documents on PPP in alternative waste management for open burning of wastes and agricultural residues	<ul style="list-style-type: none">➤ Government support of PPP arrangements	

<p>site visit to promote biomass waste recycling and disposal options and consultations with relevant stakeholders to ensure replication and sustainability of waste-to-energy concepts</p>							
<p>Output 3.4: Harmonized methodology developed to set-up uPOPs release reduction targets for open burning sector developed at regional level</p>	<p>➤ Number of trainees (men/women)</p>	<p>➤ National reports on methodologies for uPOPs release reduction</p>	<p>➤ One (1) regional workshop to harmonize methodology with at least 14 participants (men/women)</p>	<p>➤ National technical report on uPOPs release reduction</p>	<p>➤ Participating countries committed to the release reduction target</p>		
<p>Activity 3.4.1: Conduct regional workshop for at least 14 experts (2 each participating country) to harmonize methodology for setting up uPOPs release reduction targets from open burning of wastes</p> <p>Activity 3.4.2: Develop uPOPs release reduction targets in open burning of wastes in the participating countries</p> <p>Activity 3.4.3: Carry out monitoring of uPOPs releases from open burning of wastes</p> <p>Activity 3.4.4: Conduct series of global workshops (at least 5 during the project life) as part of the Global Annual Conference on Dioxins to promote replication of the methodology for setting up uPOPs release reduction targets</p>	<p>➤ Harmonized release reduction targets on open burning of wastes</p>		<p>➤ At least five (5) global workshops promoting replication of methodology for uPOPs release reduction during the project life</p> <p>➤ Regional methodology for uPOPs release reduction</p>				
<p>Output 3.5: Socio-economic impacts of the project intervention on private and informal sectors including recycling plans assessed</p> <p>Activity 3.5.1: Support private and informal sectors to promote</p>	<p>➤ Number of jobs created</p> <p>➤ Baseline and result surveys</p> <p>➤ Number of trainees (men/women)</p> <p>➤ Decreased number</p>	<p>➤ Working poor and ultra-poor at low socio-economic level is the main workforce at landfills and dumpsites</p>	<p>➤ Two (2) PPPs in each participating country providing job opportunities to working poor and ultra-poor</p> <p>➤ One (1) national awareness seminar on PPP models with at least 10 participants</p>	<p>➤ Socio-economic reports demonstrating success stories of high impact of waste recycling projects</p>	<p>➤ Policies to support informal and private sector involvement in waste recycling industry</p>		

<p><i>recycling through alternative waste management plans</i></p> <p>Activity 3.5.2: <i>Conduct socio-economic baseline and result surveys to evaluate the impact of the project intervention on private and informal sectors in participating countries</i></p> <p>Activity 3.5.3: <i>Carry out awareness raising campaigns and study tours to promote the role of private and informal sectors in waste recycling</i></p>	<p>of individuals working in poor or ultra-poor households</p>	<p>➤ Lack of public health and awareness programmes at open burning sites</p>	<p>(men/women) in each participating country</p> <ul style="list-style-type: none"> ➤ Baseline and results surveys evaluated in all participating countries ➤ At least one (1) study tour for 2 individuals from each participating country ➤ 50% improved livelihood of people 	<p>➤ Technical training materials on PPE and risk management</p> <p>➤ Guidance documents and curricula</p>	<p>➤ Dedicated staff on UP-POPs risk and exposure management</p>
<p>Outcome 4: Knowledge transfer on BAT/BEP for replication and awareness raising on uPOPs related risk and exposure in open burning sector</p>	<ul style="list-style-type: none"> ➤ Number of targeted training and awareness raising on BAT/BEP ➤ Educational programmes on alternatives to open burning practices ➤ Information sharing on BAT/BEP at regional and global levels 	<p>➤ Lack of public health and awareness programmes at open burning sites</p>	<ul style="list-style-type: none"> ➤ 7 National awareness campaigns in all participating countries ➤ One (1) regional training with at least 14 people ➤ Guidance documents on risk assessment and risk management of open burning exposure sites ➤ Decreased health and environmental risk at two (2) selected landfills/dumpsites in each participating country ➤ Networking with BAT/BEP Forums, RENPAP and Ecotowns 	<p>➤ Targeted training and awareness campaigns materials</p>	<p>➤ Municipalities are committed to awareness raising campaigns</p>
<p>Output 4.1: Targeted training emphasizing health and hazards of open burning practices and awareness raising campaign for all relevant target groups (decision makers, professional associations, community leaders, farmers, women / youth group associations, private industries,</p>	<ul style="list-style-type: none"> ➤ Number of individuals participating in the awareness raising programs in each participating country 	<p>➤ Lack of awareness of health and environmental hazards at open burning sites</p>	<ul style="list-style-type: none"> ➤ One (1) regional training workshop to train trainers with 14 participants (men/women) ➤ At least one (1) targeted training and awareness campaign at two (2) selected landfills/dumpsites in each participating country with 10 participants (gender 	<p>➤ Targeted training and awareness campaigns materials</p>	<p>➤ Municipalities are committed to awareness raising campaigns</p>

<p>waste pickers, NGOs, media and general public) carried out</p> <p>Activity 4.1.1: <i>Organize a regional training workshop for at least 14 experts (2 each participating country) from relevant institutions about the potential risks and exposure hazards to humans, wildlife and the environment emanating from open burning practices</i></p> <p>Activity 4.1.2: <i>Organize awareness raising campaigns at national level (one each participating country) for major stakeholders, including decision makers, professional associations, community leaders, farmers, women / youth group associations, private industries, waste pickers, NGOs, media and the general public on the health risk that may result from exposure to open burning practices</i></p> <p>Activity 4.1.3: <i>Organize seminars to educate (men / women) workers and waste pickers at major landfills and dumpsites on the health risks associated with collection, transport and segregation of waste and measures that have to be taken while handling wastes</i></p>			<p>representation observed)</p> <p>➤ One seminar for at least 10 workers/waste pickers (men/women) in each participating country</p>		
<p>Output 4.2: Educational programmes for introduction of lessons learned and alternatives to open burning practices established at all levels in each participating country</p> <p>Activity 4.2.1: <i>Conduct seminars, workshops and media</i></p>	<p>➤ Educational programs on alternatives to open burning introduced</p> <p>➤ Number of trainees (men/women) on alternative to open burning of wastes</p>	<p>➤ Waste management courses in educational curricula are not available</p>	<p>➤ Waste management courses incorporated into curricula at high school level in all participating countries</p> <p>➤ At least one (1) seminar in all participating countries on BEP</p>	<p>➤ Textbooks, handouts, training manuals, toolkit, booklets</p>	<p>➤ Government commitment to introduce waste management courses in education</p>

<p><i>campaigns at the national level for (men/women) decision makers, experts, workers and the public on alternatives to open burning of waste practices</i></p> <p>Activity 4.2.2: Integrate ESM practices and lessons learned from the NCPCs, SC, Basel and Rotterdam Centres on alternatives to open burning of waste practices into the educational curricula</p> <p>Activity 4.2.3: Use knowledge, experience, scholarships and lessons learnt to disseminate BAT/BEP</p>				<ul style="list-style-type: none"> ➤ BAT/BEP Forum regional action plan agreed for open burning as priority 	<ul style="list-style-type: none"> ➤ A database and website created to support Regional BAT/BEP Forum ➤ One (1) regional workshop for sharing experience and information on BAT/BEP with 20 participants ➤ Networking with Global Forums and Ecotowns ➤ Appropriate gender representation observed 	<ul style="list-style-type: none"> ➤ Regular regional reports on uPOP's reduction ➤ Regional BAT/BEP Forum website operational 	<ul style="list-style-type: none"> ➤ Annual meetings support BAT/BEP Forum action plan implementation
<p>Output 4.3: Regional cooperation on BAT/BEP and uPOPs and information sharing established through the BAT/BEP Forum</p> <p>Activity 4.3.1: Create regional BAT/BEP database and website in the SADC region linked to UNIDO website to share and disseminate data/information collected from alternatives to open burning practices</p> <p>Activity 4.3.2: Conduct regional and global workshop for sharing experiences and information on BAT/BEP to minimize uPOPs releases from open burning practices in collaboration with BAT/BEP Forums, Ecotown-Kitakyushu and RENPAP</p> <p>Activity 4.3.3: Develop mechanism such as the SADC Secretariat strategy to mobilize funds in the participating countries to support and implement best alternatives to open burning practices</p>	<ul style="list-style-type: none"> ➤ BAT/BEP information sharing system in SADC region 						

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

GEF SECRETARIAT REVIEW FOR FULL/MEDIUM-SIZED PROJECTS* THE GEF/LDCF/SCCF/NPIF TRUST FUNDS

GEF ID:	5322				
Country/Region:	Regional (Botswana, Lesotho, Madagascar, Mozambique, Swaziland, Tanzania, Zambia)				
Project Title:	Promotion of BAT and BEP to Reduce uPOPs Releases from Waste Open Burning in the Participating African Countries of SADC Sub-region				
GEF Agency:	UNIDO	GEF Agency Project ID:			
Type of Trust Fund:	GEF Trust Fund	GEF Focal Area (s):	POPs		
GEF-5 Focal Area/ LDCF/SCCF Objective (s):	CHEM-1;				
Anticipated Financing	\$0	Project Grant:	\$6,615,000		
Co-financing:	\$19,361,000	Total Project Cost:	\$25,976,000		
PIF Approval:	February 05, 2014	Council Approval/Expected:	March 21, 2014		
CEO		Expected Project Start Date:			
Program Manager:	Evelyn Swain	Agency Contact Person:	E. Galvan		

Review Criteria	Questions	Secretariat Comment at PIF (PFD)/Work Program Inclusion ¹	Secretariat Comment At CEO Endorsement(FSP)/Approval (MSP)	UNIDO response
Eligibility	1. Is the participating country eligible?	Yes, all countries are eligible.	Yes.	
	2. Has the operational focal point endorsed the project?	Yes, there are endorsement letters from all countries.	Yes.	
	3. Is the proposed Grant (including the Agency fee) within the resources available from (mark all that apply)			
Resource Availability	• the STAR allocation?	NA		
	• the focal area allocation?	Yes	Yes.	
	• the LDCF under the principle of equitable access	NA		
	• the SCCF (Adaptation or	NA		

Review Criteria	Questions	Secretariat Comment at PIF (PFD)/Work Program Inclusion ¹	Secretariat Comment At CEO Endorsement(FSP)/Approval (MSP)	UNIDO response
Strategic Alignment	Technology Transfer)?			
	• the Nagoya Protocol Investment Fund	NA		
	• focal area set-aside?	NA		
	4. Is the project aligned with the focal area/multifocal areas/ LDCF/SCCF/NPIF results framework and strategic objectives? <i>For BD projects: Has the project explicitly articulated which Aichi Target(s) the project will help achieve and are SMART indicators identified, that will be used to track progress toward achieving the Aichi target(s).</i>	Yes the project is in line with Chem1.	Yes.	
	5. Is the project consistent with the recipient country's national strategies and plans or reports and assessments under relevant conventions, including NPFE, NAPA, NCSA, NBSAP or NAP?	Yes, it is consistent with country NIPs.	Yes.	
Project Design	6. Is (are) the baseline project(s) , including problem(s) that the baseline project(s) seek/s to address, sufficiently described and based on sound data and assumptions?	Yes, the baseline is clear.	Yes, the baseline is clear.	

Review Criteria	Questions	Secretariat Comment at PIF (PFD)/Work Program Inclusion	Secretariat Comment At CEO Endorsement(FSP)/Approval (MSP)	UNIDO response
	7. Are the components, outcomes and outputs in the project framework (Table B) clear, sound and appropriately detailed?	Yes, the components are clear.	Yes.	
	8. Are global environmental/adaptation benefits identified? (b) Is the description of the incremental/additional reasoning sound and appropriate?	Yes, the GEBs are estimated to be 350 g- TEQ/a uPOPs with additional co-benefits for climate.	<p>The GEB's are estimated to be 100.56 g- TEQ/a, which is significantly lower than the estimate of 350 g- TEQ/a that was approved at the PIF stage. What is the reason for this significant reduction of GEBs? Either a strong justification is require for funding at the same level as PIF approval or the funding requested should be reduced according to the GEB reductions.</p>	<p>7 October 2015</p> <p>Some of the participating countries have undergone the inventories in their NIP update using the UNEP Toolkit of 2013. Accordingly, the estimated releases of dioxins/furans in the open burning of wastes have resulted in a lower amount. With the population growth and consumption increase, it would be expected that the amount of waste at dumpsites and landfills will increase and would therefore provide more business opportunities for waste management. The innovative interventions and waste management processes that the project will employ would lead to more reduction of emissions and would be able to come up closely (341.9 g TEQ/a) with the GEB estimates that have been approved at the PIF stage. This has been reflected in the revised project document (see para 109 of the FSP).</p>

Review Criteria	Questions	Secretariat Comment at PIF (PFD)/Work Program Inclusion	Secretariat Comment At CEO Endorsement(FSP)/Approval (MSP)	UNIDO response
	Is there a clear description of: a) the socio-economic benefits , including gender dimensions, to be delivered by the projectd, and b) how will the delivery of such benefits support the achievement of incremental / additional benefits?			
	10. Is the role of public participation, including CSOs, and indigenous peoples where relevant, identified and explicit means for their engagement explained?	Yes, public participation, including waste pickers is included.	Yes.	
	11. Does the project take into account potential major risks, including the consequences of climate change, and describes sufficient risk mitigation measures? (e.g., measures to enhance climate resilience)	Yes, risks including climate risks are identified.	Yes.	
	12. Is the project consistent and properly coordinated with other related initiatives in the country or in the region?	Yes, this project will be coordinated with other initiatives including the GEF/UNEP/UNIDO project on SC implementation.	Yes.	
	Comment on the project's innovative aspects, sustainability, and potential for scaling up. Assess whether the project is innovative and if so, how, and if not, why not.	Yes, the project is innovative and will apply BAT/BEP technology. The project is designed to be sustainable and be a demonstration for the region with the ability to scale up.	The project will use innovative waste management processes to reduce open burning. It will also strengthen regulatory and institutional capacities to foster replication and scale throughout the region.	

Review Criteria	Questions	Secretariat Comment at PIF (PFD)/Work Program Inclusion	Secretariat Comment At CEO Endorsement(FSP)/Approval (MSP)	UNIDO response
	<ul style="list-style-type: none"> Assess the project's strategy for sustainability, and the likelihood of achieving this based on GEF and Agency experience. Assess the potential for scaling up the project's intervention. 	The Risks section also addresses some of the risks associated with sustainability.		
	14. Is the project structure/design sufficiently close to what was presented at PIF, with clear justifications for changes?		Yes, the project design is very similar to the PIF.	
	15. Has the cost-effectiveness of the project been sufficiently demonstrated, including the cost- effectiveness of the project design as compared to alternative approaches to achieve similar benefits?		The cost effectiveness has decreased significantly since the PIF stage. The GEB's are estimated to be 100.56 g- TEQ/a, which is significantly lower than the estimate of 350 g-TEQ/a that was approved at the PIF stage. Either a strong justification is require for funding at the same level as PIF approval or the funding requested should be reduced according to the GEB reductions.	7 October 2015 See response to item 8 above.
Project Financing	16. Is the GEF funding and co-financing as indicated in Table B appropriate and adequate to achieve the expected outcomes and outputs?	Yes. Co-financing is 1:4.	The co-financing is significantly lower than at the PIF stage at \$19,361,000 vs \$26,460,000. During the PIF there were co-financing sources, including private sector funding and bi-lateral funding (GIZ) that have	7 October 2015 The issue of co-financing has been discussed once again with the participating countries and additional contributions amounting to US\$ 9.0 million

Review Criteria	Questions	Secretariat Comment at PIF (PFD)/Work Program Inclusion	Secretariat Comment At CEO Endorsement(FSP)/Approval (MSP)	UNIDO response
				have been mobilized including those from the private sector and bilateral funding (please see Table C of the FSP and Annex Ia). Some private sector working on waste to energy projects using biogas technology in South Africa have been identified, which will add to the ability of the project partners and expand at landfills. Partnership with these companies will be explored during project implementation.
	17. <u>At PIF</u> : Is the indicated amount and composition of co-financing as indicated in Table C adequate? Is the amount that the Agency bringing to the project in line with its role? <u>At CEO endorsement</u> : Has co-financing confirmed?	UNIDO brings \$100,000 in kind. There is a significant amount of cash, as well as in kind contributions from all of the country governments.	The lack of private sector co-financing is a concern. UNIDO has increased their co-financing to include \$100,000 in kind and \$60,000 cash.	7 October 2015 Co-financing from the private sector has been mobilized amounting to US\$ 6.7 million. At this stage, these are all in-kind co-financing however, actual contributions will be confirmed during project implementation.
	18. Is the funding level for project management cost appropriate?	Yes, PMC is 5%.	Yes.	

	19. <u>At PIF</u> , is PPG requested? If the requested amount deviates from the norm, has the Agency provided adequate justification that the level requested is in line with project design needs? <u>At CEO endorsement/ approval</u> , if PPG is completed, did Agency report on the activities using the PPG fund?	Yes, PIF is requested and approval is recommended.	Yes, the agency reported on the PPG.	
Review Criteria	Questions	Secretariat Comment at PIF (PFD)/Work Program Inclusion	Secretariat Comment At CEO Endorsement(FSP)/Approval (MSP)	UNIDO response
Project Monitoring and Evaluation	20. If there is a non-grant instrument in the project, is there a reasonable calendar of reflows included?	NA	NA	
	21. Have the appropriate Tracking Tools been included with information for all relevant indicators, as applicable?		Yes	
	22. Does the proposal include a budgeted M&E Plan that monitors and measures results with indicators and targets?		Yes	
	23. Has the Agency adequately responded to comments from:			
Agency Responses	• STAP?		Yes, STAP consented to the project.	
	• Convention Secretariat?		None.	
	• The Council?		None.	
	• Other GEF Agencies?		None.	

Secretariat Recommendation				
Recommendation at PIF Stage	24. Is PIF clearance/approval being recommended?	Yes, PIF approval is recommended. ES, 10/9/13: 3 countries have been removed from the project and the budget has been reduced accordingly. PIF approval is recommended.		
	25. Items to consider at CEO endorsement/approval.			
Review Criteria	Questions	Secretariat Comment at PIF (PFD)/Work Program Inclusion	Secretariat Comment At CEO Endorsement(FSP)/Approval (MSP)	UNIDO response
Recommendation at CEO Endorsement/ Approval	26. Is CEO endorsement/approval being recommended?		Not at this time there are issues with the GEBs and co-financing.	
	First review*	April 09, 2013	August 31, 2015	7 October 2015
	Additional review (as necessary)	October 09, 2013		
	Additional review (as necessary)			

* This is the first time the Program Manager provides full comments for the project. Subsequent follow-up reviews should be recorded. For specific comments for each section, please insert a date after comments. Greyed areas in each section do not need comments.

Regional (Botswana, Lesotho, Madagascar, Mozambique, Swaziland, Tanzania, Zambia) - Promotion of BAT and BEP to Reduce POPs Releases from Waste Open Burning in the Participating African Countries of SADC Subregions – UNIDO - GEF ID 5322

<i>Comments</i>	<i>UNIDO response</i>
<p>GERMANY:</p> <p><i>Germany approves the following PIF in the work program but asks that the following comments are taken into account:</i></p> <p>Suggestions for improvement to be made during the drafting of the final project proposal:</p> <p>The project is well designed with regards to taking into account the different levels of action. Germany would like to add the following:</p> <ul style="list-style-type: none"> • A stronger focus should be placed on awareness raising in order to reach the population; merely regulating the sector is not enough. • The controlled waste incineration as another option is missing in the PIF. So far, only landfilling and recycling of organic waste are presented as options, which is insufficient. Further, landfills and dumpsites could be highly affected by impacts of climate change like flooding. 	<p>The comments from Germany has been taken into consideration during the preparation of the project document.</p> <p>Component 4 of the project has been dedicated for training and awareness raising on uPOPs emphasizing health and environmental risk and exposure in open burning sector targeting all relevant groups from decision makers, professional associations, community leaders, women groups, farmers, private industries, waste pickers, NGOs, media and the public at large. Seminars, workshops and media campaigns will be conducted at national level to educate the above. Educational programmes on environmentally sound management practices as alternatives to open burning practices will be integrated in the curricula of educational institutions.</p> <p>Under Component 3, Output 3.2 Waste management plans including introduction of BAT/BEP measures will be developed and implemented in the selected major dumpsites in the participating countries. Given that all participating countries are highly exposed to the effects of climate change, the implementation of the project will significantly contribute towards the adaptation and disaster management efforts of the participating countries. All project components will consider the expected effects of climate change especially in the selection of BAT/BEP.</p>
<p>USA:</p> <p>The United States requests that the final project proposal be revised to allow the UNIDO to respond to our technical comments below prior to GEF CEO Endorsement.</p> <p>The United States supports the objectives of this project. However, we request additional information be added pertaining to the second component: the review of legal and policy frameworks. It is unclear how this proposed project builds on or goes beyond existing and ongoing regional projects with a similar component. For example, a significant component of the GEF/UNIDO/UNEP/AFLDC project on <i>Capacity strengthening and technical assistance for the implementation of the Stockholm Convention NIPs in Africa</i> LDCs is establishing comprehensive (or amending existing) legal and regulatory frameworks for the sound management of POPs. The proposed project contains a similar legislative and regulatory</p>	<p>The comments from the United States on the scope of legal and policy framework have been addressed in Outcome 2. The project complements the ongoing initiatives in the region. Given the baseline situation that shows different countries are moving with different strategies and pace, the project will focus on filling in the gaps in regulatory frameworks and on enabling effective enforcement of laws and regulations related to uPOPs from open burning. In the participating countries such as Botswana, Madagascar and Zambia that were not included in previous GEF projects aimed at updating regulatory framework on uPOP documents will be revisited. All relevant legislation and rules will also be revised on completeness and compliance with the international chemicals agreements, and updated to ensure comprehensive coverage of uPOPs from open burning practices. In other participating countries such as Lesotho, Mozambique, Swaziland and Tanzania where other GEF projects have established the Model Framework Law, the regulatory framework will only be reviewed on completeness. Additional regulatory provisions aimed at creating more business opportunities in the</p>

component specific to uPOPs from open burning. Our expectation is that this component is redundant for a subset of participating countries. Therefore, we expect that this component will either apply only to those countries who did not participate in the previous project (i.e., Botswana, Madagascar, and Zambia) or be expanded significantly beyond the detail provided in this PIF. If the latter, we desire additional details in the full proposal.	area of chemicals management will be included to specifically enhance private sector involvement. Even though it is not expected that all laws and regulations be amended in all participating countries, targeted awareness campaigns and seminars on best practices to manage releases of uPOPs from open burning of waste, will be undertaken focusing on law enforcement personnel and other relevant multistakeholders”.
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STAP Scientific and Technical screening of the Project Identification Form (PIF) dated 17 February 2014

Screener: Christine Wellington-Moore Panel member validation by: Hindrik Bouwman

I. PIF information (copied from the PIF)

Full-Sized Project GEF Trust Fund

GEF Project ID: 5322

Project Duration: 5

Countries: Regional (Botswana, Lesotho, Madagascar, Mozambique, Swaziland, Tanzania, Zambia)

Project Title: Promotion of BAT and BEP to reduce uPOPs releases from waste open burning in the participating African Countries of SADC subregions

GEF Agencies: UNIDO

Other executing partners: Ministry of Environment, Wildlife and Tourism (Botswana), Ministry of Tourism, Environment and Culture (Lesotho), Ministry of Environment and Forests (Madagascar), Ministry for Coordination of Environmental Affairs (Mozambique), Swaziland Environment Authority (Swaziland), Vice President's Office-Division of Environment (Tanzania) and Zambia Environmental Management Agency (Zambia)

GEF Focal Area: POPS

II. STAP Advisory Response (*see table below for response*)

Based on the PIF screening, STAP's advisory response to the GEF Secretariat and GEF Agency(ies): **Consent**

III. Further guidance from STAP

The project objective is stated as: "To achieve sustainable release reduction of unintentionally produced POPs (uPOPs) in the open burning sector of participating countries of SADC subregion through introduction of best available techniques and best environmental practices (BAT/BEP) measures at selected priority demonstration sites".

The PIF does a good job of assessing baseline, identifying gaps and outlining appropriate actions to address the gaps in uPOPs management. Apart from this, the project points out links to climate mitigation and adaptation as well as the potential for proposed interventions to also address mercury, particulate and GHG emissions. The STAP supports the proposed development of indicators, particularly as attention will be paid to economical and social impacts as well. A well written PIF.

STAP's comments:

a) There could be exchange of experiences or even intermittent exchange with the uPOPs related activities of the UNDP implemented project "uPOPs Reduction and Mainstreaming of Sound Chemicals Management in Kenya" (GEF ID 5361), which is a part of this February 2014 Intercessional Work Programme.

UNIDO response: The suggestion from STAP has been taken into consideration under para 80 of the project document where exchange of experiences with the uPOPs related activities of the above-mentioned GEF/UNDP project in Kenya will be undertaken during project implementation.

STAP advisory response	Brief explanation of advisory response and action proposed
1. Consent	<p>STAP acknowledges that on scientific or technical grounds the concept has merit. However, STAP may state its views on the concept emphasizing any issues where the project could be improved.</p> <p>Follow up: The GEF Agency is invited to approach STAP for advice during the development of the project prior to submission of the final document for CEO endorsement.</p>
2. Minor revision required	<p>STAP has identified specific scientific or technical challenges, omissions or opportunities that should be addressed by the project proponents during project development.</p> <p>Follow up: One or more options are open to STAP and the GEF Agency:</p> <p>(i) GEF Agency should discuss the issues with STAP to clarify them and possible solutions</p> <p>(ii) In its request for CEO endorsement, the GEF Agency will report on actions taken in response to STAP's recommended actions</p>
3. Major revision required	<p>STAP has identified significant scientific or technical challenges or omissions in the PIF and recommends significant improvement to project design.</p> <p>Follow up:</p> <p>(i) The Agency should request that the project undergo a STAP review prior to CEO endorsement, at a point in time when the particular scientific or technical issue is sufficiently developed to be reviewed, or as agreed between the Agency and STAP.</p> <p>(ii) In its request for CEO endorsement, the Agency will report on actions taken in response to STAP concerns.</p>

Annex C: GEF Project Budget (UNIDO) in USD

Outputs	Description	Y1	Y2	Y3	Y4	Y5	Total
Outcome 1: Updated regional information on current open burning practices and establishment of uPOPs baseline inventories							
Output 1.1: National information on current locations of open burning practices validated and updated uPOPs inventories reviewed	Project travel	12,000					12,000
	National consultant	20,000					20,000
	Subcontract	35,000					35,000
	Training/workshop	70,000					70,000
	Sub-total	137,000					137,000
Output 1.2: Regional information on open burning practices and data on uPOPs releases exchanged and respective regional cooperation and networking consolidated	National consultant	24,000					24,000
	Subcontract	35,000					35,000
	Sub-total	59,000					59,000
Outcome 2: Strengthened legislation and human resources capacity in implementing BAT/BEP at selected priority sites of open burning practices							
Output 2.1: Regulatory measures aimed at discouraging open burning practices of different waste streams and agricultural residues formulated or amended	Project travel	7,000					7,000
	Subcontract	115,000					115,000
	Sub-total	122,000					122,000
Output 2.2: Country action plans for managing and phasing out open burning practices of wastes and agricultural residues reviewed and strengthened	Project travel		7,000				7,000
	National consultant		28,000				28,000
	Subcontract		70,000				70,000
	Sundries/miscellaneous		7,000				7,000
Sub-total			112,000				112,000

Outputs	Description	Y1	Y2	Y3	Y4	Y5	Total
Output 2.3: Regional BAT/BEP guidance for uPOPs reduction formulated for respective Ministry of Environment's adoption at country level for substantial reduction and/or collective elimination of wastes and agricultural residues open burning practices	International consultant		30,000				30,000
	Project travel		17,500				17,500
	Subcontract		75,000				75,000
	Sundries/miscellaneous		3,500				3,500
	Sub-total		126,000				126,000
Output 2.4: Adequate technical infrastructure for implementing BAT/BEP and waste management practices built	International consultant			6,000			6,000
	Project travel			7,000			7,000
	Subcontract			22,500	22,500		45,000
	Equipment			110,000			110,000
	Sub-total			145,500	22,500		168,000
Outcome 3: Implementation of BAT/BEP to reduce uPOPs releases in open burning sector at national and regional levels							
Output 3.1: Waste management best practices carried out at two (2) selected priority demonstration municipalities in each participating country	International consultant			42,000			42,000
	Workshops			40,000			40,000
	Subcontract			40,000	180,000	140,000	360,000
	Sub-total			122,000	180,000	140,000	442,000
	International consultant			15,000		15,000	30,000
Output 3.2: Waste management plans introducing BAT/BEP measures (segregation system) developed and implemented in two (2) selected major dumpsites and landfills in the participating countries using PPP models	Project travel			7,000		7,000	14,000
	Training			70,000	50,000		120,000
	Subcontract				1,000,000	500,000	1,500,000
	Sundries			3,000			3,000
	Sub-total			95,000	1,050,000	522,000	1,667,000

Outputs	Description	Y1	Y2	Y3	Y4	Y5	Total
Output 3.3: Biomass waste recycling and disposal options promoted in two (2) demonstration sites in selected participating countries through alternative waste management plans for better value addition	National expert			15,000			15,000
	Subcontract			555,000	1,540,000	500,000	2,595,000
	Sub-total			570,000	1,540,000	500,000	2,610,000
Output 3.4: Harmonized methodology developed to set up uPOPs release reduction targets for open burning sector regional level	International consultant				3,000		3,000
	Project travel				7,000		7,000
	Subcontract				40,000		40,000
	Training				15,000		15,000
	Equipment					40,000	40,000
	Sub-total				65,000	40,000	105,000
Output 3.5: Socio-economic impacts of the project intervention on private and informal sectors including recycling plans assessed	International consultant					30,000	30,000
	Project travel					7,000	7,000
	Subcontract				35,000	70,000	105,000
	Sub-total				35,000	107,000	142,000
Outcome 4: Knowledge transfer on BAT/BEP for replication and awareness raising on uPOPs related risk and exposure in open burning sector							
Output 4.1: Targeted training and awareness campaigns emphasizing health and environmental risk and exposure hazards of open burning practices for relevant target groups (decision makers, professional associations, community leaders, farmers, women / youth group associations, private industries, waste pickers, NGOs, media and general public) carried out	Subcontract					145,000	145,000
	Sub-total					145,000	145,000
Output 4.2: Educational programme for introduction of lesson learned and alternatives to open burning practices established at all levels	International consultant					20,000	20,000
	Subcontract					119,000	119,000
	Sub-total					139,000	139,000

Outputs	Description	Y1	Y2	Y3	Y4	Y5	Total
Output 4.3: Regional cooperation on BAT/BEP and uPOPs and information sharing established through the BAT/BEP Forum	National consultants					15,000	15,000
	Subcontract					20,000	20,000
	Workshops					60,000	60,000
	Sub-total					95,000	95,000
Outcome 5: Design and implementation of Monitoring and evaluation framework in accordance with UNIDO and GEF requirements including establishment of Project Management structure							
Output 5.1: Project interventions monitored and project progress evaluated	International consultants		4,000	4,000	4,000	4,000	16,000
	Subcontract		7,500	7,500	7,500	7,500	30,000
	Workshops	40,000	20,000	20,000	20,000	20,000	120,000
	Mid-term review / Terminal evaluation			20,000		30,000	50,000
	Sub-total	40,000	31,500	51,500	31,500	61,500	216,000
Project Management structure established	International consultant	16,000	16,000	16,000	16,000	16,000	80,000
	Administrative support	3,000	3,000	3,000	3,000	3,000	15,000
	Project travel	11,000	11,000	11,000	11,000	11,000	55,000
	National consultant	35,000	35,000	35,000	35,000	35,000	175,000
	Sundries/miscellaneous	1,000	1,000	1,000	1,000	1,000	5,000
Sub-total		66,000	66,000	66,000	66,000	66,000	330,000
GRAND TOTAL		424,000	335,500	1,050,000	2,990,000	1,815,500	6,615,000

Annex D: Co-financing Budget in USD

Outcome/Output/Activities	Botswana	Lesotho	Madagascar	Mozambique	Swaziland	Tanzania	Zambia	UNIDO	TOTAL
Outcome 1: Updated regional information on current open burning practices and establishing uPOPs baseline inventories									787,000
Output 1.1: National information on current locations of open burning practices validated and updated uPOPs inventories reviewed									618,000
AI.1.1: Conduct a regional workshop in preparing inventories of uPOPs releases from open burning of wastes with participation of at least 2 national experts from each participating country					2,000				
AI.1.2: Carry out national inventories identifying locations of dumpsites, landfills and other related hotspots, prioritize and validate open burning sites	150,000	115,000			4,000	30,000			
AI.1.3: Carry out national sensitization seminars for at least 20 participants in each participating country and validation workshops to review NIP updates and to make the data on inventory of uPOPs releases from open burning of wastes available	175,000	30,000			2,000	30,000	80,000		
Output 1.2: Regional information on open burning practices and data on uPOPs releases exchanged and respective regional cooperation and networking consolidated									169,000
AI.2.1: Support the creation of national databases informing systems in each participating country that are accessible for all stakeholders including training of at least 2 national experts capable in developing and maintaining the database	5,000	5,000			5,000	60,000			
AI.2.2: Conduct national workshops (one each participating country) on using established national database on	30,000	30,000			2,000	10,000	20,000		

<i>uPOPs releases from open burning</i>												
A1.2.3: Create a regional database information system within the SADC region, linked to UNIDO website, to share and disseminate data / information on alternatives to open burning practices						2,000						
Outcome 2: Strengthened legislation and human resources capacity in implementing BAT/BEP at selected priority sites of open burning											2,163,000	
Output 2.1: Regulatory measures aimed at discouraging open burning practices of different waste streams and agricultural residues formulated or amended											350,000	
A 2.1.1 Initiate the process for developing and reviewing existing laws and regulations, identify gaps, and provide additional provisions(with the involvement of the relevant stakeholders) to reduce releases of uPOPs from open burning of waste	70,000	25,000				50,000		50,000		10,000		
A 2.1.2 Carry out national multi-stakeholder consultations with relevant stakeholders including private sectors involved in waste management to identify business opportunities linkages benefiting from the enforcement of laws and regulations	30,000	25,000				20,000		50,000		20,000		
Output 2.2: Country action plans for managing and phasing out open burning of wastes and agricultural residues reviewed and strengthened											714,000	
A2.2.1 Strengthen national capacity on the management of open burning of wastes through targeted trainings for at least 10 relevant stakeholders in each participating country (giving special attention to gender) on BAT/BEP concepts, banning of irrational dumping of wastes, preventing open burning practices, promoting		20,000				2,000		60,000				

<i>management plans with economic incentives and PPP mechanisms (e.g. creation and contracting of national Micro and small enterprises) in municipalities where demonstration sites have been identified</i>												
Output 3.2: Waste management plans introducing BAT/BEP measures (segregation system) developed and implemented in two (2) selected major dumpsites and landfills in the participating countries using PPP models											6,530,000	
A 3.2.1 Prepare waste management plans introducing BAT/BEP measures using PPP models and implement them in selected dumpsites and landfills with due consideration to climate change adaptation			75,000			20,000						
A3.2.2 Identify existing waste recycling enterprises in the participating countries and enhance their performance by supporting two (2) pilots of segregation systems for collecting waste materials of added value (conveyor belts, sorting, washing, compacting, etc)			2,000,000	500,000	1,500,000	60,000	1,000,000	900,000				
A3.2.3 Carry out national awareness raising seminars on the waste management plans to the workers and employees of the private sector including SMEs with at least 10 participants each participating country	150,000	90,000	50,000	25,000	80,000	30,000						
Output 3.3: Biomass waste recycling and disposal options promoted in two (2) demonstration sites in selected participating countries through alternative waste management plans for better value addition											7,809,500	
A 3.3.1 Review existing data and conduct national inventory of existing biomass waste recycling and disposal options		50,000				10,000	50,000					
A3.3.2 Support PPP models for the creation and contracting		20,000				10,000	20,000					

A3.4.3 Carry out monitoring of uPOPs releases from open burning of wastes		20,000				10,000	8,000		
A3.4.4 Conduct series of global workshops (at least 5 during project life) as part of the Global Annual Conference on Dioxins to promote replication of the methodology for setting up uPOPs release reduction targets		10,000				2,000	2,000		
Output 3.5: Socio-economic impacts of the project intervention on private and informal sectors including recycling business plan assessed									270,000
A3.5.1 Support private and informal sectors to promote recycling through alternative waste management plans	30,000	40,000				20,000	30,000		
A3.5.2 Conduct socio-economic baseline and result survey to evaluate the impact of the project intervention on private and informal sectors in participating countries	5,000	20,000				5,000			
A3.5.3 Carry out awareness raising campaigns and study tours to promote the role of private and informal sectors in waste recycling	40,000	60,000				10,000	10,000		
Outcome 4: Knowledge transfer on BA T/BEP replication and awareness raising on uPOPs related risk and exposure in open burning sector									1,007,500
Output 4.1: Targeted training and awareness campaigns emphasizing health and environmental risk and exposure hazards of open burning practices for all relevant target groups (decision makers, professional associations, community leaders, farmers, women/youth group associations, private industries, waste pickers, NGOs, media and general public)carried out									538,500
A4.1.1 Organize a regional training workshop for at least 14 experts (2 each participating country) from relevant institutions on the potential risks and exposure hazards to humans, wildlife and the environment emanating from open burning practices									

A4.1.2 Organize awareness raising campaigns at national level (one each participating country) for all relevant target groups (decision makers, professional associations, community leaders, farmers, women / youth group associations, private industries, waste pickers, NGOs, media and the general public) on the health risk exposure hazards that may result from exposure to open burning practices	145,000	70,000				50,000	30,000	40,500		
A4.1.3 Organize seminars (at least one in each participating country) to educate workers (men/women) and waste pickers at major landfills and dumpsites on the health risks associated with collection, transport and segregation of waste and measures need to be taken while handling wastes	50,000	58,000				20,000	30,000	45,000		
Output 4.2: Educational programme for introduction of lessons learned and alternatives to open burning practices established at all levels										390,000
A4.2.1 Conduct seminars, workshops and media campaigns at national level for (men/women) decision makers, experts, workers and the public on alternatives to open burning of waste practices	10,000	30,000				20,000	20,000			
A4.2.2 Integrate ESM practices and lessons learned from the NCPs, SC, Basel and Rotterdam Centres on alternatives to open burning of waste practices into the educational curricula	10,000	30,000				40,000	100,000			
A4.2.3 Use knowledge, experience, scholarships and lessons learned to		30,000				40,000	60,000			

A5.1.6: Carry out terminal evaluation																		3,000	
A5.1.7: Prepare Terminal report																			
A5.1.8: Establish a project data management system (PDMS)																		3,000	
Project Management structure established																			821,000
A5.2.1: Recruit Regional and National Project Coordinators		25,000		10,000	5,000	5,000	6,000											5,000	
A5.2.2: Establish Regional Project Steering Committee (RPSC), National Project Steering Committee (NPSC), and reinstate and strengthen the national POPs technical committees		100,000		100,000	100,000	100,000	100,000	100,000										100,000	65,000

Annex E: Project Workplan

Outcome/Output/Activities	Y1				Y2				Y3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Outcome 1: Updated regional information on current open burning practices and establishing uPOPs baseline inventories																				
Output 1.1: National information on current locations of open burning practices validated and updated uPOPs inventories reviewed																				
AI.1.1: Conduct a regional workshop in preparing inventories of uPOPs releases from open burning of wastes with participation of at least 2 national experts from each participating country																				
AI.1.2: Carry out national inventories identifying locations of dumpsites, landfills and other related hotspots, prioritize and validate open burning sites																				
AI.1.3: Carry out national sensitization seminars for at least 20 participants in each participating country and validation workshops to review NIP updates and to make the data on inventory of uPOPs releases from open burning of wastes available																				
Output 1.2: Regional information on open burning practices and data on uPOPs releases exchanged and respective regional cooperation and networking consolidated																				
AI.2.1: Support the creation of national databases information systems in each participating country that are accessible for all stakeholders including training of at least 2 national experts capable in developing and maintaining the database																				
AI.2.2: Conduct national workshops (one each participating country) on using established national database on uPOPs releases from open burning																				
AI.2.3: Create a regional database information system within the SADC region, linked to UNIDO website, to share and disseminate data / information on alternatives to open burning practices																				

Outcome/Output/Activities	Y1				Y2				Y3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Outcome 2: Strengthened legislation and human resources capacity in implementing BAT/BEP at selected priority sites of open burning																				
Output 2.1: Regulatory measures aimed at discouraging open burning practices of different waste streams and agricultural residues formulated or amended																				
A 2.1.1 Initiate the process for developing and reviewing existing laws and regulations, identify gaps, and provide additional provisions(with the involvement of the relevant stakeholders) to reduce releases of uPOPs from open burning of waste																				
A 2.1.2 Carry out national multi-stakeholder consultations with relevant stakeholders including private sectors involved in waste management to identify business opportunities linkages benefiting from the enforcement of laws and regulations																				
Output 2.2: Country action plans for managing and phasing out open burning practices of wastes and agricultural residues reviewed and strengthened																				
A2.2.1 Strengthen national capacity on the management of open burning of wastes through targeted trainings for at least 10 relevant stakeholders in each participating country (giving special attention to gender) on BAT/BEP concepts, banning of irrational dumping of wastes, preventing open burning practices, promoting occupational health safety and hygienic measures at the landfill sites																				
A2.2.2 Formulate a national action plan for ESM and reduction of uPOPs releases from open burning of wastes and agricultural residues																				
A 2.2.3 Provide support for implementation of activities to prevent dumping and open burning of wastes																				

Outcome/Output/Activities	Y1				Y2				Y3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 2.3: Regional BAT/BEP guidances for uPOPs reduction formulated for respective Ministry of Environment's adoption at country level for substantial reduction and/or collective elimination of wastes and agricultural residues open burning practices																				
A 2.3.1 Formulate and adopt BAT/BEP guidance document in the reduction of uPOPs releases from open burning practices of wastes and agricultural residues																				
A2.3.2 Implement the BAT /BEP guidelines and provisional guidance document at regional and national levels taking into consideration the traditional practices and socio-economic conditions and introduce climate change adaptation aspects																				
A2.3.3 Prepare manuals, procedures, and guidelines using BAT/BEP measures use on how to eliminate and/or reduce open burning of wastes and agricultural residues for local use in participating countries																				
A2.3.4 Conduct a regional training workshop to train at least 2 experts from each participating country on the prepared manuals, procedures, and guidelines on reduction and/or elimination of open burning of wastes and agricultural residues																				
Output 2.4: Adequate technical infrastructure for implementing BAT/BEP and waste management best practices built																				
A2.4.1 Strengthen capacity of existing laboratory facilities to implement BAT/BEP and waste management best practices																				
A2.4.2 Provide field sampling toolkits, and other related sampling devices to measure uPOPs releases from open burning of wastes (liquid and residues)																				
A2.4.3 Train national experts (2 each participating country) in research institutions to carry out studies in the area of transfer and adoption of BEP																				

Outcome/Output/Activities	Y1				Y2				Y3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Outcome 3: Implementation of BAT/BEP reducing uPOPs releases in the open burning sector at national and regional levels																				
Output 3.1: Waste management best practices carried out at two (2) selected priority demonstration municipalities in each participating country																				
A3.1.1 Conduct a regional workshop on best practices in waste management in relation to open burning of wastes with at least 2 participants from each participating country																				
A3.1.2 Carry out national workshops with at least 20 participants eac participating country on best practices in waste management in relation to open burning of wastes																				
A 3.1.3 Identify two(2) municipalities in each participating country to carry out waste management best practices																				
A3.1.4 Implement waste management plans with economic incentives and PPP mechanisms (e.g. creation and contracting of national Micro and small enterprises) in municipalities where demonstration sites have been identified																				
Output 3.2: Waste management plans introducing BAT/BEP measures (segregation system) developed and implemented in two (2) selected major dumpsites and landfills in the participating countries using PPP models																				
A 3.2.1 Prepare waste management plans introducing BAT/BEP measures using PPP models and implement them in selected dumpsites and landfills with due consideration to climate change adaptation																				

Outcome/Output/Activities	Y1				Y2				Y3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
A3.2.2 Identify existing waste recycling enterprises in the participating countries and enhance their performance by supporting two (2) pilots of segregation systems for collecting waste materials of added value (conveyor belts, sorting, washing, compacting, etc)																				
A3.2.3 Carry out national awareness raising seminars on the waste management plans to workers and employees of the private sector including SMEs with at least 10 participants each participating country																				
Output 3.3: Biomass waste recycling and disposal options promoted in two (2) demonstration sites in selected participating countries through alternative waste management plans for better value addition																				
A 3.3.1 Review existing data and conduct national inventory of existing biomass waste recycling and disposal options																				
A3.3.2 Support PPP models for creation and contracting of a national Micro- or Small Enterprise to produce and promote the use of biomass waste recycling through alternative waste management plans																				
A3.3.3 Establish two (2) pilot demonstration projects on waste-to- energy (biogas, bricketing, etc) using PPP models																				
A 3.3.4. Facilitate field testing of biomass waste recycling and disposal options in selected areas in cooperation with research institutions																				
A3.3.5 Organize one (1) regional “train the trainers” workshop (at least 2 experts each participating country), one national training for at least 10 participants in each participating country and initiate site visit to promote biomass waste recycling and disposal options and consultations with the relevant stakeholders to ensure replication and sustainability of waste-to-energy concepts																				

Outcome/Output/Activities	Y1				Y2				Y3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 3.4: Harmonized methodology developed to set-up uPOPs release reduction targets for open burning sector at regional level																				
A 3.4.1 Conduct regional workshop for at least 14 experts (2 each participating country) to harmonize methodology for setting up uPOPs release reduction targets from open burning of wastes																				
A3.4.2 Develop uPOPs release reduction targets in open burning of wastes in the participating countries																				
A3.4.3 Carry out monitoring of uPOPs releases from open burning of wastes																				
A3.4.4 Conduct series of global workshops (at least 5 during project life) as part of the Global Annual Conference on Dioxins to promote replication of the methodology for setting up uPOPs release reduction targets																				
Output 3.5: Socio-economic impacts of the project intervention on private and informal sectors including recycling business plan assessed																				
Activity 3.5.1 Support private and informal sectors to promote recycling through alternative waste management plans																				
Activity 3.5.2 Conduct socio-economic baseline and result surveys to evaluate the impact of the project intervention on private and informal sectors in participating countries																				
Activity 3.5.3 Carry out awareness raising campaigns and study tours to promote the role of private and informal sectors in waste recycling																				
Outcome 4: Knowledge transfer on BAT/BEP replication and awareness raising on uPOPs related risk and exposure in open burning																				

Outcome/Output/Activities	Y1				Y2				Y3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 4.1: Targeted training and awareness campaigns emphasizing health and environmental risk and exposure hazards of open burning practices carried out for all relevant target groups (decision makers, professional associations, community leaders, farmers, women / youth group associations, private industries, waste pickers, NGO, media and general public) carried out																				
A4.1.1 Organize a regional training workshop for at least 14 experts (2 each participating country) from relevant institutions on the potential risks and exposure hazards to humans, wildlife and the environment emanating from open burning practices																				
A4.1.2 Organize awareness raising campaigns at national level (one each participating country) for all relevant target groups (decision makers, professional associations, community leaders, farmers, women / youth group associations, private industries, waste pickers, NGOs, media and the general public) on the health risk exposure hazards that may result from exposure to open burning practices																				
A4.1.3 Organize seminars (at least one in each participating country) to educate workers (men/women) and waste pickers at major landfills and dumpsites on the health risks associated with collection, transport and segregation of waste and measures need to be taken while handling wastes																				
Output 4.2: Educational programmes for introduction of lessons learned and alternatives to open burning practices established at all levels in each participating country																				
A4.2.1 Conduct seminars, workshops and media campaigns at national level for (men/women) decision makers, experts, workers and the public on alternatives to open burning of waste practices																				

Outcome/Output/Activities	Y1				Y2				Y3				Y4				Y5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
A4.2.2 <i>Integrate ESM practices and lessons learned from the NCPs, SC, Basel and Rotterdam Centres to alternatives to open burning of waste practices into the educational curricula</i>																				
A4.2.3 <i>Use knowledge, experience, scholarships and lessons learned to disseminate BAT/BEP</i>																				
Output 4.3: Regional cooperation on BAT/BEP and uPOPs and information sharing established through BAT/BEP Forum																				
A4.3.1 <i>Create regional BAT/BEP database and website in the SADC region linked to UNIDO website to share and disseminate data / information collected from alternatives to open burning practices</i>																				
A 4.3.2 <i>Conduct a regional and global workshops for sharing experiences and information on BAT/BEP to minimize uPOPs releases from open burning practices in collaboration with BAT/BEP Forums, Ecotown – Kitakyushu and RENPAP</i>																				
A4.3.3 <i>Develop mechanism such as the SADC Secretariat strategy to mobilize funds in the participating countries to support and implement best alternatives to open burning practices</i>																				
Outcome 5: Design and implementation of M&E framework in accordance with UNIDO and GEF requirements																				
Output 5.1: Project interventions monitored and Project progress evaluated																				
A5.1.1: <i>Organize and hold 1st Project Stakeholders' Workshop</i>																				
A5.1.2: <i>Introduce and monitor impact indicators</i>																				
Outcome/Output/Activities																				

	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
A5.1.3: Carry out annual project financial audits, prepare Annual Project Implementation Reports																				
A5.1.4: Hold Regional Project Steering Committee meetings																				
A5.1.5: Carry out mid-term review																				
A5.1.6: Carry out terminal evaluation																				
A5.1.7: Prepare Terminal report																				
A5.1.8: Establish a project data management system (PDMS)																				
Project Management structure established																				
A5.2.1: Recruit Regional and National Project Coordinators																				
A5.2.2: Establish Regional Project Steering Committee (RPSC), National Project Steering Committee (NPSC), and reinstate and strengthen the national POPs technical committees																				

ANNEX F: TERMS OF REFERENCES

Regional Coordinator

1. Provide technical assistance support to the national coordinators of the project as required by the yearly plans in promoting BAT and BEP to reduce uPOPs releases from waste open burning and assist the Project Manager to implement the project's activities;
2. Prepare ToRs for pilot demonstration projects which includes, but not limited to: sub-contractors, executing agencies, national experts' Terms of Reference, etc.;
3. Supervise the implementations of the project's regional pilot demonstration projects, and coordinate the pilot project's activities with relevant stakeholders, e.g. national directors and coordinators, international consultants, etc
4. Assist the Project Manager to organize and conduct regional workshops by liaising with participating countries' POPs Focal Points and national coordinators, and provide technical support to participating countries to organize and conduct national workshops, seminars, study tours, etc.;
5. Assist countries in the SADC participating countries to raise awareness among the major stakeholders at national level, on the health risk exposure hazards that may result from exposure to open burning practices;
6. Prepare annual work plans on the basis of the project's logical framework matrix and work with participating countries' POPs Focal Points, national coordinators and the project manager to ensure timely execution of the work plans;
7. Assist in organizing and conducting project's Inception Workshop and prepare the Inception Workshop's report;
8. Assist in organizing and conducting annual Regional Project Steering Committee Meeting and actively participating in these meetings;
9. Prepare and submit to UNIDO the following reports: quarterly, bi-annual, and annual reports; project implementation reviews reports; and final project termination report

SUBCONTRACTS: Only main contractual arrangements on the BAT/BEP interventions in the pilot demonstration sites are given below. Others such as regional and national workshops to be subcontracted will be prepared during project implementation.

	Activity	Scope of contract services
1	A 3.1.3 Identify two(2) municipalities in each participating country to carry out waste management practice	<p>The project will provide series of pilot demonstration projects and case studies in each country. A pilot demonstration project is envisage to be carried out in two municipalities per country to explore factors of success and sustainability for reducing or eliminating open burning practices in landfills/dumpsites and agricultural sector using BAT/BEP guidelines and guiding documents.</p> <p>A team of competent personnel with national and international experiences will support the demonstration projects in cooperation with ministries of environment, local governments-municipalities, health and agriculture.</p> <p>International and national consultants will be contracted to thoroughly study the technical and financial feasibility parameters in each country and device a business model based on PPP.</p>

		<p>The Terms of Reference (ToR) will be tailored to each country local condition as well as socio-economic and gender issues to maximize the benefit and support replication of the results obtained by the pilot demonstration projects throughout the country.</p> <p>UNIDO will publish international tenders based on the ToRs to ensure wider participation of technology providers and management consulting companies. The selection and attribution of the pilot projects will be done by UNIDO, government agencies, and other relevant stakeholders.</p>
2	A3.2.2 Identify existing waste recycling enterprises in the participating countries and enhance their performance by supporting two (2) pilots of segregation systems for collecting waste materials of added value (conveyor belts, sorting, washing, compacting, etc)	<p>A team of competent personnel with proper field safety training and equip with the appropriate personnel protective equipment; e.g. hard-hats, safety boots, heavy duty working gloves, protective clothes, etc.</p> <p>Provision of equipment for segregation of waste, such as, conveyer belt with complete support equipment (electric generator, heavy duty air compressor, selection containers). The volume of waste that will be handled by the conveyer depends on the daily transport of waste from municipalities.</p> <p>To ensure proper civil engineering works and electrical connections, the contractor has to prepare requirements of the services to be provided for the segregation system, including all moving parts that require special attention.</p> <p>Segregated waste and recyclables have to be cleaned and compacted with appropriate packaging that would assist for reduced volume bulk transport to the industry and the users.</p> <p>Local contractors and suppliers of support equipment will be guided by detailed technical specifications and training at the initial stages of delivery of the segregation system.</p> <p>Facility management at the dumpsite requires consensus among several stakeholders from municipalities, waste pickers, NGOs, residents of the vicinity as well as government authorities in order to obtain a sustainable and feasible operation.</p> <p>International consultants and specialized institutions will be involved to bring successful and replicable success stories of similar projects from other parts of the world. The contractor will be requested to have close cooperation with all involved parties in the project and ensure flexibility on deliverables and management of the contract.</p>
2	A3.3.3 Establish two (2) pilot demonstration projects on waste-to-energy (biogas, bricketing, etc) using PPP models	<p>A team of competent personnel with proper field safety training and equip with the appropriate personnel protective equipment; e.g. hard-hats, safety boots, heavy duty working gloves, protective clothes, etc.</p> <p>Provision of equipment for biogas plant based agricultural waste and including handling equipment such as waste transport, storage facility, bio-reactor, gas cylinders, gas quality detectors, piping, etc.</p> <p>The capacity of the biogas plant will be determined by the availability of high quality agricultural waste, enzyme generators, water, animal</p>

		<p>waste, etc.</p> <p>To ensure proper civil engineering works and electrical connections, the contractor has to prepare technical details for all the services to be provided for the biogas plant, including all moving parts that require special attention.</p> <p>Segregation of agricultural residue from other inorganic waste will determine the quality and quantity of the recoverable gas produced. Therefore, there is a need for provision of control systems to manage the biogas production processes.</p> <p>Local contractors and suppliers of support equipment will be guided by detailed technical specifications and training at the initial stages of delivery of the biogas plant.</p> <p>Facility management at the biogas plant requires consensus among several stakeholders from municipalities, farmers, NGOs, residents of the vicinity as well as government authorities in order to obtain a sustainable and feasible operation.</p> <p>International consultants and specialized institutions will be involved to bring successful and replicable success stories of similar projects from other parts of the world. The contractor will be requested to have close cooperation with all involved parties in the project and ensure flexibility on deliverables and management of the contract.</p>
4	Monitoring and evaluation	<p>Monitoring and evaluation are processes of assisting project implementation to learn and apply corrective measures in time. Some of the basic tenants of the M&E exercise for this project will include the following:</p> <ul style="list-style-type: none"> • Improve and support management • Generate shared understanding • Support learning • Build the capacity of those involved • Motivate stakeholders • Ensure accountability and • Foster public and political support <p>In the context of the GEF, evaluation aims at assessing the relevance, efficiency and effectiveness of the outcomes and outputs of the project. It is important to demonstrate that the GEF support has resulted in the results that have local, national as well as global benefits. As the GEF M & E Policy stipulates the M&E must demonstrate using measurable and verifiable indicators that the project is progressing successfully towards the desired outcomes.</p> <p>The monitoring shall be done at all levels of implementation, namely inputs, activities, outputs, outcomes and impacts and the indicators and targets that are listed in the logical framework of the project. It will serve as the reflection of implementation vis-à-vis the achievements on the ground.</p> <p>The Monitoring and Evaluation shall be directed to verifiable indicators of the project implementation at the following levels:</p>

	<p>target, outcome, outputs and activities. This focus will then reveal the accomplishments of the project along the GEF M&E criteria.</p> <p>In general, evaluations shall explore the five major criteria, namely:</p> <ol style="list-style-type: none"> Relevance - the extent to which the activity is suited to local and national environmental priorities and policies and to global environmental benefits to which the GEF is dedicated; this analysis includes an assessment of changes in relevance over time. Effectiveness—the extent to which an objective has been achieved or how likely it is to be achieved. Efficiency—the extent to which the results have been delivered with the least costly resources possible. Results—in GEF terms, results include direct project outputs, short-to medium-term outcomes, and progress toward longer term impact including global environmental benefits, replication effects, and other local effects. Sustainability—the likely ability of an intervention to continue to deliver benefits for an extended period of time after completion; projects need to be environmentally as well as financially and socially sustainable. <p>The Project will be implemented in 7 SADC countries. The timeframe is 5 years. The monitoring will be done at all sites within the participating countries, as the work of the Africa Institute. The data will come from the reports of the various stakeholders. These include the POPS National Focal Points, the National Project Committees, the Regional Project Committee, the Regional Coordinator, UNIDO, consultants (national and international), workshops reports and any other reports that will be produced during the lifespan of the project. Since the project will also have 2 pilot projects, the M&E will make site visitation to ground truth the progress in these projects.</p> <p>The evaluation reports with recommendations will be submitted to UNIDO and Regional Project Committee as appropriate. In cases of non-achievement of outputs it is envisaged that feedback and corrective measures or redirections will immediately be considered and discussed with the appropriate stakeholders.</p>
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ANNEX G: Detailed description of socio economic and environmental benefits/co-benefits that will be achieved through the implementation of the Project

Category	Benefit	Impact			
		N/A	Partly	Highly	Type
Climate Change Mitigation and Adaptation co-benefits					
	Reducing GHG emissions (N ₂ O, CH ₄ and CO ₂)		X		global
	Adopting low-carbon development path	X			national
	Supporting adaptation efforts			X	local/national
Environmental Benefits					
Air	Reducing SOx			X	local/national
	Reducing NOx			X	local/national
	Reducing Fly ash			X	local/national
	Reducing suspended particulate matter (SPM)			X	local/national
	Reducing Non Methane Volatile Organic Compounds (NMVOCs)			X	local/national
	Reducing Noise Pollution		X		local/national
	Reducing Odors			X	local/national
	Reducing Dust			X	local/national
	Other air quality improvements	X			
Land	Preventing end of life products/equipment (solid waste)	X			
	Producing/using compost		X		local
	Producing/using manure, mineral fertilizer or other soil nutrients	X			
	Irrigation	X			
	Preventing soil erosion		X		local
	Minimum tillage	X			
	Other means to improve land quality		X		local
Water	Improving management/control of wastewater			X	local/national
	Saving/conserving of water	X			local/national
	Improving reliability/accessibility of water supply	X			
	Purification/cleaner water supply		X		local/national
	Improving ecological state of water bodies			X	local/national
	Other means to improve water	X			
Natural Resources	Protecting mineral resources	X			
	Protecting/enhancing plant life	X			
	Protecting/enhancing species diversity	X			
	Protecting/enhancing forests	X			
	Protecting/enhancing other depleted natural resources	X			
Socioeconomic Benefits					
Jobs	New long-term jobs		X		local/national
	New short-term jobs			X	local/national
	New sources of income generation			X	local/national
	Other employment opportunities		X		local/national

Health & Safety	Disease prevention			X	local/national
	Reducing accidents			X	local/national
	Reducing crime	X			
	Preserving food	X			
	Reducing health damaging indoor air pollution	X			
	Enhancing health services	X			
	Improving sanitation and waste management			X	local/national
	Other health and safety improvement	X			
Education	Job-related training			X	local/national
	Enhanced educational services			X	local/national
	Project-related knowledge dissemination			X	local/national/ global
	Other educational benefits			X	global
Welfare	Improving working conditions			X	local/national
	Community or rural advancement		X		local/national
	Poverty alleviation (more people above poverty level)	X			local/national
	Improving wealth distribution/generation of income and assets		X		local/national
	Increased municipal revenues		X		local/national
	Optimized women's empowerment		X		local/national
	Reduced traffic congestion	X			
	Other welfare benefits	X			
Economic growth	New investments			X	local/national
	New industrial/commercial activities			X	local/national
	New infrastructure		X		local/national
	Enhancement of productivity	X			
	Reduction of production costs (services)			X	local/national
	New business opportunities			X	local/national
	Other economic benefits	X			
Energy	Improvement in supply of energy		X		local/national
	Access to energy		X		local
	Affordability and/or reliability of energy	X			
	Other energy improvements	X			
Technology	Introducing/developing/diffusing imported technology	X			local/national
	Introducing/developing/diffusing local technology	X			local/national
	Adaptation of new technologies to local circumstances			X	global/local/ national
	Know-how activities for a technology			X	global/local/ national
	Other technological benefits	X			

Detailed description and explanations of Table above is given below.

Environment Benefits - Air: Given the baseline situation in all participating countries, the environmental, economic and social costs of air pollution and their impact on sustainable development, the project will bring significant co-benefits in this category. The open burning of waste is a significant source of air pollution. Traditional open burning of all kinds of wastes is often the usual practice in the participating countries, causing emissions of different air pollutants (i.e. particulate matter, SO_x, NO_x, fly ash, odors, dust, uPOPs, CO, heavy metals, etc.) with adverse impacts on human health and the environment. The socio-economic developments in participating countries lead to a substantial increase of quantities and types of waste, with larger shares of e-waste entering uncontrolled open burning practices and causing releases of additional harmful types of air pollutants. There is also very limited information on air quality in participating countries, which makes it difficult to track trends, and develop and implement coordinated approaches and initiatives that would contribute to air quality improvement. Strengthening the legislation and human resources in implementing BAT/BEP in open burning will discourage currently prevailing, highly damaging open burning practices and promote/strengthen implementation of BAT/BEP practices. The implementation of BAT/BEP at selected demonstration sites will deliver immediate and tangible results in reducing air pollution, and enable assessment and measurement of the effects of using BAT/BEP. Diverting hazardous waste streams on specific sites from burning, and promoting reduction, recycling and reuse of articles will significantly reduce the emissions of PAHs, particulate matter, Mercury, NO_x, SO_x, and diminish releases of dust, fly ash and odors.

Environment Benefits - Land: Open burning of waste practices decrease land quality in different ways. Dispersing contaminated ashes from burning processes (incinerators, cement kilns, industrial boilers) on open fields is often a common practice in the participating countries, causing long-lasting soil contamination. Open burning of all kinds of waste (also increasing quantities of hazardous waste) on landfills and dumpsites produces large amounts of bottom and fly ash that contain uPOPs and other contaminants. Due to the accumulation of ashes and their dissolvent through rainfall, these contaminants are partly released in soil. The increasing quantities of e-waste being burned have caused additional land pollution - soils around open burning areas are often contaminated by heavy metals and organic compounds, and it has been proven that pollutants enter agricultural soil and eventually get transferred to the food chain. By discouraging open burning the project will reduce soil contamination and also contribute to the reduction of land erosion. Examples of improved and integrated waste management systems on demonstration sites will include producing/using compost.

Environment Benefits - Water: The above described contaminants are partly released in water streams due to leachate dispersion caused by rainfall and flooding of open burning sites. By discouraging open burning and supporting BAT/BEP and parts of integrated waste management the project will reduce water contamination caused by flooding of landfills and dump sites, and will improve ecological state of water bodies and reduce risks for severe water contamination.

Socioeconomic Benefits - Jobs: The implementation of the project will create jobs within the project, with employment duration over the project life-time. Outcomes of the project will generate new long and short term jobs in waste management, government, education and environment NGOs, and they have a potential to create new businesses and mobilize new investments with significant employment opportunities.

Socioeconomic Benefits - Health & Safety: Disease prevention and reduction of accidents are major co-benefits of the project. Current research indicates that the practice of open burning is a more serious threat to public health than previously thought. There is enough evidence that high level of human exposure to open burning over the long term, such as those experienced by waste management workers and scavengers, may contribute to increasing birth defects, fertility problems, greater susceptibility to disease, reduced intelligence and some types of cancers. In addition to the overall reduction of open burning practices and the human exposure to their highly damaging effects that will be achieved by the project, the implementation of trainings, workshops and capacity building campaigns targeted at all relevant stakeholders will bring important health and safety benefits by increasing awareness about the dangers connected with open burning and inappropriate waste management. The project will ensure collection of adequate data to enable continuous monitoring of health and safety impacts of the project implementation, which will provide valuable knowledge database for dealing with open burning on a global scale.

Socioeconomic Benefits - Education: The project will deliver major benefits in education, capacity building and knowledge dissemination. The project component 4 *Information dissemination and awareness raising* will build the capacity of all relevant stakeholders in the participating countries in various topics connected with open burning and waste management, notably including waste-management business education and technical knowledge and expertise. Application of BAT/BEPs requires implementation of series of technical measures in waste management, and sustainable operation of waste-management businesses requires specific knowledge and skills; both will be mainstreamed into education through university curricula, providing new generation of students with access to cutting edge information and improving sustainability of the projects outcomes. The regional knowledge on how to adopt BAT/BEP in the open burning sector targeting uPOPs will significantly increase. It will be made globally available through UNIDO, disseminated and replicated in other parts of the world. Based on the project component 5 *Monitoring and Evaluation of results*, the participating countries will also have better information as to what regulatory measures are most appropriate to facilitate BAT/BEP adoption in sectors other than open burning of waste without extra efforts and costs. This knowledge will support effective, objective and transparent decision making for future sustainable development initiatives in the region.

Socioeconomic Benefits - Welfare: The adoption of BAT/BEP in open burning sector will improve occupational environment of the workers and create a cleaner environment for those who live close to open burning places. Given the baseline situation in the participating countries, these effects will foster community and rural advancement, and reduce poverty. Promotion of biomass waste recycling will generate new incomes and revenues for households and municipalities. The project includes trainings to develop human resources at the professional and skilled labor levels. These activities will be conducted having in mind gender equality and country-specific socio-demographic circumstances to ensure women's empowerment and the improvement of wealth distribution.

Socioeconomic Benefits - Economic Growth: Regulatory and policy development that will be achieved through the project will create enabling environment for new businesses and potentially mobilize investments in waste management. The project will search partnerships and investigate options for stronger private sector participation, by introducing public-private partnerships and investigating other financial mechanisms. Capacity building campaigns will be organized targeting private sector to provide interested entrepreneurs, SMEs and larger companies with a deeper insight in the BAT/BEPs, especially in the costs and benefits of these measures. Successful demonstration activities will build new infrastructure, open business opportunities (recycling, utilization of agriculture residues) and showcase public private partnerships in waste management sector. The goal of these activities is to ensure sustainable participation of private sector in waste management and enable gradual integration of BAT/BEP in waste management sector in general. Importantly, overall reduction of open burning complemented by sustainable long-term advances in waste management and implementation of BAT/BEPs will visibly meliorate quality of living conditions (air, water and land) and advance the society. Given the baseline situation in large parts of the participating countries, this will contribute to the economic growth in the participating countries and local areas by highly improving their attractiveness for tertiary and quaternary industries (including tourism, entertainment, education, sales and retail, finance, etc.).

Socioeconomic Benefits – Energy: The project introduces using biomass for energy on demonstration sites. These activities will in some cases significantly improve local access to energy. New regulatory framework will promote waste-to-energy measures on the national level in all participating countries, and will contribute to enhancing energy supply in general.

Socioeconomic Benefits - Technology: The implementation of the project will provide capacity and enabling environments for introducing/developing/diffusing local and imported waste management technology. BAT/BEPs on demonstration sites will be adapted to meet specific local circumstances and needs. The know-how will be transferred on local and national levels, as well as to other regions/countries with comparable open burning practices.

ANNEX H: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS¹

A. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES FINANCING STATUS IN THE TABLE BELOW:

During the PPG phase project partners (UNIDO and the participating countries) interacted during the initial consultation meeting held in Lusaka, Zambia in May 2014 to prepare the workplan for the preparatory phase. A subcontract was given to each participating country for the collection of baseline data on open burning practices, conduct national survey of dumpsites/landfills, identify demonstration sites where to implement BAT/BEP, identify public and private laboratories and other monitoring networks for uPOPs sampling and analysis and identify key and relevant stakeholders that will be involved in the project implementation. Questionnaires were circulated and filled in by participating countries. As a result of this, the project document was drafted taking into account the data and information provided by the participating countries. The validation workshop took place in November 2014 in Gaborone, Botswana where the draft project document was reviewed by all partners. Proceedings of both the consultation and validation meetings were given below. Questionnaires filled up by all participating countries were also included in this Annex.

PPG Grant Approved at PIF: \$180,000			
<i>Project Preparation Activities Implemented</i>	<i>GEF/LDCF/SCCF/NPIF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent Todate</i>	<i>Amount Committed</i>
Coordination mechanism for PPG management and organization	30,000	30,000	0
Identification and engagement of key stakeholders in public and private sectors	10,000	10,000	
Compilation of baseline data and needs assessment for the project design and document preparation	100,000	80,000	20,000
Detailed design of project components, work plan and implementation arrangements	40,000	25,850	14,150
Total	180,000	145,850	34,150

¹ If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities.

**Proceedings of the Inception Meeting to launch the Open Burning
Project for the participating countries of SADC Sub-Region;
Lusaka, Republic of Zambia; May 27-28, 2014**



Group photo of the participants of the Inception Meeting to launch the Open Burning Project

Introduction

In February, 2014, the Global Environment Facility (GEF) approved the Project Identification Form (PIF) of the open burning project for the participating countries of SADC sub-region. The Project Preparatory Grant (PPG)- \$180,000, has been received by UNIDO in March, 2014. The PPG will be used to prepare the final Project Document which will eventually be submitted to GEF. A number of activities will precede the development of the Project Document. One of which is to hold the Inception Meeting for the participating countries and other stakeholders to prepare the workplan of the preparatory phase and completion of the Project Document. In this regard, an Inception Meeting for the participating countries of SADC sub-region was held at Courtyard Hotel in Lusaka, Zambia on May 27-28, 2014. *See Annex No. 2 for the meeting's Aide Memoir*

Project Title, Objective and Participating Countries

Project Title: *“Promotion of BAT and BEP to reduce uPOPs releases from waste open burning in participating African countries of SADC sub-region”*

Project Objective: To achieve sustainable release reduction of uPOPs in the open burning sector through introduction of best available techniques and best environmental practices (BAT/BEP) measures at selected demonstration sites.

Participating Countries: Botswana, Lesotho, Madagascar, Mozambique, Swaziland, Tanzania and Zambia



Inception Meeting Objective and Expected Outcomes

The Inception Meeting's objective is to start up project implementation and to prepare the workplan for the development of the Full-sized project document.

The meeting's expected outcomes was to agree on a workplan to help compiling information from the participating countries which will be used to complete the Project Document. This information includes: but not limited to, to undertake the national survey for the baseline information; identification of demo sites; identification of key and relevant stakeholders; conducting a national inception workshop; Identification of public and private laboratories and other monitoring networks for uPOPs sampling and analysis, etc.

Participants of the Inception Meeting

All seven POPs Focal Points from the seven participating countries of the project attended the meeting. UNIDO was represented by four officers, and Africa Institute sent two officers to the meeting. *See Annex No. 3 for list of participants.*

Meeting Proceedings

1. Day 1- May 27th

Dr. Mohamed Eisa, UNIDO Representative and Regional Director, Pretoria, South Africa opened the meeting by welcoming the participants and gave a brief history of UNIDO dealings with GEF. In the past, GEF did not have the rules and regulations to decide in providing financial assistance. During the past fifteen years, however, things have changed and now GEF is fully engaged in sponsoring projects in Africa using UNIDO as an implementing agency. He also went on to say that this project is the first project in open burning in the world to be funded by GEF. Asia has the same problem with open burning of waste, and there

is a need to work with Asia in issues of open burning moving forward. He also mentioned that there is only one LDC in Latin America at the moment, Asia has two LDCs and there are thirty LDCs in Africa. As for dioxins and Furans and their releases, Mr. Eisa mentioned that Africa is the number one continent in the world (in volume) with regard to the releases of the two aforementioned chemicals. Dr. Eisa concluded his remarks by pointing out that, during the implementation of this project, two municipalities will be selected from each country whereby these municipalities will work with the private sector to implement the Public-Private Partnership (PPP) using models which were used by other UN agencies, e.g. FAO.

Following Dr. Eisa's opening remarks; the participants of the meeting introduced themselves and their roles in their respective countries. Dr. Eisa then officially declared the opening of the meeting.

1.1 Status of Open burning practices- Countries Presentations

All seven participating countries made a 20 minutes presentation each. Most countries followed the outline mentioned below:

A general overview of the country's municipal solid waste management system;

The number of dump-sites and landfills in the capital city in the participating countries and two landfills in each country was selected and details were provided about these two landfills; in terms of capacity, start of operation, types of technology used, etc;

Information on the national inventories of uPOPs emanating from open burning of wastes and agricultural residues emissions (refer to your country's NIP which was submitted to the Stockholm Convention's Secretariat), and/or any new inventories done through the NIPs update practice, if available;

Brief on country's policy, institutional and legislative framework for elimination and/or reduction of open burning practices of waste and agricultural residues;

The Country's action plan (s), *if there are any*, for managing and phasing out open burning practices of wastes and agricultural residues and preventing irrational dumping;

Challenges of the country's municipal waste management system in general and challenges in managing open burning practices of wastes and agricultural residues and preventing irrational dumping.

1.2 General Discussion on Countries Presentations

James Mulolo of Africa Institute talked about the economic, social, and engineering considerations that are needed for building a landfill.

Magdalena of Tanzania asked why the strategy to manage waste in Swaziland is there but there are difficulties with implementation. Vusumuzi of Swaziland pointed out that the different players in the country were not all in the same page. Linda Galvan, the Project Manager, pointed out the discrepancy in the readings of Swaziland's emissions of dioxins and furans from uncontrolled combustion between the original NIP and the updated one (the original one was 100 g TEQ/a, whereas the new one is only 12.5g TEQ/a).

James Mulolo of Africa Institute asked Joseph Gungunhana of Mozambique about the rate of collection of waste in Mozambique. Joseph replied by saying that Maputo (capital city of Mozambique) generates about 1,700 tons of waste and all this amount is collected as the rate of collection per day varies. Magdalena of Tanzania mentioned that, some people in Tanzania burn waste to extract valuable things. Joseph of Mozambique said that sometimes you would see collection containers are burning in neighborhoods. Vusumuzi of Swaziland pointed out the difficulties his country is facing when it comes to banning of open burning practices, as politicians oppose to the idea and government institutions are not resourceful enough. Thabo of Lesotho also mentioned that as countries we are not educating our politicians and he thinks that is part of the problem.

Thabo of Lesotho inquired from Madagascar about the use of organic waste composite as fertilizers as Madagascar is engaged in that type of practice. Hariatiana of Madagascar replied by saying that this has been a common practice in Madagascar.

Thabo of Lesotho voiced his concerns about the fact that, Botswana has 14 landfills as it (Botswana) maybe stretching itself out considering the country's population. James Mulolo of Africa Institute asked if Botswana's legal framework has been completed. Moabi Mmlawa of Botswana replied that the framework is a work in progress.

The participants were quite impressed by the strict type of laws and regulations to manage and control open burning practices in Zambia which were put in place through the work of Zambia Environmental Management Agency (ZEMA). Violators of the

Waste Management Act related to open burning can draw a fine of up to \$200. Mr. Constantine from ZEMA gave a detailed account of a case whereby ZEMA sued another government agency (the municipality) for not properly managing a landfill in the capital city, Lusaka.

2. Day 2- May 28th

2.1 Project PIF Review

Linda Galvan, the project manager, presented an overview of the project PIF outlining the project title, objective and the participating countries. She also detailed the project's outcomes and outputs.

Project Title and Objective

Project Title: *“Promotion of BAT and BEP to reduce uPOPs releases from waste open burning in participating African countries of SADC sub-region”*

Project Objective: To achieve sustainable release reduction of uPOPs in the open burning sector through introduction of best available techniques and best environmental practices (BAT/BEP) measures at selected demonstration sites.

Participating Countries: Botswana, Lesotho, Madagascar, Mozambique, Swaziland, Tanzania and Zambia

Project Outcomes

Outcome 1: Updating of information on current open burning practices and establishing uPOPs baseline inventories:

- National information on current locations of open burning practices validated;
- National inventories of uPOPs open burning emissions reviewed and updated;
- Regional information exchanged and cooperation networking consolidated in open burning practices and data emissions.

Outcome 2: Strengthened legislation and human resources capacity in implementing BAT/BEP in side of open burning practices

- Regulatory measures formulated to discourage open burning practices of different waste streams and agricultural residues;
- Country action plans to manage and phase out open burning of wastes and agricultural residues reviewed and strengthened;
- Regional BAT/BEP guidance for uPOPs reduction formulated and adopted for collective elimination or substantial reduction of waste and biomass open burning practices;
- Adequate technical infrastructure built for implementing BAT/BEP and waste management best practices.

Outcome 3: Implementation of BAT/BEP to reduce uPOPs emissions in the open burning sector at national and regional levels

- Waste management best practices carried out at selected priority demonstration municipalities (2 in each participating countries);
- BAT/BEP plans developed and implemented in some selected major dumpsties and landfills in the participating countries using PPP model;
- Biomass waste recycling and disposal options promoted in some areas through alternatives waste management plans for better value addition;
- Harmonized methodology developed at regional level to set up release reduction targets for open burning sector;
- Socio-economic impacts of the project intervention on private and informal sectors assessed including recycling business plan.

Outcome 4: Transfer of knowledge on BAT/BEP and awareness raising on uPOPs related risk and exposure on open burning sector

- Targeted training and awareness campaigns carried out to emphasize health and environmental risk and exposure hazards of open burning practices for all relevant target groups (decision makers, professional associations, community leaders, farmers, private industries, scavengers, NGOs, media and the public at large);
- Educational programmes established at all levels for introducing lessons learnt and alternatives to open burning practices;

- Regional cooperation and information sharing and use on BAT/BEP and uPOPs established through the BAT/BEP Forum.

Outcome 5: Monitoring and Evaluation

- M&E framework designed and implemented in accordance with UNIDO and GEF requirements.

Project Total Budget is: \$6,615,000

Total co-financing budget: USD 26,460,000

Name of co-financier	Type of co-financing	Amount (USD)
Botswana, Lesotho, Madagascar, Mozambique, Swaziland, Tanzania, Zambia	Cash/in-kind	18,655,000 (2,665,000 each)
Private sector	grant	4,305,000
Bilateral aid (GIZ-Germany, DANCED and DANIDA-Denmark, Korea, others	grant	3,400,000
UNIDO	In-kind	100,000
TOTAL		26,460,000

Global environmental benefit: 177 g TEQ/a

Country	Source of uPOPs	g TEQ/a
Botswana	Uncontrolled combustion processes	54.772
Lesotho	Burning at landfills/dumpsites	1708.1
Madagascar	Uncontrolled burning/landfill	334
Mozambique	??	???
Swaziland	sugar cane trash/forest fires/domestic	117
Tanzania	Biomass	780.39
Zambia	Forest fires/open air burning	483.1
TOTAL		3477.362

2.2 Project Preparatory Phase and Project Preparation Grant

Nouri Abdalla, Regional Coordinator for SADC sub-region, presented a proposed preparatory phase with chronology of activities that need to be performed during the preparatory phase based on the Project Preparation Grant (PPG). *See Annex No. 1 for Workplan of PPG Activities*

TOTAL PPG BUDGET: USD\$ 180,000

PPG activities

1. Update baseline information of open burning practices and the inventory of dumpsites/landfills in the region- **To be concluded by September, 2014:**
 - Questionnaires and other survey tool designed- Mid-June, 2014;
 - National survey on waste dumpsites, landfills and agricultural and biomass residue burning carried out- August, 2014;
 - Regional baseline inventory of the category established- September, 2014
 - Demonstration sites where to implement BAT/BEP measures identified- September, 2014.
2. Harmonization of regulatory/legal framework- **To be concluded by February, 2015:**
 - Project Focal Points appointed, and Africa Institute as Regional Coordination Unit appointed- July-August, 2014;
 - Institutions in the region specialized in training on waste management and environmentally sound disposal operations incorporating BAT/BEP measures identified – February, 2015;
 - Public and private laboratories and other monitoring networks for uPOPs sampling and analysis identified- August, 2014.
3. Generate public and private sectors involvement in the project – **To be concluded by November, 2014:**
 - Key stakeholders in both public and private sectors identified and involved in the project implementation- November, 2014;
 - Commitment generated from the governments and the private sector translated into co-financing schemes- November, 2014.
4. Development of the logical framework and project document- **To be concluded by December 2014:**
 - Project document finalized- December, 2014.

3. *Conclusion and Way-forward*

The participants endorsed the workplan of the preparatory phase as presented by UNIDO. The following tasks shall be completed by December, 2014:

- Sending the questionnaire to participating countries by mid-June, 2014;
- Contracts/MoAs- \$6,500: to undertake the national survey for the baseline information; identification of demo sites; identification of key and relevant stakeholders; conducting a national inception workshop; Identification of public and private laboratories and other monitoring networks for uPOPs sampling and analysis;
- Send information to countries regarding the involvement of the private sector in the project (from the Logical Framework);
- Remind the countries to send the particulars of the person who will sign the contract on behalf their countries to initiate and complete the preparatory phase at the national level;
- Appointment of Project Focal Points;
- Appointment of Africa Institute as Supporting agency for project development;
- Secure co-financing commitment from governments and the private sector and alike;
- Finalizing the PROJECT DOCUMENT by December, 2014.

The participants were also given copies of the following documents:

- The approved PIF by GEF;

- Draft contract with ToRs to undertake national survey for the baseline information and conducting national inception workshop;
- Workplan of the preparatory phase leading up to the completion of the project document, and;
- Co-Financing Reporting template document

Annexes

Annex No. 1: Workplan of PPG Activities

Chronology of PPG Activities- 2014-2015

No	Activity	Proposed Date
A.	Update baseline information of open burning practices and the inventory of dumpsites/ landfills in the region	By September, 2014
1	Questionnaires and other survey tool designed	Mid-June, 2014
2	National survey on waste dumpsites, landfills and agricultural and biomass residue burning carried out	August, 2014
3	Regional baseline inventory of the category established	September, 2014
4	Demonstration sites where to implement BAT/BEP measures identified	September, 2014
B.	Harmonization of regulatory/legal framework	By February, 2015
7	Appointment of Project Focal Points and appointment of Africa Institute as Supporting agency for project development	July-August, 2014
8	Institutions in the region specialized in training on waste management and environmentally sound disposal operations incorporating BAT/BEP measures identified	February, 2015
9	Public and private laboratories and other monitoring networks for uPOPs sampling and analysis identified	August, 2014
C.	Generate public and private sectors involvement in the project	By November, 2014
10	Key stakeholders in both public and private sectors identified and involved in the project implementation	November, 2014
11	Commitment generated from the governments and the private sector translated into co-financing schemes	November, 2014
D.	Development of the logical framework and project document	By December, 2014
12	Project document finalized	December, 2014



United Nations Industrial Development Organisation

“Promotion of BAT and BEP to Reduce uPOPs Releases from Waste Open Burning in the Participating African Countries of SADC Sub-Region”

**Grant 2000002594
WBS 130035-1-05-01-3500**

Inception and consultation Meeting to start up project implementation for the preparation of the project document

to be held on

27-28 May 2014

in

Lusaka, Zambia

AIDE MEMOIRE

1. Background information and Objective:

In Africa, the implementation of integrated waste management practices are generally still at an infancy stage and waste treatment facilities (such as properly managed incinerators or sanitary landfills) are very few, as well as reuse/recycling practices. Therefore, municipal wastes and other types of wastes are usually dumped in open dumpsites and eliminated by open burning practices. In urban areas, it can be expected that municipal waste is mainly composed of food residues, packaging of goods and some hazardous wastes (such as batteries and electronic devices), whereas in sub-urban or rural zone, these shares decrease in favour of country specific agricultural wastes.

Hazardous wastes streams are commonly diverted to some uses other than final disposal, or mixed and disposed of with other waste streams. Among them, contaminated ashes from burning processes (incinerators, cement kilns or industrial boilers) are often dispersed in open fields and waste oils are usually burnt as fuel. Medical waste collection and management in large hospitals is usually carried out, but in many small hospitals, and especially in remote countryside and private clinics, it is common that waste is not properly collected for special treatment rather ends in the uncontrolled disposal and could result in breakage of mercury-containing devices (such as thermometers and blood pressure meters) and in the consequent release of this global

contaminant in the environment. Moreover, new types of wastes are emerging such as electrical and electronic waste. It is recognized that poorly mixed materials and the presence of chlorinated precursors and catalytic metals (copper, iron) from electrical and electronic devices and from medical devices are the main factors for the formation and releases of uPOPs in open burning processes as well as other environmental pollutant releases.

Many countries are promoting policies to increase the productivity of agricultural fields, through investments in river waters management projects or land reclamation, though many environmental problems come from the adverse impact of climate change. If the programs will be successful, this would result in an increase of the agricultural wastes to be treated or disposed of.

Therefore, since open burning of mixed wastes and agriculture residue wastes is not properly addressed, uPOPs releases might dramatically increase in the future throughout the global environment. Besides the negative environmental impact, high levels of exposure over time, such as those experimented by waste management workers and scavengers, may lead to increased birth defects, dysfunctional immune and reproductive systems, greater susceptibility to disease, reduced intelligence and some types of cancers.

However, it might be highlighted that decision-makers in the region are becoming more and more aware of the need to set up waste management programmes and to upgrade open dumps to sanitary landfills but at the national and municipal levels, only few countries have taken steps to construct, operate or maintain them and set up a regulatory infrastructure. In the prevalent part of the participating countries, the Environmental Protection Acts do not specifically address uPOPs related issues but at least are more concerned with pesticides and PCB control and disposal. Alternatively, in some countries, the existing legislation includes some provision to control waste disposal or agricultural residues burning prevention. Due to the above mentioned policies to increase the productivity or agricultural fields, some countries are in the process to set up regulation and restrictions in this sector as well.

Participating countries lack the technical capacity, regulations and financial support to monitor the releases of uPOPs or other harmful contaminants from open burning practices, therefore, several project activities will be focused in strengthening the monitoring capabilities of selected regional laboratories or scientific institutions through standardized analytical procedures, data collection and reporting. Targeted training programs will be carried out for laboratory technicians of the internationally used methods for uPOPs sampling and analysis and updated instrumentation will be provided in order to progressively enhance the internal skills. The monitoring and analytical capacity in SADC subregion will ensure that uPOPs releases will be monitored not only in open burning activities but on other Annex C sectors of the Stockholm Convention as well. All the activities will be carried out in cooperation with similar ongoing international projects in order to maximize the results and avoid overlapping.

The main project activity will be the revision and updating of the current uPOPs inventories of the open burning practices with special attention on existing major source categories such as dumpsites, landfills, agricultural residue burning practices, taking as reference the recently modified emission factors in the UNEP dioxins toolkit. These activities will be undertaken in each of the participating countries and the GEF support shall be required to provide the technical assistance through local and international experts that are capable in collecting reliable data and correctly evaluate the methodology to be used. National baseline inventories and a regional baseline inventory will be projected. Based on this, the implementation of the corresponding regional action plan will deliver the global environmental benefits of the project.

The core of the project will be based on short- and long-term BAT/BEP actions, with the main goal to introduce the basis to achieve a progressive phasing out of the open burning practices, by setting up demonstrative programs in some selected dumpsites, landfills (possibly with different waste streams) and sites where agricultural residues are disposed of. The demonstration activities will be carried out where the environmental, economic and social benefits could be maximized not only on the national but on the regional level as well. This will lead to cost-efficient use of international financial resources.

The participating countries will undertake open burning related programmes within a coordinated regional cooperation and information sharing platform (BAT/BEP Forum) and the lessons learnt from the local interventions would be available for other countries in the African region or abroad for replication and thus the impacts on the environment and human health would be maximized.

The objective of the inception meeting is to start up project implementation and to prepare the workplan for the development of the Full-sized project document.

2. Tentative Agenda

The following tentative agenda constitutes the discussion points of the meeting:

Day 1 Tuesday 27 May 2014	
8:30	Registration of participants
9:30	Opening remarks and introduction of participants and their roles
10:00	Countries' presentations on background review on open burning practices and existing landfills, existing laws and regulations, existing recycling practices, etc
11:00	Coffee Break
11:30	Countries presentations continues
13:00	Lunch Break
14:00	Review of the PIF document of the project
15:30	Coffee Break
15:45	Review of the PIF document of the project continues
17:00	Wrap up and close of day 1
Day 2, Wednesday 28 May 2014	
9:00	Presentation of the workplan for the preparation of the project document
11:00	Coffee Break
11:30	Discussions for the way forward
13:00	Lunch Break
14:00	Discussions continues
15:30	Coffee Break
16:00	Wrap and closure of meeting

The final detailed agenda of the meeting will be provided at the opening session.

4. Dates and Venue

The Inception and consultation meeting will take place at The Courtyard Hotel, Lusaka, Zambia. A preparatory meeting of UNIDO and its experts will be held on 26 May 2014. Then on 27-28 May 2014, the inception meeting for all stakeholders will take place. Consultation meeting for UNIDO and its experts will follow after the inception meeting to evaluate the outcome of the Meeting and plan for the way forward.

5. Participants

Participants are 15-20 from SADC participating countries (Botswana, Lesotho, Madagascar, Mozambique, Tanzania, Swaziland and Zambia), Africa Institute (Basel and Stockholm Convention Secretariat), SADC RECs, UNIDO and its consultants. The country participants should have enough technical knowledge and authority to decide on POPs matters pertaining to all technical and managerial commitments of their institutions, regions and countries relevant to implementation of Stockholm Convention requirements. Preferably they should have been involved in the development of National Implementation Plans of POPs in their countries and having good knowledge of priority issues of the NIP, especially on open burning practices and national inventories landfills and dumpsites.

6. Language requirements

The official working language of the meeting is English. All documentation and background materials will also be available in English.

7. Management arrangements for the meeting

Financial and administrative arrangements for the officially nominated candidates will be made according to UNIDO rules and regulations.

UNIDO will provide the financial support for the following:

- A round trip economy class home city/Lusaka/home city by the most direct route will be provided by UNIDO. Flight reservations for the entire journey should be made by UNIDO Vienna and e-tickets will be sent to travellers.
- A daily subsistence allowance (DSA) at prevailing UN rate covering board, lodging and incidentals for the actual attendance (from the date of arrival to the last day of attendance) to be paid by UNIDO upon arrival in Lusaka.
- For participants outside Zambia only (not UN staff) one day additional DSA will be paid as a contribution towards the expenses in incidental to travel abroad, such as expenditure for passport, visa, medical examination, inoculations and other such miscellaneous items as well as travel to and from the airport.
- Transportation (local) costs, rent for meeting venue/facilities and logistics, printing material, services and photocopying and other related miscellaneous expenditures.
- Visa assistance and Visa issuance (letters to Embassies only but will not pay the cost of the Visa).

Neither UNIDO nor the host country will assume responsibility for any other costs, including but not limited to:

- a) Cost incurred by the participants with respect to travel insurance, accidental insurance, medical bills and hospitalization fees in connection with their attendance of the Meeting;
- b) Compensation in the event of death, disability or illness of the participants in connection with their attendance of the Meeting;
- c) Incidental costs incurred in connection with travel abroad, e.g. passport, visas, vaccinations, stopovers, travel to and from the airport;
- d) Loss or damage of personal property of the participants while attending the meeting;
- e) Purchase of personal belongings and compensations in the event of damage caused by climatic or other conditions;
- f) Other unforeseen expenditures.

8. Travel Arrangements

Please note that E-tickets would be issued from UNIDO HQ and sent to travellers. Travellers are required to provide their full passport details to UNIDO HQ, attention Ms. Meklit Yimam, e-mail: m.yimam@unido.org, on or before **9 May 2014** or as close to these dates as possible. Travellers will be responsible to obtain visa to Zambia prior their departure from home country. Visa assistance can be provided if necessary.

9. Hotel Reservations

Hotel reservation has been arranged at **The Courtyard Hotel, Cnr Nangwenya and Thabo Mbeki Rd, Lusaka, Zambia, Tel: +260 211 257487/89/90, e-mail: sales@courtyardhotel.co.zm**. Participants are advised to settle their hotel bills before their departure from Lusaka. UNIDO will not provide additional costs over or above the official DSA rate of the UN.

10. Enquiries and correspondence:

All enquiries and correspondence prior to the meeting should be addressed to:

UNIDO HQ, Vienna	Contacts outside UNIDO Hq
<p>Ms. Erlinda Galvan Associate Industrial Development Officer Stockholm Convention Unit Environmental Management Branch Vienna-Austria Tel: +43126026 3953 e-mail: e.galvan@unido.org</p> <p>Ms. Meklit Yimam e-mail: m.yimam@unido.org</p>	<p>Mr. Mohamed EISA UNIDO Rep. and Director, Regional Office Pretoria, South Africa Phone (mobile): +278 23124612 E-mail: m.eisa@unido.org</p> <p>Mr. Nouri Abdalla Regional Coordinator, SADC sub-region Email: nouriabdalla@yahoo.com Tel: +256-77-5728386/+254-73-8989908</p>

**List of participants of Inception meeting on “Promotion of BAT and BEP to Reduce uPOPs Releases from Waste Open Burning in the Participating African Countries of SADC Sub-regions”
27-28 May, 2014- Lusaka, Zambia**

No	Country/organization	Name	Designation & Address	Email Address
1	Botswana	Mr. Moabi Mmolawa	POPs Focal Point Department of Waste Management and Pollution Control Ministry of Environment Wildlife and Tourism Compliance and Enforcement Division Te: (267) 393 4479, Fax: (267) 390 9953	mdmmolawa@gov.bw moabind@yahoo.com
2	Lesotho	Mr. Thabo K. Tsasanyane	POPs Focal Point Dept. Of Environment, Ministry of Tourism, Environment and Culture P.O. Box 10993, Maseru 100 Tel: +266 22 311767; Fax: +266 22 311139	tsasanyanetk@hotmail.com
3	Madagascar	Ms. Haritiana Rakotoarisetra	POPs Focal Point BP 571 Ampandrianomby Anatananarivo, Madagascar Tel: +261 345531940	rhartianah@yahoo.fr
4	Mozambique	Mr. Joseph Gungunhana	POPs Focal Point Chief Department Ministry of Coordination and Environmental Affairs PO Box 2020, Accordo de Lusaka 2115, Maputo Mobile : +258 82 9627581	jmarkto@yahoo.com
5	Swaziland	Mr. Vusumuzi F. SIMELANE	POPs Focal Point Environment Inspector Ministry of Tourism and Environmental Affairs Department of Environment P.O. Box 2602, Mbabane Tel: +268 2404 6960; Fax: +268 2404 1719	vfsimelane@sea.org.sz
6	Tanzania	Ms. Magdalena Mtenga	POPs Focal Point Division of Environment, Vice President's Office, P.O.Box 5380, Dar es Salaam, Tanzania Mobile phone: +255- 754 467301	magejohn@yahoo.com
7	Zambia	Mr. David Kapindula	POPs Focal Point P. O. Box 35131,	dkapindula@zema.org.zm

				Lusaka, Zambia Mobile: +260 955810374		
8	Africa Institute	Dr. Koebu Khalema		Africa Institute Programme Manager Private Bag X447 Pretoria 0001		kkhalema@environment.gov.za
9	UNIDO	Dr. Eisa Mohamed		UNIDO Representative and Director Regional Office, Pretoria, South Africa		m.eisa@unido.org
10		Ms. Erlinda GALVAN		Open Burning Project Manager Stockholm Convention Unit Environmental Management Branch UNIDO, Vienna Tel: +43 1 26026 3953		e.galvan@unido.org
11		Ms. Marjorie Chalungumana		UNIDO Regional Office, c/o Department Trade and Industry, 77 Meinjies Street, Sunnyside, P.O. Box 6541, Pretoria 0001, South Africa, Tel: +2712 3945463		M.chalungumana@unido.org
12		Mr. Nouri ABDALLA		SADC Project Coordinator 16 Mutungo Hill Zone 8, Kampala Uganda, Tel: +256 775728386 or +254 716989908		nouriabdalla@yahoo.com

QUESTIONNAIRES FROM PARTICIPATING COUNTRIES FOR COLLECTION OF BASELINE INFORMATION

Country	Botswana	
Submitted by	Moabi D. Mmolawa	
Laws and regulations		
<ul style="list-style-type: none"> Provide information about your country's existing laws (Acts, Legislation, Criteria, Regulations and/or Guidance) in managing waste such as solid wastes from municipality, industrial etc, and discouraging of open burning practices of waste and agricultural residues in particular 	<p>The country regulate waste with the Waste Management Act of 1998 which is enforced by Department of Waste management and Pollution Control (DWMPC) under the Ministry of Environment, Wildlife and Tourism (MEWT) and other government authorities like Local Government to regulate management of waste.</p> <p>There is also Agrochemicals act of 1999 and the Public Health Act, which augment regulation of waste in the country by focusing on Agrochemical waste and health care waste respectively. The WMA indirectly prohibits burning of waste by applying the "duty of care" responsibility which renders persons found performing that act liable to punitive actions. However, there are no regulations for the WMA of 1998.</p>	
<ul style="list-style-type: none"> Are there any Waste Management implementation plans in your country? If yes, what are they? 	No	
<ul style="list-style-type: none"> List the government sectors that are responsible for waste management (liquid, solid, municipal, industrial) 	Ministry of Environment, Wildlife & Tourism, Department of Waste Management & Pollution Control, Ministry of Local Government, Environmental Health; Ministry of Health; Ministry of Labour and Home Affairs; Water Utilities Corporation (a parastatal company under Ministry of Minerals Energy and Water Resources)	
<ul style="list-style-type: none"> Does your country have air pollution control guidelines and regulations in general and uPOPs in particular? If so, please provide more details. 	<ul style="list-style-type: none"> Air pollution in the country is guided by Atmospheric Pollution Prevention Act (APPA). Vehicle Emissions Standard, Ambient Air Quality Standard and Vehicle Emissions regulations are in an advanced stage to complement APPA in air pollution regulatory framework. As for uPOPs, there are no guidelines or regulations in place. The country is working towards attaining those in the near future. 	
Inventory of dumpsites, landfills and biomass waste recycling		
Select and name two municipalities in your country and provide the following information:	Kweneng District Council (KDC) Gamodubu Landfill	Central District Council (SEDC)
a. Number of dumpsites in each municipality	Lephephe Dump site, Takatokwane Dump site, Motokwe Dump site, Moshaweng Dump site, Lethakeng Dump site, Lentsweletau Dump site	Palapye Dump site, Tonota Dump site, Tutume Dump site, Bobonong Dump site, Lethakane Dump site, Lepokole Dump site, Mahalapye Dump site, Mathathane Dump site, Molawatau Dump site, Sefophe Dump site, Tsetsejwe Dump site, Moiyabana Dump site, Shoshong Dump site

b. Number and names of landfills in each municipality, together with their locations in relation to the main city (s), their capacities, types of technologies used in each, etc	One (1) landfill, Gamodubu which is located in Gamodubu, about 30 km west of Gaborone. This is an engineered medium scale landfill	One (1) engineered landfill for non-hazardous waste located at Serowe, which is located about 300 km from Gaborone and about 200 km from City of Francistown. This is an engineered medium scaled landfill
c. Are there any other waste storage locations other than dumpsites and landfill which exist in your country? What are the methods used to deal with solid wastes?	No	No
d. Are there any biomass waste recycling practices in your country? If so, please indicate the nature of such practices, and whether these practices are tied to public or private sectors	No just at infant stage with a couple of study work on going	No
Dioxins/Furans releases from open burning practices of waste and agricultural residues		
Provide (from your country's original NIP or the updated NIP (if conducted)) the total amount of Dioxin/Furan releases from open burning practices and agricultural residues (this could include: Burning at landfills sites, pit burning, fires on plain soil and barrel burning, etc; Residential combustion sources; Firing installations for wood and other biomass fuels; burning of plastic in recycle storage locations; Accidental fires, etc)	Dioxin and Furan Emission/Releases to Air	
	Source Category	Releases to Air (g TEQ/a)
	Waste Incineration (Category 1)	197.60
	Power Generation and Heating (Category 3)	1.62
	Production of Mineral Products (Category 4)	1.00
Uncontrolled Combustion Processes (Category 6)		
5.45		
Institutions specialized in training on waste management and environmentally sound disposal operations		
Are there institutions (governments, associations, university etc.) in your country which are specialized/ engaged in research and training on waste management and environmentally sound disposal operations? If so, please provide the following:	None. The Ministry of Environment, Wildlife & Tourism, houses a National environmental laboratory at the Department of Waste Management & Pollution Control. The laboratory has capacity to perform sampling of various waste including contaminated soil, air, wastewater, etc.	
• Specify if the waste management and	No institution has environmentally disposal operations as part of their curriculum.	

environmentally disposal operations are part of their curriculum	
Public and private laboratories and other monitoring networks for uPOPs sampling and analysis	
Are there public sectors and/or private company (s) that monitor uPOPs ? If so, please name them and give a brief description of each	None
Are there public and/or private laboratories which perform uPOPs sampling and analysis? If so, please provide the following: i. Number and name of laboratories, their capacities in terms of nature of sampling and analysis they perform, analytical equipment, qualifications of personnel, whether they are accredited or not, etc; ii. Their experience in performing such tasks	None
Identification of key and relevant stakeholders	
Name all key and relevant stakeholders who will be engaged in the open burning project. That includes, but not limited to, ministries and other government agencies; NGOs (name a few); Associations (name a few); Private sector (name a few), etc.	Ministry of Environment, Wildlife & Tourism, Department of Waste Management & Pollution Control; Ministry of Local Government, Environmental Health; Ministry of Health; Ministry of Trade and Industry; Ministry of Minerals Energy and Water resources; Botswana Chamber of Mines and Botswana Confederation of Commerce Industry and Manpower (BOCCIM)
Commitment and Co-financing letters	
Will your government be willing to provide a Commitment Letter on co-financing for the project as well as Co-Financing Letters from selected companies in the private sector, NGOs, etc? If so, what is the timeline for submission of the above letters?	Still under discussion
Country	Lesotho
Submitted by	Thabo Tsasanyane
Laws and regulations	
<ul style="list-style-type: none"> Provide information about your country's existing laws (Acts, Legislation, Criteria, Regulations and/or Guidance) in managing 	Constitution of Lesotho 1993, National Environment Policy 1998, Environment Act of 2008, Environmental Impact Guidelines 2010, Public Health Order of 1970, Land Act 2010, Local Government Act 1997, Labour

waste such as solid wastes from municipality, industrial etc, and discouraging of open burning practices of waste and agricultural residues in particular	Code 1992, Labour Code Amendment Act 2006	
<ul style="list-style-type: none">Are there any Waste Management implementation plans in your country? If yes, what are they?	Integrated Solid Waste Management Plan for the city of Maseru/Lesotho of 2008 National Healthcare Waste Management Plan of 2005	
<ul style="list-style-type: none">List the government sectors that are responsible for waste management (liquid, solid, municipal, industrial)	Ministry Local Government, Maseru Municipal Council, Water & Sewerage Company, Ministry of Tourism, Environment & Culture – Department of Environment, Ministry of Health – Environmental Health Division (Healthcare waste), Lesotho National Development Corporation (Industrial waste)	
<ul style="list-style-type: none">Does your country have air pollution control guidelines and regulations in general and uPOPs in particular? If so, please provide more details.	No	
Inventory of dumpsites, landfills and biomass waste recycling		
Select and name two municipalities in your country and provide the following information:	Leribe District Council	Mohale's Hoek District Council
<ul style="list-style-type: none">Number of dumpsites in each municipality	4	5
<ul style="list-style-type: none">Number and names of landfills in each municipality, together with their locations in relation to the main city (s), their capacities, types of technologies used in each, etc	None	None
<ul style="list-style-type: none">Are there any other waste storage locations other than dumpsites and landfill which exist in your country? What are the methods used to deal with solid wastes?	None except the illegal dumps	None except the illegal dumps
<ul style="list-style-type: none">Are there any biomass waste recycling practices in your country? If so, please indicate the nature of such practices, and whether these practices are tied to public or private sectors	None	None
Dioxins/Furans releases from open burning practices of waste and agricultural residues		
The total by-products emissions for Lesotho are estimated at 292.3 g-TEQ/a in air, 149.1 g-TEQ in waters, 2.1 g-TEQ/a on products and 1264.6 g-TEQ as residues, while emissions on land are negligible. Release from products is far negligible, and represents about 0.12% of the total inventories sources. On the other		

(this could include: Burning at landfills sites, pit burning, fires on plain soil and barrel burning, etc; Residential combustion sources; Firing installations for wood and other biomass fuels; burning of plastic in recycle storage locations; Accidental fires, etc)	hand, the bigger portion is contributed by residues that are left after burning waste at illegal and uncontrolled dumping sites. (MAY 2005)
<p>Institutions specialized in training on waste management and environmentally sound disposal operations</p> <ul style="list-style-type: none"> • Are there institutions (governments, associations, university etc.) in your country which are specialized/ engaged in research and training on waste management and environmentally sound disposal operations? If so, please provide the following: <ul style="list-style-type: none"> • Number and name of institutions, their capacities (e.g. research laboratories, etc) and nature of research/training on waste management they offer • Specify if the waste management and environmentally disposal operations are part of their curriculum 	
Public and private laboratories and other monitoring networks for uPOPs sampling and analysis	
Are there public sectors and/or private company (s) that monitor uPOPs ? If so, please name them and give a brief description of each	None
<p>Are there public and/or private laboratories which perform uPOPs sampling and analysis? If so, please provide the following:</p> <ul style="list-style-type: none"> ▪ Number and name of laboratories, their capacities in terms of nature of sampling and analysis they perform, analytical equipment, qualifications of personnel, whether they are accredited or not, etc; ▪ Their experience in performing such tasks 	None
Identification of key and relevant stakeholders	
Name all key and relevant stakeholders who will be engaged in the open burning project. That includes, but not limited to, ministries and other	Ministry of Local Government-District Councils, Maseru Municipal Council, Water & Sewerage Company, Ministry of Tourism, Environment & Culture – Department of Environment, Ministry of Health – Environmental Health Division (Healthcare waste), Lesotho National Development Corporation (Industrial

government agencies; NGOs (name a few); Associations (name a few); Private sector (name a few), etc.	waste), Lefielo Cleaning Services, Tlhoeko Environmental Consulting Services, Environmental Culture Lesotho, Lesotho Council of Non-Governmental Organisations, Lesotho Consumers Organisation	
Commitment and Co-financing letters		
Will your government be willing to provide a Commitment Letter on co-financing for the project as well as Co-Financing Letters from selected companies in the private sector, NGOs, etc? If so, what is the timeline for submission of the above letters?	Yes, within 2 weeks time	
Country	Madagascar	
Submitted by	National Director of the Project	
Laws and regulations	<ul style="list-style-type: none"> • Law N° 95-035 and Decree N° 96-173 permettant aux Communes de créer des services publics chargés de l'assainissement liquide et solide et de les financer par des redevances spécifiques • Charte de l'Environnement loi N° 90-033 et ses Décrets d'application, dont le décret MECIE 99-954 pour la mise en compatibilité avec des investissements • Code municipalité • Loi portant Politique de la gestion de la pollution industrielle • Politique Nationale de gestion des déchets hospitaliers • Décret 464 sur la qualité des eaux de surface et des rejets • Stratégie Nationale de gestion des Pollutions • Stratégie Nationale pour la promotion du Mécanisme de Développement Propre • Décret portant interdiction de l'importation des POPs et Arrêté interministériel portant liste de ces produits • Arrêté portant limite acceptable des emission de gaz d'échappement • <i>Décret N° 2004-167 modifiant certaines dispositions du Décret N° 99- 954 du 15/12/99 relatif à la mise en compatibilité des investissements avec l'environnement</i> • Décret 2003/464 du 15/04/03 portant Classification et appréciation globale de la qualité des eaux de surface • Décret N° 95/032 du 11/01/95 et du Décret N°96/321 du 02/05/96 portant respectivement • ratification de la convention de Vienne et du Protocole de Montréal sur la protection de la couche d'ozone 	

	<ul style="list-style-type: none"> Loi N°98- 029 du 20/01/99 portant Code de l'eau
<ul style="list-style-type: none"> Are there any Waste Management implementation plans in your country? If yes, what are they? 	No
<ul style="list-style-type: none"> List the government sectors that are responsible for waste management (liquid, solid, municipal, industrial) 	Ministère d'Etat chargé des infrastructures, de l'Équipement et de l'Aménagement du Territoire; Ministère de la Santé; Ministère de l'Industrie; Ministère de l'Agriculture/Direction de la Protection des Végétaux; Ministère de l'Enseignement Supérieur; Ministère de l'Energie; Ministère de l'Environnement, Ecologie et des forêts
<ul style="list-style-type: none"> Does your country have air pollution control guidelines and regulations in general and uPOPs in particular? If so, please provide more details. 	No
Inventory of dumpsites, landfills and biomass waste recycling	
Select and name two municipalities in your country and provide the following information:	<p>Municipality of Analamanga</p> <p>Andralanitra, 9Km from the city center, un terrain vaste plus de 18 Ha, hauteur entre 10m et 15m par rapport au terrain naturel</p> <p>Décharge contrôlé à ciel ouvert, Clôturé</p> <p>Déchets stockés par régalaage au fur et à mesure de leur arrivée sur site</p>
<ul style="list-style-type: none"> Number of dumpsites in each municipality 	
<ul style="list-style-type: none"> Number and names of landfills in each municipality, together with their locations in relation to the main city (s), their capacities, types of technologies used in each, etc 	
<ul style="list-style-type: none"> Are there any other waste storage locations other than dumpsites and landfill which exist in your country? What are the methods used to deal with solid wastes? 	
<ul style="list-style-type: none"> Are there any biomass waste recycling practices in your country? If so, please indicate the nature of such practices, and whether these practices are tied to public or 	

private sectors	
Dioxins/Furans releases from open burning practices of waste and agricultural residues	
Provide (from your country's original NIP or the updated NIP (if conducted)) the total amount of Dioxin/Furan releases from open burning practices and agricultural residues (this could include: Burning at landfills sites, pit burning, fires on plain soil and barrel burning, etc; Residential combustion sources; Firing installations for wood and other biomass fuels; burning of plastic in recycle storage locations; Accidental fires, etc)	
Institutions specialized in training on waste management and environmentally sound disposal operations	
Are there institutions (governments, associations, university etc.) in your country which are specialized/ engaged in research and training on waste management and environmentally sound disposal operations? If so, please provide the following: <ul style="list-style-type: none"> Number and name of institutions, their capacities (e.g. research laboratories, etc) and nature of research/training on waste management they offer 	<p>There are two research laboratory institutions in Madagascar <u>Environmental Researches National Center (CNRE)</u></p> <p>✓ Créé en 1988 dans le cadre de la mise œuvre de la stratégie nationale de conservation de la nature au service du développement</p> <p>✓ EPIC rattaché auprès du MESupRES Les 06 Unités du laboratoire du CNRE SLIDE 19 SLIDES 11, 12 Yes, the waste management and environmentally disposal operations are part of his curriculum</p> <p><u>Centre National de Recherches Industrielles et Technologiques (CNRIT)</u></p> <p>Yes, the waste management and environmentally disposal operations are part of his curriculum</p>
<ul style="list-style-type: none"> Specify if the waste management and environmentally disposal operations are part of their curriculum 	
Public and private laboratories and other monitoring networks for uPOPs sampling and analysis	
Are there public sectors and/or private company (s) that monitor uPOPs ? If so, please name them and give a brief description of each	<p>There are two public laboratories: <u>Université d'Antananarivo</u> Deux laboratories <u>DPV</u> Cf Vola</p>
Are there public and/or private laboratories which perform uPOPs sampling and analysis? If so, please provide the following:	None

<ul style="list-style-type: none"> Number and name of laboratories, their capacities in terms of nature of sampling and analysis they perform, analytical equipment, qualifications of personnel, whether they are accredited or not, etc; Their experience in performing such tasks 	
Identification of key and relevant stakeholders	
Name all key and relevant stakeholders who will be engaged in the open burning project. That includes, but not limited to, ministries and other government agencies; NGOs (name a few); Associations (name a few); Private sector (name a few), etc.	Ministère d’Etat chargé des infrastructures, de l’Equipement et de l’Aménagement du Territoire; Commune Urbaine d’Antananarivo, Commune Urbaine Vakinankaratra; Service Autonome pour la Maintenance de la Ville d’Antananarivo (SAMVA); Ministère de la Santé; Ministère de l’Industrie; Ministère de l’Agriculture/Direction de la Protection des Végétaux; Université d’Antananarivo sous tutelle Ministère de l’Enseignement Supérieur; CNRE, CNRIT; CIDST; ONGs , OSC : (civisme); Ministère de la communication; Ministère de l’eau; Ministère de l’Energie; Ministère de l’Environnement, Ecologie et des forêts; Ministère de l’Education Nationale; Fokontany
Commitment and Co-financing letters	
Will your government be willing to provide a Commitment Letter on co-financing for the project as well as Co-Financing Letters from selected companies in the private sector, NGOs, etc? If so, what is the timeline for submission of the above letters?	Yes, commitment letter on co-financing for the project will be submitted on the first week of October

Country	Mozambique
Submitted by	Joseph Gungunhana
Laws and regulations	
<ul style="list-style-type: none"> Provide information about your country’s existing laws (Acts, Legislation, Criteria, Regulations and/or Guidance) in managing waste such as solid wastes from municipality, industrial etc, and discouraging of open burning practices of waste and agricultural residues in particular 	Existing laws environmental law in Mozambique is 20/97 (Acts 7,8 , Legislation, Criteria, Regulations n 13/2006 and/or Guidance) in managing waste such as solid wastes from municipality, industrial is environmental matter etc., and discouraging of open burning practices of waste and agricultural residues in particular
<ul style="list-style-type: none"> Are there any Waste Management implementation plans in your country? If 	No

yes, what are they?	Ministry for Coordination Environmental Affair; Ministry for Habitation; Ministry for Health; Ministry of Mining	
<ul style="list-style-type: none">List the government sectors that are responsible for waste management (liquid, solid, municipal, industrial)		
<ul style="list-style-type: none">Does your country have air pollution control guidelines and regulations in general and uPOPs in particular? If so, please provide more details.	We have no air pollution control	
Inventory of dumpsites, landfills and biomass waste recycling		
Select and name two municipalities in your country and provide the following information:	Matola, Maputo, Nacala	
<ul style="list-style-type: none">Number of dumpsites in each municipality		
<ul style="list-style-type: none">Number and names of landfills in each municipality, together with their locations in relation to the main city (s), their capacities, types of technologies used in each, etc		
<ul style="list-style-type: none">Are there any other waste storage locations other than dumpsites and landfill which exist in your country? What are the methods used to deal with solid wastes?		
<ul style="list-style-type: none">Are there any biomass waste recycling practices in your country? If so, please indicate the nature of such practices, and whether these practices are tied to public or private sectors		
Dioxins/Furans releases from open burning practices of waste and agricultural residues		
Provide (from your country's original NIP or the updated NIP (if conducted)) the total amount of Dioxin/Furan releases from open burning practices and agricultural residues (this could include: Burning at landfills sites, pit burning, fires on plain soil and barrel burning, etc; Residential combustion sources; Firing installations for wood and other biomass fuels; burning of plastic in recycle storage locations; Accidental fires, etc)	The total amount of dioxin/furans releases from open burning fires was not estimated on first NIP in Mozambique because of lack of coordination roles, etc.	

Institutions specialized in training on waste management and environmentally sound disposal operations	
<p>Are there institutions (governments, associations, university etc.) in your country which are specialized/ engaged in research and training on waste management and environmentally sound disposal operations? If so, please provide the following:</p> <ul style="list-style-type: none"> Number and name of institutions, their capacities (e.g. research laboratories, etc) and nature of research/training on waste management they offer 	<p>Yes</p> <p>two research laboratories on waste: Eduard Mondlane and UEM</p>
<ul style="list-style-type: none"> Specify if the waste management and environmentally disposal operations are part of their curriculum 	
Public and private laboratories and other monitoring networks for uPOPs sampling and analysis	
<p>Are there public sectors and/or private company (s) that monitor uPOPs? If so, please name them and give a brief description of each</p>	<p>yes they are MICOA and AQUA and Inveron- service INTERWASTE</p>
<p>Are there public and/or private laboratories which perform uPOPs sampling and analysis? If so, please provide the following:</p> <ul style="list-style-type: none"> Number and name of laboratories, their capacities in terms of nature of sampling and analysis they perform, analytical equipment, qualifications of personnel, whether they are accredited or not, etc; Their experience in performing such tasks 	<p>Some of them have laboratory and capacity to respond</p>
Identification of key and relevant stakeholders	
<p>Name all key and relevant stakeholders who will be engaged in the open burning project. That includes, but not limited to, ministries and other government agencies; NGOs (name a few); Associations (name a few); Private sector (name a few), etc.</p>	<p>Municipality together with MICOA, NGOs</p>
Commitment and Co-financing letters	
<p>Will your government be willing to provide a Commitment Letter</p>	<p>Yes</p>

on co-financing for the project as well as Co-Financing Letters from selected companies in the private sector, NGOs, etc.? If so, what is the timeline for submission of the above letters?	
Country	Swaziland
Submitted by	Vusumuzi F. Simeleane
Laws and regulations	
<ul style="list-style-type: none"> Provide information about your country's existing laws (Acts, Legislation, Criteria, Regulations and/or Guidance) in managing waste such as solid wastes from municipality, industrial etc, and discouraging of open burning practices of waste and agricultural residues in particular 	Existing laws (Acts – The Constitution of the Kingdom of Swaziland Act No. 1/2005; Environment Management Act, 2002; Grass Fire Act, 1955; Water Act, 2003; Swaziland Water Services Corporation, 1992; Urban Government Act 1969; Public Health Act, 1969, Legislation, Criteria, Regulations – Waste Regulations 2000; Environmental Audit, Assessment and Review Regulations, 2000; Purification of Industry. The Constitution of the Kingdom of Swaziland Act No.1/2005; Environment Mtry Water and Effluent Regulations, 1967; Water Pollution Control Regulations, 2010; Air Pollution Control Regulations, 2010; Ozone Depleting Substances Regulations, 2003
<ul style="list-style-type: none"> Are there any Waste Management implementation plans in your country? If yes, what are they? 	No
<ul style="list-style-type: none"> List the government sectors that are responsible for waste management (liquid, solid, municipal, industrial) 	Liquid: Swaziland Environment Authority; Department of Water Affairs; Swaziland Water Services Corporation Solid: Ministry of Housing and Urban Development; Ministry of Tinkhundla Administration and Development Municipal: all City Councils, Town Councils and Town Boards Industrial: Swaziland Investment Promotion Authority and Swaziland Water Services Corporation)
<ul style="list-style-type: none"> Does your country have air pollution control guidelines and regulations in general and uPOPs in particular? If so, please provide more details. 	Air Pollution Control Regulations, 2010; Ozone Depleting Substances Regulations, 2003)
Inventory of dumpsites, landfills and biomass waste recycling	
Select and name two municipalities in your country and provide the following information:	
<ul style="list-style-type: none"> Number of dumpsites in each municipality 	one in each of these Towns – Mankayane, Nhlangano, Hlatikulu, Lavumisa, Siteki, Ngwenya, Vuvulane

<ul style="list-style-type: none"> Number and names of landfills in each municipality, together with their locations in relation to the main city (s), their capacities, types of technologies used in each, etc 	<p>one in Mbabane, Manzini, Matsapha and Piggs Peak with capacities of 42 Ha, 7 Ha, 5 Ha and 2 Ha respectively using landfill technology</p>	
<ul style="list-style-type: none"> Are there any other waste storage locations other than dumpsites and landfill which exist in your country? What are the methods used to deal with solid wastes? 	<p>Company Towns – Big Bend (landfilling), Nsoko, Simunye (landfilling), Mhlume, Usuthu (landfilling), and Shiselweni Forests (throw & cover)</p> <p>Method used:</p> <ul style="list-style-type: none"> There are also six waste control areas at Buhleni, Lomahasha, Mpaka, Siphofaneni, Kwaluseni and Lobamba. 	
<ul style="list-style-type: none"> Are there any biomass waste recycling practices in your country? If so, please indicate the nature of such practices, and whether these practices are tied to public or private sectors 	<p>Yes, There are recycling activities are currently taking place within the municipalities driven mainly by economic forces and implemented primarily by the private sector. Additionally, there is generation of electricity using sugar cane trash at Big Bend and Simunye.</p>	
<p>Dioxins/Furans releases from open burning</p> <p>Provide (from your country's original NIP or the updated NIP (if conducted)) the total amount of Dioxin/Furan releases from open burning practices and agricultural residues (this could include: Burning at landfills sites, pit burning, fires on plain soil and barrel burning, etc; Residential combustion sources; Firing installations for wood and other biomass fuels; burning of plastic in recycle storage locations; Accidental fires, etc)</p>		
<p>Institutions specialized in training on waste management and environmentally sound disposal operations</p>		

Open burning processes include domestic waste burning, accidental fires in waste dumps, sugar cane trash burning, accidental plantation forest fires, natural forests and woodlands fires and grass fires. Some Towns /Villages dispose of their waste in open dumps and regularly burn the waste. The total municipal waste burnt was found to be 9984 t/a.

Table: 1 Activity Data for Production of Open Burning Processes category

	Open Burning Processes Subcategories		Production (t/a)
a	Biomass burning		
	3	Sugarcane burning	350,000
	4	Forest fires	1,295,840
	5	Grassland and savannah fires	329,393
b	Waste burning and accidental fires		
	1	"Fires at waste dumps (compacted, wet, high Corg content)"	9,984
	3	Open burning of domestic waste	183,992

<p>Are there institutions (governments, associations, university etc.) in your country which are specialized/ engaged in research and training on waste management and environmentally sound disposal operations? If so, please provide the following:</p> <ul style="list-style-type: none"> • Number and name of institutions, their capacities (e.g. research laboratories, etc) and nature of research/training on waste management they offer • Specify if the waste management and environmentally disposal operations are part of their curriculum 	<p>No</p> <p>The University of Swaziland, - Mbabane Campus has a module on waste Management and environmental disposal initiatives in its Degree Programme on Environmental Management. Their capacity is weak and do not have research laboratory.</p>
<p>Public and private laboratories and other monitoring networks for uPOPs sampling and analysis</p>	
<p>Are there public sectors and/or private company (s) that monitor uPOPs? If so, please name them and give a brief description of each</p>	<p>None</p>
<p>Are there public and/or private laboratories which perform uPOPs sampling and analysis? If so, please provide the following:</p> <ul style="list-style-type: none"> • Number and name of laboratories, their capacities in terms of nature of sampling and analysis they perform, analytical equipment, qualifications of personnel, whether they are accredited or not, etc; • Their experience in performing such tasks 	<p>None</p>
<p>Identification of key and relevant stakeholders</p>	
<p>Name all key and relevant stakeholders who will be engaged in the open burning</p> <p>Ministries and other government agencies;;Ministry of Health, Ministry of Tourism and Environmental Affairs, Ministry of Agriculture, Ministry of Housing and Urban Development, Ministry of Tinkhudla Administration and</p>	

project. That includes, but not limited to, ministries and other government agencies; NGOs (name a few); Associations (name a few); Private sector (name a few), etc.	Development, & Ministry of Labour and Social Security; NGOs: Coordination Assembly for Non-Governmental Organizations; Associations: Consumer Association, SHERQ Forum & Sugar Associations; Private sector: Royal Swaziland Sugar Association, Illovo, Swaziland Electricity Company
Commitment and Co-financing letters	
Will your government be willing to provide a Commitment Letter on co-financing for the project as well as Co-Financing Letters from selected companies in the private sector, NGOs, etc? If so, what is the timeline for submission of the above letters?	The Swaziland Government is willing to provide a Commitment Letter on co-financing for the project that will include the other sectors.

Country	United Republic of Tanzania
Submitted by	Vice President's Office – Division of Environment
Laws and regulations	Environmental Management Act 2004 (EMA, 2004); The Plant Protection Act, 1997; The Industrial and Consumer Chemicals (Management and Control) Act No.3 of 2003; The Local Government (Urban Authorities) Act, 1982; The Public Health Act 2009; The Environmental Management (Air Quality Standards) Regulations, 2007; The Environmental Management (Soil Quality Standards) Regulations, 2007; The Environmental Management (Water Quality Standards) Regulations, 2007; The Environmental Management (Control of Hazardous Waste) Regulations, 2007; The Environmental Management (Solid Waste Management) Regulations, 2007; Environmental Management (Prohibition of the Use of Plastic Bags) Regulations 2009; Waste and Human remains management Policy Guidelines 2011; Public health (waste and human remains management) Regulations 2014; Environmental Health and Sanitation Standards 2012; Guidelines for water resources monitoring and pollution control 2012 Note: each municipality /town council has its own by-laws (e.g. by law of Dar-es-Salaam City Council 2004 of the dumpsites)
<ul style="list-style-type: none"> Provide information about your country's existing laws (Acts, Legislation, Criteria, Regulations and/or Guidance) in managing waste such as solid wastes from municipality, industrial etc, and discouraging of open burning practices of waste and agricultural residues in particular 	<ul style="list-style-type: none"> Registration of waste disposal facilities/ handlers in line with CAP 182 of The Industrial and Consumer Chemicals (Management and Control) Act No.3 of 2003 Planned national Inventory of wastes as per The Industrial and Consumer Chemicals (Management and Control) Act No.3 of 2003 Energy and Mineral sector environmental action plan 2011 – 2016 Health sector environmental action plan 2011 – 2016 Water sector environmental action plan 2011 – 2016
List the government sectors that are	<ul style="list-style-type: none"> Vice Presidents' Office – At Policy level: Overseeing the implementations of Environmental Policy,

<p>responsible for waste management (liquid, solid, municipal, industrial)</p>	<p>Guidelines, Strategies, Regulations, Acts, Plans and Programs gearing towards Environmental Management. Formulation of Regulations and Guidelines and oversee its implementations.</p> <ul style="list-style-type: none"> National Environmental Management Council (NEMC) – Enforce and ensure Compliance of national environmental standards according to EMA 2004; formulation of technical guidance and materials, Technical guidance on the disposal of hazardous waste, waste management criteria. Prime Minister's Office- Regional Administration and Local Government Authorities (PMO-RALG) in particular city councils, municipal councils and district/township councils – Formulation and implementation of by-laws, provision of disposal sites and technical guidance Ministry of Health and Social Welfare Government Chemist Laboratory Agency (GCLA) – Technical guidance on the disposal of chemicals and hazardous wastes Ministry of Agriculture, Food Security and Cooperatives through Tropical Pesticides Research Institute (TPRI) Ministry of Energy and Minerals through Tanzania Electric Supply Company Limited (TANESCO) and Tanzania Petroleum Development Corporation (TPDC) Ministry of Fisheries & Livestock Development Ministry of Home affairs (firefighting brigades etc.) Ministry of Water through Urban and Rural Water Supply and Sewerage Companies
<ul style="list-style-type: none"> Does your country have air pollution control guidelines and regulations in general and uPOPs in particular? If so, please provide more details. 	<p>The Environmental Management (Air Quality Standards) Regulations, 2007. The country has no regulations or guidelines on uPOPs.</p>
<p>Inventory of dumpsites, landfills and biomass waste recycling</p>	
<p>Select and name two municipalities in your country and provide the following information:</p>	
<ul style="list-style-type: none"> Number of dumpsites in each municipality 	<ul style="list-style-type: none"> Ilala Municipality Kinondoni Municipality <p>All Municipalities are using Pugu Kinyamwezi dumpsite but they are planning to establish another dumpsite.</p>
<ul style="list-style-type: none"> Number and names of landfills in each municipality, together with their locations in relation to the main city (s), their capacities, types of technologies used in each, etc 	<p>1 dumpsite, name of the dumpsite: Pugu Kinyamwezi. Location is 29km from the city center, capacity, carries average 800-1000 tons from two municipalities, it is just an open dumpsite.</p>
<ul style="list-style-type: none"> Are there any other waste storage locations 	<p>Collection points (used for waste collection before</p>

other than dumpsites and landfill which exist in your country? What are the methods used to deal with solid wastes?	transfer to the dumpsite) and Skip buckets	
<ul style="list-style-type: none">Are there any biomass waste recycling practices in your country? If so, please indicate the nature of such practices, and whether these practices are tied to public or private sectors	This is done informally at household level and/or community level via informal private sector	
Dioxins/Furans releases from open burning practices of waste and agricultural residues		
Provide (from your country's original NIP or the updated NIP (if conducted)) the total amount of Dioxin/Furan releases from open burning practices and agricultural residues (this could include: Burning at landfills sites, pit burning, fires on plain soil and barrel burning, etc; Residential combustion sources; Firing installations for wood and other biomass fuels; burning of plastic in recycle storage locations; Accidental fires, etc)	Apparently the country is in the process of reviewing and updating the NIP.	
Institutions specialized in training on waste management and environmentally sound disposal operations		
Are there institutions (governments, associations, university etc.) in your country which are specialized/ engaged in research and training on waste management and environmentally sound disposal operations? If so, please provide the following: <ul style="list-style-type: none">Number and name of institutions, their capacities (e.g. research laboratories, etc) and nature of research/training on waste management they offer	Yes	College of Engineering and Technology (CoET) of the University of Dar-es-Salaam; ARDHI University, Dar-es-Salaam; Government Chemist Laboratory Agency provides: training on Management and Disposal of Chemical wastes to stakeholders and to Inspectors who inspect facilities for compliance; Sokoine University of Agriculture, Morogoro and Nelson Mandela African Institute of Science and Technology, Arusha
<ul style="list-style-type: none">Specify if the waste management and environmentally disposal operations are part of their curriculum	Yes	
Public and private laboratories and other monitoring networks for uPOPs sampling and analysis		
Are there public sectors and/or private company (s) that monitor uPOPs? If so, please name them and give a brief description of each		

<p>Are there public and/or private laboratories which perform uPOPs sampling and analysis? If so, please provide the following:</p> <ul style="list-style-type: none"> • Number and name of laboratories, their capacities in terms of nature of sampling and analysis they perform, analytical equipment, qualifications of personnel, whether they are accredited or not, etc; • Their experience in performing such tasks 	<ul style="list-style-type: none"> - The Government Chemist Laboratory Agency (GCLA) can conduct such analysis if facilitated with specific training for uPOPs, as it already has the basic facilities and qualified staff for analysis. The GCLA laboratories are equipped with modern facilities such as GC-MS, HPLC - The GCLA has very experienced staff in analysis of most environmental samples. However, experience in analysis specifically of uPOPs is limited due to that monitoring of the same has not been conducted in the recent past. Capacity building, e.g. by short courses would be useful.
<p>Identification of key and relevant stakeholders</p> <p>Name all key and relevant stakeholders who will be engaged in the open burning project. That includes, but not limited to, ministries and other government agencies; NGOs (name a few); Associations (name a few); Private sector (name a few), etc.</p>	<p>MINISTRIES AND GOVERNMENT AGENCIES:</p> <ol style="list-style-type: none"> Vice President's Office-Division of Environment (VPO-DoE) National Environment Management Council (NEMC) Cleaner Production Centre of Tanzania (CPCCT) Ministry of Industry and Trade (MIT) Ministry of Agriculture, Food Security and Cooperatives (MAFC) Ministry of Health and Social Welfare Government Chemist Laboratory Agency (GCLA) Prime Minister's Office- Regional Administration and Local Government Authorities (PMO-RALG) Occupational Safety and Health Authority (OSHA) Tropical Pesticides Research Institute (TPRI) Dar es Salaam City Council <p>NGOs AND PRIVATE SECTOR</p> <ol style="list-style-type: none"> AGENDA for Environment and Responsible Development (AGENDA) Environment, Human Rights Care and Gender Organization (ENVIROCARE) Tanzania Association of Public Occupational Health and Environmental Experts (TAPOHE)
<p>Commitment and Co-financing letters</p> <p>Will your government be willing to provide a Commitment Letter on co-financing for the project as well as Co-Financing Letters from selected companies in the private sector, NGOs, etc? If so, what is the timeline for submission of the above letters?</p>	<p>VPO is willing to provide the endorsement letter for co-financing in kind. AGENDA is willing to provide co-financing letter when required.</p>

Country	Zambia
Submitted by	Government of the Republic of Zambia through Environmental Management Agency
Laws and regulations	<p>Policies: National Policy on Environment, 2005 and National Environmental Health Policy</p> <p>Acts: Environmental Management Act No. 12 of 2011; Local Government Act, No 9 of 2004; Town and Country Planning Act Cap 283 and Public Health Act Cap 295</p> <p>Regulations: Environmental Management Licensing (Regulations), 2013, Part III; Local Government (Solid Waste Management) Regulations, Statutory Instrument No. 100 of 2011; Public Health Regulations and Town and Country Planning Statutory Instrument</p> <p>Guidelines: Technical Guidelines on the Sound Management of Healthcare Waste, 2007 and Technical Guidelines for Land Fill Site Selection and Management of 2009</p> <p>Strategies: National Solid Waste Management Strategy for Zambia of 2004 and The National Health Strategic Plan, 2011 to 2015</p>
<ul style="list-style-type: none"> Provide information about your country's existing laws (Acts, Legislation, Criteria, Regulations and/or Guidance) in managing waste such as solid wastes from municipality, industrial etc, and discouraging of open burning practices of waste and agricultural residues in particular 	No
<ul style="list-style-type: none"> Are there any Waste Management implementation plans in your country? If yes, what are they? 	
<ul style="list-style-type: none"> List the government sectors that are responsible for waste management (liquid, solid, municipal, industrial) 	<ul style="list-style-type: none"> i. Ministry of Lands, Natural Resources and Environmental Protection (Zambia Environmental Management Agency-Regulator in waste management) ii. Ministry of Health & Ministry of Community Development, Mother and Child Health (District Health Facilities-Health Care Waste) iii. Ministry of Mines, Energy and Water Development (Mine and liquid waste) iv. Ministry of Local Government and Housing (Municipal waste)
<ul style="list-style-type: none"> Does your country have air pollution control guidelines and regulations in general and uPOPs in particular? If so, please provide more details. 	<ul style="list-style-type: none"> i. Pollution Control guidelines and regulations in general: <ul style="list-style-type: none"> a. Regulations: Environmental Management Licensing (Regulations), 2013 – Part II b. Guidelines: None ii. uPOPs: There are no guidelines or regulations. But there are National Implementation Plans as required under the Stockholm Convention.
Inventory of dumpsites, landfills and biomass waste recycling	
Select and name two municipalities in your country and provide the following information:	Lusaka City Council
<ul style="list-style-type: none"> Number of dumpsites in each municipality 	<p>Livingstone City Council</p> <p>2 disposal sites (non-engineered)</p>
<ul style="list-style-type: none"> Number and names of landfills in each municipality, together with their locations in relation to the main city (s), their capacities, types of technologies used in each, etc 	<p>1 Disposal site (Engineered)</p> <p>1 Chunga landfill, capacity of 3 million tons/year, technology is engineered</p> <ul style="list-style-type: none"> - Livingstone City Council dumpsites, 2 km West of Lusaka Road, immediately after the KDG workshop, non-engineered - Enviroserve Disposal site (Zam Rakes), located in Highlands area, non-engineered

<ul style="list-style-type: none"> Are there any other waste storage locations other than dumpsites and landfill which exist in your country? What are the methods used to deal with solid wastes? 	Yes, there are waste storage locations (temporal-skips); methods used are primary collection into the skips and secondary collection from the skips to the landfill	
<ul style="list-style-type: none"> Are there any biomass waste recycling practices in your country? If so, please indicate the nature of such practices, and whether these practices are tied to public or private sectors 	Yes, there are biomass waste recycling practices. Recycling of biomass into manure (in Solwezi and Enviroserve in Livingstone). Waste recycling is dominated by the private sector	
Dioxins/Furans releases from open burning practices of waste and agricultural residues		
Provide (from your country's original NIP or the updated NIP (if conducted)) the total amount of Dioxin/Furan releases from open burning practices and agricultural residues (this could include: Burning at landfills sites, pit burning, fires on plain soil and barrel burning, etc; Residential combustion sources; Firing installations for wood and other biomass fuels; burning of plastic in recycle storage locations; Accidental fires, etc)	Total amount of dioxin/furan releases: 578 g-TEQ/a	
Institutions specialized in training on waste management and environmentally sound disposal operations		
<p>Are there institutions (governments, associations, university etc.) in your country which are specialized/ engaged in research and training on waste management and environmentally sound disposal operations? If so, please provide the following:</p> <ul style="list-style-type: none"> Number and name of institutions, their capacities (e.g. research laboratories, etc) and nature of research/training on waste management they offer 	<p>University of Zambia</p> <ul style="list-style-type: none"> Great East Road Campus – Department of Geography and Environmental Studies Ridgeway Campus – Public Health Department <p>Mulungushi University: Department of Environment</p>	
<ul style="list-style-type: none"> Specify if the waste management and environmentally disposal operations are part of their curriculum 		
Public and private laboratories and other monitoring networks for uPOPs sampling and analysis		

<p>Are there public sectors and/or private company (s) that monitor uPOPs? If so, please name them and give a brief description of each</p>	<p>Yes there is, the Zambia Environmental Management Agency (ZEMA)</p> <p>ZEMA through the Environmental Management Act of 2011 is obliged to domesticate and implement the ratified conventions. As per requirement by the Stockholm Convention for each member country to develop national implementation plans, Zambia is currently updating the existing National Implementation Plan. The plans provide guidelines for monitoring and ZEMA has been using these guidelines to monitor POPs- including uPOPs.</p>
<p>Are there public and/or private laboratories which perform uPOPs sampling and analysis? If so, please provide the following:</p> <ul style="list-style-type: none"> • Number and name of laboratories, their capacities in terms of nature of sampling and analysis they perform, analytical equipment, qualifications of personnel, whether they are accredited or not, etc; • Their experience in performing such tasks 	<p>No-however, currently, there is a project (Institutional Cooperation between the Ministry of Lands, Natural Resources and Environmental Protection of Zambia and the Finnish Environmental Institute-SYKE) to assist in building capacity at three identified laboratories (Zambia Bureau of Standards, University of Zambia and National Institute for Scientific and Industrial Research)</p>
<p>Identification of key and relevant stakeholders</p>	
<p>Name all key and relevant stakeholders who will be engaged in the open burning project. That includes, but not limited to, ministries and other government agencies; NGOs (name a few); Associations (name a few); Private sector (name a few), etc.</p>	<p>i. Zambia Environmental Management Agency ii. Ministry of Health iii. Ministry of Local Government and Housing iv. University of Zambia v. Ministry of Commerce Trade and Industry vi. Ministry of Lands, Natural resources and Environmental Protection (Department of Environment and Forest Department) vii. Ministry of Finance-Climate Change Secretariat viii. Zambia Competition and Consumer Protection Commission ix. Road Safety and Transport Agency x. Ministry of Agriculture and Livestock xi. Ministry of Transport and Communication (Department of Civil Aviation) xii. The Nature Conservancy</p>
<p>Commitment and Co-financing letters</p>	
<p>Will your government be willing to provide a Commitment Letter on co-financing for the project as well as Co-Financing Letters from selected companies in the private sector, NGOs, etc? If so, what is the timeline for submission of the above letters?</p>	<p>Yes, within a month from the time it is requested for.</p>



United Nations Industrial Development Organization

“Promotion of BAT and BEP to Reduce uPOPs Releases from Waste Open Burning in the Participating African Countries of SADC Sub-Region”

Grant 2000002594

WBS 130035-1-05-01-3500

Validation Workshop to finalize the Project Document on the open burning of waste project

25-26 November 2014

Gaborone, Botswana

In collaboration with the Government of the Republic of Botswana



BACKGROUND

The participating countries to this project are parties of the regional economic co-operation Agreement, the Southern African Development Community (SADC), that has the goal to achieve improving living standards in peace and security, with a sustainable economic and social development in member countries obtained through co-operation in trade, customs and monetary affairs, technology, industry and energy, transport and communication, agriculture and environment.

The SADC Secretariat developed and updated the Regional Indicative Strategic Development Plan (RISDP) in order to sustain the institutions and provide a clear orientation for policies and programmes of the organisation over medium to long-term. Additionally, the New Partnership for Africa's Development (NEPAD), an African Union strategic framework for pan-African socio-economic development, is both a vision and a policy framework for Africa in the twenty-first century. The environmentally sound management of chemicals including POPs is identified as a key issue under the environmental initiative in Chapter 38 of the NEPAD Plan of Action. Additionally, the participating countries are represented in the Strategic Approach to International Management of Chemicals (SAICM), the policy framework created to promote the sound management of chemicals throughout their life cycle and to control the potential adverse impacts of chemicals on the environment and human health.

Despite the fact that most of countries in the region have made attempts in controlling the releases of chemicals it has been established that there still is a need to accelerate the implementation and offer support from the international communities.

All participating countries have ratified the Stockholm Convention (SC) and completed their national implementation plans (NIPs). The NIP inventories concluded that uncontrolled combustion processes are the most significant sources of unintentionally produced persistent organic pollutants (UP-POPs) releases. Consequently, the release reduction is among the national priorities of the participating countries related to the implementation of the SC.

These countries are also parties to the Basel Convention for the control of transboundary movement and management of hazardous wastes and some are parties to the Bamako Conventions that includes the promotion and provision of training in sound environmental management of hazardous wastes, technology transfer, information dissemination, research and consulting among African States.

The common aim at reducing the harmful effects of open burning practices has led the participating countries committing to promote and sustain immediate actions to fully address this issue. Waste management is a pressing problem for the Governments, because of the general lack of specific infrastructure (sanitary landfills, high temperature waste incinerators, etc) and (support legislations). Some countries are in the process of developing and implementing various municipal waste management strategies and action plans. Governments are seeking advice and assistance from the international community concerning advanced management practices and technologies complying with best available techniques and best environmental practices (BAT/BEP) that could reduce or minimize the negative environmental impacts of open burning. These issues are reflected in the national action plans in the NIPs of participating countries.

The project was formulated by participating countries led by UNIDO in several consultative meetings and during the management meetings of the ongoing **“Capacity Strengthening and Technical Assistance for the Implementation of the Stockholm Convention (SC) National Implementation Plans (NIPs) in African Least Developed Countries”** project. One consultative meeting of COMESA and SADC countries on BAT/BEP was held in Addis Ababa, Ethiopia in January 23, 2012 formulated a regional action plan for COMESA and SADC on BAT/BEP. The approximate timeline to implement this action plan would be five years (2013-2018).

Following the PIF approval by GEF, the PPG stage compiled the project document which was worked on by a delegate of experts in Durban in October 2014. The validation of this document was thus undertaken in this meeting held in Gaborone on the 25 to 26 November 2014.



PROCEEDINGS

Opening ceremony: The government of Botswana hosted the project document validation meeting for two days, where the participating countries were all invited. Of the seven countries, three representatives apologized for various reasons; Lesotho representative had a family bereavement, Madagascar could not secure a visa to Botswana, having travelled halfway to Johannesburg only to discover the need of Visa in South Africa and the Tanzanian delegate pulled out last minute due to reassignment.

With Mr Moabi Donald Mmolwa chairing the proceedings, opening prayer was delivered by Mrs Tebele. The welcome remarks were presented by the Acting Director of the Department of Pollution Control and Waste Management (DPC&WM) of the Ministry of Environment, Wildlife and Tourism and of Botswana, Mrs Oarabile Serumola.

The meeting was then officially opened by the Principal Secretary of the Ministry, Mr Niel Fitt who delivered a key note address. In his speech he started by emphasizing the importance of the workshop, particularly for our region where the majority of our communities are still practicing open burning of waste as an affordable disposal method. Open waste burning is significant with regards to air pollution as it results in release of unintentional Persistent Organic Pollutants (uPOPs) into the local atmosphere.

He concerted that POPs impacts to human health calls for a concerted effort within the region to address the global release of uPOPs chemicals emanating from open waste burning practice.

Acknowledging the support of GEF, he accepted the opportunity for African countries to address obligations to the Stockholm Convention in respect to reduction of uPOPs in the region and within Botswana's borders by 2015. He applauded and thanked UNEP, UNIDO and Africa Institute for the continued efforts to bring together the region.

The Principal Secretary also acknowledged that the increasing number of POPs listed to the convention poses a mammoth task which will require exercising a lot of team work spirit and information sharing. To this end he reiterated Botswana's commitment to the obligation to prohibit the production and use of persistent organic pollutants.

Project document review: Mr Nouri led the discussions by reading through the document and interventions called for along. The following were pointed out:

Part I of the document is data that is all needed and has been adequately filled in.

Part II Justification: This is where the main work was done, reading through the document paragraph by paragraph and comments, corrections and clarifications entertained and addressed immediately. At the end of the process a consensus had been reached regarding the content of the document. There were a total of 229 paragraphs in fewer than 6 sections.

Specific wording was added to document as agreed and the final version shall be forwarded to GEF following internal processes in UNIDO. Which internal processes will start only when all the Co-financing commitment letters from participating countries have been received?

CONCLUSIONS

It was agreed that the use of uPOPs as against UP POPs will be maintained throughout the document.

Madagascar submitted comments and additional information which should be inserted in the country baseline (paragraph 22).

Para 24. Mozambique was requested to provide more information and it was agreed that it will be sent within two (2) weeks.

Para 25. Information for Swaziland, especially the UPOPs emission, TEQ numbers would be updated based on the newly updated NIP values.

The Organogram was discussed at length and finally agreed that the national committee shall be called NCC – National Coordinating Committee.

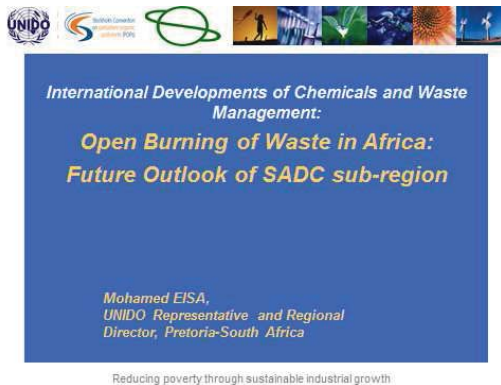
All other paragraphs were accepted with minor typographical corrections.

It was agreed that the letters of Co-financing commitment would be submitted within a month and Africa Institute together with the UNIDO consultant, My Nouri Andalla shall follow up with countries regarding the pending letters. In this regard it was noted that Lesotho is the only country that had submitted before the meeting.

The project document was approved subject to the additions stated above and released for further submission to GEF.

Presentations:

During the 2 afternoons, Dr Mohamed Eisa's delivered 2 informative presentations which had earlier been presented at POPs conferences. The titles are reflected in the cover slides below. The presentations provided vividly the status of African situation regarding waste management and energy requirements; highlighting the infrastructural and unemployment challenges and possible solutions. The discussions centered on the potential for African economic development based on waste management and renewable energies. The presentations can be accessed through the Africa Institute website.



WHY SO FEW BIOGAS PLANTS IN SOUTH AFRICA

UNIDO Workshop

19 November 2014



Key Impact Indicators of the project

Key Impact Indicator	Baseline	Target (at Year 5)	Means of Verification	Frequency of verification	Location
At least one (1) national workshop on updated inventories of UP-POPs in each participating country	NIP updates are being prepared in participating SADC countries	Seven (7) inventories of UP-POPs updated	UP-POPs inventory reports	At the time when inventory reports are available for review	Participating countries
Existing legislations on waste management include issues of open burning	Waste management legislations are not in place	BAT/BEP measures introduced in two (2) selected landfills/dumpsites in each participating country	National action plans	Progress monitored after site selection six monthly	Selected sites
Government incentives for establishing PPP implementation models	Technical BAT/BEP experts in open burning of wastes and agricultural residues are available	Five (5) percent of annual release reduction of UP-POPs	Regional and national priority sector reports	Annually after the second year of implementation	Participating countries
At least two (2) good quality biomass source is identified	Agricultural residues are inventoried and selected for value addition	Two (2) pilot demonstration projects on waste-to- energy (biogas, bricketing,etc)	Policy documents on PPP in alternative waste management for open burning of wastes and agricultural residues	Progress monitored after site selection six monthly	Selected sites
Guidance documents on risk assessment and risk management of open burning exposure sites	Lack of public health and awareness programmes at open burning sites	Decreased health and environmental risk at two (2) selected landfills/dumpsites in each participating country	Technical training materials on PPE and risk management	Annually after the second year of implementation	Selected sites
Established BAT/BEP information sharing system in SADC region	BAT/BEP Forum regional action plan agreed for open burning as priority	A database and website created to support Regional BAT/BEP Forum	Regional BAT/BEP Forum website operational	Six monthly after website is operational	Participating countries

List of participants of Validation Workshop to finalize the project document on ‘Promotion of BAT and BEP to Reduce uPOPs Releases from Waste Open Burning in the Participating African Countries of SADC Sub-regions’
25-26 November, 2014- Gaborone, Botswana

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WORKSHOP PROGRAMME

REGIONAL WORKSHOP ON “PROMOTION OF BAT & BEP TO REDUCE uPOPS RELEASES FROM OPEN BURNING OF WASTE IN THE PARTICIPATING AFRICAN COUNTRIES OF SADC SUB-REGIONS” 25-26 NOVEMBER 2014 GABORONE BOTSWANA

DAY ONE: 25 November 2014

Directors of Ceremony - Mr. Moabi Mmolawa

Venue: President Hotel, Gaborone

Dr. K. Khalema

Time	Activity	Responsible Person
0830-0900	Arrival of Guests and Registration	All
0900 - 0905	Opening Prayer	Volunteer
0905 - 0920	Introduction of Participants	Director of Ceremony
0920 - 0930	Welcome remarks	DWMPC - Director
0930 - 0935	Introduction of Guests	Director of Ceremony
0935 - 0950	Keynote Address	PS-MEWT
0950 - 1000	Project Objectives	UNIDO
1000 - 1030	Section A: PART II: PROJECT JUSTIFICATION - Review, and finalize baseline information	UNIDO/Africa Institute
1030 - 1100	Health Break	UNIDO
1100 - 1300	Section A: PART II: PROJECT JUSTIFICATION- Continues Review and finalize any changes in alignment with the project design of the original PIF	UNIDO/Africa Institute
1300 - 1400	Lunch Break	All
1400 - 1500	Section B: PART II: PROJECT JUSTIFICATION Review and finalize “B.1 Describe how the stakeholders will be engaged in project implementation”	UNIDO/Africa Institute
1500 - 1515	Health Break	All
1515 - 1600	Section B: PART II: PROJECT JUSTIFICATION- Continues Review and finalize “B.2 Describe the socioeconomic benefits to be delivered by the Project at the national and	UNIDO/Africa Institute

	local levels”	
1600-1630	Presentation- Open Burning of Waste in Africa: Future Outlook of SADC sub-region	Dr. Mohamed Eisa
1630 - 1700	Wrap up and Closure of Day one	UNIDO/Africa Institute
1700 - 1705	Closing Prayer	All

DAY TWO: 26 November 2014

Time	Activity	Responsible Person
0900-0905	Opening Prayer	Volunteer
0900 -1100	Review and finalize “The Project Logical Framework- Outcomes 1, 2, 3 & 4”	UNIDO/Africa Institute
1100 - 1130	Coffee Break	All
1130 -1300	Review and finalize the project’s organogram, budget, activities’ timeline	UNIDO/Africa Institute
1300 -1400	Lunch Break	All
1400 -1530	Review and finalize the project’s organogram, budget, activities’ timeline	UNIDO/Africa Institute
1530 -1545	Coffee Break	All
1545 - 1615	Presentation: <i>Why so few biogas plants in South Africa</i>	Dr. Mohamed Eisa
1615 - 1650	General discussion on the final version of the Project Document	All
1650 - 1655	Wrap up and closure of workshop	UNIDO/Africa Institute
1655 - 1700	Closing Remarks	One Volunteer Participant
1700-1705	Closing Prayer	All

Accompanying the report: PROJECT DOCUMENT