

Independent Terminal Evaluation

Capacity Strengthening and Technical Assistance for the Implementation of the Stockholm Convention (SC) National Implementation Plans (NIPs) in African Least Developed Countries (LDCs) of the SADC and COMESA Sub-regions

UNIDO Project ID: 104063 - 104065
GEF Project ID: 3942 – 3968



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO INDEPENDENT EVALUATION DIVISION

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Table of Contents

	Page
List of acronyms and abbreviations	v
Glossary of evaluation-related terms	vii
Executive Summary	viii
 1. Introduction	 1
1.1 Evaluation objectives and scope	1
1.2 Overview of the Project Context	1
1.3 Overview of the Projects	2
1.4 Project Implementation Arrangements	4
1.5 Theory of Change	1
1.6 Evaluation methodology	2
1.7 Limitations of the Evaluation	3
1.8 Non-participation of some countries	3
2. Project's contribution to development results - Effectiveness and Impact	4
2.1 Project's achieved results and overall effectiveness	4
2.2. Progress towards impact	10
3. Project's quality and performance	14
3.1. Design	14
3.2. Relevance	14
3.3. Efficiency	16
3.4. Sustainability	18
3.5. Gender mainstreaming	19
4. Performance of Partners	21
4.1. UNIDO	21
4.2. National counterparts and Regional Institutions	21
4.3. Donor	21
5. Factors facilitating or limiting the achievement of results	22
5.1. Monitoring & evaluation	22
5.2. Results-Based Management	23
5.3. Other factors	23
5.4. Overarching assessment and rating table	24
6. Conclusions, recommendations and lessons learned	28
6.1. Conclusions	28
6.2 Recommendations	29
6.3 Lessons learned	30

ANNEXES:.....	31
Annex 1: Term of reference of the evaluation	31
Annex 2: List of documents consulted.....	72
Annex 3 - List of stakeholders consulted and schedule of field visits	74
Annex 4 – Evaluation Theory of Change	77
Annex 5 – Rating of activities and outputs	78
Annex 6: Copies of questionnaires for pilot site selection in textile and leather sectors	88

List of acronyms and abbreviations

Abbreviation	Meaning
AMCEN	African Ministerial Conference on Environment
ASP	African Stockpiles Programme
BAT	Best available techniques
BCRCC	Basel Convention Regional Coordinating Centre
BEP	Best environmental practices
COMESA	The Common Market for Eastern and Southern Africa
COP	Conference of Parties
ECOWAS	Economic Community of Western African States
ESM	Environmentally Sound Management
FAO	Food and Agriculture Organization
FSP	Full Size Project
GEF	Global Environment Facility
IA	Implementing Agency
KTSC	Kombolcha Textile Share Company
LDC	Least Developed Country
LLPI	Leather and Leather Products Institute
M&E	Monitoring and Evaluation
MIS	Management Information System
NFP	National Focal Point
NIP	National Implementation Plan
NPC	National Project Coordinator
NPT	National Project Team
PCB	Project Coordinating Body
PCBs	Polychlorinated biphenyls
PCDD	Polychlorinated dibenzo-p-dioxins
PCDF	Polychlorinated dibenzo-furans
PM	Project Manager
POPs	Persistent Organic Pollutants
PPO	Plant Protection Office
PPP	Public Private Partnership
PSC	Project Steering Committee
RC	Regional Coordinator

Abbreviation	Meaning
RENAPAP	Regional Network on Safe Pesticide Production and Information for Asia and Pacific
SADC	The Southern African Development Community
SC	Stockholm Convention
SMART	Specific, Measurable, Achievable, Relevant, Time-bound
TIDI	Textile Industry Development Institute
ToC	Theory of Change
TOR	Terms of Reference
TPRI	Tropical Pesticides Research Institute
TUT	Tshwane University of Technology
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
UP-POPs	UP-POPs Unintentionally Produced POPs

Glossary of evaluation-related terms

Term	Definition
Baseline	The situation, prior to an intervention, against which progress can be assessed.
Effect	Intended or unintended change directly or indirectly due to an intervention.
Effectiveness	The extent to which the development intervention's objectives were achieved or are expected to be achieved.
Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results.
Impact	Positive & negative, intended & non-intended, directly & indirectly, long term effects that represent fundamental durable change in the condition of institutions, people & their environment brought about by the Project.
Indicator	Quantitative or qualitative factors that provide a means to measure the changes caused by an intervention.
Intermediate States	The transitional conditions between the Project's outcomes & impacts which must be achieved in order to deliver the intended impacts.
Lessons learned	Generalizations based on evaluation experiences that abstract from the specific circumstances to broader situations.
Logframe (logical framework approach)	Management tool drawing on results-based management principles used to facilitate the planning, implementation and evaluation of an intervention. It involves identifying strategic elements (activities, outputs, outcomes, impacts) and their causal relationships, indicators, and assumptions that may affect project success or failure.
Outcomes	The likely or achieved short- to medium-term behavioural or systemic effects to which the Project contributes, which help to achieve its impacts.
Outputs	The products, capital goods, and services that an intervention must deliver to achieve its outcomes.
Relevance	The extent to which an intervention's objectives are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donor's policies.
Risks	Factors, normally outside the scope of an intervention, which may affect the achievement of an intervention's objectives.
Sustainability	The continuation of benefits from an intervention, after the development assistance has been completed.
Target groups	Specific entities for whose benefit an intervention is undertaken.

Executive Summary

A. Introduction.

The full-size projects¹ “*Capacity Strengthening and Technical Assistance for the Implementation of the Stockholm Convention (SC) National Implementation Plans (NIPs) in African Least Developed Countries (LDCs) of the SADC and COMESA Sub-regions*” funded by the Global Environment Facility were implemented from July 2011 to December 2018 by the United Nations Industrial Development Organization (UNIDO). The projects were nationally executed by the Ministries of Environment of the participating countries. In both projects, the regional component was executed by a regional coordinator with support from both the COMESA and SADC Regional Secretariats and the Africa Institute. The evaluation team consisted of Nee Sun Choong Kwet Yive, international consultant, and Francesco Cuda, evaluation analyst of the UNIDO evaluation office.

The common overall objective of the two projects was to strengthen and/or build capacity required in LDCs of the COMESA and SADC sub-regions to implement their NIPs in a sustainable, effective and comprehensive manner while building upon and contributing to strengthening the member country’s capacities for environmentally sound management of POPs chemicals. The evaluation covered the whole duration of the projects.

B. Evaluation findings and conclusions

The in-depth evaluation included a review of project documents and country visits to Ethiopia and Tanzania to interview project personnel, intended beneficiaries, project partners, and other stakeholders involved in the projects by using a participatory approach. Field visits to the pilot project sites were also undertaken during the country visits. Based on the information available and the findings of the discussions held, the evaluation made the following conclusions:

Relevance: The projects are relevant to national priorities of the participating countries, and were designed to assist countries in implementing some elements of their National Implementation Plan (NIP) on Persistent Organic Pollutants (POPs). Both projects are also relevant to GEF strategic priorities in the POPs focal area.

Efficiency: The projects duration were originally designed for 5 years, but due to challenges encountered the actual duration was 7 ½ years. By taking corrective actions, project management, adequately supported by the COMESA Secretariat and the Africa Institute, was able to overcome the challenges and get the project on the right track. The involvement of the SADC Secretariat was low, but this did not affect the implementation process thanks to the dedicated regional project coordinator. In the end, despite significant delays, mainly due to time required to validate feasibility studies at pilot sites, procurement of equipment for pilot projects and instrument defect during analysis of project samples, the projects performed well in delivering quality outputs within the planned budgets.

Effectiveness: Most of the stated project objectives have been achieved. The projects have successfully built capacities in the participating countries on BAT/BEP in textile and leather sectors. The countries received adequate training through regional and national workshops.

¹ Two separate but identical projects were implemented in the COMESA and SADC sub-regions. These two projects were co-implemented with the same management and implementation structure. For these reasons, only one evaluation exercise, which covered both projects, was undertaken. This terminal evaluation report presents the findings and recommendations for these two projects.

Best available techniques (BAT) were successfully transferred to the pilot sites, and best environmental practices (BEP) were adopted for the sound management of wastes. These interventions have already produced tangible results (increased productivity and significant cost savings) and visible positive impacts are already seen (less POPs released to the environment). The projects helped to raise the awareness of workers in the waste sector in adopting BEP to reduce release of dioxins and furans and to minimize risk exposure to these toxic chemicals. The projects have also produced an updated healthcare waste management manual and developed a health care waste management strategy for SADC and COMESA countries. On the other hand while the preliminary results for the pilot project on phytoremediation of contaminated site look promising, the study is not completed yet during the evaluation.

Sustainability: Some financial risks have been identified for sustainability of project results. The countries have indicated that they would require financial assistance as well as technical support to sustain and replicate the project results.

UNIDO Backstopping: The role of UNIDO was crucial for the projects to meet their objectives. It has taken timely and critical actions, and provided technical back-stopping by hiring quality and competitive international and national experts, and introducing BAT/BEP to pilot demonstration sites and other project activities at national level. Procurement of goods and services for the project were also done in a timely matter.

Cross cutting issues:

Although gender aspect was not a requirement for this project (GEF-4), involvement and participation of women in the projects was satisfactory.

Regarding M&E, the logical framework proposed in the project document is adequate to allow for proper monitoring and tracking of project results. SMART indicators in logical framework were used by project management to monitor project progress. All PSC meetings were held and relevant reports were submitted timely.

Rating for the COMESA Project		
	Evaluation <u>criteria</u>	Rating
A	Impact (progress toward impact)	MS
B	Project design	MS
1	• Overall design	S
2	• Logframe	MS
C	Project performance	S
1	• Relevance	HS
2	• Effectiveness	MS
3	• Efficiency	S
4	• Sustainability of benefits	ML
D	Cross-cutting performance criteria	
1	• Gender mainstreaming	S
2	• M&E:	MS

Rating for the COMESA Project		
	Evaluation <u>criteria</u>	Rating
	<ul style="list-style-type: none"> ✓ M&E design ✓ M&E implementation 	
3	<ul style="list-style-type: none"> • Results-based Management (RBM) 	MS
E	Performance of partners	
1	<ul style="list-style-type: none"> • UNIDO 	HS
2	<ul style="list-style-type: none"> • National counterparts and Executing partners 	S
3	<ul style="list-style-type: none"> • Donor 	S
F	Overall assessment	MS

Rating for the SADC Project		
	Evaluation <u>criteria</u>	Rating
A	Impact (progress toward impact)	MS
B	Project design	MS
1	<ul style="list-style-type: none"> • Overall design 	S
2	<ul style="list-style-type: none"> • Logframe 	MS
C	Project performance	S
1	<ul style="list-style-type: none"> • Relevance 	HS
2	<ul style="list-style-type: none"> • Effectiveness 	MS
3	<ul style="list-style-type: none"> • Efficiency 	S
4	<ul style="list-style-type: none"> • Sustainability of benefits 	ML
D	Cross-cutting performance criteria	
1	<ul style="list-style-type: none"> • Gender mainstreaming 	S
2	<ul style="list-style-type: none"> • M&E: <ul style="list-style-type: none"> ✓ M&E design ✓ M&E implementation 	MS
3	<ul style="list-style-type: none"> • Results-based Management (RBM) 	MS
E	Performance of partners	
1	<ul style="list-style-type: none"> • UNIDO 	HS
2	<ul style="list-style-type: none"> • National counterparts and Executing partners 	MS
3	<ul style="list-style-type: none"> • Donor 	S
F	Overall assessment	MS

C. Recommendations

To UNIDO:	
1	The projects have been quite successful in producing tangible results, and impacts are visible at the project sites. The countries indicated that for sustenance or replication of projects results, they would require financial as well as technical support. UNIDO should consider assisting the countries in securing such support through follow up initiatives or through other mechanisms.
2	The COMESA Secretariat has expressed interest in the replication and expansion of project results of the pilot project in the leather sector, within the framework of a collaboration with its Leather and Leather Products Institute ² (COMESA/LLPI) based in Addis Ababa, Ethiopia. UNIDO should consider creating synergies or develop collaboration with COMESA/LLPI to promote and encourage this interest.
3	The pilot projects on textile, leather, bio-pesticides and phytoremediation of contaminated sites have produced valuable and tangible results. UNIDO should consider gathering, summarizing and disseminating information on these pilot projects to other participating countries
To UNIDO and COMESA Secretariat:	
4	A regional strategy on production and application of neem-based bio-pesticide in the COMESA and SADC sub-regions was prepared by RENPAP, India, in collaboration with the COMESA Secretariat. To ensure impact of the pilot project on bio-pesticide in all the participating countries, UNIDO and the COMESA Secretariat should consider developing follow up initiatives to implement the strategy in the two sub-regions.
To national governments:	
5	There is no evidence yet that elements developed in the context of the projects are incorporated in national strategy / plans or programmes. For example, recommendations for improving the waste management system have been made or proposal for updating healthcare waste management manual as well as a health care waste management strategy has been developed. The countries are invited to consider adopting some of the project results in their national strategies, plans or policies.

² <http://www.comesa-llpi.int/>

D. Lessons learned

Two key lessons emerged from this project:
<ol style="list-style-type: none">1. Significant delays were encountered during procurement of equipment for the pilot projects. Proper planning taking into consideration the time for procurement and delivery of equipment, including time for transportation and for customs clearance, would avoid delays in project implementation.2. Despite having the project endorsed and provided commitment co-financing letters, three countries did not participate in the projects. The language barrier was seemingly the main reason for this non-participation. For regional projects involving many countries speaking different languages, ensuring that all the countries are comfortable with the agreed working language would avoid such issues.

1. Introduction

1.1 Evaluation objectives and scope

The two projects under evaluation were the “*Capacity Strengthening and Technical Assistance for the Implementation of the Stockholm Convention (SC) National Implementation Plans (NIPs) in African Least Developed Countries (LDCs) of the Common Market For Eastern & Southern Africa (COMESA) Sub-region*” and the “*Capacity Strengthening and Technical Assistance for the Implementation of the Stockholm Convention (SC) National Implementation Plans (NIPs) in African Least Developed Countries (LDCs) of the Southern African Development Community (SADC) Sub-region*”. These two projects³ shared common regional activities and had the same activities to be carried out at national level. All the regional activities of the two projects such as awareness raising and training workshops, regional Project Steering Committee (PSC) meetings were done in common. For this reason, only one terminal evaluation report was produced. However, the projects were rated individually.

The terminal evaluation has two main objectives. The first was to assess projects’ performance based on the criteria of relevance, effectiveness, efficiency, sustainability and impact. On the other hand, the second was to develop a series of findings, lessons and recommendations for enhancing the design of new and implementation of ongoing projects by UNIDO. The assessment included an analysis of the completion of project activities, delivery of outputs, occurrence of outcomes, and of risk management. The key question was whether the projects have achieved or are likely to achieve the main objective “to reduce POPs emissions by strengthening and / or building capacity required in participating countries of the two projects to implement their NIPs in a sustainable, effective and comprehensive manner while building upon and contributing to strengthening the country’s capacities for sound management of POPs chemicals”. This question was addressed by assessing the extent to which the project contributed to the conditions necessary to build the capacities of the participating countries for the sound management of POPs chemicals.

The purpose of this evaluation exercise was also to draw lessons and recommendations for UNIDO and the GEF that could help in improving the identification, design and implementation of future similar projects. This terminal evaluation report also includes examples of good practices for other projects. The evaluation covered the whole duration of the two projects, from June 2011 to December 2018.

1.2 Overview of the Project Context

The Common Market for Eastern and Southern Africa (COMESA) is a free trade area with 19 member-states in Eastern and Southern Africa⁴, formed in December 1994. It is one of the pillars of the African Economic Community (AEC). The Southern African Development Community (SADC) is an inter-governmental organization headquartered in Botswana. Its goal is to further socio-economic cooperation and integration as well as political and security cooperation among 15 southern African states⁵.

³ Henceforth, the two projects will be reference as the COMESA and the SADC projects

⁴ Burundi, Comoros, DR Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia, Zimbabwe.

⁵ Angola, Botswana, D. R. Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe.

According to the project documents, the member countries participating in the project were Burundi, Djibouti, D.R. Congo, Ethiopia, Rwanda, Sudan and Uganda for COMESA, and Angola, Lesotho, Mozambique, Swaziland and Tanzania for SADC.

The LDCs of the COMESA and SADC sub-regions have been active participants in the negotiations of the Stockholm Convention since 1998. These countries have participated in each of the Conference of Parties (COPs) meetings of the Convention and in other related Convention meetings, such as the meetings of the Expert Group on Best Available Techniques and Best Environmental Practices (BAT/BEP) and in the meetings of the POPs Review Committee.

Most LDCs in the COMESA and SADC sub-region have conducted preliminary inventories to better understand the status of POPs production, distribution, use, import, export, emissions, obsolete stockpiles, contaminated sites and POPs wastes. Industrial sectors with significant potential for PCDD/PCDF releases have also been identified, and a dioxins release inventory have been conducted based on the UNEP Toolkit⁶. The National Implementation Plans (NIPs) of these countries have assessed the current institutional settings, policies and regulations and technologies for POPs treatment, disposal as well as substitutions and have also reviewed objectives, strategies and action plans to control, reduce and eliminate POPs.

During the preparation of the NIPs, analysis on gaps between the Convention requirements and the present situation was carried out. According to interview data, countries expressed to UNIDO, in order to meet Stockholm Convention (SC) requirements, they would need for strengthened capacity in a range of areas, namely: building capacity through providing technical support; institutional; legislation, regulation, implementation and enforcement capacities; research, development and dissemination of technical capability for alternative technologies; capacities in POPs stockpiles and wastes identification, management and disposal; capacities in identifying and remediating contaminated sites; capacities in information exchange, public information, awareness raising and education.

The two projects were implemented by UNIDO and the governments as part of their efforts to fulfil the requirements of the SC. These projects are two of three similar projects in three African sub-regions making up the capacity strengthening and technical assistance for the implementation of the SC NIPs in African LDCs and Small Island Developing States (SIDS) program. Besides the COMESA and SADC sub-regions, the third sub-region is the Economic Community of West African States (ECOWAS). The Full Size Projects (FSP) (UN Environment and UNIDO components together) were endorsed by the GEF CEO in March 2011. The projects duration were 5 years. The UN Environment implemented similar projects in the three sub-regions and were related to institutional; legislation, regulation, implementation and enforcement capacities. The part implemented by UNIDO encompasses the projects under evaluation and are described in the next section.

1.3 Overview of the Projects

According to the project documents, the common overall objective of the projects was to strengthen and/or build capacity required in LDCs of the COMESA and SADC sub-regions to implement their NIPs in a sustainable, effective and comprehensive manner while building

⁶ Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases, UNEP, Edition 2.1, December 2005

upon and contributing to strengthening the country's capacities for environmentally sound management of POPs chemicals.

The immediate objective was to create an enabling environment to implement the NIPs in the LDCs of the SADC sub-region by

- establishing/amending laws, regulations, policies, standards;
- strengthening institutions for remediation of contaminated sites;
- introducing BAT/BEP to industrial processes;
- managing municipal wastes including e-wastes and health-care wastes;
- supporting the phasing out of agricultural use of POP pesticides through the promotion of production and use of bio-botanical pesticides;
- promoting technology transfer;
- facilitating data and information collection and dissemination; and
- ensuring continuous improvement and awareness raising of stakeholders on POPs issues.

The expected outcomes were

1. BAT/BEP in industrial production processes – Introduction of BAT/BEP in industrial production processes mentioned in Annex C of Article 5 of the Stockholm Convention
2. Reduction on exposure to POPs – Reduction to POPs exposure at workplace and close proximity to POPs wastes and UP-POPs emitting sources
3. Contaminated sites – Identification and assessment of contaminated sites
4. Project management including monitoring and evaluation (M&E)

However as per the project documents, project activities did not include POPs disposal, but address the issue of environmentally sound management and disposal of PCBs in African LDCs.

Project Factsheets

Project Title:	Capacity Strengthening and Technical Assistance for the Implementation of Stockholm Convention (SC) National Implementation Plans (NIPs) in African LCDs of the COMESA and SADC Sub-regions
UNIDO project No. and/or ID: COMESA SADC	GFRAF11012 / 104065 GFRAF11008
GEF project ID: COMESA SADC	3968 3942
Region	Africa
Country(ies): COMESA SADC	Burundi, Djibouti, D.R. Congo, Ethiopia, Rwanda, Sudan and Uganda Angola, Lesotho, Mozambique, Swaziland, Tanzania
GEF focal area(s) and operational programme:	POPs: POPs-1
GEF implementing agency(ies):	UNIDO
GEF executing partner(s):	Ministries of Environment in participating countries
Project CEO endorsement / : Approval date: COMESA	13 April 2011 16 March 2011

Project Factsheets

SADC	
Project implementation start date: COMESA (First PAD issuance date) : SADC	2 June 2011 10 May 2011
Original expected implementation end date: COMESA SADC	31 March 2016 30 April 2016
Revised expected implementation end date: COMESA SADC	30 June 2017 30 July 2017
Actual implementation end date: COMESA SADC	31 December 2018 31 December 2018
GEF project (FSP) grant (excluding PPG, in USD): COMESA SADC	 2,500,000 1,500,000
GEF PPG (if applicable, in USD) :	
UNIDO co-financing (in USD) : COMESA SADC	1,000,000 (in-kind) 700,000 (in-kind)
Co-financing - Countries + SAICM + AUC + SSC (in USD): COMESA SADC	1,698,796 (cash + in-kind) 1,830,864 (cash + in-kind)
Total co-financing at CEO endorsement (in USD) : COMESA SADC	2,698,796 (cash + in-kind) 2,530,864 (cash + in-kind)
Materialized co-financing at project end (in USD) : COMESA SADC	2,398,454 (cash + in-kind) 2,282,845 (cash + in-kind)
Total project cost (excluding PPG and agency support cost, in USD; at CEO endorsement) : COMESA SADC	5,198,796 4,030,864
Mid-term review date:	May-August 2016
Terminal evaluation date:	November 2018 – February 2019

1.4 Project Implementation Arrangements

As mentioned in the project documents, the implementation arrangement was the following:

UNIDO was implementing the issues of BAT and BEP, technology transfer and private sector investments and public-private partnerships (PPP) at national and sub-regional level; project

implementation commenced in June 2011. It was the Implementing Agency (IA) for the two projects under evaluation.

UNEP was implementing the following components: policies, legislative and regulatory framework enforcement and global data collection, management and processing to enhance global monitoring of POPs releases, which are described in the UNEP project document.

Programme Coordination Body (PCB): comprising representatives from UNEP, UNIDO, executing agencies, Regional Economic Commissions (REC), and the Basel Convention Regional Coordinating Centre (BCRCC-Africa Institute), to oversee program implementation.

Sub-regional Steering Committees (SRSC): comprising representatives from UNEP, UNIDO, executing agency staff, POPs/NFPs, BCRCC-Africa Institute and other relevant organizations, to approve annual work plans, and oversee project activities.

Regional Coordinator (RC): A regional coordinator is mentioned in Annex C (for each project) of the revised document submitted to the GEF for CEO endorsement, Consultants to be hired for the project using GEF resources. The RC was foreseen to coordinate all activities of the project linking both vertically and horizontally given in the project organizational chart. He/she was to oversee the work of the NPC and make sure that all activities are performed in a timely manner in accordance with the workplan and support M&E activities of the project. Moreover, RC was to provide overall technical assistance on workshops, trainings, develop a workplan for management and reduction/elimination of POPs; provide assistance in drafting technical specifications of equipment procurement; provide technical advice on establishment of MIS for the project and provide corrective measures for accidental issues that may arise. Two (2) RCs were recruited for the COMESA and SADC projects since July 2011 and continuously serving the project on a part-time basis. The COMESA RC however left the project in 2017 and was not replaced. The RC for the SADC provided then assistance for the COMESA project. A national consultant was recruited in Ethiopia to oversee the pilot project in textile sector also provided assistance for the COMESA region.

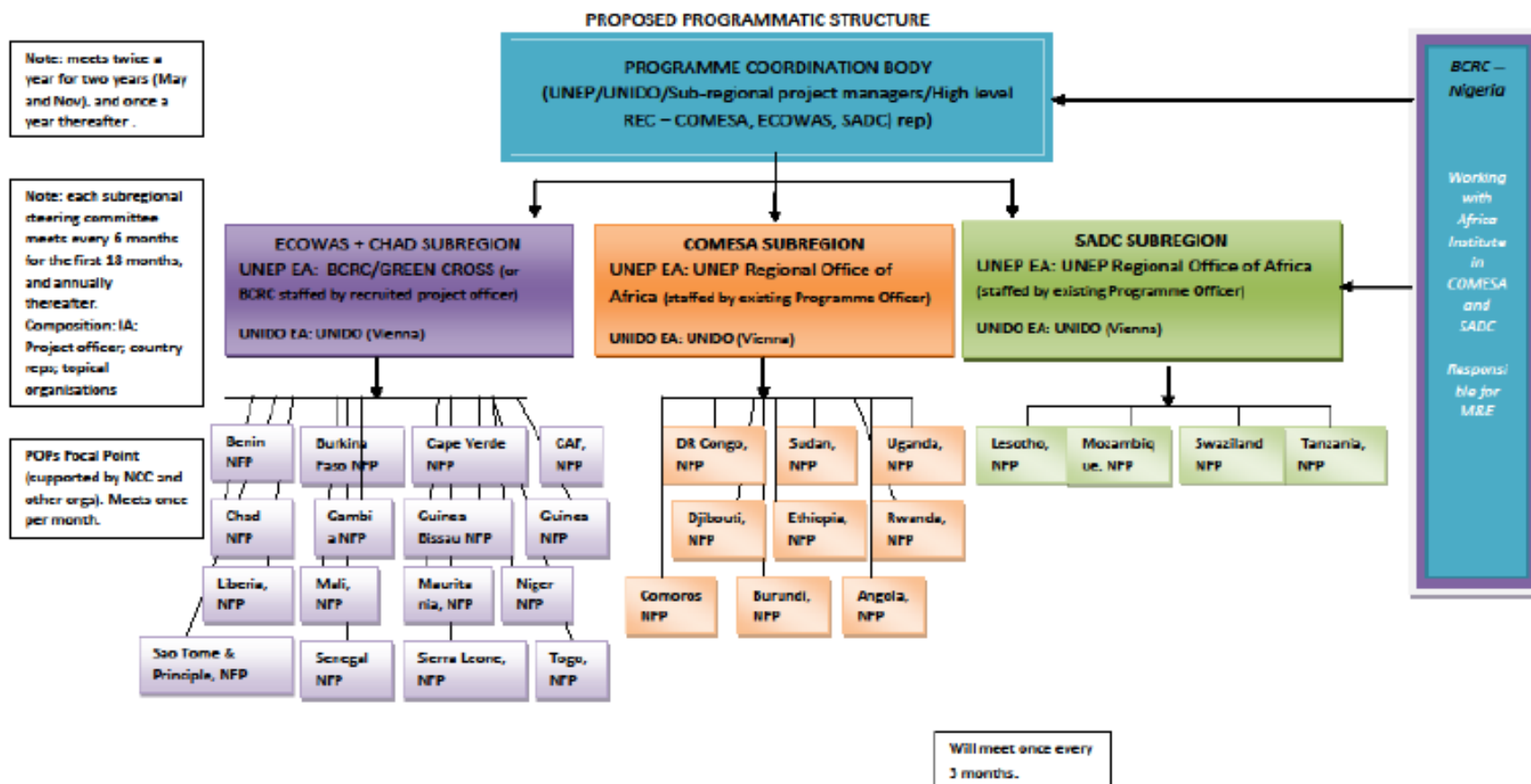
National Project Coordinator (NPC): A NPC is mentioned in the Annex C ‘Consultants to be hired for the project using GEF resources’ of the revised document submitted to the GEF for CEO endorsement. NPC was tasked to prepare project’s Annual Workplan and its indicators; monitor day-to-day project implementation progress; coordinate project implementation activities in participating countries including preparation of TORs for technical consultants/experts, subcontracts, support organization of workshops and preparation of project quarterly and annual progress reports. As evidenced by the midterm evaluator and confirmed by the terminal evaluation team during interviews by the interview data, no NPC was recruited. The above-mentioned tasks were carried out by the two RCs.

National Project Teams (NPT): coordinated by the POPs NFPs, responsible for project execution at the national level. NPT was to include members of the NIP National Coordinating Committee and other relevant stakeholders. NPTs were scheduled to meet once every three months to plan upcoming project activities and evaluate completed activities.

Other experts on contaminated sites, BAT/BEP, pesticides and wastes management have been recruited, as necessary, during the project. The following diagram is included in the project document, and illustrates the above-described implementation structure.

Comorec
NFP

CAPACITY STRENGTHENING AND TECHNICAL ASSISTANCE FOR THE IMPLEMENTATION OF STOCKHOLM CONVENTION NATIONAL IMPLEMENTATION PLANS (NIPS) IN AFRICAN LEAST DEVELOPED COUNTRIES (LDCs) AND SMALL ISLANDS DEVELOPING STATES (SIDS)



1.5 Theory of Change

Although no explicit theory of change (ToC) was proposed for these two projects, the project documents (including the logical framework) contain enough information to enable the reconstruction of the TOC describing how the project was expected to contribute to bring about conditions to achieve impact.

The TOC (Annex 4) developed by the evaluation team proposes that in order to bring about behavioral changes for effective impact in the LDCs of the COMESA and SADC sub-regions, it is critical that a set of necessary preconditions are achieved. Indeed, for protecting the health of the population and the environment of the LDCs against the hazardous effects of POPs, it is critical to achieve technological transformations and to build capacities for sound management of wastes and contaminated sites. Capacities to bring about change would be accomplished by adapting and demonstrating technologies (BAT) and approaches (BEP) to reduce the emissions of PCDD/Fs at industrial sites. Incentives for change would be also achieved by developing awareness on the risk of exposure to POPs and ways to manage these risks, and also to build capacity on the identification and remediation of contaminated sites.

The projects have greatly assisted the LDCs to put in place these preconditions. However, for effective impact, these preconditions are not sufficient and it is necessary that a number of intermediate states, identified by the evaluation, need to occur. These are: sharing of information, incentive and support; and replication in other regions and countries. One of the key components of the projects was technology transfer in the textile and tanning sectors and alternative approaches to the use of pesticides in agriculture in order to reduce PCDD/F releases and risk of exposure to POPs pesticides. As this was done through a pilot approach, it is vital that the outcomes and lessons of these pilot demonstration projects are summarized and shared to other regions and countries for adoption, replication and / or upscaling. To create an atmosphere conducive for this, it is important that appropriate mechanisms / systems for incentives and support are in place in the LDCs, which would contribute to convince private sectors, and other key stakeholders to embark in these replication and / or upscaling efforts.

Several important assumptions were made during project development. One of the main ones was high ownership and countries commitment to fulfill their obligations towards the SC. This assumption proved to be correct as high ownership was seen in the participating countries, and the projects got strong support from the national governments. The other key assumption was local companies willing to invest to implement BAP/BEP. This also proved to be correct as the companies selected for the pilot demonstration projects invested considerably to adopt and implement BAT/BEP. For example, the Kombolcha Textile Share Company (KTSC) in Ethiopia invested significantly to replace an old industrial boiler running on heavy fuel oil with an electrical one. It is worth noting that in Ethiopia about 94% of electricity is from renewable sources (hydro-electric, wind and solar)⁷.

7

https://www.usaid.gov/sites/default/files/documents/1860/EthiopiaCountryFactSheet__2016.09%20FINAL_0.pdf

1.6 Evaluation methodology

The terminal evaluation was conducted in accordance with the UNIDO Evaluation Policy⁸, the UNIDO Guidelines for the Technical Cooperation Programme and Project Cycle⁹, the GEF Guidelines for GEF Agencies in Conducting Terminal Evaluations¹⁰, the GEF Monitoring and Evaluation Policy¹¹ and the GEF Minimum Fiduciary Standards for GEF Implementing and Executing Agencies¹².

A participatory approach that sought to inform and consult with all key stakeholders of the project was used. The evaluation team consisted of Nee Sun Choong Kwet Yive, international consultant, and Francesco Cuda, evaluation analyst of the UNIDO evaluation office.

The evaluation was carried out from November 2018 to February 2019. The theory of change approach was used to identify causal and transformational pathways from the project outputs to outcomes and longer-term impacts, and drivers as well as barriers to achieve them. In particular the extent to which the project contributed to conditions necessary to achieve the overall objective of the project was assessed using this approach.

A combination of methods was used to deliver evidence-based qualitative and quantitative information from various sources: desk studies, individual interviews, focus group meetings and direct observation. In preparing for interviews and visits in Ethiopia, Tanzania, and Vienna, Austria (see page 2) the evaluation team reviewed the documentation of the project provided by the UNIDO Project Manager and the SADC regional project coordinator (RC). This included the project documents, the independent midterm evaluation report, minutes of regional Project Steering Committee (PSC) and the Project Coordination Body (PCB) meetings, annual and progress reports, Project Implementation Review (PIR) reports, pilot project and training reports as well as technical reports of international and national experts. The full list of documents consulted and persons interviewed during the evaluation are given in the annexes¹³. The planning of the country visits and the persons to be selected for interview were done in close consultation with the UNIDO Project Manager (PM), the SADC RC, and the national project coordinator of Ethiopia. Due to budget constraints, the field visits were limited to two countries – one for the COMESA project (Ethiopia) and one for the SADC project (Tanzania). It was however agreed that the evaluation team would attend the final joint Regional PSC meeting for the two projects scheduled 12 – 13 November 2018 in Vienna, Austria in order to interview the representatives (mostly National POPs Focal Points) of the other participating countries attending the meeting as well as the UNIDO PM.

The field visit in Ethiopia took place on 5 – 7 November 2018, and from 7 – 10 November 2018 in Tanzania. During these visits, the evaluation team interviewed the key partners / stakeholders of the project such as the national project coordinators (NPCs), the national POPs Focal Points, ministries, academia or national laboratories, and representatives of the institution / company hosting for the pilot projects. For instance, in Ethiopia, the evaluation

⁸ UNIDO. (2015). Director General's Bulletin: Evaluation Policy (UNIDO/DGB/(M).98/Rev.1)

⁹ UNIDO. (2006). Director-General's Administrative Instruction No. 17/Rev.1: Guidelines for the Technical Cooperation Programme and Project Cycle (DGAI.17/Rev.1, 24 August 2006)

¹⁰ GEF. (2017). Guidelines for GEF Agencies in Conducting Terminal Evaluations for Full-sized projects (Evaluation Office, Evaluation Document, 11 April 2017)

¹¹ GEF. (2010) The GEF Monitoring and Evaluation Policy (Evaluation Office, November 2010)

¹² GEF. (2011). GEF Minimum Fiduciary Standards: Separation of Implementation and Execution Functions in GEF Partner Agencies (GEF/C.41/06/Rev.01, 3 November 2011, prepared by the Trustee)

¹³ See Annexes 2 and 3.

team accompanied by the former Regional Project Coordinator (RPC) paid a visit to the Kombolcha (city located about 250 km North of Addis Ababa) where the pilot project on dyeing and finishing in textile industry was undertaken. In Tanzania, the team made the field trip to Tengeru, one of the two pilot project sites on remediation of contaminated soil. Tengeru is a town just 13 km east of the city of Arusha, located in the northern region of Tanzania.

The use of the theory of change approach, face to face interviews and desk review of the project documentation allowed the evaluators to assess causality, explain why objectives were achieved or not, and to triangulate information.

1.7 Limitations of the Evaluation

While no major limitations in terms of access to information was encountered, it was not possible to interview the representatives of Burundi and Sudan who did not attend the final joint PSC in Vienna (12 – 13 November 2018) due to visa issues. Other major limitation of the evaluation exercise was that, due to budget constraint, the evaluation team could not undertake field missions to the countries where pilot projects on bio-pesticides (Rwanda and Uganda) and dyeing and finishing in leather sector (Sudan) were undertaken. Otherwise the field missions to Ethiopia and Tanzania and interviews of the other country representatives took place as scheduled (see Annex 3). During the Vienna mission, the evaluation team could also interview the UNIDO PM, representatives of the COMESA Secretariat, Africa Institute and expert on bio-pesticides from RENPAP¹⁴, India. Although invited, the representative of the SADC Secretariat did not attend to the final joint RPSC meeting. On November 13, 2018, the evaluation team presented the preliminary findings and conclusions to the stakeholders participating in the final RPSC. The Chief of PTC/ENV/SCD also attended this presentation. During this presentation, the stakeholders made some comments and gave their feedback, which have been considered in this report.

1.8 Non-participation of some countries

The number of participating countries from the COMESA sub-region, as per project document, were 7 namely Burundi, Djibouti, D.R. Congo, Ethiopia, Rwanda, Sudan, and Uganda. However, the PSC meeting reports, as well as other training workshops' reports, and interviews evidenced that Djibouti did not participate in the project while D.R. Congo participated only in some initial meetings although they had signed the letter of commitment, and committed co-financing for the project. The reasons for their non-participation are not known, and no communication has been received by the UNIDO PM from these countries on this issue¹⁵. For the SADC sub-region, 5 countries namely Angola, Lesotho, Mozambique, Swaziland, and Tanzania participated in the project. According to project reports (PSC meetings or training workshops') Angola did not participate in any of the project activities. Despite efforts made, the PM could not get into communication with Angola. As a result the number of participating countries was reduced to 9 for the two projects. Language barrier may be the reason of the non-participation of Angola (Portuguese speaking country), D.R. Congo and Djibouti (both French speaking countries)¹⁶. D.R Congo did participate to the inception work but did not continue and asked to participate in the ECOWAS project, where most of the countries are French speaking. However, according to information available, D.R. Congo did not join the project ECOWAS project and its non-participation was unclear.

¹⁴ Regional Network on Pesticides for Asia and the Pacific

¹⁵ As per information provided by the UNIDO PM, due to lingual issues, DR Congo decided to join the ECOWAS project. In the case of Djibouti, no communication has been received by the PM since the beginning of the project.

¹⁶ Feedback from UNIDO PM and from PSC meeting report

2. Project's contribution to development results - Effectiveness and Impact

2.1 Project's achieved results and overall effectiveness

Overall effectiveness is rated as **Moderately Satisfactory**. This rating is based on: i) the extent to which the outputs have been delivered and the outcomes accomplished, and ii) the extent to which outcomes have contributed to the conditions likely to lead to the desired long-term changes.

The two projects were identical and each included 48 activities that were designed to deliver 10 outputs and to contribute to 4 outcomes. 10 of the 48 activities were designed to be undertaken at national level in all the participating countries. They were related to awareness raising, training activities and conducting surveys for the informal, recycling and waste sectors. In general, all the participating countries were able to successfully complete these activities. The others were activities related to regional workshops on BAT/BEP or related to the pilot projects were run in selected countries only. A few of these activities were not undertaken as discussed later in this section and in Annex 5. The latter provides a tabulated summary of assessment and ratings for the activities and outputs of the project (excluding activities and outputs for Component/Outcome 4, which is project management). 36 of the 48 activities corresponding to 8 outputs referred to 3 components that contributed to substantive project outcomes: (i) 3 outputs pertained to introduction of BAT/BEP in industrial production processes mentioned in Annex C of Article 5 of the Stockholm Convention (ii) 3 outputs were for reduction of exposure to POPs at workplace and close proximity of POPs wastes and UP-POPs emitting sources and (iii) 2 outputs were designed for the identification and assessment of contaminated sites. The remaining 2 outputs were related to project management and monitoring and evaluation activities. The summary of ratings for the project is reported in Table 1. Note that the ratings of the activities mentioned in Table 1 for each output are those given in Annex 5. Furthermore, as explained in Annex 5, the rating for an output is based on the average rating of all the activities for that output.

Table 1: Rating of outputs¹⁷ for the projects

	Output	No of activities	Rating* of activities	Rating* of Output
Outcome 1	Output 1.1	4	4 S	S
	Output 1.2	4	3 S; 1 N/A**	S
	Output 1.3	3	2 S; 1 N/A**	S
Outcome 2	Output 2.1	5	2 S; 3 MS	MS
	Output 2.2	4	3 S; 1 MS	S
	Output2.3	7	7 S	S
Outcome 3	Output 3.1	4	3 S; 1 MS	S
	Output 3.2	5	1 HS; 3 S; 1 MU	S
Total	8	36	1HS+27S+5MS+1MU+2N/A = 36	6 S and 1 MS

¹⁷ See annex 4 for detailed rating of activities and outputs

*HS: highly satisfactory; S: satisfactory; MS: moderately satisfactory; U: unsatisfactory; HU: highly unsatisfactory

** Activity was not undertaken as sector not identified in sub-regions, so a rating of Not Applicable (N/A) was given

Cooperation with Tshwane University of Technology (TUT), Pretoria, South Africa – Following a visit made by a UNIDO team in September 2011 to the laboratories at TUT in Pretoria, engaged on research and publishing on POPs in the environment, representatives of the LDCs of the COMESA and SADC sub-regions agreed during a meeting held in January 2012 in Ethiopia, that TUT would be the training institution on management of POPs for them. The countries also agreed that the project would upgrade the TUT laboratory to enable it to provide training to the technicians, researchers and experts of the LDCs at different opportunities during the projects' duration. In the context of this cooperation agreement, the project provided TUT with a liquid chromatography – Mass Spectrometry (LC-MS) equipment that was used for training purposes as well as analysis of project samples. TUT was mainly involved in the pilot projects (Outcome 1 and Outcome 3) where it successfully trained the personnel of the pilot companies, and academics, laboratory technicians and other personnel of the participating countries on sampling as well as analytical procedures. It also undertook the analysis of samples coming from the three pilot projects.

The Africa Institute was subcontracted to measure impact indicators on annual basis. It developed impact assessment tables were supposed to be completed by participating countries. There is no evidence that the countries provided this information. The assessment of achievement of activities and delivery of outputs is mainly based on Project Implementation Review reports, workshop reports and other relevant reports.

Outcome 1: Introduction of BAT/BEP in industrial production processes mentioned in Annex C of Article 5 of the Convention. For this outcome, **Activity 1.2.3** - Carry out training workshops in BAT/ BEP in waste oil refinery and **Activity 1.3.3** - Carry out pilot demonstration of BAT/ BEP in waste oil refinery - were not carried out as this sector was not identified in the two sub-regions (See Annex 5)¹⁸. Otherwise all the outputs have been satisfactorily delivered as shown in Table 1. The Declaration for establishment of the COMESA / SADC sub-regional BAT/BEP Forum was prepared and adopted during a workshop held on 23 January 2012 in Addis Ababa, Ethiopia. This workshop was attended by 14 countries of the two sub-regions including the 9 participating countries of the two projects. Regional training workshops on BAT/BEP for the textile (7 – 11 May 2012, Kampala, Uganda) and leather (13 – 16 May 2013, Gaborone, Botswana) sectors have also been undertaken. International experts, from France for the leather sector and from Germany for the textile sector, were recruited as resource persons for these workshops, and 29 and 26 experts from the 9 participating countries were successfully trained in these two sectors respectively. However, the biggest achievement for this outcome remains the successful technology transfer at the two pilot sites for the textile and leather sectors.

The selection of the countries and companies for the pilot project was done through a transparent and fair process. The countries were asked to fill a questionnaire¹⁹ drafted during the regional workshops on textile (Kampala, Uganda 7 – 11 May 2012) and leather (Gaborone, Botswana 13 – 16 May 2013). For **the pilot project on textile dyeing and finishing**, the Kombolcha Textile Share Company (KTSC) of Ethiopia was selected. This company, established in 1986, owned by local stakeholders and employing about 1500 employees, has

¹⁸ Feedback from RC for the SADC project and from UNIDO PM

¹⁹ See Annex 6 for the questionnaires

an annual turnover of about 13M USD (60% export, 40% Ethiopian market). The staff of KTSC were adequately trained on BAT/BEP, and the project provided KTSC with a number of equipment that included a laboratory minipadder, an automated data color system that provides windows-based software solutions, and a spectrophotometer (Picture 1). This equipment allowed to boost efficiency and to make significant cost savings while decreasing waste production. For instance, the laboratory minipadder is being used to prepare a laboratory scale dyeing for the cold pad batch dyeing system and is compatible with the production padder. The old minipadder was outdated and was also not compatible with the one in the production section that resulted in big losses of dyestuffs, labor and time. Besides all these losses, the laboratory scale work could not be transferred to mass production since the two padders (old laboratory mini one and the production one) were not compatible. The automated data color system provided by the project also increased efficiency and allowed KTSC to make significant cost saving. While with the old manual system it took more than 20 or more trials to find the desired shade (color) for a given order, with this automated system it takes only one trial (at most 2) to obtain the desired shade. According to comparison trials, to matching a client's order, 68.6 g chemicals and dyestuffs were required in the old manual method while in automated system only 8.6 g were required. With the automated system, not only savings are being made on the cost of dyes and chemicals, but also much less of these are being discharged in the environment. According to an estimation made, the automated system allowed to save on the amount of dyes and other chemicals used annually by at least 3.600 kg representing a cost saving of about US\$90,000.

Furthermore, dyes may be major sources of dioxins and furans - polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans (PCDD/Fs). According to a survey made by the project, it was found that 9 of the 60 dyes found at KTSC are known to be common sources of PCDD/Fs. Of these 9, only two were being used in significant quantities (60 and 600 kg annually), the others were being used in very small quantities. Results of dye samples analyzed by TUT revealed that four dyes contained PCDD/Fs at a level higher than the permissible level of 5 pgTEQ/g for agricultural soils. The levels obtained in the dyes ranged from 8.71 to 103.69 pgTEQ/g. Upon recommendation made the project, KTSC is now using only certified dyes that do not contain dioxins and furans.

Picture 1: Equipment purchase by project for KTSC



For the **pilot project on leather dyeing and finishing**, the Al-Amatong Tanning and Leather Industry Company Ltd (ATLIC), located in the capital city of Sudan (Khartoum) was selected. Results of a feasibility study undertaken by the project have identified liquid dye, black, brown/aniline and Havana/aniline dyestuff to be potential sources of dioxin and furan. Samples have been collected for analysis by TUT. However, these results were still not available during the terminal evaluation exercise. The use of alternate certified dyes that are PCPs free has nevertheless been recommended by the study. Costs of chemical substitutes for processing one ton of leather are estimated to be about 56% higher using the existing equipment. The feasibility study also recommended to replace the very old (more than 50 years old) and rather obsolete equipment in use in the dyeing and finishing section (resulting in high losses of materials and low quality of products) by new BAT equipment that would enhance efficiency and the quality of products while at the same time decrease the volume of wastes produced. The project procured the equipment, costing about US\$350,000, which comprised of polypropylene drums, stainless steel testing drums, digital industrial weighing balances of 5kg & 10kg load, computerized color mixing machine, hand color spectrometer and roller coating machine with tunnel dryer/drying chamber amongst others. Note that the equipment was commissioned in November 2018, no information is available yet as to whether ATLIC has implemented the recommendation on certified alternative chemicals. It is therefore recommended to follow up on this issue (shift to certified safer alternative chemicals) to ensure that PCDD/Fs are no longer released from ATLIC.

Outcome 2: Reduction of exposure to POPs at workplace and close proximity of POPs wastes and UP-POPs emitting sources. For this outcome²⁰, while Outputs 2.2 and 2.3 have

²⁰ See Annex 4 for detailed rating of outputs and activities

been satisfactorily delivered, delivery for Output 2.1 has been moderately satisfactory (see Table 1). For this Output 2.1, regional and national workshops have been successfully undertaken for personnel of the solid and healthcare waste sectors. A regional workshop on solid waste management was held on 4 – 6 September in Durban, South Africa. 28 waste management personnel of the 9 participating countries of the two projects attended this workshop. During this workshop, the participants were presented with different management and recycling options/systems/projects such as waste collection system and vehicles selection, Landfill Gas to Electricity Projects or the Kerbside Collection and Buy-Back Centres. The solid waste management system of the Ethekewini Metropolitan Municipality of Durban was used as demonstration show case during the workshop, and the participants were able to make a site visit to the sanitary landfill of this municipality. On the other hand, although a proposal for updating the Medical Waste Management Manual as well as a Health Care Waste Management Strategy for the COMESA and SADC Countries have been developed, there is no indication however that a sound health-care waste management system at pilot scale has been implemented in the participating countries – corresponding to Activity 2.1.5.

The highlight of outcome 2 is the pilot project on bio-pesticides that was undertaken in Rwanda and Uganda. Prior to the establishment of the pilot facilities in the two countries, a regional training workshop on production and application of bio-botanical pesticides was undertaken on 31 August – 2 September 2015 in Manzini, Swaziland, and was attended by 28 participants of the 9 participating countries. The resource person for this workshop was an expert on bio-pesticides from the Regional Network on Pesticides for Asia and the Pacific (RENAPAP, India). This expert has more than 30 years' experience in the field and has successfully implemented numerous projects on bio-pesticides in the Asian and Pacific regions. The bio-pesticide selected for the project is a neem based pesticide produced from neem seeds. Based on missions made in several countries, the expert selected Rwanda and Uganda as pilot countries as neem trees were present in large numbers in these two countries. While the project procured the required equipment (costing about US\$12,000) from India, the countries provided the necessary resources such as a building, electricity and water to establish the pilot facilities. In Uganda, the facility is located in the Namutumba town (found in the Eastern region of Uganda) and is under the responsibility of the Ministry of Agriculture, Animal Industry and Fisheries. In Rwanda, it is located in the University of Rwanda at the Huye Campus in Butare City, Huye district, Southern Province, and is managed by the University of Rwanda. The expert ran extensive "hands on" programmes / workshops on how to produce and use the neem based bio-pesticide to train extension officers, agriculture officers, NGOs, scientists, researchers and the farming communities in the two countries. According to feedback gathered, the two facilities are fully operational, and more than 1,000 small scale farmers are already using the neem based bio-pesticide for agricultural production.

Outcome 3: Identification and assessment of contaminated sites. For this outcome, the activities and outputs were designed to build capacity for the identification, assessment and remediation of contaminated sites. As can be seen in Table 1, delivery of the two outputs has been satisfactory. In general, the activities have been successfully completed. For example, manuals and procedures for the identification of POPs contaminated sites and for conducting risk assessment as well as methodology for selection of economically feasible and environmentally sound POPs contaminated site remediation technologies have been satisfactorily developed by the Sokoine University of Agriculture, Morogoro, Tanzania. Similarly, two regional (26.-30. March 2012, Maputo, Mozambique and August 6-10, 2012; Addis Ababa, Ethiopia) as well as national training workshops on investigation and management of contaminated sites using the UNIDO Toolkit were very successfully organized. The number of trained expert per country during these workshops (at least 20 per

country) exceeded by far the number mentioned as indicator (5 experts per country) in the logical framework of the project document. The project has also been able to gather information on contaminated sites in the 9 participating countries. The information have been shared on a website²¹ developed by the Sokoine University of Agriculture, Morogoro Tanzania. At 15 January 2019, 3096 persons visited the website.

For this outcome, the Sokoine University of Agriculture was contracted to undertake a pilot study on remediation of contaminated sites. Two sites located at Morogoro and Tengeru were selected for this pilot study. Results obtained for soil samples analysed by the Tropical Pesticides Research Institute (TPRI) of Tanzania showed that while the Tengeru site was mainly contaminated by DDT and its metabolites (ranging from 0.1 to 1.5 mg/kg for total DDT and metabolites), the Morogoro site was contaminated with DDT and its metabolites (range: 4.5 – 5200 mg/kg), aldrin (0.1 – 17 mg/kg) and dieldrin (1.4 – 17 mg/kg). It should be noted that all these pesticides are listed as POP chemicals in the SC. After a review of different available technologies (e.g. incineration, thermal desorption or supercritical extraction) for remediation of contaminated sites, the phytoremediation technique was selected as it was considered to be the most cost-effective one – rather low cost involved for its implementation. Note that phytoremediation is a technology that uses specific plants enzymes from vegetation to accelerate the rate of isolation, destruction, transportation and removal of organic pollutants including POPs from contaminated soils and water. Amongst the different possibilities that exist for this technology, the phytoaccumulation option (also known as phytoextraction) was chosen, and it refers to the uptake of contaminants by plant roots and the translocation / accumulation of contaminants from the soil into plant shoots and leaves. Results of first trials undertaken at the two pilot sites gave positive results. At the Tengeru site, wheat, oat, collard, simsim, hot pepper and castor oil plant were selected for phytoremediation, and all showed potential for uptake of DDT and metabolites. These plants were grown in DDT contaminated soils. At maturity, the plants were harvested and sent for analysis. The shoot of the simsim plant gave the best remediation result, an uptake of total DDT of 716ng/g. At the Morogoro site, calabash, carrots, sweet potatoes, Irish potato, alfalfa, tembele and pumpkins showed good potentials to absorb and bioaccumulate DDT (and its metabolites), uptake of up to 893 ng/g was seen for the tembele shoot. Alternatively, microorganisms can be used to metabolize (destroy) DDT and its metabolite. The Sokoine University has succeeded in isolating and identifying five microorganisms exhibiting persistence and unaffected growth in DDT contaminated soils. All of them were from the *Streptomyces* species. The role of *Streptomyces* in metabolizing DDT and other persistent organic pesticides has been previously reported in literature (Javaid, et al., 2016)²². According to the Sokoine University, these strains could be multiplied in the laboratory and re-introduced back to the site in huge numbers to stimulate the destruction of DDT.

These preliminary results, using plants for soil remediation and the possibility of using the *Streptomyces* microorganisms to metabolize DDT, look promising. However, the evaluation team considers that the pilot study is far from being completed, and more work is required. At this stage, it is not known how many of growing - harvesting cycles of plants are required to remediate completely a contaminated soil. Similarly, trials to confirm that the five isolated *Streptomyces* strains are effective to metabolize (destroy) DDT in soil have not yet been done. And if they are indeed effective, there is need also to determine the amount of microorganisms required to totally remediate a contaminated site. Finally, all the trials undertaken referred to

²¹ <http://www.coa.suanet.ac.tz/soilscience/unido>

²² Javaid, M.K., Ashiq, M. and Tahir, M. (2016). Potential of Biological Agents in Decontamination of Agricultural Soil. *Scientifica*. <http://dx.doi.org/10.1155/2016/1598325>

the remediation of soil contaminated by DDT mainly, not much has been done for the other POPs chemicals / pesticides. Would these remediation techniques developed by the Sokoine University apply also for the other POPs pesticides such as aldrin, endrin or dieldrin? And what about soils contaminated with polychlorinated biphenyls (PCBs), an industrial chemical that has been used in large quantities in the past in electrical equipment such as transformers?

Cooperation with Tshwane University of Technology (TUT), Pretoria, South Africa – Following a visit made by a UNIDO team in September 2011 to the laboratories in TUT in Pretoria, engaged on research and publishing on the topic of POPs in the environment, representatives of the LDCs of the COMESA and SADC sub-regions agreed during a meeting held in January 2012 in Ethiopia that TUT would be the training institution on management of POPs for them. The countries also agreed that the project would upgrade the TUT laboratory to enable it to provide training to the technicians, researchers and experts of the LDCs at different opportunities during the projects' duration. TUT was involved mainly in the pilot projects (Outcome 1 and Outcome 3) where it successfully trained the personnel

2.2. Progress towards impact

Assessment of impact can be referred to the extent to which the project brought about changes in the human condition or in the environment. Changes, whether intended or unintended, can be positive or negative. For these two projects, the evaluation did not find any evidence of negative impacts on human health or on the environment. For impact, there is need for behavioral changes of the project beneficiaries in the participating countries. Behavioral may happen at three levels (i) Economically competitive - Advancing economic competitiveness (ii) Environmentally sound – Safeguarding environment and (iii) Socially inclusive – Creating shared prosperity, which are discussed in the following paragraphs.

2.2.1. Behavioral change

Economically competitive – This aspect of change would necessarily involve the private sector. For these two projects, they were directly involved in activities of Outcome 1 on technology transfer and best practices in industry. BAT/BEP were introduced at two selected companies engaged in the textile and leather sectors through pilot projects (see Section 2.1). The project had a very positive impact at these two companies. As discussed previously (section 2.1), the project provided them with BAT equipment, which greatly contributed to increased efficiency and productivity. For example, at KTSC - the pilot site on textile in Ethiopia, - the automated laboratory system equipment procured by the project allowed to reduce the amount of dyes and other chemicals used annually by at least 3.600 kg, representing an annual cost saving of about US\$90,000. The automated system also contributed to better productivity by considerably reducing the time to obtain the desired shade (color) of a client. Indeed, while it took between 20 and 30 trials, requiring several days, to get the desired shade with the old equipment, the same result is now obtained in just one trial within one day. At ATLIC - the pilot site on leather - the impact of the project was also immense. It is estimated that the equipment provided by the project contributed to reduce production costs by 56% and allowed to significantly improve on the quality of the finished leather goods.

Environmentally sound – For **Outcome 1**, major behavioral changes are seen for the pilot projects. Before the project, the two companies KTSC and ATLIC were using dyes and chemicals that contained chloronil (a precursor of dioxins and furans), which was confirmed by laboratory testing at TUT, South Africa. According to estimation made using the UNEP

toolkit²³, KTSC and ATLIC were potentially releasing 37.5 mgTEQ²⁴ and 182.5 mg TEQ to the environment per year respectively. As recommended by the project, the two companies have however shifted to safer alternatives, and they are currently using only certified dyes and chemicals that do not contain dioxins and furans. Moreover, at KTSC, being aware that the sludge generated by the factory is hazardous, they are trying to manage it soundly instead of dumping the sludge in the open land. They have made trials to use the sludge (replacing cement by sludge up to 30%) for production of non-load bearing construction materials (bricks). Using these bricks instead of buying normal bricks for decorating the company's green areas would constitute a good opportunity to minimize costs, and it would be a cheaper and environmentally friendly way of managing the hazardous sludge as compared to landfilling and incineration. Although not intended, the project created an opportunity for the company to replace its old boiler that was running on heavy fuel oil (HFO) with a new electrical one. As in Ethiopia 94% of electricity is produced from renewable sources (86% hydroelectric and 8% wind and solar)²⁵, about 0.2 mgTEQ, previously generated from the combustion of HFO by the old boiler, it is no longer being emitted to the environment. This value has been calculated using the UNEP toolkit and based on the annual HFO consumption (about 2 M liters) at KTSC.

For **Outcome 2**, although many training and awareness raising workshops for workers of the solid and health care waste sectors have been undertaken and recommendations made, based on the reports submitted by countries there is no evidence or indication yet of behavioral changes in the participating countries. On the other hand for the pilot project on bio-pesticides in Rwanda and Uganda, the project has had great impact at the pilot sites. Before the project, most of the farmers living near the pilot sites were using chemical pesticides, some of which were bought from the informal market and could potentially be POPs pesticides. After the implementation of the pilot project, a large number of these farmers (more than 1,000) have totally adopted the neem-based bio-pesticide, considered safe and eco-friendly, to produce their crops. Although, the evaluation team did not have the opportunity to undertake field missions at these pilot sites due to budget constraint (see Section 1.6), nevertheless one can easily understand the impact of this shift to the neem-based bio-pesticide. For instance, the farmers are no longer exposed to the chemical pesticides, and it is well known that exposure to these chemicals including POPs pesticides through diet or occupational exposure has been associated with a wide range of adverse health effects. Moreover, the environment is no longer being polluted with these synthetic pesticides. It is well accepted that widespread application of chemical pesticides has been blamed as being the main source of bringing POPs pesticides into the atmosphere and subsequently into oceanic and freshwater ecosystems.

Under the outcome, initiatives encouraging and promoting recycling and reuse of wastes such paper, plastics or e-waste have been undertaken in all the participating countries. Many countries have developed concepts / proposals to support for creation of micro and small enterprises by putting in place a financial assistance mechanism. Other initiatives and strategies have been developed, and it is too early to see any sign of behavioural changes as it is not known whether these have been implemented. However, the pilot project on e-waste recycling undertaken by Africa Institute in partnership with a private company in Lesotho has produced tangible results. The company, which is still operational and in business, is soundly managing e-wastes that they recover through a proper collecting system they have put in

²³ Standardized toolkit for the identification and quantification of dioxins and furan releases. Edition 2.1, December 2005, UNEP Chemicals

²⁴ TEQ: Toxic Equivalent is a unit to express the level of PCCD/F in the environment.

²⁵ See footnote 6

place. These results tend to indicate a gradual behavioural change occurring in Lesotho, as this type of waste was generally disposed along with general solid waste.

For **Outcome 3** that relates to identification and assessment of contaminated sites, practically no behavioral change has been observed given that the pilot study on remediation of contaminated site is not yet completed. The only notable change observed is at the pilot sites in Tengeru and Morogoro, where the contaminated sites are properly safeguarded.

Socially inclusive – As discussed in the previous paragraphs, the adoption of the neem-based bio-pesticide has positively impacted the lives of the farmers, who are generally from the vulnerable and poor communities. They are no longer exposed to the hazardous effects of synthetic pesticides, and they do not need to buy pesticides to protect their crops. They get the neem-based bio-pesticide free of charge. The neem-based bio-pesticide is produced from the neem seeds that farmers bring to the pilot facility using the equipment purchased through the project. It is unfortunate that the evaluation team could not undertake the field mission to the pilot sites in order to witness the operation. However, according to feedback²⁶, the farmers are very satisfied with this neem-based bio-pesticide, which has greatly improved their livelihood.

In all the countries, recycling of paper and plastic waste exist in the informal sector. All those involved generally come from the most vulnerable and poorest communities where they reuse these wastes to make products such as bags and baskets that they sell to sustain their livelihood. In some countries, initiatives have been proposed to assist those recyclers and to formalize this sector, however there is no indication whether those initiatives have been implemented yet. The evaluation recommends that the project and national authorities take actions to implement those initiatives in order to help those poor communities that would contribute to reduce poverty.

2.2.2. Broader adoption

This section addresses the catalytic effect of the project that includes the extent to which the projects' interventions have been adopted within a country or regionally, or beyond the domains and scales originally targeted. Given the numerous challenges and their nature related to BAT/BEP transfer in industry, identification and remediation of contaminated sites, and reduction of exposure at workplace, the achievement of the project objective to reduce POPs emissions through capacity building and strengthening in the participating countries is not likely to take place during the time span of the project. It requires that mechanisms to be put in place for continued process adoption to bring about behavioural change at broader scales after the projects end. The three mechanisms frequently used to promote the broader adoption of project interventions and innovations are: mainstreaming, replication and scaling-up.

Mainstreaming occurs when information, lessons or specific results generated by the project are incorporated into broader institutional mandates and operations such as laws, policies, regulations and programs. The evaluation found some evidence that mainstreaming is taking place in the participating countries. In Uganda for example, some of the recommendations made by the project for the sound management of chemicals (pesticides and industrial chemicals) have been considered and included in the national environmental bill. These recommendations have also been the starting point of a project funded by the UN Environment Special Programme on sound management of chemicals in Uganda (US\$250,000), which

²⁶ Feedback from the bio-pesticide expert involved in the pilot project

started in May 2018. In Rwanda, some of the recommendations made during regional workshop on solid waste management (4 – 6 September 2013, Durban, South Africa) have been considered and implemented during the construction of the new landfill in Kigali, the capital city. POPs have also been included in the national legislation in Rwanda. Besides these few initiatives, the evaluation has not evidenced any national plans or strategies for implementation of project results in future. This would be crucial for mainstreaming of project results at a national level after the project ends. The evaluation therefore recommends that such efforts should be encouraged in order to sustain the projects results and lessons.

Replication occurs when the initiatives, technologies or innovations supported by the project are reproduced or adopted on a comparable scale. All the regional training workshops on capacity building for BAT/BEP, on waste management and on bio-pesticides have been replicated at national levels. For the pilot project on bio-pesticide that has been successfully implemented in Rwanda and Uganda, the representatives of the other participating countries have expressed their wish of having this demonstration project replicated in their respective country. A regional strategy on production and application of neem-based bio-pesticide in the COMESA and SADC sub-regions was prepared by the RENPAP, India, and presented in April 2016, in Lusaka, Zambia. Approval of this strategy by the COMESA and SADC Secretariats would result in its adoption and implementation in its member countries. Besides Rwanda and Uganda where the pilot project on bio-pesticide was run, national training workshops were also organized in Swaziland and Tanzania. There are indications that farmers in these two latter countries have also started to produce neem-based pesticides for crop protection against a variety of pests.

For the pilot projects on the textile and leather sectors, tangible positive results have been obtained and have had very positive impact on the pilot companies (see Section 2.2.1). According to the Textiles Industrial Development Institute (TIDI) that was responsible to implement the pilot project at KTSC, there is great scope of replication in other selected companies. According to TIDI, these companies would however require technical as well as financial assistance. Regarding the pilot project on leather, the COMESA Secretariat has expressed its interest in the replication and expansion of project results, within the framework of a collaboration with its Leather and Leather Products Institute²⁷ (COMESA/LLPI) based in Addis Ababa, Ethiopia. This collaboration would support a replication and expansion of project results, BAT/BEP in industrial production processes (Outcome 1), specifically in the leather sector, within the 19 COMESA countries.

These pilot projects (textile, leather, bio-pesticides and remediation of contaminated sites) have been implemented in selected countries in order to demonstrate that reducing the use or release of POPs chemicals is possible through BAT/BEP or use of alternative chemicals. To promote replication and sustainability, the evaluation recommends that the experience gained and lessons learned from these pilot projects should be gathered, summarized and shared with the other participating countries. Moreover as gathered through the interviews, the countries reported that they do not have the financial resources for replication of these interventions. The project (UNIDO and other partners such the COMESA and SADC Secretariats) could consider putting in place the appropriate mechanisms (e.g. follow up projects) so that the other countries benefit also from the results of the pilot projects.

Scaling-up takes place when the project supported interventions are implemented at a larger scale. These can be administrative, geopolitical, ecological or business scales. Initiatives that

²⁷ <http://www.comesa-llpi.int/>

are scaled up are often expanded or adapted to accommodate new aspects or concerns relative to the new scales. For these projects, the evaluation could not find any intervention supported by the project that was scaled up.

The project has produced tangible results, especially at the pilot sites where behavioral changes are already seen and impact very positive. However, given that some activities have not been completed (pilot project on phytoremediation) or have not been undertaken (implementation of sound health-care waste management system at pilot scale), and efforts to mainstream or replicate projects' results are not evidenced, overall rating on effectiveness is **Moderately Satisfactory**.

3. Project's quality and performance

3.1. Design

A participatory approach was applied during the project identification process applied and this was instrumental in selecting problem areas and national counterparts. The participating countries stressed a need for strengthened capacity, to implement the obligations under the Stockholm Convention, in a range of areas from building capacity through providing technical support; institutional, legislation, regulation, implementation and enforcement capacities; research, development and dissemination of technical capability for alternative technologies; capacities in POPs stockpiles and wastes identification, management and disposal; capacities in identifying and remediating contaminated sites; capacities in information exchange, public information, through to awareness raising and education. The projects include thematic areas requested by the countries, as well as those mentioned in their NIPs.

The projects have clear thematically focused development objectives, namely, to reduce POPs emissions through strengthening and /or building capacity required in LDCs of the COMESA and SADC Sub-regions to implement their NIPs in a sustainable, effective and comprehensive manner while building upon and contributing to strengthening the country's capacities for sound management of POPs chemicals, and verifiable indicators to determine its achievement. The projects are formulated based on the logical framework approach. However, the design appears to be activity based as the verifiable SMART²⁸ indicators mentioned in the logical framework are for activities and outputs only and not for outcomes. The lack of indicators for outcomes is considered a weakness as these would have allowed for better tracking of results. The assumptions provided for outputs in the logical framework are realistic.

The project was designed to address the identified problems, and besides the project management and M&E component, it included 3 outcomes on capacity building and demonstration projects covering different thematic areas – BAT/BEP, waste management, bio-botanical pesticides, and contaminated sites. As discussed in Section 2.1, the pilot demonstration of BAT/ BEP in waste oil refinery was not carried out as this sector was not identified in the two sub-regions. This clearly indicates that the problems were not properly identified during the preparatory phase. Project Design is rated **Moderately Satisfactory**.

3.2. Relevance

The projects are highly relevant as they assisted the participating countries, which are all parties to the Stockholm Convention, to fulfill their obligations towards the Convention. In

²⁸ SMART indicators: specific, measurable, achievable, relevant and time-bound indicators

particular, the projects were designed to build and / or strengthen the capacity to address the problems identified during the preparatory phase. The thematic areas covered under the projects were based on the countries' national priorities and are mentioned in their NIPs. The national stakeholders interviewed confirmed the high relevance of the project. They greatly appreciated the training workshops that covered various sectors such as BAT/BEP, waste management and alternatives to chemical pesticides. The direct beneficiaries of the pilot projects also highly praised the project. The KTSC, for example, were very thankful to the project. They stated that the project interventions had a very positive impact: employees are more confident to operate equipment, increased efficiency and productivity and less waste generated, customers more satisfied, and their products more competitive and well accepted in European markets given that they now use certified green chemicals in the production.

The project outcomes are consistent with the operational program strategies of the GEF²⁹. They are in particular much in line with GEF's goal in the POPs focal area, which is to protect human health and the environment by assisting countries to reduce and eliminate production, use and releases of POPs, and consequently contribute generally to capacity development for the sound management of chemicals. Under GEF-4, this goal was to be achieved by amongst others: strengthening capacities for NIP implementation, including assisting those countries that lag farthest behind to establish basic, foundational capacities for sound management of chemicals.

The lack of capacity and awareness of POPs issues in developing countries, and particularly in LDCs can lead to contamination of the environment by POPs, resulting in damage to health of human beings and risk to the poor is particularly high³⁰. The projects aim at strengthening capacities to enable the countries to comply with their obligations set out in the SC, lay a sound foundation in the sub-regions to fulfill their commitments; and supports their chemical management regimes, which in turn would contribute to protect human health and environment from the threat of POPs. Finally, the projects are in line with the objectives of the Stockholm Convention on POPs and priorities at national level.

The projects are also in line with UNIDO priorities and the renewed mandate on Inclusive and Sustainable Industrial Development (ISID). UNIDO's Mission Statement (IDB.39/13/Rev.1) includes safeguarding the environment – "UNIDO aspires to reduce poverty through sustainable industrial development. We want every country to have the opportunity to grow a flourishing productive sector, to increase their participation in international trade and to safeguard their environment", and reiterates the flexible UNIDO approach for ISID – "Differentiate and adapt our approaches and methodologies according to the needs of countries at different stages of development".

One of the pillars of the ISID is "Safeguarding the Environment - environmentally sustainable growth, via cleaner industrial technologies and production methods, including in the fields of waste management and recycling; the promotion, adaptation and transfer of environmentally

²⁹ Focal Area Strategies and Strategic Programming for GEF-4, October 4, 2007. GEF Policy Paper, October 2007.

³⁰ Ibid. "Although most intentionally-produced POPs have been banned and are being phased out in OECD countries, the situation in developing countries, and particularly in Least Developed Countries, is one characterized in many instances by inadequate legislative and regulatory frameworks, coupled with the near absence of capacity for enforcement and lack of awareness of the hazards associated with POPs exposure. As a result, the limited local capacity can lead to regional and ultimately global contamination of the environment by POPs, with damage to the health and well-being of human populations, particularly the poor that are at greatest risk."

sound technologies, under which UNIDO aims to assist countries in reaching compliance with the Stockholm Convention and aims at developing capacities in developing countries to protect their populations and their environmental resources from POPs-related pollution”.

Given that the projects are responding to the needs of the countries and they are in line with GEF Chemicals Focal area and UNIDO mandates, rating on relevance is **Highly Satisfactory**.

3.3. Efficiency

The CEO endorsement dates were 16 March 2011 (SADC) and 13 April 2011 (COMESA) and project implementation started officially at UNIDO on 10 May 2011 and 02 June 2011 respectively. The projects were planned for a duration of 5 years and ending in June 2016. However due to significant delays, discussed in the following paragraphs, the projects have been granted four (4) extensions to officially close in December 2018, representing an extension of 2 ½ years overall. A full agency mode of execution was applied with UNIDO managing the GEF funds. The procurement of equipment and goods as well as the recruitment of consultants and the organization of regional meetings and workshops were done by UNIDO. However, for 8 activities mentioned in Section 2.1, US\$30,000 was transferred to each of the executing agencies (Ministries of Environment) of the participating countries to conduct these activities at national level.

According to feedback gathered during the field missions, part of the delays was due to the countries that were slow to conduct the 8 national activities. To run those activities, a contract was signed between the countries and UNIDO. Because of the delays encountered the duration of the contract had to be extended for up to two years in some cases. Among the reasons put forward was lack of personnel and experts at country level, funds not sufficient, or movement of personnel. For instance, some counterparts stated that they were involved in many projects on top of their daily work in office, and it was hard for them to deliver in time. In some countries, it was not easy to find the appropriate local experts to undertake the activities. Other countries mentioned that the National Project Coordinator changed and it was challenging for the successor to take over.

Delays were also encountered at the pilot project sites. For the pilot project on dyeing and finishing in textile sector at KTSC in Ethiopia, delays were encountered for the validation of the feasibility study that was undertaken by local experts. It took more than one year after the submission of the report for international experts recruited by UNIDO to go to KTSC to validate the report. The procurement of equipment also took time. At ATLIC, the pilot site for dyeing and finishing in the leather sector, the final validation report of the feasibility study was submitted in December 2016, and it took almost 2 years for the project to procure the set of equipment (see Section 2.1) recommended by the feasibility study. The equipment were commissioned in November 2018 at ATLIC. This delay was due to the long UNIDO administrative and procurement procedures (draft of specifications, bidding exercise, selection of service providers, many layers of approvals, purchase, shipping, etc.) and also the time required (6 months) for the service provider to manufacture the set of equipment. For the phytoremediation of contaminated site pilot study in Tanzania, significant delays were also encountered due to a number of challenges. However, the main reason was the considerable time required by the TPRI to analyze the plant samples submitted by the project³¹. Despite several requests by the project, TPRI was not sending the results. It was found out after more

³¹ In order to determine whether a plant is effective for phytoremediation, it is vital to analyze the plant grown on a contaminated soil, and determine whether there has been significant uptake of contaminant by the plant.

than 1 year that due to a broken instrument TPRI could not do the analyses. The plant samples were then taken from TPRI and sent to TUT in South Africa for analysis, delaying the process by another year.

The delays did not affect the cost effectiveness of the projects. The funds budgeted for the pilot project on used oil, which was not run (See section 2.1), were re-allocated to the other pilot projects³². All the outputs were satisfactorily delivered and the project management costs (US\$49,001 for COMESA and US\$46,528 for SADC)³³ were kept well within 10% for both project - 2% for COMESA and 3.1% for SADC. Tables 2 and 3 report the expenditures of GEF funds for the two projects. While the figures appear adequate in terms of expenditure per item (budget line), it is very difficult to reconcile these figures with those of the project documents as the allocation of funds in the project documents per components (or outputs/activities) while the figures in the two tables are according to budget lines (items).

Table 2: Total expenditures for the COMESA project – GEF funds only

Expenditure USD	2012	2013	2014	2015	2016	2017	2018	Total	%
Contractual Services	32,012	37,425	112,036	189,433	84,108	-10,727	67,730	512,017	20,4%
Equipment	1,995	890	174,675	6,678	167,029	390,354	29,603	771,224	30,8%
International Meetings	164,852	113,409	42,691	75,009	20,553	11,734	17,523	445,771	17,8%
Local travel	58,506	50,812	38,769	36,752	30,534	15,382	7,122	237,877	9,5%
Nat. Consult./Staff	15,077	11,572	19	0	19,229	288	14,851	61,036	2,4%
Other Direct Costs	5,275	2,450	5,712	3,373	761	1,076	1,687	20,334	0,8%
International Consultants	48,616	56,142	59,265	57,274	65,926	22,045	30,068	339,336	13,5%
Train/Fellowship/Study	65,717	974	0	3,585	31,508	6,052	2,535	110,371	4,4%
Total	392,050	273,674	433,167	372,104	419,648	436,204	173,137	2,497,966	100%

Table 3: Total expenditures for the SADC project – GEF funds only

Expenditure USD	2012	2013	2014	2015	2016	2017	2018	Total	%
Contractual Services	0	34,991	89,138	157,920	-13,537	38,149	15,427	322,088	21,5%
Equipment	1,671	- 198	80,133	3,076	69,441	- 467	1,162	154,819	10,3%
International Meetings	129,976	98,331	19,392	30,340	854	3,256	11,273	293,423	19,6%
Local travel	35,281	36,277	39,122	31,541	24,131	6,896	37,702	210,951	14,1%
Nat. Consult./Staff	0	10,372	4,899	1,712	33,631	13,579	3,681	67,873	3,4%
Other Direct Costs	1,447	3,523	42,248	2,791	877	1,155	33	52,074	3,4%
International Consultants	18,419	51,263	55,487	64,623	60,894	27,520	36,202	314,408	21%
Train/Fellowship/Study	41,473	4,323	17,720	4,101	8,024	- 3,004	4,772	77,409	5,1%
Total	228,267	238,882	348,139	298,604	181,815	87,084	110,522	1,493,045	100%

According to feedback from interviews, the countries were satisfied with the guidance and technical assistance provided by UNIDO, the RCs as well as the international experts. No issues were reported regarding communication with UNIDO PM or the RCs. In case of queries, both the UNIDO PM and the RCs could be contacted easily via e-mail, Skype or telephone and they were quick in answering the queries.

The materialization of co-financing was significant. As reported in Table 4, a total of US\$4,719,770 materialized representing about 89% of the total planned co-financing at design for both projects. The active involvement of national counterparts allowed the satisfactory implementation of the 8 national activities. Although not significant in terms of co-financing,

³² Feedback from UNIDO PM

³³ Figures provided by UNIDO PM

the active involvement of Africa Institute also (see Table 4) as one of the co-executing agency was an important factor that contributed to the satisfactory implementation of the projects.

Given that cost effectiveness of the projects were not affected by the delays, the good technical guidance provided to the countries and the significant materialization of co-financing, the rating on efficiency is **Satisfactory**.

Table 4: Co-financing for the two projects

Countries /Agency	Co-financing at design	Co-financing materialized
	Cash + In kind (US\$)	Cash + In kind (US\$)
Burundi*	350,000	86,040
Ethiopia*	200,000	248,280
Rwanda*	175,000	214,200
Sudan*	350,000	147,050
Uganda*	200,000	88,029
UNIDO	1,000,000	1,000,000
AUC	110,000	110,000
SAICM + SSC	504,855	504,855
Sub-Total	2,889,855	2,398,454
Eswatini**	150,000	165,795
Lesotho**	350,000	258,035
Mozambique**	350,000	394,701
Tanzania**	350,000	233,250
UNIDO	700,000	700,000
AUC	110,000	110,000
SAICM + SSC	420,864	420,864
Sub-Total	2,430,864	2,282,845
Africa Institute		38,671
Grand Total	5,320,719	4,719,770

*COMESA countries; **SADC countries: ***co-financing from 2012 to 2016

3.4. Sustainability

Sustainability is understood as the likelihood of continued benefits after the project ends. Sustainability is assessed in terms of the risks confronting the project, the higher the risks the lower the likelihood of sustenance of project benefits. The four dimensions or aspects of risks to sustainability as mentioned in the TOR namely sociopolitical, financial, environmental, and institutional frameworks and governance risks are discussed below.

Sociopolitical risks – All the participating countries of the two projects have signed and ratified the Stockholm Convention, and they have also transmitted their NIPs on POPs to the Stockholm Convention Secretariat (SCS). Furthermore, many of the participating countries are implementing (or have implemented) other projects related to the sound management of POPs. For example, the following SADC countries Eswatini, Lesotho, Mozambique and Tanzania are participating in the 5-year GEF funded and UNIDO-implemented project “*Promotion of BAT and BEP to reduce uPOPs releases from waste open burning in the participating African countries of SADC subregion*”³⁴, which started in April 2016. Finally, ownership of the projects by countries are considered high as evidenced during interviews. For these reasons, sociopolitical risks are considered low.

Financial risks – As already mentioned in the project document, according to the information obtained from the NIPs documents of the COMESA and SADC Member countries, the

³⁴ GEF ID: 5322

financial resources to implement elements of their NIPs is huge compared to what can be made available by the respective countries. During the interviews, the countries again reaffirmed that they would require financial resources to sustain and replicate the projects results and benefits. For example, they recognized that the pilot projects, more specifically those in textile, leather and bio-pesticides were successful and had very positive impacts. They indicated that while sustainability at the pilot sites might not be a challenge, replicating these efforts within the pilot countries and within sub-regions would however require both financial and technical assistance. For these reasons, financial risks are thus considered high.

Institutional framework and governance risks –The current governments have demonstrated high ownership of the projects. While it is not possible to foresee the priorities of future governments, the participating countries will remain bound to their obligations to conform to the Stockholm Convention. There is no particular reason to expect that future governments will not fulfill these obligations. Furthermore, as mentioned earlier (section 1.2), UN Environment is implementing the institutional and regulatory framework component. In particular the strengthening of the national regulatory framework of the countries would ensure compliance with the requirements of the Stockholm Convention. For these reasons, risks concerning institutional framework and governance are considered low.

Environmental risks – The projects are considered ecologically sustainable as they were designed to build the capacities of the participating countries for the sound management of chemicals and wastes. This would enable the countries to implement their NIPs, which would contribute to reduce emissions of POPs to the environment. Furthermore, as no environmental risk that can influence or jeopardize the projects outcomes and future flow of projects benefits has been identified, environmental risk is considered low.

Although the risks for the other aspects of sustainability are low, given that the financial risks are high, sustainability of the projects is rated **Moderately Likely**.

3.5. Gender mainstreaming

Gender data have been compiled for the project activities as at the time of project formulation, inclusion of gender consideration was not a requirement under the GEF-4. However, although the projects did not focus on gender in any of their activities, they did not exclude members of any gender in their activities or in the project management teams. Through recommendation of the midterm evaluation, the projects kept record on gender issue. For the SADC project, according to figures available for regional and national workshops, a total of one thousand and two hundred seventy seven (1,277) people attended the workshops, of which 824 were males and 453 females while in COMESA, one thousand one hundred forty three (1,143) people where 728 were males and 415 were females. They came from different governmental agencies, public and private sectors, academia, etc. in the 4 participating SADC countries. They were trained on BAT/BEP measures on textile, leather, informal sector, e-wastes, contaminated sites, municipal solid waste management, production and application of bio-pesticides as well as sampling and analysis of POPs. Example of women participation in the project is shown in Picture 2 taken at KTSC, the pilot site for textile.

Picture 2: Picture taken at Pilot Project site: KTSC, Ethiopia



The projects have been beneficial to the population living near the pilot sites irrespective of their race, age or gender. By reducing the emission of POPs through the numerous initiatives such as the pilot projects (see Section 2.2.1), the projects have reduced risks that specifically affect women, young children and personnel at work place. POPs are highly toxic chemicals that pose risks to all human populations causing severe health problems such as reproductive and developmental problems, interfere with hormones and can cause cancer. For example, research has shown that POPs can cause birth defects, and premature birth or to low-weight babies³⁵. Men can also be specifically affected such as reduced sperm count³⁶.

³⁵ Toichuev, et al.. 2017b. "Organochlorine Pesticides in Placenta in Kyrgyzstan and the Effect on Pregnancy, Childbirth, and Newborn Health." *Environ Sci Pollut Res*. <https://doi.org/10.1007/s11356-017-0962-6>.

³⁶Galimova EF, Amirova ZK, Galimov SN (2015) "Dioxins in the semen of men with infertility". *Environ Sci Pollut Res Int*. 22(19):14566-14569.

4. Performance of Partners

4.1. UNIDO

Implementation is rated as **Highly Satisfactory**. The UNIDO PM carried out field visits to the countries and monitored budget execution and achievement of outputs and results. UNIDO also assisted pilot projects in the identification of international experts and in the transfer of state-of-the-art technologies and best practices. UNIDO also facilitated the organization of the regional workshops by identifying and recruiting the appropriate resource persons and experts. The UNIDO Regional Office in Pretoria, South Africa, was also actively involved in the projects, mainly through facilitating communication and contact, advisory services and selection of pilot sites. The UNIDO regional office in Ethiopia and the country office in Sudan facilitated the entry of equipment purchased by the project for the pilot projects at KTSC and ATLIC respectively. To allow for completion of activities, UNIDO showed flexibility and foresight by requesting four project extensions at no additional costs. The continuous support provided by UNIDO and the dedication in project management were key factors in the good performance of the projects. Feedback gathered during interviews confirmed the quality support and guidance provided by UNIDO.

4.2. National counterparts and Regional Institutions

National execution is rated as **Satisfactory**. In all the participating countries, the project was under the responsibility of the Ministry of Environment. As planned, a National Project Management Unit (NPMU) was established and was coordinated by a National Project Coordinator (NPC), who was the POPs National Focal Point³⁷. In most countries, the NPC benefitted from the support of an internal staff. The countries were responsible to execute 10 of the 48 activities of the project (See Section 2.1). In general, the countries performed well and they all succeeded to complete the activities and to deliver the outputs satisfactorily. However, many were slow to start due to various reasons. The high work load of the NPCs was the main reason raised by all the countries. During the interviews, all the participating countries indicated that in addition to their daily work (some of them were already involved in the execution of other projects), tasked with the responsibility to execute the project activities increased the workload of the NPCs considerably. All the NPCs were nevertheless committed, and with the support of UNIDO and the RCs, the countries succeeded in achieving the project results. The materialization of national counterpart co-financing (Table 4) also contributed to this achievement. The active involvement in regional activities such workshops and PSC meetings, and the meaningful contribution of the COMESA Secretariat was also key for the projects to achieve success. On the other hand, the SADC Secretariat was not very active.

4.3. Donor

GEF was the main donor for these two projects. The funds were available and transfers were timely and adequate. Rating is **Satisfactory**.

³⁷ Generally the Director of Environment

5. Factors facilitating or limiting the achievement of results

5.1. Monitoring & evaluation

M&E Design. The project documents included a detail description of the project's M&E activities. These included annual reports, tripartite annual review reports that were done through the Project Coordinating Body (PCB) meetings, Project Implementation Review (PIR) reports for the GEF, an independent midterm evaluation, a terminal report and an independent terminal evaluation. M&E activities included a regional inception workshop with representatives of all participating countries, annual tripartite meetings (between the national counterparts, project management, UNIDO and UNEP), annual regional Project Steering Committee (PSC) meetings (between national counterparts, UNIDO, project management, Africa Institute, COMESA and SADC Secretariats) and annual visits to selected project sites. The system was designed to provide information for monitoring progress, and to learn and to make adjustments for successful completion of activities. This M&E plan is adequate to track progress at activities and outputs level, but not at results level given that indicators for outcomes are lacking in the logical framework.

M&E Implementation. The approach adopted for implementation was that all regional PSC meetings as well as all regional activities such as training workshops or pilot projects were done in common for both COMESA and SADC projects. However, each RC of the two sub-regions had to report (PIR reports, annual reports, etc.) separately. Based on information available, it is clear that the project results framework was used as a basis for project implementation, and the SMART verifiable indicators therein were used to track progress at output level rather than at results level. The projects produced the annual as well as the PIR reports, which were used to keep track of project outputs and targets. Similarly, tripartite and regional PSC meetings were used to assess progress and adapt the projects to changing conditions or unforeseen circumstances. The midterm evaluation, which was carried out in March 2016, was very detailed and comprehensive. It made nine recommendations, six to UNIDO and three to the countries. All were addressed adequately by the project. The project encountered several unforeseen situations that required adaptive management. Project management dealt with these situations accordingly. For example, the implementation of activities 3.1.1 and 3.1.2 on contaminated sites were delayed due to the analysis of POPs in samples collected at the pilot sites. SUA and TPRI have collaborated for the analysis of the samples, however, due to defect equipment at TPRI, the analysis could not be completed, which resulted in a delay of 8 months. Only on the intervention of the UNIDO PM in consultation with the Vice President Office of Tanzania (within which is found the Department of Environment), that in April 2018 samples were retrieved from TPRI and sent to TUT, Pretoria for further analysis. Upon the intervention of UNIDO, TUT agreed to undertake the analyses at a significantly reduced costs, which kept the budget for these activities within the planned budget. All the annual regional PSC meetings, ten (10) in total, as well as six (6) PCB meetings were undertaken. For cost effectiveness, the PCB meetings were planned back-to-back with the regional PSC meetings at the same venue. As mentioned previously Africa Institute was tasked to measure impact indicators on annual basis. However, although it developed impact assessment tables, there is no evidence that the participating countries provided information to fill those tables. Africa Institute reported satisfactorily during the PSC meetings. Similarly, while the countries reported on progress made for the national activities, the RCs reported on the regional activities such as the regional workshops, they also reported on progress made in the pilot projects. Progresses were adequately assessed, corrective measures proposed and recommendations made during these meetings. For example, at the

7th PSC meeting held in Maputo, Mozambique, March 2016, due to delays encountered it was recommended that activities 1.1.3 and 1.1.4 to be implemented as part of the BAT/BEP Forum Action Plan and activities 2.3.6 and 2.3.7 to be implemented in collaboration with Africa Institute.

Budgeting and Funding for M&E actives. A total amount of USD 140,000 and USD 100,000 were budgeted for M&E activities for the COMESA and SADC projects respectively. In general, the funds allocated for the different M&E activities were adequate except for the independent midterm and terminal evaluations. For both exercises, due to budget constraints, it was not possible to undertake field visits to all the pilot project sites. Nevertheless, those two activities were successfully completed.

Rating on M&E is **Satisfactory**.

5.2. Results-Based Management

The United Nations Development Group defines results-based management (RBM) as “a management strategy by which all actors, contributing directly or indirectly to achieving a set of results, ensure that their processes, products and services contribute to the achievement of desired results (outputs, outcomes and higher-level goals or impact). The actors in turn use the information and evidence on actual results to inform decision-making on the design, resourcing and delivery of programmes and activities as well as for accountability and reporting.”³⁸ The key elements of RMB are (i) Focusing the dialogue on results at all phases of the development process; (ii) Aligning programming, monitoring and evaluation with results; (iii) Keeping measurement and reporting simple; (iv) Managing for, not by results; and (v) Using results information for learning and decision making.

As mentioned previously, one major weakness of the project design was the lack of indicators for outcomes. The M&E plan was thus designed for monitoring progress at outputs level rather than at results level. The approach adopted for the implementation of the two projects therefore is not exactly a RBM approach. Nevertheless, as discussed in the previous sections (4.1, 4.2 and 5.1) monitoring and tracking progress at outputs levels were satisfactorily done through a participatory approach involving all key stakeholders during the annual PSC meetings. Reporting by countries and RCs were adequate and kept simple. Africa Institute was contracted to measure impact indicators. Following information provided by the executing partners and the results obtained, adaptive measures were taken and recommendations made by management for successful implementation and achievement of objectives. Rating on Results-Based Management is **Moderately Satisfactory**.

5.3. Other factors

Factors that had a positive effect on project results – The projects were adequately designed proposing relevant, precise, and concise information to allow for the achievement of project objectives. In particular, the project documents provide a project coordination and management structure at regional as well as at national level, and also describes the role and responsibilities of key stakeholders and executing partners (see Section 1.4).

Committed and pro-active project team in particular the UNIDO PM and the RCs facilitated an effective implementation of the project. They were successful in coordinating activities and

³⁸ United Nations Development Group, results-based management Handbook: Harmonizing RBM concept and approaches for improved development results at country level” edited draft October 2011, p 2

getting key stakeholders involved in the project through good and frequent communication. Recruitment of high quality experts was also a key factor for success. In particular, the guidance and expertise they provided greatly contributed to successful best available technology transfer and adoption of best environmental practices at the pilot sites.

The support provided by the COMESA secretariat and Africa Institute in project execution as well as their active participation in the PSC meetings were also key factors for successful completion of activities. For example, the Africa Institute secured the cooperation of the Ethekewini Metropolitan Municipality of Durban to organize a training workshop for waste management personnel from the participating SADC and COMESA countries. The COMESA secretariat was very much involved in the development of the regional strategy on production and application of neem-based bio-pesticide in collaboration with RENRAP, India (See section 2.2.2). It has also expressed interests to replication the pilot project on textile in the sub-region (Section 2.2.2).

Factors that hampered project results or sustainability – The major factors that hampered the implementation process were the delays encountered by the projects. In order to allow for completion of project activities, four no cost extensions were granted, the projects ended in December 2018 – 2 ½ years longer than anticipated. It should be pointed however that similar projects (same size and duration) generally require between 2 to 3 years extension for completion. As discussed in depth earlier (Section 3.3), time required to validate feasibility studies at pilot sites, procurement of equipment for pilot projects and instrument defect during analysis of SUA samples were among the major reasons for delays.

The involvement of the SADC secretariat in the execution of project activities was low at the beginning and non-existent towards the end³⁹, but this did not actually impact on the implementation process for the SADC project as UNIDO and the RC were committed to completion of project activities. Moreover, given that the COMESA and SADC projects were jointly implemented, the SADC project benefitted from the input and support of the COMESA secretariat. For example, the regional strategy developed to replicate the bio-pesticide pilot project would also be applicable for the SADC sub-region. However, a more active role of the SADC Secretariat would be required during the replication stage of project results. It is therefore vital to secure the SADC Secretariat for this purpose.

Rating on other factors is **Satisfactory**.

5.4. Overarching assessment and rating table

Tables 5a and 5 b below summarize the assessment of the COMESA and SADC projects

Table 5a: Summary of Assessment and Ratings for COMESA project

	Evaluation criteria	Evaluator's summary comments	Rating
A	Impact (progress toward impact)	Already some visible signs of impact at the leather, textile and bio-pesticide pilot sites. However the pilot project on phytoremediation of contaminated site not completed	MS
B	Project design		MS

³⁹ Notes taken from PIR FYI 2018: “SADC Secretariat continued to become a non-participant in the execution of project activities. UNIDO in its part continued, however, to remind the Secretariats about their vital role in executing project activities.”

1	<ul style="list-style-type: none"> Overall design 	Participatory approach adopted to develop project. The components and interventions included in the project adequate and relevant to the achievement of project objectives.	S
2	<ul style="list-style-type: none"> Logframe 	The logical framework approach was adopted. Although it contains baseline and target values as well as well-defined SMART indicators for outputs and activities, the logical framework lacked indicators for outcomes that would have allowed better tracking of results	MS
C	Project performance	All stated objectives achieved	S
1	<ul style="list-style-type: none"> Relevance 	The project is relevant to national priorities, and was designed to assist the participating countries to implement some elements of their NIP	HS
2	<ul style="list-style-type: none"> Effectiveness 	Most stated objectives achieved but pilot project on phytoremediation of contaminated soil not completed. Pilot project on medical waste management also not undertaken	MS
3	<ul style="list-style-type: none"> Efficiency 	Despite delays, most activities completed within budget and project management costs kept within allocated budget	S
4	<ul style="list-style-type: none"> Sustainability of benefits 	While socio-political and institutional framework & governance risks are low, there are some financial risks, therefore the sustainability of project outcomes is moderately likely.	ML
D	Cross-cutting performance criteria		
1	<ul style="list-style-type: none"> Gender mainstreaming 	Although gender aspect was not a requirement for this project (GEF-4), involvement and participation of women in the project was satisfactory	S
2	<ul style="list-style-type: none"> M&E: <ul style="list-style-type: none"> ✓ M&E design ✓ M&E implementation 	The logical framework proposed is adequate to allow for proper monitoring and tracking of project results. SMART indicators in logical framework used to monitor project progress. All PSC meetings held and relevant reports (e.g. PIRs) submitted timely.	MS
3	<ul style="list-style-type: none"> Results-based Management (RBM) 	The lack of indicators for outcomes, which would have allowed for better tracking of results, is a weakness of the design.	MS
E	Performance of partners		
1	<ul style="list-style-type: none"> UNIDO 	The role of UNIDO was crucial for the project to meet its objectives. It has taken timely and critical actions, and provided technical back-stopping by hiring quality international and national experts and introducing BAT/BEP to national counterparts. Procurement of goods and services for the project were also timely done.	HS
2	<ul style="list-style-type: none"> National counterparts and Executing partners 	Involvement of national stakeholders was adequate and allowed for successful completion of national activities. COMESA secretariat and Africa Institute contributed meaningfully in project execution	S
3	<ul style="list-style-type: none"> Donor 	GEF funds available and mobilization of co-funding contributed to successful delivery of outputs	S
F	Overall assessment		MS

RATING OF PROJECT OBJECTIVES AND RESULTS

- Highly satisfactory (HS): The project had no shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Satisfactory (S): The project had minor shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Moderately satisfactory (MS): The project had moderate shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Moderately unsatisfactory (MU): The project had significant shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Unsatisfactory (U) The project had major shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Highly unsatisfactory (HU): The project had severe shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Likely (L): There are no risks affecting this dimension of sustainability.
- Moderately likely (ML). There are moderate risks that affect this dimension of sustainability.
- Moderately unlikely (MU): There are significant risks that affect this dimension of sustainability.
- Unlikely (U): There are severe risks that affect this dimension of sustainability.

Table 5b: Summary of Assessment and Ratings for SADC project

	Evaluation criteria	Evaluator's summary comments	Rating
A	Impact (progress toward impact)	Already some visible signs of impact at the leather, textile and bio-pesticide pilot sites. However, the pilot project on phytoremediation of contaminated site not completed	MS
B	Project design		MS
1	<ul style="list-style-type: none"> Overall design 	Participatory approach adopted to develop project. The components and interventions included in the project adequate and relevant to the achievement of project objectives.	S
2	<ul style="list-style-type: none"> Logframe 	The logical framework approach was adopted. Although it contains baseline and target values as well as well-defined SMART indicators for outputs and activities, the logical framework lacked indicators for outcomes that would have allowed better tracking of results.	MS
C	Project performance	All stated objectives achieved	S
1	<ul style="list-style-type: none"> Relevance 	The project is relevant to national priorities, and was designed to assist the participating countries to implement some elements of their NIP	HS
2	<ul style="list-style-type: none"> Effectiveness 	Most stated objectives achieved but pilot project on phytoremediation of contaminated soil not completed. Pilot project on medical waste management also not undertaken	MS
3	<ul style="list-style-type: none"> Efficiency 	Despite delays, most activities completed within budget and project management costs kept within allocated budget	S
4	<ul style="list-style-type: none"> Sustainability benefits of 	While socio-political and institutional framework & governance risks are low, there are some financial risks, therefore the sustainability of project outcomes is moderately likely.	ML
D	Cross-cutting performance criteria		
1	<ul style="list-style-type: none"> Gender mainstreaming 	Although gender aspect was not a requirement for this project (GEF-4), involvement and participation of women in the project was satisfactory	S
2	<ul style="list-style-type: none"> M&E: <ul style="list-style-type: none"> ✓ M&E design ✓ M&E implementation 	The logical framework proposed is adequate to allow for proper monitoring and tracking of project results. SMART indicators in logical framework used to monitor project progress. All PSC meetings held and relevant reports (e.g. PIRs) submitted timely.	MS
3	<ul style="list-style-type: none"> Results-based Management (RBM) 	The lack of indicators for outcomes, which would have allowed for better tracking of results, is a weakness of the design.	MS
E	Performance of partners		
1	<ul style="list-style-type: none"> UNIDO 	The role of UNIDO was crucial for the project to meet its objectives. It has taken timely and critical actions, and provided technical back-stopping by hiring quality international and national experts and introducing BAT/BEP to national counterparts. Procurement of goods and services for the project were also timely done.	HS
2	<ul style="list-style-type: none"> National counterparts and Executing partners 	Involvement of national stakeholders was adequate and allowed for successful completion of national activities. Africa Institute contributed meaningfully in	MS

	Evaluation criteria	Evaluator's summary comments	Rating
		project execution. Very low contribution of SADC Secretariat	
3	• Donor	GEF funds available and mobilization of co-funding contributed to successful delivery of outputs	S
F	Overall assessment		MS

6. Conclusions, recommendations and lessons learned

6.1. Conclusions

The two projects have been successful in achieving most of the stated objectives. In particular, they have helped build capacity in the participating countries to reduce POPs emissions and to soundly manage POPs chemicals and contaminated sites. The theory of change proposed by the evaluation mentions that 5 necessary preconditions should be in place for behavioral change and impact in the participating countries (Section 1.4 and Annex 5). The project greatly contributed to the development of these five necessary preconditions.

- The projects have successfully provided adequate training to 55 experts of the nine (9) participating countries on BAT/BEP in textile and leather sectors through regional workshops.
- Thanks to the projects, BATs have been successfully transferred to the pilot sites at Kombolcha Textile Share Company in Ethiopia and at Al-Amatong Tanning and Leather Industry Company, in Sudan. The projects have also facilitated the adoption of BEP at these sites for the sound management of their wastes. The projects interventions have already produced tangible results (increased productivity and significant cost savings) and visible positive impacts are already seen (less POPs released to the environment)
- The projects helped to raise the awareness of workers in the waste sector in adopting BEP to reduce release of dioxins and furans and to minimize risk exposure to these toxic chemicals. The projects have also produced an updated Medical Waste Management Manual as well as Health Care Waste Management Strategy for SADC and COMESA Countries.
- Thanks to two regional as well as national workshops undertaken by the projects, the capacities of at least twenty (20) experts in each of the nine (9) participating countries have been built to identify and manage contaminated sites. In particular, the trainings were to enable the experts collect scientific data from contaminated sites and assess potential risks to humans, wildlife and the environment.
- The project assisted in the implementation of the pilot project on remediation of identified contaminated sites in Tanzania (PPO Tengeru and NHC-Morogoro). The UNIDO toolkit was very useful in identifying the phytoremediation technique to remediate the contaminated sites. The preliminary results are promising but the pilot study is not yet complete during the terminal evaluation exercise.

The project was slow to start and faced many challenges resulting in significant delays during implementation. By taking corrective actions and making necessary adjustments following recommendations made by the midterm evaluation, project management, adequately

supported the COMESA Secretariat and Africa Institute, was able to get the project on the right track. In the end, despite delays of about 30 months, the projects have been quite successful in the delivery of outputs and achieving results.

Given that some financial risks have been identified, chances of continuous sustained impact of the projects are moderately likely.

6.2 Recommendations

For continued relevance, sustainability of the project results and impact, the following recommendations are addressed various key stakeholders of the project.

To UNIDO:	
1	The projects have been quite successful in producing tangible results, and impacts are visible at the project sites. The countries indicated that for sustenance or replication of projects results, they would require financial as well as technical support. UNIDO should consider assisting the countries in securing such support through follow up initiatives or through other mechanisms.
2	The COMESA Secretariat has expressed interest in the replication and expansion of project results of the pilot project in the leather sector, within the framework of collaboration with its Leather and Leather Products Institute ⁴⁰ (COMESA/LLPI) based in Addis Ababa, Ethiopia. UNIDO should consider creating synergies or develop collaboration with COMESA/LLPI to promote and encourage this interest.
3	The pilot projects on textile, leather, bio-pesticides and phytoremediation of contaminated sites have produced valuable and tangible results. UNIDO should consider gathering, summarizing and disseminating information on these pilot projects to other participating countries
To UNIDO and COMESA Secretariat:	
4	A regional strategy on production and application of neem-based bio-pesticide in the COMESA and SADC sub-regions was prepared by RENPAP, India, in collaboration with the COMESA Secretariat. To ensure impact of the pilot project on bio-pesticide in all the participating countries, UNIDO and the COMESA Secretariat should consider developing follow up initiatives to implement the strategy in the two sub-regions.
To national governments:	
5	There is no evidence yet that elements developed in the context of the projects are incorporated in national strategy / plans or programmes. For example, recommendations for improving the waste management system have been made or proposal for updating healthcare waste management manual as well as a health care waste management strategy has been developed. The countries are invited to consider adopting some of the project results in their national strategies, plans or policies.

⁴⁰ <http://www.comesa-llpi.int/>

6.3 Lessons learned

The project has been successfully completed and the following lessons stemmed out

Two key lessons emerged from this project:
<ol style="list-style-type: none">1. Significant delays were encountered during procurement of equipment for the pilot projects. Proper planning taking into consideration the time for procurement and delivery of equipment, including time for transportation and for customs clearance, would avoid delays in project implementation2. Despite having endorsed the project and provided commitment co-financing letters, three countries did not participate in the projects. The language barrier was seemingly the main reason for this non-participation. For regional projects involving many countries speaking different languages, ensuring that all the countries are comfortable with the agreed working language would avoid such issues.

ANNEXES:

Annex 1: Term of reference of the evaluation

I. PROJECT BACKGROUND AND CONTEXT

1. Project factsheet⁴¹

Project title	Capacity Strengthening and Technical Assistance for the Implementation of the Stockholm Convention (SC) National Implementation Plans (NIPs) in African Least Developed Countries (LDCs) of the SADC Sub-region
UNIDO ID	104063
GEF Project ID	3942
Region	Regional Africa – SADC Sub-region
Country(ies)	Angola, Lesotho, Mozambique, Swaziland and Tanzania
Project donor(s)	GEF
Project implementation start date	6/23/2011
Expected duration at project commencement	60 months
Expected implementation end date	31 May, 2018
GEF Focal Areas and Operational Project	FH 40 - Environment
Executing agency(ies)	UNIDO
Co-ordinating agency	Institutions responsible for the environment
Counterpart	Institution responsible for Environment
UNIDO RBM code	HC33 - Implementation of MEA DE14 – Stockholm Convention
GEF project grant (excluding PPG, in USD)	1,500,000
Project GEF CEO endorsement / approval date	4/11/2011
UNIDO input (in kind, USD)	700,000 (in kind)
Co-financing at CEO Endorsement, as applicable	LDCs in SADC region: 600,000 US\$ (cash/in-kind) Others (Stockholm Convention Secretariat, SAICM, AUC): 530,864 US\$ (cash/in-kind)
Total project cost (USD)	3,330,864
Mid-term review date	8/1/2016
Planned terminal evaluation date	Tentatively September-November 2018

(Source: Project document)

2. Project context

Most of the Least Developed Countries (LDCs) in the SADC Sub-region ratified the Stockholm Convention on Persistent Organic Pollutants (POPs) and have also prepared their National Implementation Plans (NIPs) to implement the Convention. The NIPs of these countries have established preliminary inventories of POPs chemicals, identified technical, regulatory and

⁴¹ Data to be validated by the Consultant

institutional barriers to Stockholm Convention implementation. Prior to submission to the Convention Secretariat, NIPs were endorsed by the respective participating Governments of the SADC Sub-region.

The preparations of the NIPs are essential and indispensable prerequisites for the smooth implementation of the SC in the LDCs of the SADC Sub-region. In order to efficiently and effectively implement the NIP, the creation of an overall enabling environment by addressing cross-cutting and overarching regulatory and institutional issues in a systematic manner was considered a requirement.

The Project was prepared with the active participation of the LDCs/SADC Member states. The project design was meant to be consistent with the priority activities set in the NIPs and with the poverty reduction strategies and Millennium Development Goals (MDG) of the LDCs/SADC member states. The project, being a capacity building, was meant to create a regulatory and institutional enabling environment that will greatly facilitate the cost-effective implementation of the Stockholm Convention.

3. Project objective

The overall objective of the proposed project is to reduce POPs emissions through strengthening and/or building capacity required in LDCs of the SADC Sub-region to implement their NIPs in a sustainable, effective and comprehensive manner while building upon and contributing to strengthening country's capacities for sound management of POPs chemicals.

The immediate objective is to create an enabling environment to implement the NIPs in the LDCs of the SADC Sub-region by establishing/amending laws, regulations, policies, standards; strengthening institutions for remediation of contaminated sites; introducing BAT/BEP to industrial processes; managing municipal wastes including e-wastes, health-care wastes; supporting the phasing out of agricultural use of POP pesticides through the promotion of production and use of bio- botanical pesticides; promoting technology transfer; facilitating data and information collection and dissemination; and ensuring continuous improvement and awareness raising of stakeholders on POPs issues.

Four substantive outcomes have been anticipated to achieve the objectives of the project:

- Outcome 1: BAT/BEP in industrial production processes.
Outcome 1 should result in enhanced efficiency and in reducing, avoiding and eliminating UP-POPs releases and reducing releases of other pollutants by coordinating the implementation of the Stockholm Convention action plans with cleaner production activities in the industry and review and possibly improve national policies and regulations. The programme aims to implement the principles of both environmentally and economically sustainable development and critically review trends and lessons learnt to integrate them in coordinated actions.
- Outcome 2: Reduction of exposure to POPs at workplace and close proximity of POPs wastes and UP-POPs emitting sources.

African LDCs have identified in their NIPs that workers in the formal or informal sectors as well as the population in general are exposed to PCBs (Annex A), pesticides (Annex A and Annex B) and UP-POPs (Annex C) from various sources. The NIPs have also indicated that the severity of the exposure to POPs remain unknown due to weak monitoring capacities and absence of emission standards. Establishing micro-enterprises (plastics, paper, and e-waste) would maximize the reuse of the materials and prevent open burning. Enterprises will create linkages with suppliers of these goods to maximize recycling to the industry (such as paper and plastics industries that can completely absorb its used products as recyclables). In the case of e-waste,

the strategy was to prolong the use of these articles through refurbishment and maintenance skills readily available and avoid the present practices of open burning for recovery of useful materials.

- **Outcome 3:** Identification and assessment of contaminated land/sites

Section 1(e) of Article 6 of the Stockholm Convention states that Parties would "endeavour to develop appropriate strategies for identifying sites contaminated by chemicals listed in Annex A, B and C; if remediation of those sites is required it should be performed in an environmentally sound manner". This implies that countries which ratified the Convention need to rehabilitate sites contaminated with POPs chemicals. The LDCs in the SADC Subregion which are parties to this Convention are therefore required to develop appropriate legislative framework and strategy to identify sites contaminated by POPs chemicals. Many countries in Africa including the member states of SADC Sub-region have recognized the problem of sustainability that POPs projects would face when they deal only with the disposal of stockpiles ignoring the related problem of subsequent clean-up and remediation of sites contaminated with POPs stockpiles and chemicals.

- **Outcome 4:** Project management

The Project Management Office (PMO) should ensure stockholder's partnership and coordination at regional and national levels. Similarly, the Office facilitates the recruitment of technical experts and support staff that will constitute the Project Team. The project office is responsible for the design and implement of monitoring and evaluation (M&E) framework in accordance with the GEF procedures in order to measure impact indicators on an annual basis. The PMO is entrusted to hold annual tripartite review meetings and prepare mid-term progress reports and project terminal reports. The PMO established the project management information system (MIS), including the project website to disseminate information to stakeholders, put in place a communication strategy and performs regular updates with UNIDO website.

The Project is further structured into a total of 11 substantive outputs. The full logical framework is included as annex 1.

4. Project implementation arrangements

The project is one of the three projects in three African sub-regions making up the capacity strengthening and technical assistance for the implementation of the Stockholm Convention NIPs in African LDCs and SIDs program. The programme is organized following the structure of the regional economic commissions. This approach will make use of existing networks and also consider South-South cooperation.

The project, focusing on LDCs in the SADC sub-region is being jointly implemented by UNEP and UNIDO. UNIDO is implementing the three components discussed in this project document, and UNEP is implementing the other three components described in the UNEP project document. The following paragraphs describe the institutional framework for the overall program.

The **Programme Coordination Body (PCB)** was established at the highest level. The programmatic structure includes a PCB, comprising of representatives from UNEP, UNIDO, executing agencies, Regional Economic Commissions (RECs), the Stockholm Convention Centres (SCC) and the Basel Convention Regional Centre (BCRC). The PCB should meet twice per year for the first two years, and

has the role of overseeing programme implementation. The PCB may invite any number of specialist and experts to contribute to its tasks or attend meetings, as agreed by members.

The **Sub-regional Steering Committee (SRSC)** is responsible for project execution. The SRSC includes representatives from UNEP, UNIDO, executing agency staff, POPs/ NFPs, the SCC BCRC and relevant organizations relating to project execution. The SRSC approves annual work plans, agrees terms of reference for external consultants and oversees project activities. The steering committee provides guidance to the executing agency and is supposed to meet once every six months for the first 18 months, and annually thereafter. Key responsibilities of the steering committee include: ensuring the project's outputs meet the programme objectives; monitoring and review of the project; ensuring that scope aligns with the agreed portfolio requirements; foster positive communication outside of the focal points regarding the project's progress and outcomes; advocate for programme objectives and approaches; advocate for exchanges of good practices between countries; and report on project progress. An inception meeting will be convened for each sub-regional steering committee at the beginning of the project. At this meeting the project log frames and work plans will be reviewed and finalized.

National project teams, coordinated by the POPs NFPs are responsible for executing activities at the national level. National project teams could include members of the NIP National coordinating committee and other relevant stakeholders. National project teams are supposed to meet once every three months to plan upcoming project activities and evaluate recently completed or ongoing activities.

A project focal point will be established within UNIDO to assist in the project execution. This focal point will be comprised of a part-time professional and support staff that will be engaged in the management and coordination of UNIDO's programme of support to the Stockholm Convention. UNIDO will make these services available as part of its in-kind contribution to the project.

The project structure is shown in Figure 1.

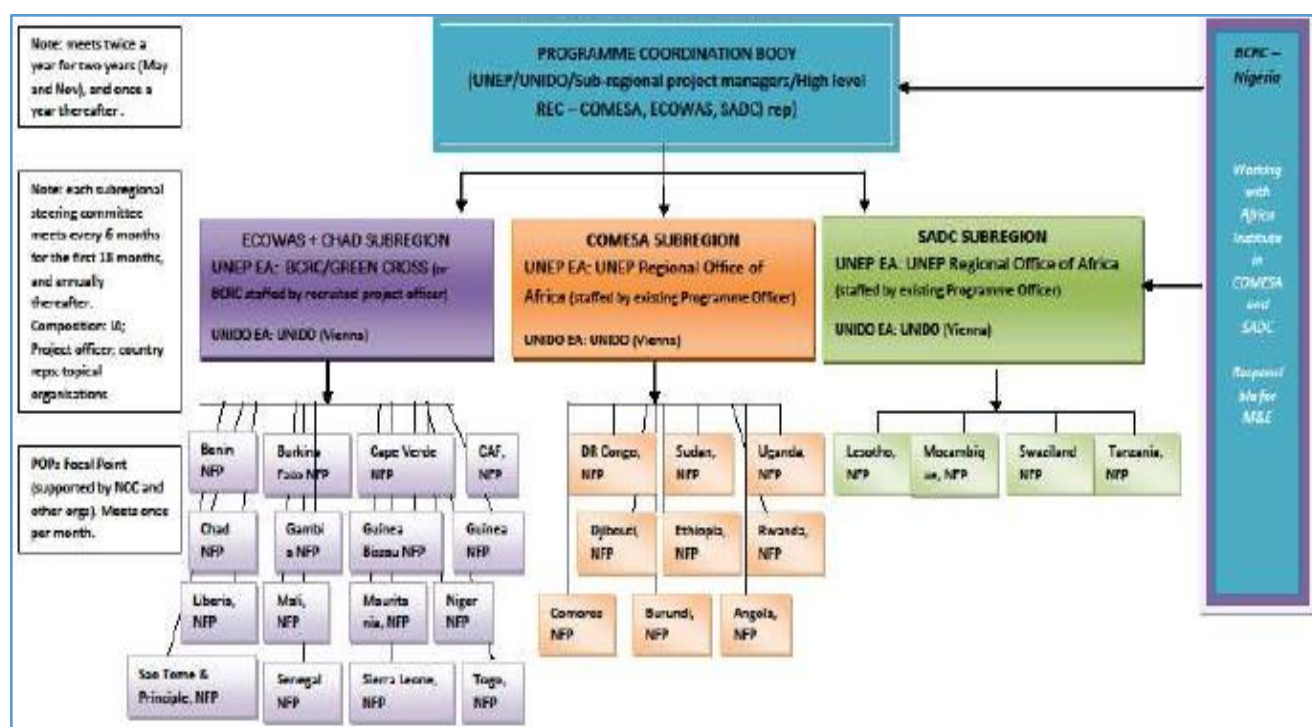


Figure 1. Project programmatic Structure

5. Budget information

Table 1. Financing plan summary⁴²

US\$	Project Preparation	Project	Total (US\$)
Financing (GEF / others)		1,500,000	1,500,000
Co-financing (Cash and In-kind)		1,830,864	1,830,864
Total (US\$)	0	3,330,864	3,330,864

Table 2. Financing plan summary - Outcome breakdown⁴³

Project Outcomes	Co-financing (US\$)	Donor (GEF/other) (US\$)	Total (US\$)
Outcome 1: Introduction of BAT/BEP in industrial production processes listed in Annex C of Article 5 of the Convention	367,000	711,600	1,078,600
Outcome 2: Reduction of exposure to POPs at workplace and at close proximity to POPs wastes and UP-POPs emitting sources	320,000	289,300	609,300
Outcome 3: Identification and assessment of contaminated land/sites	841,864	349,100	1,190,964
Outcome 4: Establishment of project management and project M&E mechanisms	302,000	150,000	452,000
TOTAL	1,830,864	1,500,000	3,330,864

⁴² Source: Project document

⁴³ Source: Project document

Table 3. Co-Financing source breakdown⁴⁴

Name of Co-financier (source)	Classification	Type	Total Amount (US\$)
SADC/LDCs	Southern African Development Community	Cash	200,000
AUC	African Union Commission	Cash	20,000
SADC/LDCs	Southern African Development Community	In kind	400,000
SCS/SAICM	Stockholm Convention Secretariat	In kind	510,864
UNIDO	Implementing Agency	In kind	700,000
Total Co-financing (US\$)			1,830,864

Table 4. UNIDO budget execution, USD (Grant 200000296) as of 15 May 2018

Expenditure USD	2012	2013	2014	2015	2016	2017	2018	Total Expend.
Contractual Services		34,991	89,138	157,920	- 13,537	38,149	14,320	320,981
Equipment	1,671	- 198	80,133	3,076	69,441	- 467	-	153,656
International Meetings	129,976	98,331	19,392	30,340	854	3,256	- 781	281,368
Local travel	35,281	36,277	39,122	31,541	24,131	6,896	10,863	184,111
Nat. Consult./Staff		10,372	4,899	1,712	33,631	13,579	2,657	66,850
Other Direct Costs	1,447	3,523	42,248	2,791	877	1,155	-93	51,948
Staff & Intern Consultants	18,419	51,263	55,487	64,623	60,894	27,520	25,720	303,926
Support Cost IDC				2,500	- 2,500			-
Train/Fellowship/Study	41,473	4,323	17,720	4,101	8,024	- 3,004		72,637
Grand Total	228,267	238,882	348,139	298,604	181,815	87,084	52,686	1,435,477

Table 5. UNIDO budget execution, EUR (Grants 500121 & 500270)

Expenditure EUR	2012	2013	2014	2015	2016	Total Expend.
Other Direct Costs	389	- 246	-	28		170
Staff Travel	6,553	9,719	11,249	4,578	- 33	32,066
Grand Total	6,941	9,474	11,249	4,605	- 33	32,236

Source: UNIDO. ERP database as of 20 March 2018

⁴⁴ Source: Project document

II. Scope and purpose of the evaluation

The purpose of the evaluation is to independently assess the project to help UNIDO improve performance and results of ongoing and future programmes and projects. The terminal evaluation (TE) will cover the whole duration of the project from its starting date in to the estimated completion date in 6/30/2018Error! Reference source not found..

The TE should provide an analysis of the attainment of the project objective and the corresponding outputs and outcomes. Through its assessments, the Evaluation Team (ET) should enable the Government, counterparts, UNIDO and other stakeholders and donors to verify prospects for development impact and sustainability, providing an analysis of the attainment of global environmental objectives, project objectives, delivery and completion of project outputs/activities, and outcomes/impacts based on indicators. The assessment shall include reexamination of the relevance of the objectives and other elements of project design according to the project evaluation parameters defined in chapter III below.

The overall purpose of the TE is to assess whether the project has achieved or is likely to achieve its main objective, i.e. to reduce POPs emissions through strengthening and/or building capacity required in LDCs of the SADC Sub-region to implement their NIPs in a sustainable, effective and comprehensive manner while building upon and contributing to strengthening country's capacities for sound management of POPs chemicals, and to what extent the project has also considered sustainability and scaling-up factors for increasing contribution to sustainable results and further impact.

The evaluation has three specific objectives:

- (i) Assess the project performance in terms of relevance, effectiveness, efficiency, sustainability and progress to impact;
- (ii) Identify key learning to feed into the design and implementation of the forthcoming projects; and
- (iii) Develop a series of findings, lessons and recommendations for enhancing the design of new and implementation of ongoing projects by UNIDO.

III. Evaluation approach and methodology

The TE will be conducted in accordance with the UNIDO Evaluation Policy⁴⁵ and the UNIDO Guidelines for the Technical Cooperation Project and Project Cycle⁴⁶. In addition, the GEF Guidelines for GEF Agencies in Conducting Terminal Evaluations, the GEF Monitoring and Evaluation Policy and the GEF Minimum Fiduciary Standards for GEF Implementing and Executing Agencies must be considered.

The evaluation will be carried out as an independent in-depth evaluation using a participatory approach whereby all key parties associated with the project will be informed and consulted throughout the evaluation. The evaluation team leader will liaise with the UNIDO Independent Evaluation Division (ODG/EIO/EID) on the conduct of the evaluation and methodological issues.

The evaluation will use a theory of change approach and mixed methods to collect data and information from a range of sources and informants. It will pay attention to triangulating the data and information collected before forming its assessment. This is essential to ensure an evidence-based and credible evaluation, with robust analytical underpinning.

⁴⁵ UNIDO. (2015). Director General's Bulletin: Evaluation Policy (UNIDO/DGB/(M).98/Rev.1)

⁴⁶ UNIDO. (2006). Director-General's Administrative Instruction No. 17/Rev.1: Guidelines for the Technical Cooperation Programme and Project Cycle (DGAI.17/Rev.1, 24 August 2006)

The theory of change will identify causal and transformational pathways from the project outputs to outcomes and longer-term impacts, and drivers as well as barriers to achieve them. The learning from this analysis will be useful to feed into the design of the future projects so that the management team can effectively manage them based on results.

1. Data collection methods

The ET will be required to use different methods to ensure that data gathering and analysis deliver evidence-based qualitative and quantitative information, based on diverse sources, as necessary: desk studies and literature review, statistical analysis, individual interviews, focus group meetings/discussions, surveys and direct observation. This approach will not only enable the evaluation to assess causality through quantitative means but also to provide reasons for why certain results were achieved or not and to triangulate information for higher reliability of findings. The specific mixed methodological approach will be described in the inception report.

Following are the main instruments for data collection:

- (a) **Desk and literature review** of documents related to the project, including but not limited to:
 - The original project document, monitoring reports (such as progress and financial reports, mid-term review report, output reports, back-to-office mission report(s), end-of-contract report(s) and relevant correspondence.
 - Notes from the meetings of committees involved in the project.
- (b) **Stakeholder consultations** will be conducted through structured and semi-structured interviews and focus group discussion. Key stakeholders to be interviewed include:
 - UNIDO Management and staff involved in the project; and
 - Representatives of donors, GEF focal point and counterparts.
- (c) **Field visit** to project sites in countries in the Region:
 - On-site observation of results achieved by the project, including interviews of actual and potential beneficiaries of improved technologies
 - Interviews with the relevant UNIDO Country Office(s) representative to the extent that he/she was involved in the project, and the project's management members and the various national [and sub-regional] authorities dealing with project activities as necessary
- (d) Other interviews, surveys or document reviews as deemed necessary by the evaluation team and/or by the Independent Evaluation Division for triangulation purposes.

2. Evaluation key questions and criteria

The key evaluation questions are the following:

- (a) What are the key drivers and barriers to achieve the long term objectives? To what extent has the project helped put in place the conditions likely to address the drivers, overcome barriers and contribute to the long-term objectives?
- (b) How well has the project performed? Has the project done the right things? Has the project done things right, with good value for money?
- (c) What have been the project's key results (outputs, outcome and impact)? To what extent have the expected results been achieved or are likely to be achieved? To what extent the achieved results will sustain after the completion of the project?
- (d) What lessons can be drawn from the successful and unsuccessful practices in designing, implementing and managing the project?

The evaluation will assess the likelihood of sustainability of the project results after the project completion. The assessment will identify key risks (e.g. in terms of financial, socio-political, institutional and environmental risks) and explain how these risks may affect the continuation of

results after the project ends. Table 6 below provides the key evaluation criteria to be assessed by the evaluation. The details questions to assess each evaluation criterion are in annex 2.

Table 6. Project evaluation criteria

#	Evaluation criteria	Mandatory rating
A	Impact	Yes
B	Project design	Yes
1	• Overall design	Yes
2	• Logframe	Yes
C	Project performance	Yes
1	• Relevance	Yes
2	• Effectiveness	Yes
3	• Efficiency	Yes
4	• Sustainability of benefits	Yes
D	Cross-cutting performance criteria	
1	• Gender mainstreaming	Yes
2	• Environment and socio-economic aspects ⁴⁷	
3	• M&E: ✓ M&E design ✓ M&E implementation	Yes
4	• Results-based Management (RBM)	Yes
E	Performance of partners	
1	• UNIDO	Yes
2	• National counterparts	Yes
3	• Donor	Yes
F	Overall assessment	Yes

IV. Evaluation process

The evaluation will be implemented in phases which are not strictly sequential, but in many cases iterative, conducted in parallel and partly overlapping:

- UNIDO Independent Evaluation Division (IED) identifies and selects the Evaluation Team members, in consultation with project manager
- Inception phase
 - ✓ Desk review and data analysis: The evaluation team will review project-related documentation and literature and carry out a data analysis (including familiarization with GEF programmes and strategies, and with relevant GEF policies such as those on project cycle, M&E, co-financing, fiduciary standards, gender, and environmental and social safeguards)
 - ✓ Briefing of consultant(s) at UNIDO Headquarters (HQ)
 - ✓ Preparation of inception report: The evaluation team will prepare the inception report providing details on the methodology for the evaluation and include an evaluation matrix with specific issues for the evaluation; **the specific site visits will be determined during the inception phase**, taking into consideration the findings and recommendations of project progress reports or mid-term reviews

⁴⁷ All GEF-4 and GEF-5 projects have incorporated relevant environmental and social considerations into the project design / GEF-6 projects have followed the provisions specified in UNIDO/DGAL.23: UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP)

- ✓ Interviews, survey
- Field phase
 - ✓ Country field visit(s)
 - ✓ ET Debriefing in the field to project stakeholders
- Reporting phase
 - ✓ After field mission, HQ debriefing with preliminary findings, conclusions and recommendations by the ET leader
 - ✓ Data analysis and draft report writing
 - ✓ Draft report submission
 - ✓ Sharing and factual validation of draft report with stakeholders
 - ✓ Final evaluation report Submission and QA/clearance by IED, and
 - ✓ Two pages summary take-away message
- IED Final report issuance and distribution with the respective management response sheet and further follow-up, and publication of evaluation report in UNIDO intra/internet sites.

6. Evaluation team composition

A staff from the UNIDO Independent Evaluation Division will be assigned as Evaluation Manager and will coordinate and provide evaluation backstopping to the evaluation team and ensure the quality of the evaluation. The UNIDO Project Manager and national project teams will act as resourced persons and provide support to the evaluation team and the IED evaluation manager.

The evaluation team will be composed of one international evaluation consultant acting as the team leader and one evaluation analyst. The evaluation team members will possess relevant strong experience and skills on evaluation management and conduct (including social safeguards and gender) together with expertise and experience in POPs chemicals and technical and regulatory issues related to Stockholm Convention implementation. Both consultants will be contracted by UNIDO.

The tasks of each team member are specified in the job descriptions in annex 3 to these terms of reference. The ET is required to provide information relevant for follow-up studies, including terminal evaluation verification on request to the GEF partnership up to three years after completion of the terminal evaluation.

According to UNIDO Evaluation Policy, members of the evaluation team must not have been directly involved in the design and/or implementation of the project under evaluation.

The UNIDO Project Manager and the field project team will support the evaluation team. The UNIDO GEF Coordinator and GEF OFP(s) will be briefed on the evaluation and provide support to its conduct. GEF OFP(s) will, where applicable and feasible, also be briefed and debriefed at the start and end of the evaluation mission.

7. Time schedule

The evaluation is scheduled to take place from September-November 2018.

The evaluation field mission is tentatively planned for end of September.

The Draft Evaluation report will be submitted 2 to 4 weeks after the end of the mission.

The Final Evaluation report will be submitted 2 weeks after comments received. At the end of the field mission, there will be a presentation of the preliminary findings for all stakeholders involved in this project.

8. Evaluation deliverables

Inception report

This Terms of Reference (ToR) provides some information on the evaluation methodology, but this should not be regarded as exhaustive. After reviewing the project documentation and initial interviews with the project manager, the International Evaluation Consultant will prepare, in collaboration with the national consultant, a short inception report that will operationalize the ToR relating to the evaluation questions and provide information on what type of and how the evidence will be collected (methodology). It will be discussed with and approved by the responsible UNIDO Evaluation Manager.

The Inception Report will focus on the following elements: preliminary project theory model(s); elaboration of evaluation methodology including quantitative and qualitative approaches through an evaluation framework (“evaluation matrix”); division of work between the International Evaluation Consultant and the national consultant; mission plan, including places to be visited, people to be interviewed and possible surveys to be conducted and a debriefing and reporting timetable⁴⁸.

Evaluation report format and review procedures

The draft report will be delivered to UNIDO Independent Evaluation Division (the suggested report outline is in Annex 4) and circulated to UNIDO staff and national stakeholders associated with the project for factual validation and comments. Any comments or responses, or feedback on any errors of fact to the draft report provided by the stakeholders will be sent to UNIDO Independent Evaluation Division for collation and onward transmission to the project evaluation team who will be advised of any necessary revisions. On the basis of this feedback, and taking into consideration the comments received, the evaluation team will prepare the final version of the terminal evaluation report.

The ET will present its preliminary findings to the local stakeholders at the end of the field visit and take into account their feed-back in preparing the evaluation report. A presentation of preliminary findings will take place at UNIDO HQ after the field mission.

The TE report should be brief, to the point and easy to understand. It must explain the purpose of the evaluation, exactly what was evaluated, and the methods used. The report must highlight any methodological limitations, identify key concerns and present evidence-based findings, consequent conclusions, recommendations and lessons. The report should provide information on when the evaluation took place, the places visited, who was involved and be presented in a way that makes the information accessible and comprehensible. The report should include an executive summary that encapsulates the essence of the information contained in the report to facilitate dissemination and distillation of lessons.

Findings, conclusions and recommendations should be presented in a complete, logical and balanced manner. The evaluation report shall be written in English and follow the outline given in Annex 4.

⁴⁸ The evaluator will be provided with a Guide on how to prepare an evaluation inception report prepared by the UNIDO Office for Independent Evaluation.

V. Quality assurance

All UNIDO evaluations are subject to quality assessments by UNIDO Independent Evaluation Division. Quality assurance and control is exercised in different ways throughout the evaluation process (briefing of consultants on methodology and process of UNIDO Independent Evaluation Division, providing inputs regarding findings, lessons learned and recommendations from other UNIDO evaluations, review of inception report and evaluation report).

The quality of the evaluation report will be assessed and rated against the criteria set forth in the Checklist on evaluation report quality, attached as Annex 5. The applied evaluation quality assessment criteria are used as a tool to provide structured feedback. UNIDO's Independent Evaluation Division should ensure that the evaluation report is useful for UNIDO in terms of organizational learning (recommendations and lessons learned) and is compliant with UNIDO's evaluation policy and these terms of reference. The draft and final evaluation report are reviewed by UNIDO Independent Evaluation Division, which will submit the final report to the GEF Evaluation Office and circulate it within UNIDO together with a management response sheet.

Annex 1: Project Logical Framework

Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
Outcome 1: Introduction of BAT/BEP in industrial production processes mentioned in Annex C of Article 5 of the Convention			
Output 1.1 : SADC Sub-regional BAT/BEP Forum established	<ul style="list-style-type: none"> ➤ Regional Forum on BAT/BEP Forum in place 	<ul style="list-style-type: none"> ➤ Participants of the regional BAT/BEP Forum 	<ul style="list-style-type: none"> ➤ Willingness in the sub-region to establish the Forum
<p>Activity 1.1.1: Convene a workshop to prepare a Declaration for establishing the SADC sub-regional BAT/BEP Forum</p> <p>Activity 1.1.2: Launch the Regional Forum for development and formulation of a regional action plan on BAT/BEP</p> <p>Activity 1.1.3: Assist in enhancing industry performance in the region in conformity with the BAT/BEP guidelines and provisional guidance document including regional, local and traditional practices and socio-economic considerations</p> <p>Activity 1.1.4: Develop partnerships in the region for successful implementation of the regional action plan</p>	<ul style="list-style-type: none"> ➤ Verify the physical presence of the declaration ➤ Launching and existence of Regional Forum ➤ At least two industries per country in conformity with BAT/BEP in the region ➤ Memorandum of Understanding to develop partnership for the implementation of regional action plan 	<ul style="list-style-type: none"> ➤ Workshop proceeding and copy of Declaration ➤ Activity report on establishment of the Regional Forum ➤ Report on laboratory test ➤ Signed MoU for the implementation of regional action plan 	<ul style="list-style-type: none"> ➤ Willingness of experts to participate in the forum ➤ Resistance to develop partnership
Output 1.2: Human Resource for BAT/BEP developed, technical knowledge shared in SMEs and informal sector	<ul style="list-style-type: none"> ➤ Number of experts per country per year trained in BAT/BEP 	<ul style="list-style-type: none"> ➤ Existence of experts in the sub-region knowledgeable with BAT/BEP 	<ul style="list-style-type: none"> ➤ Lack of budget to carry out training
<p>Activity 1.2.1: Carry out training workshops in BAT/ BEP in textile dyeing and finishing</p> <p>Activity 1.2.2: Carry out training workshops in BAT/ BEP in leather dyeing and finishing</p> <p>Activity 1.2.3: Carry out training workshops in BAT/ BEP in waste oil refinery</p> <p>Activity 1.2.4: Undertake targeted awareness raising campaigns in BAT/BEP for informal sector</p>	<ul style="list-style-type: none"> ➤ At least two experts per country per year in BAT/BEP in textile sector trained on BAT/BEP ➤ At least two experts per country per year in the leather sector trained on BAT/BEP ➤ At least two experts per country per year trained in BAT/BEP in used oil refinery sector ➤ Network of the informal sector in each country for awareness on principles of BAT/BEP 	<ul style="list-style-type: none"> ➤ Check the existence of such experts in the factories ➤ Training and activity reports 	<ul style="list-style-type: none"> ➤ Willingness to participate in the awareness campaign

Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
Output 1.3: BAT/BEP in textile and leather dyeing and finishing and waste oil refinery source categories initiated	<ul style="list-style-type: none"> ➤ BAT/BEP introduced in two textiles, two tanneries and two oil refineries per country per year 	<ul style="list-style-type: none"> ➤ Detailed activity reports 	<ul style="list-style-type: none"> ➤ High cost involved in introducing BAT/BEP into the process ➤ Willingness of the part of the factories to introduce pilot projects
<p>Activity 1.3.1: Carry out pilot demonstration of BAT/ BEP in textile dyeing and finishing</p> <p>Activity 1.3.2: Carry out pilot demonstration of BAT/ BEP in leather dyeing and finishing</p> <p>Activity 1.3.3: Carry out pilot demonstration of BAT/ BEP in waste oil refinery</p>	<ul style="list-style-type: none"> ➤ Availability of at least one pilot demonstration in the textile sector in the sub-region ➤ Availability of at least one pilot demonstration in the leather sector in the sub-region ➤ Availability of at least one pilot demonstration in waste oil refinery sector in the sub-region 	<ul style="list-style-type: none"> ➤ Visit pilot demonstration sites 	
Outcome 2: Reduction of exposure to POPs at workplace and close proximity of POPs wastes and UP-POPs emitting sources			
Output 2.1 Concept of Cleaner Solid Municipal Waste Management System introduced to the national plans of waste management system in the participating countries (prevention and mitigation of UP-POPs releases from open burning and landfill fires)	<ul style="list-style-type: none"> ➤ Integrate Solid Municipal Waste Management system in national plans in each of the participating countries 	<ul style="list-style-type: none"> ➤ Copy of national plans on waste management system 	<ul style="list-style-type: none"> ➤ Municipalities are well informed on the existence and objective of the SC and are active stakeholders for the implementation of the action plan on UP-POPs as per Article 5 of the SC ➤ Resistance from the part of smallholder farmers to use bio-botanical pesticides
<p>Activity 2.1.1. Organize national awareness raising workshop on cleaner waste management with the aim to promote business and job opportunities in the field of waste management</p> <p>Activity 2.1.2 Organize a sub-regional training workshop for waste management personnel with special focus on risk reduction and concept of cleaner municipal solid and healthcare waste management</p> <p>Activity 2.1.3 Support the establishment of a regional programme for training on cleaner</p>	<ul style="list-style-type: none"> ➤ Minimum of two awareness raising workshops on solid municipal waste management organised for national and local decision makers per country ➤ At least one technical workshop held for waste management personnel at sub-regional level ➤ At least one sound municipal solid waste management option show case demonstrated ➤ Existence of regional programme on sound waste management ➤ Courses /modules related to waste management included in teaching programmes at school 	<ul style="list-style-type: none"> ➤ Workshop materials and proceedings ➤ Reports on the ongoing demonstration activities on selected site ➤ Document on the Regional Programmes for training on sound waste management ➤ School syllabus curriculum of education, Ministry of Health and Ministry of Environment collaborate to take the lead in the production 	<ul style="list-style-type: none"> ➤ Willingness and commitment of decision makers to promote implementation of sound waste management measures ➤ Personnel involved in solid municipal waste aware of the challenge of meeting sound waste management criteria and receives sufficient support from various waste management staffs to apply BAT/BEP in their daily job

Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
<p>municipal solid waste and healthcare waste through the BCRC, CPCs and/or Stockholm Convention Technical centres as appropriate</p> <p>Activity 2.1.4 Update and adapt the healthcare management manual developed under the GEF/UNDP demonstration project for training purposes in medical health schools</p> <p>Activity 2.1.5 Carry out pilot demonstration of cleaner healthcare waste management based on the lessons learned from GEF/UNDP demonstration project and support replication activities in the sub-region</p>	<ul style="list-style-type: none"> ➤ Participating countries implementing a sound health-care waste management system at pilot scale 	<p>dissemination of the training manual</p> <ul style="list-style-type: none"> ➤ Pilot scale to implement the innovative strategy 	<ul style="list-style-type: none"> ➤ MSW management staff is stakeholder in the demonstration operation and is willing to integrate lessons learnt in the national waste management system ➤ Availability of qualified human resources to elaborate update and implement the training programme on a regular basis ➤ MoH has or elaborates a sound health-care waste management strategy and endeavours to implement it ➤ Mechanism in place for consultation among various factors involved at the hospital's level ➤ Management and coordination capacity exists and is operational
<p>Output 2.2: Bio-botanical pesticides produced and formulated in agriculture including market gardening in urban areas through existing south-south cooperation programmes and with the participation of an association market gardeners (alternative to Annex A pesticides)</p>	<ul style="list-style-type: none"> ➤ At least two Micro- or small enterprises per country produce and market bio- botanical pesticides ➤ At least two informal waste recyclers per country are formalized to become Micro- or small enterprises 	<ul style="list-style-type: none"> ➤ Stores of bio- botanical pesticides providers ➤ Lack of resource to upgrade waste recycling of the informal sector to the formal sector 	<ul style="list-style-type: none"> ➤ Smallholder farmers are organised on a national basis and involved in the implementation of the measures in the NIP targeting the phase out of agricultural use of Annex A pesticides
<p>Activity 2.2.1 Organize (in cooperation with FAO/RENAP/MOA) an awareness raising workshop for market gardeners on integrated pest management in crop protection and post-harvest management with particular focus on the use of bio-pesticides</p> <p>Activity 2.2.2 Review existing data and conduct national inventory of existing bio-pesticides formulations</p> <p>Activity 2.2.3 Facilitate field testing of bio-pesticides in cooperation with research</p>	<ul style="list-style-type: none"> ➤ At least one awareness workshops per country to be held for smallholder farmers on integrated pest management and use of bio-botanical pesticides ➤ Availability of database in each country ➤ Inventory reports on pesticide plants in each country ➤ Availability of solid or liquid botanical pesticide in the market ➤ At least two producers per country using and/or willing to use individually or in co-operatives the new natural bio-botanical pesticide formulations 	<ul style="list-style-type: none"> ➤ Workshop reports ➤ Data base management report and inventory reports ➤ Availability in the market ➤ Reports on field visits to enterprises producing bio-botanical pesticides ➤ Activity reports 	<ul style="list-style-type: none"> ➤ The academia, the MoA, MoE and various actors in urban and peri-urban agriculture collaborate to eliminate the usage of Annex A or Annex B pesticides in agriculture ➤ Organic agriculture is seen by the various actors as an opportunity for business ➤ Ministry of Agriculture promotes and supports integrated pest management in crop protection and post harvest management

Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
<p>institutions, RENPAP, FAO and farmer associations</p> <p>Activity 2.2.4 Support Public-Private partnership (PPP) model for the creation of a national Micro- or Small Enterprise to produce and promote the use of bio-botanical pesticides. Continuous evaluation will ensure adaptation and thereby success of the model</p>	<ul style="list-style-type: none"> ➤ Research activities on field application of bio-pesticides for pest management ➤ Micro- or small enterprises producing and/or providing bio-pesticides 	<ul style="list-style-type: none"> ➤ 	<ul style="list-style-type: none"> ➤ Smuggling of non-registered pesticides controlled ➤ Bio-botanical pesticides are economically affordable
<p>Output 2.3. Strategy developed to audit, formalized and scale-up to macro and small enterprises informal management of PCBs, solid and liquid waste plastic wastes, used paper and e-waste</p>	<ul style="list-style-type: none"> ➤ At least two informal waste recyclers per country are formalized to become Micro- or small enterprises 	<ul style="list-style-type: none"> ➤ Site visits to informal waste recycling system 	<ul style="list-style-type: none"> ➤ Lack of resources to upgrade waste recycling of the informal sector to the formal sector
<p>Activity 2.3.1 Identify the informal collection system of PCB and used oil and perform environmental inventory audits to determine the need for enhancing collection and channeling of the PCBs streams on an ESM manner in line with GEF/UNEP pilot project in the sub-region</p> <p>Activity 2.3.2 Conduct a survey on existing concepts for plastic waste management including the reuse of waste plastic bags as a raw material for various articles</p> <p>Activity 2.3.3 Develop a concept for plastic waste management including the reuse of waste plastic bags as a raw material for various articles</p> <p>Activity 2.3.4 Support the creation of a national micro or small enterprises for an environmentally sound recycling of plastic bags</p> <p>Activity 2.3.5 Investigate the current informal paper and e-waste management and the management of other halogenated solid and liquid wastes</p>	<ul style="list-style-type: none"> ➤ Validated national inventory audit report ➤ Concept paper on existing plastic waste management options developed ➤ Verify the existence of a national micro or small enterprises that are having environmentally sound recycling of paper and e-waste at the national level ➤ Existence of national/sub-regional micro- or small enterprise recycling paper and e-waste in an ESM manner ➤ Existence of such enterprises model in participating countries 	<ul style="list-style-type: none"> ➤ Inventory audit reports ➤ Stakeholders consultation reports ➤ Copy of Concept paper on plastic waste management ➤ Reports on site visit and field visit to the informal sector doing this activity ➤ Stakeholders consultation reports ➤ Inventory report 	<ul style="list-style-type: none"> ➤ The national power companies, private owners of electrical transformers and the handicraftsmen using/recycling PCBs waste collaborate in implementing the NIP's action plan on the management of PCBs and their wastes. ➤ The academia and the various actors in the management of MSW collaborate to mitigate the risk posed by the land filling, open burning of plastic bags, open burning of paper, dumping of e-waste and the like ➤ Private investors are willing to promote green micro- or small enterprises recycling paper and e-waste and recycling of other halogenated solid and liquid wastes in the production of various consumer products

Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
<p>Activity 2.3.6 Provide support for activities to prevent irrational dumping and open burning of paper and other halogenated solid and liquid wastes</p> <p>Activity 2.3.7 Support PPP model for creation of a national Micro- or Small Enterprise for an environmentally sound recycling of paper and e-wastes in the sub-region</p>			
Outcome 3: Identification and assessment of contaminated sites			
Output 3.1: Site identification strategies, protocols and guidelines formulated and applied in the Sub-region based on the UNIDO toolkit	<ul style="list-style-type: none"> ➤ Existence of site identification strategies protocols and guidelines in each of the participating countries ➤ Soil and water analysis carried out to verify the effectiveness of the remediation technology at the pilot scale ➤ Existence of contaminated sites remediation plan in each country 	<ul style="list-style-type: none"> ➤ Remediation plan of the contaminated sites ➤ Report on the effectiveness of the demonstration pilot project ➤ Cost benefit analysis report on various remediation technology options 	<ul style="list-style-type: none"> ➤ Commitment of LDCs/SADC member states to clean up contaminated sites (hot spots) ➤ Least cost technologies may not always be efficient ➤ Willingness to host pilot demonstration project
<p>Activity 3.1.1 Prepare manuals, procedures, protocols and guidelines for local use for the identified POPs contaminated sites and for conducting and risk assessment of these sites</p> <p>Activity 3.1.2 Develop methodology for selection of economically feasible and environmentally sound POPs contaminated site remediation technologies</p> <p>Activity 3.1.3 Conduct study to identify environmentally sound remediation technologies or benign ways of cleaning up of the contaminated sites</p>	<ul style="list-style-type: none"> ➤ Physical presence of the strategy document ➤ Document that stipulate the step by step approach to select benign technology and cleanup of contaminated sites ➤ Cost benefit analysis on the effectiveness and viability of various remediation technologies ➤ Soil and water quality analysis results of samples taken from the cleaned up sites to verify efficiency and cost effectiveness of the remediation technologies ➤ Physical presence of contaminated site plans for the identified hot spots 	<ul style="list-style-type: none"> ➤ Letter of endorsement of the strategy and methodology documents by SADC member states ➤ Report on comparison of costs of various remediation technological options ➤ Soil and water quality analysis results of the samples taken from the cleaned up sites ➤ Analysis results from Central laboratories ➤ Institution responsible for the remediation of contaminated sites 	<ul style="list-style-type: none"> ➤ Stakeholders involvement during the process of formulating the strategy ➤ Stakeholders involvement during the process of formulating the methodology ➤ Resistance to use new technology on the part implementers ➤ Availability of reliable laboratory that can carry out the required analysis ➤ Availability of resources to implement those plans

Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
<p>Activity 3.1.4 Undertake pilot demonstration project to verify the effectiveness of the low cost remediation technology and validate contaminated site identification methodology</p> <p>Activity 3.1.5 Prepare contaminated site remediation plans of the identified hot spots in the sub-region</p>	➤	➤	➤
Output 3.2: Capacity to manage the contaminated sites strengthened	<ul style="list-style-type: none"> ➤ At least 5 personnel trained in each participating country in the management and remediation of contaminated from each country ➤ 50 % of the population in each country that are aware of the danger of contaminated sites to human health and environment ➤ Number of experts and stakeholders that regularly uses the website and data base from each country 	<ul style="list-style-type: none"> ➤ Proceedings of various training and awareness raising workshops ➤ Feed back from the data base and web site users on contaminated sites ➤ Report on water and soil sample results from the reclaimed site 	<ul style="list-style-type: none"> ➤ Create the enabling environment to put in place strategy and identify contaminated site
<p>Activity 3.2.1 Launch training workshop using UNIDO Tool kit to experts from relevant institutions to enable them collect scientific data from contaminated sites and assess potential risks to humans, wildlife and the environment</p> <p>Activity 3.2.2 Create database and website within the SADC sub-region, linked to UNIDO website to share and disseminate data / information collected from contaminated sites and hot spots</p> <p>Activity 3.2.3 Raise awareness among the major stakeholders, including decision makers, on the health risk that may result from exposure to POPs contaminated sites</p> <p>Activity 3.2.4 Assess aspects of involvement of technology providers for the development of PPP in managing contaminated sites</p>	<ul style="list-style-type: none"> ➤ Five experts trained with a capacity to manage POPs contaminated site in each participating country ➤ Participation of the private sector ➤ Suggestions and recommendations to remove barriers to market oriented operations ➤ Availability of fund for co-financing ➤ Number of workshops on fund raising ➤ Number of countries willing to replicate the pilot 	<ul style="list-style-type: none"> ➤ Training materials and training reports on contaminated sites ➤ Reports on incentives, risks, reasonable rate of return and copy of strategy report ➤ Workshop reports ➤ Reports on pilot demonstration projects in relation with policy development, incentives and PPP 	<ul style="list-style-type: none"> ➤ Experts that will participate in the workshop may not be the relevant experts ➤ Willingness of the Government to consider suggestions and recommendations by private investors on the strategy ➤ Willingness of stakeholders to participate in fund raising workshops

Intervention Logic	Objectively Verifiable Indicators	Sources of Verification	Assumptions and Risks
Activity 3.2.5 Develop mechanism to mobilize funds from within the SADC member states for the remediation of contaminated sites to ensure project sustainability	➤	➤	➤

Annex 2: Detailed questions to assess evaluation criteria

The evaluation team will assess the project performance guided by the questions below.

No.	Evaluation criteria
A	Progress to impact
1	<ul style="list-style-type: none"> ✓ <u>Likelihood</u> to contribute to the expected impact ✓ Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended, including redirecting trajectories of transformational process and the extent to which conditions for trajectory change are being put into place. ✓ <u>Replication</u>: To what extent the project's specific results (e.g. methodology, technology, lessons, etc.) are reproduced or adopted ✓ <u>Mainstreaming</u>: To what extent information, lessons or specific results of the project are incorporated into broader stakeholder mandates and initiatives such as laws, policies, regulations and project? ✓ <u>Scaling-up</u>: To what extent the project's initiatives and results are implemented at larger geographical scale? ✓ What difference has the project made to the beneficiaries? ✓ What is the change attributable to the project? To what extent? ✓ What are the social, economic, environmental and other effects, either short-, medium- or long-term, on a micro- or macro-level? ✓ What effects are intended or unintended, positive or negative? <p>[The three UNIDO impact dimensions are:</p> <ul style="list-style-type: none"> ✓ <u>Safeguarding environment</u>: To what extent the project contributes to changes in the status of environment. ✓ <u>Economic performance</u>: To what extent the project contributes to changes in the economic performance (e.g. finances, income, costs saving, expenditure) of individuals, groups and entities? ✓ <u>Social inclusiveness</u>: To what extent the project contributes to changes in capacity and capability of individuals, groups and entities in society, such as employment, education, and training?]
B	Project design
1	<ul style="list-style-type: none"> • <u>Overall design</u>⁴⁹ ✓ The project design was adequate to address the problems at hand?

⁴⁹ All GEF-4 and GEF-5 projects have incorporated relevant environmental and social considerations into the project design / GEF-6 projects have followed the provisions specified in UNIDO/DGAI.23: UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP); is it in line with GEF Minimum Fiduciary Standards: Separation of Implementation and Execution Functions in GEF Partner Agencies? (GEF/C.41/06/Rev.01)).

No.	Evaluation criteria
	<ul style="list-style-type: none"> ✓ Is the project consistent with the Country's priorities, in the work plan of the lead national counterpart? Does it meet the needs of the target group? Is it consistent with UNIDO's Inclusive and Sustainable Industrial Development? Does it adequately reflect lessons learnt from past projects? Is it in line with the donor's priorities and policies? ✓ Is the applied project approach sound and appropriate? Is the design technically feasible and based on best practices? Does UNIDO have in-house technical expertise and experience for this type of intervention? ✓ To what extent the project design (in terms of funding, institutional arrangement, implementation arrangements...) as foreseen in the project document still valid and relevant? ✓ Does the project document include a M&E plan? Does the M&E plan specify what, who and how frequent monitoring, review, evaluations and data collection will take place? Does it allocate budget for each exercise? Is the M&E budget adequately allocated and consistent with the logframe (especially indicators and sources of verification)? ✓ Were there any changes in project design and/or expected results after start of implementation. ✓ Did the project establish a baseline (initial conditions)? Was the evaluation able to estimate the baseline conditions so that results can be determined? ✓ Risk management: Are critical risks related to financial, social-political, institutional, environmental and implementation aspects identified with specific risk ratings? Are their mitigation measures identified? Where possible, are the mitigation measures included in project activities/outputs and monitored under the M&E plan?
2	<ul style="list-style-type: none"> • <u>Logframe</u> ✓ Expected results: Is the expected result-chain (impact, outcomes and outputs) clear and logical? Does impact describe a desired long-term benefit to a society or community (not as a mean or process), do outcomes describe change in target group's behaviour/performance or system/institutional performance, do outputs describe deliverables that project will produce to achieve outcomes? Are the expected results realistic, measurable and not a reformulation or summary of lower level results? Do outputs plus assumptions lead to outcomes, do outcomes plus assumptions lead to impact? Can all outputs be delivered by the project, are outcomes outside UNIDO's control but within its influence? ✓ Indicators: Do indicators describe and specify expected results (impact, outcomes and outputs) in terms of quantity, quality and time? Do indicators change at each level of results and independent from indicators at higher and lower levels? Do indicators not restate expected results and not cause them? Are indicators necessary and sufficient and do they provide enough triangulation (cross-checking)? Are they indicators sex-disaggregated, if applicable? ✓ Sources of verification: Are the sources of verification/data able to verify status of indicators, are they cost-effective and reliable? Are the sources of verification/data able to verify status of output and outcome indicators before project completion?
C	Project performance
1	<ul style="list-style-type: none"> • <u>Relevance</u> ✓ How does the project fulfil the urgent target group needs?

No.	Evaluation criteria
	<ul style="list-style-type: none"> ✓ To what extent is the project aligned with the development priorities of the country (national poverty reduction strategy, sector development strategy)? ✓ How does project reflect donor policies and priorities? ✓ Is the project a technically adequate solution to the development problem? Does it eliminate the cause of the problem? ✓ To what extent does the project correspond to UNIDO's comparative advantages? ✓ Are the original project objectives (expected results) still valid and pertinent to the target groups? If not, have they been revised? Are the revised objectives still valid in today's context?
2	<ul style="list-style-type: none"> • <u>Effectiveness</u> ✓ What are the main results (mainly outputs and outcomes) of the project? What have been the quantifiable results of the project? ✓ To what extent did the project achieve their objectives (outputs and outcomes), against the original/revised target(s)? ✓ What are the reasons for the achievement/non-achievement of the project objectives? ✓ What is the quality of the results? How do the stakeholders perceive them? What is the feedback of the beneficiaries and the stakeholders on the project effectiveness? ✓ To what extent is the identified progress result of the project rather than external factors? ✓ What can be done to make the project more effective? ✓ Were the right target groups reached?
3	<ul style="list-style-type: none"> • <u>Efficiency</u> ✓ How economically are the project resources/inputs (concerning funding, expertise, time...) being used to produce results? ✓ To what extent were expected results achieved within the original budget? If no, please explain why. ✓ Are the results being achieved at an acceptable cost? Would alternative approaches accomplish the same results at less cost? ✓ What measures have been taken during planning and implementation to ensure that resources are efficiently used? Were the project expenditures in line with budgets? ✓ To what extent did the expected co-financing materialize, in cash or in-kind, grants or loan? Was co-financing administered by the project management or by some other organization? Did short fall in co-financing or materialization of greater than expected co-financing affected project results? ✓ Could more have been achieved with the same input? ✓ Could the same have been achieved with less input? ✓ How timely was the project in producing outputs and outcomes? Comment on the delay or acceleration of the project's implementation period. ✓ To what extent were the project's activities in line with the schedule of activities as defined by the Project Team and annual Work Plans? ✓ Have the inputs from the donor, UNIDO and Government/counterpart been provided as planned, and were they adequate to meet the requirements?

No.	Evaluation criteria
4	<ul style="list-style-type: none"> • <u>Sustainability of benefits</u> <ul style="list-style-type: none"> ✓ Will the project results and benefits be sustained after the end of donor funding? ✓ Does the project have an exit strategy? <p><i>Financial risks:</i></p> <ul style="list-style-type: none"> ✓ What is the likelihood of financial and economic resources not being available once the project ends? <p><i>Socio-political risks:</i></p> <ul style="list-style-type: none"> ✓ Are there any social or political risks that may jeopardize the sustainability of project outcomes? ✓ What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? ✓ Do the various key stakeholders see that it is in their interest that project benefits continue to flow? ✓ Is there sufficient public/stakeholder awareness in support of the project's long-term objectives? <p><i>Institutional framework and governance risks:</i></p> <ul style="list-style-type: none"> ✓ Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize the sustainability of project benefits? ✓ Are requisite systems for accountability and transparency and required technical know-how in place? <p><i>Environmental risks:</i></p> <ul style="list-style-type: none"> ✓ Are there any environmental risks that may jeopardize the sustainability of project outcomes? ✓ Are there any project outputs or higher level results that are likely to have adverse environmental impacts, which, in turn, might affect the sustainability of project benefits?
5	<ul style="list-style-type: none"> • <u>Monitoring of long-term changes</u> <p>The M&E of long-term changes is often incorporated in GEF-supported projects as a separate component and may include determination of environmental baselines; specification of indicators; and provisioning of equipment and capacity building for data gathering, analysis, and use. This section of the evaluation report will describe project actions and accomplishments towards establishing a long-term monitoring system. The evaluation will address the following questions:</p> <ul style="list-style-type: none"> ✓ Did the project contribute to the establishment of a long-term monitoring system? If it did not, should the project have included such a component? ✓ What were the accomplishments and shortcomings in establishment of this system? ✓ Is the system sustainable — that is, is it embedded in a proper institutional structure and does it have financing? How likely is it that this system continues operating upon project completion? ✓ Is the information generated by this system being used as originally intended?
D	Cross-cutting performance criteria

No.	Evaluation criteria
1	<ul style="list-style-type: none"> • <u>Gender mainstreaming</u> ✓ Did the project design adequately consider the gender dimensions in its interventions? Was the gender marker assigned correctly at entry? ✓ Was a gender analysis included in a baseline study or needs assessment (if any)? Were there gender-related project indicators? ✓ Are women/gender-focused groups, associations or gender units in partner organizations consulted/ included in the project? ✓ How gender-balanced was the composition of the project management team, the Steering Committee, experts and consultants and the beneficiaries? ✓ Do the results affect women and men differently? If so, why and how? How are the results likely to affect gender relations (e.g., division of labour, decision-making authority)? ✓ To what extent were socioeconomic benefits delivered by the project at the national and local levels, including consideration of gender dimensions?
2	✓ Environment and socio-economic aspects ⁵⁰
3	<ul style="list-style-type: none"> • M&E: (focus on Monitoring) ✓ M&E design <ul style="list-style-type: none"> ○ Was the Monitoring plan at the point of project approval practical and sufficient? ○ Did it include baseline data and specify clear targets and appropriate indicators to track environmental, gender, and socio economic results? ○ Did it include a proper M&E methodological approach; specify practical organization and logistics of the M&E activities including schedule and responsibilities for data collection; ○ Did it include budget adequate funds for M&E activities? ✓ M&E implementation <ul style="list-style-type: none"> ○ How was the information from M&E system used during the project implementation? Was an M&E system in place and did it facilitate timely tracking of progress toward project results by collecting information on selected indicators continually throughout the project implementation period? Did project team and manager make decisions and corrective actions based on analysis from M&E system and based on results achieved? ○ Are annual/progress project reports complete and accurate? ○ Was the information provided by the M&E system used to improve performance and adapt to changing needs? Was information on project performance and results achievement being presented to the Project Steering Committee to make decisions and corrective actions? Do the Project team and managers and PSC regularly ask for performance and results information?

⁵⁰ All GEF-4 and GEF-5 projects have incorporated relevant environmental and social considerations into the project design / GEF-6 projects have followed the provisions specified in UNIDO/DGAI.23: UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP)

No.	Evaluation criteria
	<ul style="list-style-type: none"> ○ Are monitoring and self-evaluation carried out effectively, based on indicators for outputs, outcomes and impact in the logframe? Do performance monitoring and reviews take place regularly? ○ Were resources for M&E sufficient? ○ How has the logframe been used for Monitoring and Evaluation purposes (developing M&E plan, setting M&E system, determining baseline and targets, annual implementation review by the Project Steering Committee...) to monitor progress towards expected outputs and outcomes? ○ How well have risks outlined the project document and in the logframe been monitored and managed? How often have risks been reviewed and updated? Has a risk management mechanism been put in place?
4	<ul style="list-style-type: none"> ● <u>Project management</u> ✓ Review overall effectiveness of project management as outlined in the Project Document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken in a timely manner? Recommend areas for improvement. ✓ Review whether the national management and overall coordination mechanisms have been efficient and effective? Did each partner have assigned roles and responsibilities from the beginning? Did each partner fulfil its role and responsibilities (e.g. providing strategic support, monitoring and reviewing performance, allocating funds, providing technical support, following up agreed/corrective actions)? ✓ The UNIDO HQ-based management, coordination, monitoring, quality control and technical inputs have been efficient, timely and effective (e.g. problems identified timely and accurately; quality support provided timely and effectively; right staffing levels, continuity, skill mix and frequency of field visits)? ✓ The project implemented outreach and public awareness campaigns. Outreach and public awareness materials produced are in line with the relevant UNIDO and donor advocacy guidelines?"
E	Performance of partners
1	<ul style="list-style-type: none"> ● <u>UNIDO</u> ✓ Design <ul style="list-style-type: none"> ○ Mobilization of adequate technical expertise for project design ○ Inclusiveness of project design (with national counterparts) ○ Previous evaluative evidence shaping project design ○ Planning for M&E and ensuring sufficient M&E budget ✓ Implementation <ul style="list-style-type: none"> ○ Timely recruitment of project staff ○ Appropriate use of funds, procurement and contracting of goods and services ○ Project modifications following changes in context or after the Mid-Term Review

No.	Evaluation criteria
	<ul style="list-style-type: none"> ○ Follow-up to address implementation bottlenecks ○ Role of UNIDO country presence (if applicable) supporting the project ○ Engagement in policy dialogue to ensure up-scaling of innovations ○ Coordination function ○ Exit strategy, planned together with the government
2	<ul style="list-style-type: none"> ● <u>National counterparts</u> ✓ Design <ul style="list-style-type: none"> ○ Responsiveness to UNIDO's invitation for engagement in designing the project ✓ Implementation <ul style="list-style-type: none"> ○ Ownership of the project ○ Support to the project, based on actions and policies ○ Counterpart funding ○ Internal government coordination ○ Exit strategy, planned together with UNIDO, or arrangements for continued funding of certain activities ○ Facilitation of the participation of Non-Governmental Organizations(NGOs), civil society and the private sector where appropriate ○ Suitable procurement procedures for timely project implementation ○ Engagement with UNIDO in policy dialogue to promote the up-scaling or replication of innovations
3	<ul style="list-style-type: none"> ✓ Donor ✓ Timely disbursement of project funds ✓ Feedback to progress reports, including Mid-Term Evaluation ✓ Support by the donor's country presence (if applicable) supporting the project for example through engagement in policy dialogue
F	<p>Overall project achievement</p> <ul style="list-style-type: none"> ✓ Overarching assessment of the project, drawing upon the analysis made under Project performance and Progress to Impact criteria above but not an average of ratings.

Annex 3: Job descriptions



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

Title:	International evaluation consultant, team leader
Main Duty Station and Location:	Home-based
Missions:	Missions to Vienna, Austria and countries in the Region
Start of Contract (EOD):	September 2018
End of Contract (COB):	November 2018
Number of Working Days:	24 working days spread over the above-mentioned period

1. ORGANIZATIONAL CONTEXT

The UNIDO Independent Evaluation Division (ODG/EIO/IED) is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides factual information about result and practices that feed into the programmatic and strategic decision-making processes. Independent evaluations provide evidence-based information that is credible, reliable and useful, enabling the timely incorporation of findings, recommendations and lessons learned into the decision-making processes at organization-wide, programme and project level. ODG/EIO/IED is guided by the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

2. PROJECT CONTEXT

Detailed background information of the project can be found in the terms of reference (TOR) for the terminal evaluation.

MAIN DUTIES	Concrete/ Measurable Outputs to be achieved	Working Days	Location
1. Review project documentation and relevant country background information (national policies and strategies, UN strategies and general economic data); determine key data to collect in the field and adjust the key data collection instrument if needed.	<ul style="list-style-type: none">Adjusted table of evaluation questions, depending on country specific context;Draft list of stakeholders to interview during the field missions.	4 days	Home-based
2. Prepare an inception report which streamlines the specific questions to address the key issues in the TOR, specific methods that will be used and data to collect in the field visits, detailed	<ul style="list-style-type: none">Draft theory of change and Evaluation framework to submit to the Evaluation Manager for clearance.	2 days	Home based

MAIN DUTIES	Concrete/ Measurable Outputs to be achieved	Working Days	Location
evaluation methodology confirmed, draft theory of change, and tentative agenda for field work.			
3. Briefing with the UNIDO Independent Evaluation Division, project managers and other key stakeholders at UNIDO HQ. Conduct skype interviews with key selected stakeholders participating in the project.	<ul style="list-style-type: none"> Detailed evaluation schedule with tentative mission agenda (incl. list of stakeholders to interview and site visits); mission planning; Division of evaluation tasks with the National Consultant. Key feedback from beneficiaries and stakeholders 	1 day 2 days	Through skype
4. Conduct field mission to countries in the Region in 2018 ⁵¹ .	<ul style="list-style-type: none"> Conduct meetings with relevant project stakeholders, beneficiaries, the GEF Operational Focal Point (OFP), etc. for the collection of data and clarifications; Agreement with the National Consultant on the structure and content of the evaluation report and the distribution of writing tasks; Evaluation presentation of the evaluation's preliminary findings, conclusions and recommendations to stakeholders in the country, including the GEF OFP, at the end of the mission. 	7 days	Countries in the Region (specific project sites to be identified at inception phase)
5. Present overall findings and recommendations to the stakeholders at UNIDO HQ	<ul style="list-style-type: none"> After field mission(s): Presentation slides, feedback from stakeholders obtained and discussed. 	1 day	Vienna, Austria
6. Prepare the evaluation report, with inputs from the National Consultant, according to the TOR;	<ul style="list-style-type: none"> Draft evaluation report. 	6 day	Home-based

⁵¹ The exact mission dates will be decided in agreement with the Consultant, UNIDO HQ, and the country counterparts.

MAIN DUTIES	Concrete/ Measurable Outputs to be achieved	Working Days	Location
Coordinate the inputs from the National Consultant and combine with her/his own inputs into the draft evaluation report. Share the evaluation report with UNIDO HQ and national stakeholders for feedback and comments.			
7. Revise the draft project evaluation report based on comments from UNIDO Independent Evaluation Division and stakeholders and edit the language and form of the final version according to UNIDO standards.	• Final evaluation report.	1 day	Home-based
	TOTAL	24 days	

REQUIRED COMPETENCIES

<p>Core values:</p> <ol style="list-style-type: none"> 1. Integrity 2. Professionalism 3. Respect for diversity <p>Core competencies:</p> <ol style="list-style-type: none"> 1. Results orientation and accountability 2. Planning and organizing 3. Communication and trust 4. Team orientation 5. Client orientation 6. Organizational development and innovation 	<p>Managerial competencies (as applicable):</p> <ol style="list-style-type: none"> 1. Strategy and direction 2. Managing people and performance 3. Judgement and decision making 4. Conflict resolution
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

MINIMUM ORGANIZATIONAL REQUIREMENTS

Education:

Advanced degree in environment, energy, engineering, development studies or related areas.

Technical and functional experience:

- Minimum of 15 years' experience in environmental/energy project management and/or evaluation (of development projects)
- Knowledge about GEF operational programs and strategies and about relevant GEF policies such as those on project life cycle, M&E, incremental costs, and fiduciary standards
- Experience in the evaluation of GEF projects and knowledge of UNIDO activities an asset

- Knowledge about multilateral technical cooperation and the UN, international development priorities and frameworks
- Working experience in developing countries

Languages:

Fluency in written and spoken English is required.

All reports and related documents must be in English and presented in electronic format.

Absence of conflict of interest:

According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the UNIDO Independent Evaluation Division.

Annex 4- Outline of an in-depth project evaluation report

Acknowledgement (incl. list of evaluation team members)

Abbreviations and acronyms

Glossary of evaluation-related terms

Executive summary

- Must provide a synopsis of the storyline which includes the main evaluation findings and recommendations
- Must present strengths and weaknesses of the project
- Must be self-explanatory and should be maximum 3-4 pages in length

I. Evaluation objectives, methodology and process

- Information on the evaluation: why, when, by whom, etc.
- Scope and objectives of the evaluation, main questions to be addressed
- Information sources and availability of information
- Methodological remarks, limitations encountered and validity of the findings

II. Country and project background

- Brief country context: an overview of the economy, the environment, institutional development, demographic and other data of relevance to the project
- Sector-specific issues of concern to the project⁵² and important developments during the project implementation period
- Project summary:
 - Fact sheet of the project: including project objectives and structure, donors and counterparts, project timing and duration, project costs and co-financing
 - Brief description including history and previous cooperation
 - Project implementation arrangements and implementation modalities, institutions involved, major changes to project implementation
 - Positioning of the UNIDO project (other initiatives of government, other donors, private sector, etc.)
 - Counterpart organization(s)

III. Project assessment

This is the key chapter of the report and should address all evaluation criteria and questions outlined in the TOR (see section VI Project Evaluation Parameters). Assessment must be based on factual evidence collected and analyzed from different sources. The evaluators' assessment can be broken into the following sections:

- A. Project design
- B. Implementation performance
 - Ownership and relevance (Report on the relevance of project towards countries and beneficiaries, country ownership, stakeholder involvement)

⁵² Explicit and implicit assumptions in the logical framework of the project can provide insights into key-issues of concern (e.g. relevant legislation, enforcement capacities, government initiatives, etc.)

- Effectiveness (The extent to which the development intervention's objectives, outcomes and deliverables were achieved, or are expected to be achieved, taking into account their relative importance)
 - Efficiency (Report on the overall cost-benefit of the project and partner countries' contribution to the achievement of project objectives)
 - Likelihood of sustainability of project outcomes (Report on the risks and vulnerability of the project, considering the likely effects of sociopolitical and institutional changes in partner countries, and its impact on continuation of benefits after the project ends, specifically the financial, sociopolitical, institutional framework and governance, and environmental risks)
 - Project coordination and management (Report project management conditions and achievements, and partner countries commitment)
 - Assessment of monitoring and evaluation systems (Report on M&E design, M&E plan implementation, and budgeting and funding for M&E activities)
 - Monitoring of long-term changes
 - Assessment of processes affecting achievement of project results (Report on preparation and readiness / quality at entry, financial planning, UNIDO support, co-financing, delays of project outcomes/outputs, and implementation approach)
- C. Gender mainstreaming

At the end of this chapter, an overall project achievement rating should be developed as required in annex 8. The overall rating table should be presented here.

IV. Conclusions, recommendations and lessons learned

This chapter can be divided into three sections:

A. Conclusions

This section should include a storyline of the main evaluation conclusions related to the project's achievements and shortfalls. It is important to avoid providing a summary based on each and every evaluation criterion. The main conclusions should be cross-referenced to relevant sections of the evaluation report.

B. Recommendations

This section should be succinct and contain few key recommendations. They should:

- be based on evaluation findings
- be realistic and feasible within a project context
- indicate institution(s) responsible for implementation (addressed to a specific officer, group or entity who can act on it) and have a proposed timeline for implementation if possible
- be commensurate with the available capacities of project team and partners
- take resource requirements into account.

Recommendations should be structured by addressees:

- UNIDO
- Government and/or Counterpart Organizations
- Donor

C. Lessons learned

- Lessons learned must be of wider applicability beyond the evaluated project but must be based on findings and conclusions of the evaluation
- For each lesson, the context from which they are derived should be briefly stated

For further guidance on the formulation and expected quality of lessons learned, please consult the guidance document on lessons learned prepared by the UNIDO Independent Evaluation Division (annex 6). The document also includes a checklist on the quality of lessons learned.

Annexes should include the evaluation TOR, list of interviewees, documents reviewed, a summary of project identification and financial data, including an updated table of expenditures to date, and other detailed quantitative information. Dissident views or management responses to the evaluation findings may later be appended in an annex.

Annex 5: Checklist on evaluation report quality

Project Title:

UNIDO ID: Evaluation team: Quality review done by:

Date:

Report quality criteria	UNIDO Independent Evaluation Division assessment notes	Rating
a. Was the report well-structured and properly written? (Clear language, correct grammar, clear and logical structure)		
b. Was the evaluation objective clearly stated and the methodology appropriately defined?		
c. Did the report present an assessment of relevant outcomes and achievement of project objectives?		
d. Was the report consistent with the ToR and was the evidence complete and convincing?		
e. Did the report present a sound assessment of sustainability of outcomes or did it explain why this is not (yet) possible? (Including assessment of assumptions, risks and impact drivers)		
f. Did the evidence presented support the lessons and recommendations? Are these directly based on findings?		
g. Did the report include the actual project costs (total, per activity, per source)?		
h. Did the report include an assessment of the quality of both the M&E plan at entry and the system used during the implementation? Was the M&E sufficiently budgeted for during preparation and properly funded during implementation?		
i. Quality of the lessons: were lessons readily applicable in other contexts? Did they suggest prescriptive action?		
j. Quality of the recommendations: did recommendations specify the actions necessary to correct existing conditions or improve operations ('who?' 'what?' 'where?' 'when?'). Can these be immediately implemented with current resources?		
k. Are the main cross-cutting issues, such as gender, human rights and environment, appropriately covered?		
l. Was the report delivered in a timely manner? (Observance of deadlines)		

Rating system for quality of evaluation reports

A rating scale of 1-6 is used for each criterion: Highly satisfactory = 6, Satisfactory = 5, Moderately satisfactory = 4, Moderately unsatisfactory = 3, Unsatisfactory = 2, Highly unsatisfactory = 1, and unable to assess = 0.

Annex 6. GEF Minimum requirements for M&E⁵³

Minimum requirement 1: Project design of M&E

All projects will include a concrete and fully budgeted M&E plan by the time of work program entry for full-sized projects (FSP) and CEO approval for medium-sized projects (MSP). This M&E plan will contain as a minimum:

- SMART indicators for project implementation, or, if no indicators are identified, an alternative plan for monitoring that will deliver reliable and valid information to management;
- SMART indicators for results (outcomes and, if applicable, impacts), and, where appropriate, indicators identified at the corporate level;
- Baseline for the project, with a description of the problem to be addressed, with indicator data, or, if major baseline indicators are not identified, an alternative plan for addressing this within one year of implementation;
- Identification of reviews and evaluations that will be undertaken, such as mid-term reviews or evaluations of activities; and
- Organizational set-up and budgets for monitoring and evaluation.

Minimum requirement 2: Application of project M&E

Project monitoring and supervision will include implementation of the M&E plan, comprising:

- SMART indicators for implementation are actively used, or if not, a reasonable explanation is provided;
- SMART indicators for results are actively used, or if not, a reasonable explanation is provided;
- The baseline for the project is fully established and data compiled to review progress reviews, and evaluations are undertaken as planned; and
- The organizational set-up for M&E is operational and budgets are spent as planned.

⁵³ http://www.thegef.org/gef/sites/thegef.org/files/documents/ME_Policy_2010.pdf

Annex 7. Rating tables

The following table should be used for rating the different key evaluation criteria:

Evaluation Rating Table

#	Evaluation criteria	Definition	Mandatory rating
A	Progress to impact	Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended, including redirecting trajectories of transformational process and the extent to which conditions for trajectory change are being put into place.	Yes
B	Project design	Formulation of the intervention, the plan to achieve a specific purpose.	Yes
1	Overall design	Assessment of the design in general.	Yes
2	Logframe	Assessment of the logical framework aimed at planning the intervention.	Yes
C	Project performance	Functioning of a development intervention.	Yes
1	Relevance	The extent to which the aid activity is suited to the priorities and policies of the target group, recipient and donor.	Yes
2	Effectiveness	The extent to which the development intervention's objectives were achieved, or are expected to be achieved, taking into account their relative importance.	Yes
3	Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results.	Yes
4	Sustainability of benefits	The continuation of benefits from a development intervention after major development assistance has been completed. The probability of continued long-term benefits. The resilience to risk of the net benefit flows over time.	Yes
D	Cross-cutting performance criteria	Other important criteria that cut across the UNIDO intervention.	
1	Gender mainstreaming	The extent to which UNIDO interventions have contributed to better gender equality and gender related dimensions were considered in an intervention.	Yes
2	M&E	Refers to all the indicators, tools and processes used to measure if a development intervention has been implemented according to the plan (monitoring) and is having the desired result (evaluation).	Yes
3	Results-based management (RBM)	Assessment of issues related to results-based work planning, results based M&E and reporting based on results.	Yes
E	Performance of partners	Assessment of partners' roles and responsibilities engaged in the intervention.	Yes
1	UNIDO	Assessment of the contribution of partners to project design, implementation, monitoring and reporting, supervision and backstopping and evaluation. The performance of each partner will be assessed individually, based on its expected role and responsibilities in the project life cycle.	Yes
2	National counterparts		Yes
3	Donor		Yes
F	Overall assessment	Overarching assessment of the project, drawing upon the analysis made under Project performance and Progress to Impact criteria above but not an average of ratings.	Yes

It is acknowledged that some issues covered by one criterion might overlap with others. Yet to enable UNIDO to learn from the deeper evaluation analyses and lessons on a number of areas, separate criteria are included such as those on Monitoring and Evaluation and Results-Based Management. The consistent use of the criteria pertinent to the evaluation object allow for comparability of UNIDO's performance over time. Evaluation questions are formulated around those evaluation criteria in UNIDO, as specified in the following section.

Rating systems and criteria

UNIDO introduced a six-point rating system for the evaluation criteria in 2015, in line with the practice adopted by other development agencies, including the GEF. The aim of the system is to quantify the judgment of evaluators, identify good and poor practices, to facilitate aggregation within and across projects and enable tracking performance trends over a period. The six-point rating system, with six (6) representing the best and one (1) the worst score, allows for nuanced assessment of performance and results. The same rating scale is used for all rating areas as shown below.

UNIDO evaluation rating scale

Score		Definition*	Category
6	Highly satisfactory	Level of achievement presents no shortcomings (90% - 100% achievement rate of planned expectations and targets).	SATISFACTORY
5	Satisfactory	Level of achievement presents minor shortcomings (70% - 89% achievement rate of planned expectations and targets).	
4	Moderately satisfactory	Level of achievement presents moderate shortcomings (50% - 69% achievement rate of planned expectations and targets).	
3	Moderately unsatisfactory	Level of achievement presents some significant shortcomings (30% - 49% achievement rate of planned expectations and targets).	UNSATISFACTORY
2	Unsatisfactory	Level of achievement presents major shortcomings (10% - 29% achievement rate of planned expectations and targets).	
1	Highly unsatisfactory	Level of achievement presents severe shortcomings (0% - 9% achievement rate of planned expectations and targets).	

Note: * For impact, the assessment will be based on the level of *likely* achievement, as it is often too early to assess the long-term impacts of the project at the project completion point.

Table below contains the formula applied to transform the results of UNIDO’s six-point rating scale to the GEF’s four-point scale for sustainability⁵⁴.

Formula transforming UNIDO ratings into GEF ratings

UNIDO rating	UNIDO rating: sustainability	GEF rating: sustainability
6	Highly likely (HL)	Likely (L)
5	Likely (L)	Moderately Likely (ML)
4	Moderately likely (ML)	Moderately Likely (ML)
3	Moderately Unlikely (MU)	Moderately Unlikely (MU)
2	Unlikely (U)	Moderately Unlikely (MU)
1	Highly unlikely (HU)	Unlikely (U)

This formula underscores the distinction of ratings into “satisfactory” and “unsatisfactory”, both in applying UNIDO’s six-point rating scale and the transformation into the GEF four-point rating scale for sustainability. To ensure coherence in ratings, the rating is defined above. The use of benchmarks like the performance of peers for the same criteria helps to facilitate the interpretation of ratings.

Project design

Criteria for rating project design are related to the logical framework approach and the quality of overall project design. These criteria include:

Overall design quality

- Pertinence to country priorities, needs of target groups and UNIDO strategies
- Consideration and use of lessons and evaluative evidence from other projects
- Technical feasibility and validity of project design
- Budgeted M&E plan with clear timelines, roles, and responsibilities
- Adequacy of risk assessment (for example financial, sociopolitical, institutional, environmental and implementation aspects)

Logframe/logframe-like matrix based on the project’s theory of change

- Clarity and logic of results-chain, including impacts, outcomes and outputs
- SMART indicators
- Adequacy of Means of Verification and Assumptions

⁵⁴ GEF uses a four-point scale for the criterion of sustainability.

Implementation performance

Implementation performance criteria correspond broadly to DAC criteria and need to be customized according to the context of the intervention to be evaluated.

- Relevance
- Effectiveness
- Efficiency
- Progress to Impact
- Sustainability of benefits

Partners' performance

UNIDO's projects are characterized by a group of main partners with specific roles and responsibilities. UNIDO itself acts as project implementer and supervisor. Though supplemented by implementation performance criteria listed above, the criteria to assess UNIDO as a partner are more specific and help to address frequent issues in its performance. Governments are local executors, and owners of the project and donors provide project funding. Hence, rating the partners is a key part of UNIDO project evaluations⁵⁵. The six-point rating scale applies⁵⁶.

The key issues to be addressed to rate **UNIDO's performance** are:

Project design

- Mobilization of adequate technical expertise for project design
- Inclusiveness of project design (with national counterparts)
- Previous evaluative evidence shaping project design
- Planning for M&E and ensuring sufficient M&E budget

Implementation

- Timely recruitment of project staff
- Project modifications following changes in context or after the Mid-Term Review
- Follow-up to address implementation bottlenecks
- Role of UNIDO country presence (if applicable) supporting the project
- Engagement in policy dialogue to ensure up-scaling of innovations
- Coordination function
- Exit strategy, planned together with the government
- Overall effectiveness of project management as outlined in the Project Document
- Project's governance system
- National management and overall coordination mechanisms
- UNIDO HQ-based management, coordination, monitoring, quality control and technical input

To assess the ***performance of national counterparts***, the evaluation looks into the following issues:

⁵⁵ As practiced by the World Bank and the International Fund for Agriculture Development.

⁵⁶ 6 = Highly satisfactory; 5 = Satisfactory; 4 = Moderately satisfactory; 3 = Moderately unsatisfactory; 2 = Unsatisfactory; 1 = Highly unsatisfactory

Project design

- Responsiveness to UNIDO's invitation for engagement in designing the project

Implementation

- Ownership of the project
- Financial contributions (cash or in-kind)
- Support to the project, based on actions and policies
- Counterpart funding
- Internal government coordination
- Exit strategy, planned together with UNIDO, or arrangements for continued funding of certain activities
- Facilitation of the participation of Non-Governmental Organizations (NGOs), civil society and the private sector where appropriate
- Suitable procurement procedures for timely project implementation
- Engagement with UNIDO in policy dialogue to promote the up-scaling or replication of innovations

For the assessment of **donor performance**, the following issues require ratings:

- Timely disbursement of project funds
- Feedback to progress reports, including Mid-Term Evaluation, if applicable
- Support by the donor's country presence (if applicable) supporting the project for example through engagement in policy dialogue

Gender mainstreaming

The UNIDO Policy on gender equality and the empowerment of women, issued initially in April 2009, and revised in March 2015 (UNIDO/DGB/(M).110/Rev.), provides the overall guidelines for establishing a gender mainstreaming strategy and action plans to guide the process of addressing gender issues in the Organization's industrial development interventions. It commits the organization that evaluations will demonstrate effective use of the UNEG guidance on evaluating from a human rights and gender equality perspective, as indicated by the Organization's meta-evaluation scores according to the UNEG Evaluation Scorecard.

In line with the UNIDO Gender Equality and Empowerment of Women Strategy, 2016-2019, all UNIDO technical assistance projects post-2015 are to be assigned a gender marker and should go through a gender mainstreaming check-list before approval. UNIDO's gender marker is in line with UN System-wide action plan (SWAP) requirements, with four categories: 0 — no attention to gender, 1 — some/limited attention to gender, 2a — significant attention to gender, 2b — gender is the principal objective⁵⁷.

⁵⁷ http://intranet.unido.org/intra/Gender_Mainstreaming_Tools_and_Guides

Besides, Guides on Gender Mainstreaming for Inclusive and Sustainable Industrial Development (ISID) Projects in different areas of UNIDO's work have been developed and published during 2015⁵⁸, which have specific guidance on suitable outputs/activities/ indicators per technical area.

If the project design and gender analysis/existing indicators are not sufficient to allow for an accurate appraisal at the final evaluation, specific indicators could be created during the evaluation planning stage (preparing and revising the inception report) and assessed during the evaluation process. Together with the budget, the time required to adequately carry out a gender responsive evaluation will need to be taken into account. The evaluation time depends on the questions the assessment needs to answer, on how deep the analyses are requested to be, and on financial and human resources available as well as other external factors.

For terminal evaluations of projects that have been approved after 2015, evaluations should assess if the rating was correctly done at entry, if appropriate outputs/activities/indicators and monitoring were put in place during implementation and what results can be actually observed at the time of terminal evaluation (in line with UNIDO's organizational results reporting to SWAP). The Gender Mainstreaming six-point rating scale should then be used accordingly.

For projects that have **2a** or **2b ratings** at project design/entry at least one evaluation team member should have demonstrated/significant experience in evaluating GEEW projects. For other projects, evaluators are encouraged to further familiarize themselves with the key gender aspects and impacts of UNIDO projects, both through the foundation modules of "I know Gender" online course of UN Women and the UNIDO's Guides on Gender Mainstreaming ISID Projects.

⁵⁸ www.unido.org/en/what-we-do/cross-cutting-issues/gender/publications.html

Annex 2: List of documents consulted

Inception Workshop documents
1 st , 2 nd , 3 rd , 4 th , 5 th , 6 th , 7 th , 8 th , 9 th Project Steering Committee documents
Workshop on contaminated sites management (Addis Ababa, 2012)
Workshop on establishing BAT/BEP forum (Addis Ababa, 2012)
Workshop and training documents on waste management (Durban, 2013)
Workshop and training documents on textile dyeing and finishing (Kampala, 2012)
Workshop and training documents on leather dyeing and finishing (Gaborone, 2013)
Workshop and training documents on bio pesticides (Manzini, 2015)
National workshop on cleaner waste management (Lesotho)
National awareness campaign on contaminated sites management (Lesotho)
National awareness campaign on contaminated sites management (Mozambique)
National awareness campaign on contaminated sites management (Tanzania)
Workshop on national solid waste management workshop (Tanzania)
Workshop on contaminated site (Tengeru, 2014)
Workshop on bio-pesticides (Eswatini)
Workshop on national solid waste management workshop (Eswatini)
National training workshops (1-2) on contaminated sites management (Maputo, 2012)
Report on economically feasible POPs contaminated sites remediation technologies (Dr. Hamisi, SUA University)
Report on website creation on POPs database (Dr. Hamisi, SUA University)
Final Report on Methodology for selection of POP remediation strategy (Dr. Hamisi, SUA University)
Reports in training workshops in Rwanda, Eswatini and Uganda on bio pesticides
Reports on pilot demo project on leather (Sudan)
Reports from National Leather Technology Center (Sudan)
Reports on <i>Responsify</i> – Validation of feasibility study on Leather Pilot Project
Reports from Tshwane University of Technology (TUT) – Pretoria – on POPs samples from Kombolcha Textile Ethiopia pilot project
Reports from Tshwane University of Technology (TUT) – Pretoria – on POPs samples analysis from Morogoro and Tengeru sites (Tanzania)
Final reports on Bioremediation for both Morogoro and Tengeru sites (Tanzania)
Reports from Textile Industry Development Institute (TIDI) – Addis Ababa
Documents from 2 nd , 3 rd , 4 th , 5 th and 6 th Project Coordination Body (PCB)
Reports on Regional Strategy for COMESA and SADC sub-regions on Healthcare Management by Dr. Khatima (Tanzania)
Final Report on Lesotho E-waste project
Report on conducting a survey on existing concepts of plastic waste management (Ethiopia)

Inception Workshop documents	
Report on developing concept for plastic waste management including the reuse of waste plastic bags (Ethiopia)	
Report on existing data and national inventory of existing bio pesticides formulations (Ethiopia)	
Report on identifying the informal collection system of PCBs wastes and used oil (Ethiopia)	
Report on workshop on market gardeners and production of bio pesticides (Ethiopia)	
Report on awareness raising in BAT/BEP for informal sector (Ethiopia)	
Report on creation of a national SMEs for an environmentally sound solid waste management for plastics (Ethiopia)	
Report on E-waste and used paper management (Ethiopia)	

Annex 3 - List of stakeholders consulted and schedule of field visits

Name	Organization	Position in the Organization
Field visit to Ethiopia (4-6 November 2018)		
Mr. Ameha TEGEGNE	UNIDO	National project coordinator
Mr. Mustafa JEMAL	Kombolcha Textile Share Company (KTSC)	General Manager
Mr. Tadesse CHERNET	Kombolcha Textile Share Company (KTSC)	Deputy General Manager
Mr. Assegid Adane MEBRATU	UNIDO	National Programme Officer
Mr. Mehari TAYE	Ministry of Environment, Forest and Climate Change	Director General - Compliance, Monitoring and Control Directorate - POPs Focal Point
Mr. Demile ASRATE	Ethiopian Textile Industry Development Institute (TIDI)	Director – Research and Testing Laboratory
Field visit to Tanzania (7-9 November 2018)		
Ms. Madgalena J. MTENGA	Vice President's Office, Department of Environment	POPs focal point
Mr. MANGALELE	Vice President's Office, Department of Environment	National Project Coordinator for the pilot project
Mr. Nouri ABDALLA	UNIDO	Regional Project Coordinator
Mr. Stephen Bainous KARGBO	UNIDO	UNIDO Representative
Mr. E.E. LEKEI	Tropical Pesticides Research Institute (TPRI)	Principal Research Scientist
Mr. Juma MWINYIMKUU	Plants Protection Office (PPO), Ministry of Agriculture	Zone coordinator
Ms. Mary LEINA	Plants Protection Office (PPO), Ministry of Agriculture	Plants Protection Officer
Final Project Steering Committee (Vienna, 12-13 November 2018)		
Ms. Erlinda GALVAN	UNIDO	Project Manager
Ms. Rusakana Eliezer NDIZEYE	Rwanda Environment Management Authority (REMA), Rwanda	Rwanda National Project Coordinator & POPs Focal Point

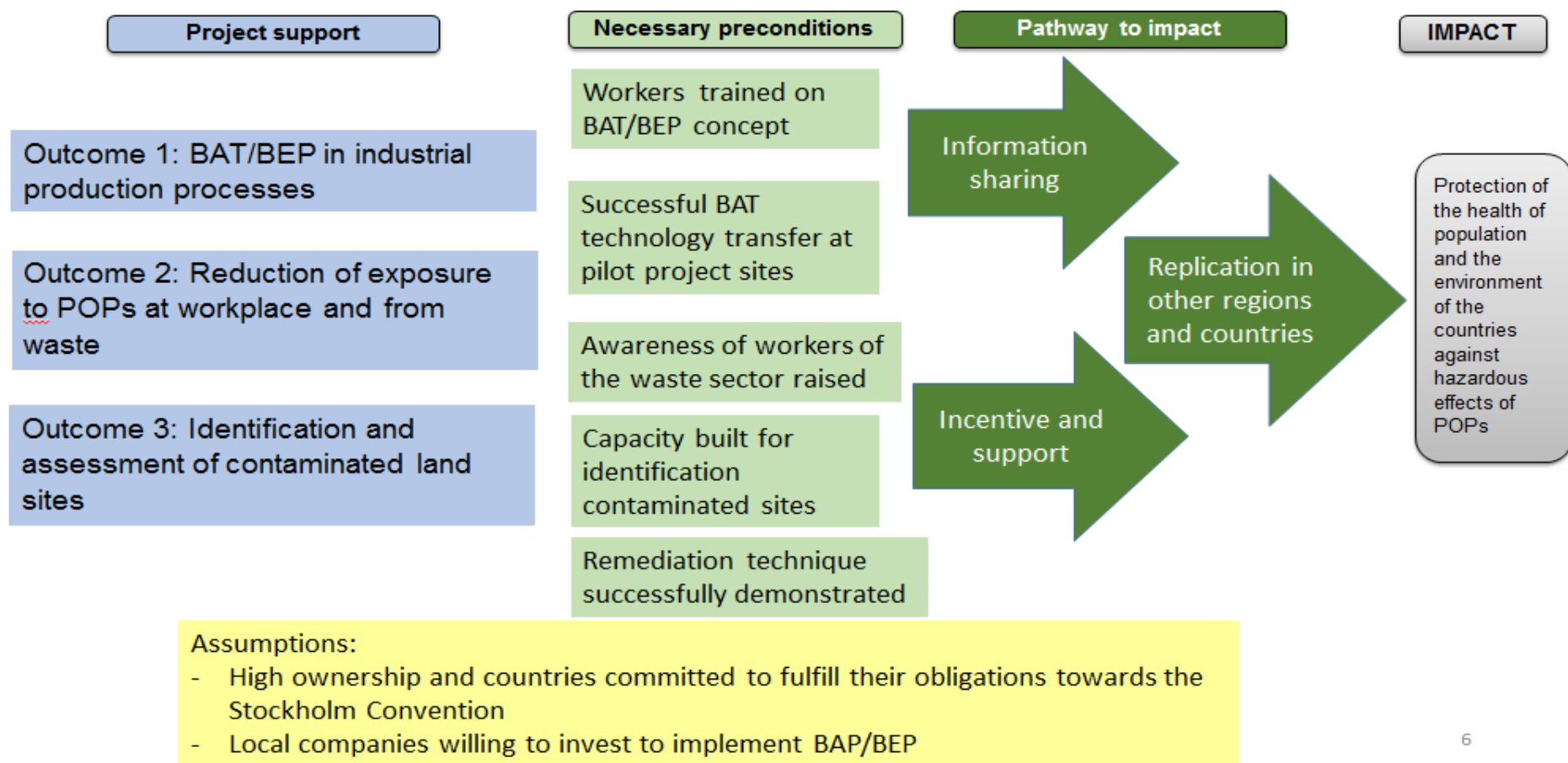
Name	Organization	Position in the Organization
Ms. Enid TURYAHIKAYO	National Environment Management Authority (NEMA), Uganda	Project Contact Person
Mr. Thabo Kobeli TSASANYANE	Department of Environment - Ministry of Tourism, Environment and Culture, Lesotho	Project Contact Person & POPs Focal Point
Mr. Sidonio CONTAGE	Directorate of Environment - Ministry of Land, Environment and Rural Development (MITADER)	POPs Focal Point
Mr. Mduduzi Nicks DLAMINI	Swaziland Environment Authority – Ministry of Tourism and Environmental Affairs, Eswatini	Vice National POPs Focal Point
Mr. Hamisi TINDWA	Department of Soil and geological Sciences – Sokoine University of Agriculture (SUA)	Lecturer and consultant
Mr. Lwembe MWALE	COMESA Secretariat	Project Officer
Mr. James MUROLO	Africa Institute	Project Coordinator for regional projects
Mr. Yas Pal RAMDEV	Regional Network on Pesticides for Asia and the Pacific (RENAP), India	National Technical Advisor

Schedule of field visits

	November 2018	Location	Organization, Firm or Plant visited	Description
	Saturday, 3rd	Addis Ababa, Ethiopia		Arrival in Addis Ababa
	Sunday, 4th	Dessie, Ethiopia		Arrival in Dessie
Day 1	Monday, 5th	Kombolcha, Ethiopia	Kombolcha Textile Share Company (KTSC)	Visit to KTSC and interviews with local stakeholders

	November 2018	Location	Organization, Firm or Plant visited	Description
Day 2	Tuesday, 6th	Addis Ababa, Ethiopia	UNIDO Office; Ministry of Environment, Forest and Climate Change	Visit to UNIDO Office in the ECA compound; visit to the POPs focal point in the Ministry of Environment; interview with TIDI.
Day 3	Wednesday , 7th	Dar Es Salaam, Tanzania		Arrival in Dar Es Salaam and interviews with representatives from Ministry of Environment
Day 4	Thursday, 8th	Dar Es Salaam, then Arusha, Tanzania	UNIDO Office	Visit to UNIDO Office then transfer to Arusha in the afternoon
Day 5	Friday, 9th	Arusha, Tanzania	Tropical Pesticides Research Institute (TPRI); pilot project in Tengeru	Interviews conducted with TPRI and visit to the pilot project of Tengeru in the afternoon
Day 6	Saturday, 10th			Flight back to Vienna with a layover in Addis Ababa

Annex 4 – Evaluation Theory of Change



Annex 5 – Rating of activities and outputs

Rating of activities and output: HS: Highly satisfactory; S: Satisfactory; MS: Moderately Satisfactory; MU: Moderately Unsatisfactory; U: Unsatisfactory; HU: Highly Unsatisfactory

- The rating of an activity is based on whether that activity has been completed or not (**Completed** or **Incomplete**) or achievement exceeds what was expected at design (**Exceeded**). A rating of HS is given in case if achievement exceeds expectation at design, which is the case for Activity 3.2.1
- In the case of outputs, the rating is based on average rating obtained by all the activities of that output. Note that a score has been attributed to each rating as follows: HS = 6; S = 5; MS = 4; MU = 3; U = 2; HU = 1. If the average score for an output is not a whole number, then this figure is rounded off to the nearest whole number, and the rating corresponding that that number is the rating for the output.

*Rating: HS: Highly Satisfactory; S: Satisfactory; MS: Moderately Satisfactory; MU: Moderately Unsatisfactory; U: Unsatisfactory; HU: Highly Unsatisfactory

Activities	Objectively verifiable indicators	Progress at project end and comments	Status	*Rating
Outcome 1: Introduction of BAT/BEP in industrial production processes mentioned in Annex C of Article 5 of the Convention				
Output/Activities			Exceeded Completed Incomplete	
Output 1.1 : COMESA/SADC Sub-regional BAT/BEP Forum established				S
Activity 1.1.1: Convene a workshop to prepare a Declaration for establishing the SADC subregional BAT/BEP Forum	➤ Verify the physical presence of the declaration	Declaration exists	Completed	S
Activity 1.1.2: Launch the Regional Forum for development and formulation of a regional action plan on BAT/BEP	➤ Launching and existence of Regional Forum	Workshop, which was held in Addis Ababa from 23-27 January 2012, and attended by participants from 14 countries	Completed	S
Activity 1.1.3: Assist in enhancing industry performance in the region in conformity with the BAT/BEP guidelines and provisional guidance document including regional, local and traditional practices and socio-economic considerations	➤ At least two industries in conformity with BAT/BEP in the region	Dyeing and finishing in textile, and leather tanning sectors in conformity with BAP/BEP	Completed	S

Activity 1.1.4: Develop partnerships in the region for successful implementation of the regional action plan	➤ Memorandum of Understanding to develop partnership for the implementation of regional action plan	Regional action plan developed and MoU signed to implement regional action plan on BAT/BEP	Completed	S
Output 1.2: Human Resources for BAT/BEP developed, technical knowledge shared in SMEs and informal sector				S
Activity 1.2.1: Carry out training workshops in BAT/BEP in textile dyeing and finishing	➤ At least two experts per country per year in BAT/BEP in textile sector trained on BAT/BEP	Regional training workshop in BAT/BEP in textile sector undertaken in Kampala, Uganda 7 – 11 May 2012 – 29 experts from the 9 participating countries attended the training workshop – But training was not replicated at country level	Completed	S
Activity 1.2.2: Carry out training workshops in BAT/BEP in leather dyeing and finishing	➤ At least two experts per country per year in the leather sector trained on BAT/BEP	Regional Training Workshop on Leather Dyeing and Finishing, Gaborone, Botswana 13 – 16 May 2013. 26 experts from the 9 participating countries attended – Training not replicated at national level	Completed	S
Activity 1.2.3: Carry out training workshops in BAT/BEP in waste oil refinery	➤ At least two experts per country per year trained in BAT/BEP in used oil refinery sector	Activity not carried out as no such activity identified in the two sub-regions – Problem about design	N/A	N/A
Activity 1.2.4: Undertake targeted awareness raising campaigns in BAT/BEP for informal sector	➤ Network of the informal sector in each country for awareness on principles of BAT/BEP	All countries carried out awareness raising activities for the informal sector	Completed	S
Output 1.3: BAT/BEP in textile and leather dyeing and finishing and waste oil refinery source categories initiated				S
Activity 1.3.1: Carry out pilot demonstration of BAT/BEP in textile dyeing and finishing	➤ Availability of at least one pilot demonstration in the textile sector in the sub-region	BAT/BEP in textile dyeing and finishing was successfully implemented at the <u>Kombolcha Textile Company</u> in Ethiopia	Completed	S
Activity 1.3.2: Carry out pilot demonstration of BAT/BEP in leather dyeing and finishing	➤ Availability of at least one pilot demonstration in the leather sector in the sub-region	Pilot project on BAT/BEP in leather sector successfully implemented at the <u>Al-Amatong Tanning and Leather Industry Company Ltd (ATLIC)</u> ,	Completed	S

Activity 1.3.3: Carry out pilot demonstration of BAT/ BEP in waste oil refinery	➤ Availability of at least one pilot demonstration in waste oil refinery sector in the sub-region	Khartoum, Sudan Pilot project not undertaken as sector not identified in the countries of the two sub-regions	N/A	N/A
Outcome 2: Reduction of exposure to POPs at workplace and close proximity of POPs wastes and UP-POPs emitting sources				
Output 2.1: Concept of Cleaner Solid Municipal Waste Management System introduced to the national plans of waste management system in the participating countries (prevention and mitigation of POPs releases from open burning and landfill fires)				MS
Activity 2.1.1. Organize national awareness raising workshops on cleaner waste management with the aim to promote business and job opportunities in the field of waste management	➤ Minimum of two awareness raising workshops on cleaner waste management organised for national and local decision makers per country	Only one awareness raising workshop on cleaner waste management organized in all countries	Incomplete	MS
Activity 2.1.2 Organize a sub-regional training workshop for waste management personnel with special focus on risk reduction and concept of cleaner municipal solid and healthcare waste management	➤ At least one technical workshop held for waste management personnel at sub-regional level	Workshop on waste management held on 4 -6 September 2013, Durban, South Africa. 28 waste management personnel of the 9 participating countries attended the workshop	Completed	S
Activity 2.1.3 Support the establishment of a regional programme for training on cleaner municipal solid waste and healthcare waste management through BCRCs, Cleaner production Centres and/or the Stockholm Convention Technical centres as appropriate	➤ At least one sound municipal solid waste management option show case demonstrated	The solid waste management system of the <u>Ethekewini Municipality</u> of Durban was used a show case during workshop. The participants were able to make site visits	Completed	S

<p>Activity 2.1.4 Update and adapt the healthcare management manuals developed under the GEF/UNDP demonstration project for training purposes in medical health schools</p>	<p>➤ Existence of regional programme on sound waste management. Courses /modules related to waste management included in teaching programmes at school</p>	<p>Recommendations for improving the waste management system have been made during Durban workshop. There is no evidence if a regional programme exists for sound waste management. No evidence also that courses / modules related to waste management included in teaching programmes at school</p>	<p>Incomplete</p>	<p>MS</p>
<p>Activity 2.1.5 Carry out pilot demonstration of cleaner healthcare waste management based on the lessons learned from GEF/UNDP demonstration project and support replication activities in the sub-region</p>	<p>➤ Participating countries implementing a sound health-care waste management system at the pilot scale</p>	<p>Proposal for Updating Medical Waste Management Manual as well as Health Care Waste Management Strategy for SADC and COMESA Countries developed. However, no indication that countries have implemented a sound health-care waste management system at pilot scale</p>	<p>Incomplete</p>	<p>MS</p>
<p>Output 2.2: Bio-botanical pesticides produced and formulated in agriculture including market gardening in urban areas through existing south-south cooperation programmes and with the participation of association of market gardeners (alternatives to Annex A pesticides)</p>				<p>S</p>
<p>Activity 2.2.1: Organize (in cooperation with FAO / RENPAP / MOA) an awareness raising workshop for market gardeners on integrated pest management in crop protection and post-harvest management with particular focus on the use of bio-pesticides</p>	<p>➤ At least one awareness workshops per country to be held for market gardeners on integrated pest management and use of bio-botanical pesticides</p>	<p>Awareness raising workshop for market gardeners undertaken in all participating countries</p>	<p>Completed</p>	<p>S</p>
<p>Activity 2.2.2: Review existing data and conduct national inventory on existing</p>	<p>➤ Availability of database in each country ➤ Inventory reports on pesticide plants in</p>	<p>Inventory done in all countries</p>	<p>Completed</p>	<p>S</p>

<p>bio-pesticides formulations</p> <p>Activity 2.2.3: Field testing of bio-pesticides in cooperation with research institutions, RENPAP, FAO and farmer associations</p> <p>Activity 2.2.4: Support PPP model for the creation of national Micro- or Small Enterprise to produce and promote the use of bio-botanical pesticides</p>	<p>each country</p> <ul style="list-style-type: none"> ➤ Availability of solid or liquid botanical pesticide in the market ➤ At least two producers per country using and/or willing to use individually or in co-operatives the new natural bio-botanical pesticide formulations ➤ Research activities on field application of bio- pesticides for pest management ➤ Micro- or small enterprises producing and/or providing bio- pesticides 	<p>Pilot project on bio-pesticide in Rwanda and Uganda – Equipment to produce neem extract (the bio-pesticide) from neem seeds commissioned in the two pilot countries. According to information neem extract is being used by a few thousands of farmers in the two pilot countries</p> <p>Although a strategy has been developed to promote use of bio-pesticides through partnership with private enterprise, however too early for establishment of such enterprises. It is in the long term strategy to make this bio-pesticide available across the pilot countries and other countries through up-scaling and replication through action plans such as support the mainstreaming of production and application of bio-pesticides into national level CAADP Compacts, National Climate Smart Agricultural Investment Frameworks (NCSAIFs) or support countries in developing an investment climate that encourages investment in the production and application of bio-pesticides</p>	<p>Complete</p> <p>Incomplete</p>	<p>S</p> <p>MS</p>
<p>Output 2.3: Strategy developed to audit, formalized and scale-up to macro and small enterprises informal management practices of PCBs, solid and liquid waste, plastic wastes, used paper and e-waste</p>				S
<p>Activity 2.3.1: Identify the informal collection system of PCB and used oil and perform</p>	<p>➤ Validated national Inventory audit report</p>	<p>All countries successfully undertook this activity on PCB sound management</p>	<p>Completed</p>	S

<p>environmental audits to determine the need for enhancing collection and channelling of the PCBs streams on an ESM manner in line with GEF/UNEP pilot project in the sub-region</p> <p>Activity 2.3.2: Conduct a survey on existing concepts for plastic waste management including the reuse of waste plastic bags as a raw material for various articles</p> <p>Activity 2.3.3: Develop a concept for plastic waste management including the reuse of waste plastic bags as raw material for various articles</p> <p>Activity 2.3.4: Support the creation of a national micro or small enterprises for environmentally sound recycling of plastic bags</p>	<p>➤ Concept paper on existing plastic waste management options developed</p> <p>➤ Existence of such enterprises model in participating countries</p>	<p>All the countries successfully undertook this activity. The surveys indicate that in a few countries plastic waste recycling companies already exist. For example, in Lesotho a Chinese owned company is doing large scale plastic recycling.</p> <p>Activity successfully completed in all countries. According to reports, in all countries there already exist some legislation for the sound management of plastic waste. However, enforcement is a problem, and many countries have proposed concepts for the improvement of the sound management of plastic wastes and its re-use as raw materials for various articles (e.g. Uganda, Lesotho or Tanzania)</p> <p>In all the countries, recycling of plastic bags exist in the informal sector. In a few countries large scale recycling also exists (e.g. Lesotho and Tanzania). Many of the concepts developed in the context of the project are proposing to support the creation of micro and small enterprises for recycling by putting in place a</p>	<p>Completed</p> <p>Completed</p> <p>Completed</p>	<p>S</p> <p>S</p> <p>S</p>
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<p>Activity 2.3.5: Investigate the current informal paper and e-waste management and the management of other halogenated solid and liquid wastes</p>	<p>➤ Verify the existence of a national micro or small enterprises that are having environmentally sound recycling of paper and e-waste at the national level</p>	<p>financial assistance mechanism.</p> <p>Surveys on paper and e-waste undertaken in all countries. Recycling of paper is currently being done in many countries. In Rwanda for example, a recycling company is producing the following products from paper waste: toilet paper, serviettes, kitchen towels. Mozambique on the other hand is exporting its paper wastes to be recycled in South Africa.</p> <p>Regarding e-waste, recycling exist in the informal sector in most countries. No formal recycling in an ESM manner exists. In all countries, e-waste management is becoming a serious issue and awareness raising and sound disposal of e-waste are among the main recommendations of these surveys/reports.</p>	<p>Completed</p>	<p>S</p>
<p>Activity 2.3.6: Provide support for activities to prevent irrational dumping and open burning of paper and other halogenated solid and liquid wastes</p>	<p>➤ Existence of national/sub-regional micro- or small enterprise recycling paper and e-waste in an ESM manner</p>	<p>Activity to be undertaken in collaboration with Africa Institute according to decision of the 7th PSC meeting. Pilot project done in Lesotho by Africa Institute (outside SSA, see just 2.3.7). Furthermore, A GEF project on open burning is being implemented in the SADC region and all the countries of the project under evaluation are involved in it (GEF ID: 5322). A similar project on open burning is being developed by UNIDO for the COMESA sub-region</p>	<p>Completed</p>	<p>S</p>
<p>Activity 2.3.7: Support PPP</p>				

model for creation of a national Micro- or Small Enterprise for an environmentally sound recycling of paper and wastes in the sub-region		Activity to be undertaken in collaboration with Africa Institute according to decision of the 7th PSC meeting. Pilot project done in Lesotho by Africa Institute through contract (SSA) with UNIDO. Private company is still operating in the business	Completed	S
Outcome 3: Identification and assessment of contaminated sites				
Output 3.1: Site identification strategies, protocols and guidelines formulated and applied in the sub-region based on UNIDO toolkit				S
Activity 3.1.1: Prepare manuals, procedures, protocols and guidelines for local use for the identification of POPs contaminated sites and for conducting risk assessment of these sites	<ul style="list-style-type: none"> ➤ Physical presence of the strategy document ➤ Document that stipulate the step by step approach to select benign technology and cleanup of contaminated sites 	Document drafted by Sokoine University of Agriculture, Morogoro, Tanzania	Completed	S
Activity 3.1.2: Develop methodology for selection of economically feasible and environmentally sound POPs contaminated site remediation technologies	<ul style="list-style-type: none"> ➤ Cost benefit analysis on the effectiveness and viability of various remediation technologies 	Document drafted by Sokoine University of Agriculture, Morogoro, Tanzania	Completed	S
Activity 3.1.3: Undertake pilot demonstration project to verify the effectiveness of the low cost remediation technology and validate contaminated site identification methodology	<ul style="list-style-type: none"> ➤ Soil and water quality analysis results of samples taken from the cleaned up sites to verify efficiency and cost effectiveness of the remediation technologies 	Phytoremediation technique selected and used at the Morogoro and Tenguni contaminated sites in Tanzania. The plants (wheat, oat, collard, simsim, hot pepper and castor oil plant) selected for phytoremediation all showed potential uptake for DDT and metabolites and less for lindane, according to laboratory testing.	Completed	S
Activity 3.1.4: Prepare	<ul style="list-style-type: none"> ➤ Physical presence of contaminated site 	According the first results, the plants	Incomplete	MS

contaminated site remediation plans of the identified hot spots in the sub-region	plans for the identified hot spots	selected are useful for phytoremediation. However, <u>phytoremediation</u> of the sites is still not completed as a number of cycles of planting and removal of these plants need to be done until the levels of the POPs in the soil are within the norms. So it is too early to talk about remediation plans for hot spots.		
Output 3.2: Capacity to manage the contaminated sites strengthened				S
Activity 3.2.1: Launch training workshop using UNIDO Tool kit to experts from the relevant institutions to enable them collect scientific data from contaminated sites and assess potential risks to humans, wildlife and the environment	<ul style="list-style-type: none"> ➤ Five experts trained with a capacity to manage POPs contaminated site in each participating country 	Two regional training workshops on Investigation and Management Contaminated Site using UNIDO Toolkit organized on (i) 26.-30. March 2012, Maputo, Mozambique and (ii) August 6-10, 2012; Addis Ababa, Ethiopia and attended by experts of the participating countries of the two sub-regions: COMESA and SADC. Two experts from each of the participating countries have been trained in these regional workshops. At least 20 experts from each country have been trained through workshops organized at national level.	Exceeded	HS
Activity 3.2.2: Create database and website within the COMESA / SADC sub-regions, linked to UNIDO website, to share and disseminate data/information collected from contaminated sites and hot spots	<ul style="list-style-type: none"> ➤ Participation of the private sector ➤ Suggestions and recommendations to remove barriers to market oriented operations ➤ Availability of fund for co-financing ➤ Number of workshops on fund raising ➤ Number of countries willing to replicate the pilot 	The website has been successfully developed by <u>Dr. Hamisi Tindwa</u> from <u>Sokoine University of Agriculture, Morogoro</u> Tanzania. http://www.coa.suanet.ac.tz/soilscience/unido . The website contains information about contaminated sites for the 9 participating countries of the COMESA and SADC sub-regions. At 15 January	Completed	S

<p>Activity 3.2.3: Raise awareness among the major stakeholders, including decision makers on the health risk that may result from exposure to POPs contaminated sites</p> <p>Activity 3.2.4: Assess aspects of involvement of technology providers for the development of public-private partnerships in managing contaminated sites</p> <p>Activity 3.2.5: Develop mechanism to mobilize funds from within the COMESA / SADC member states for the remediation of contaminated sites to ensure project sustainability</p>		<p>2019, 3096 persons visited the site</p> <p>Training/awareness raising workshop organized in all countries – However these workshops were mainly attended by technical persons and very few decision makers</p> <p>Involving highly sophisticated technology providers for managing contaminated sites was not done as adopting <u>phytoremediation</u> technology appeared most cost effective technology and could easily be afforded by the participating countries.</p> <p>Attempts to develop a mechanism through engaging COMESA and SADC Secretariats, but both secretariats showed no interest. The participating countries also resisted creating such mechanism as well.</p>	<p>Completed</p> <p>Completed</p> <p>Incomplete</p>	<p>S</p> <p>S</p> <p>MU</p>
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Annex 6: Copies of questionnaires for pilot site selection in textile and leather sectors

Textile:

Questionnaire to be filled by the COMESA and SADC Member States Participating in the LDC Project

This questionnaire is prepared based on the criteria agreed during the Kampala workshop to select a country that will host BAT/BEP pilot demonstration Project in textile dyeing and finishing. Participating countries are required to provide information related to the following questions latest by June 15, 2012. Please note that submission after this date will not be considered.

1. What is the total textile production volume of your country per annum?
2. What is the total quantity of the dioxin/furans releases indicated in the NIP Document of your country and what percentage of these releases has been contributed from the industrial sector? Provide quantities of the Dioxin/Furan emissions from the textile sector if it was quantified during the NIP development or NIP updates.
3. Please indicate if there has been any attempt in your country to introduce BAT/BEP principles to reduce dioxins/furans emissions from factories in general and in the textile industry, in particular.
4. Please indicate the types of chemicals the textile factories (or the proposed textile factory (s) to be used for the pilot project) in your country are using in dyeing and finishing. Please provide trade names and chemical names of these chemicals.
5. Are the issue of minimizing/ reduction of dioxin /furans missions considered as priority in the NIP Document of your own country? If so confirm if the proposed interventions to reduce dioxin/furans releases are planned to be implemented in the short term of the NIP action plan.
6. Is your country willing and committed to host the BAT/BEP pilot demonstration project for textile dyeing and finishing? How is the commitment of your country to host this project expressed? Is it willing to make in kind contribution to supplement project budget? Or any other type of contribution? Please provide commitment letter from an institution responsible for environment to that effect.
7. What is the name of the textile factory proposed to host the BAT/BEP pilot demonstration project in your country? I think this point could be merged with point # 4 above. What do you think?
8. Please provide concrete evidence to prove that the proposed textile factory in your country is using chloronil in the dying process and/or alkaline extraction in finishing. I think this point could also be merged with point # 4 above. What do you think?
9. Please indicate if possible, an estimation of the annual Volume of production and /or quantity of dioxins/furans emissions of the textile factory proposed to host the pilot demonstration project by using may be indirect method through interpolation of the textile production volume of the factory. I think this point could be merged with point # 4 above. What do you think?

10. Is the proposed textile factory in your country made aware that it is nominated to be candidate to host the BAT/BEP Pilot Demonstration Project?
11. Please provide letter of commitment (from the proposed factory) indicating that it is willing to the host pilot demonstration project, willing to provide financial and human resources to supplement project budget and also willing to share the information extracted from the pilot project with the countries in the two sub-regions;

Leather:

Questionnaire to be filled by the COMESA and SADC Member States Participating in the LDC Project for Leather Sector

This questionnaire is prepared to select a country that will host BAT/BEP pilot demonstration Project in leather dyeing and finishing. Countries participating in the LDCs Project are therefore required to provide their response to the following questions latest by 31 July 2013.

Please note that information provided after this date will not be considered.

1. What is the annual leather production volume of your country?
2. List the name of chemicals (both trade names and chemical names) of the leather factory (s) of concern in your country which are currently in use during the process of dyeing and finishing.
3. What is the total quantity of the dioxin/furans emissions and the percentage contribution of these releases from the industrial sector as indicated in the summary table of the NIP? Also provide specific quantities of the Dioxin/Furan emissions from the leather sector if it was quantified during the NIP development.
4. Indicate the name of the leather factory your country has proposed to host the BAT/BEP pilot demonstration project (full address, e-mail contacts and cell phones of the Manager and director of operations, fax number). Has the proposed leather factory officially been informed that it is a candidate factory nominated to host the BAT/BEP Pilot Demonstration Project? What was its reaction when they were informed of this decision?
5. Provide any evidence to prove that the proposed leather factory in your country is currently using chloronil and chlorophenols in the dyeing process and/or alkaline extraction in finishing;
6. Provide an estimation of the quantity of dioxins/furans emissions of the leather factory proposed to host the pilot demonstration project (you may use the emission factor from the UNEP Toolkit to estimate dioxin furan emissions);
7. Indicate if there has been any attempt in your country to introduce BAT/BEP principles in reducing dioxins/furans emissions in any factories in general and in the leather industry, in particular;

8. Confirm if the recommended interventions to minimize/ reduce dioxin /furan emissions in the NIP Document have been considered as a priority concern in the NIP action plan;
9. Is your country committed to host the BAT/BEP pilot demonstration project for leather dyeing and finishing? Please provide letter of commitment from the relevant institution on behalf of the Government. Is your country and the nominated factory are willing to make financial, in kind or any other contributions to support the BAT/BEP project? If yes; please provide details of such contribution;
10. Please also submit letter of commitment from the proposed factory indicating that it is willing to host the pilot demonstration project, provide financial and human resources and also share the information obtained from the pilot demonstration project with the countries in the two sub-regions.