MID TERM REVIEW REPORT
- FINAL-

Protect Human Health and the Environment from Unintentional Releases of POPs Originating from Incineration and Open Burning of Healthcare- and Electronic Waste Project in Egypt

(UNDP PIMS#4567; GEF ID 4392)

MTR timeframe: 1.09. – 30.11.2018

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This report includes the findings of the Midterm Review (MTR) of the Global Environment Facility (GEF) funded project "Protect Human Health and the Environment from Unintentional Releases of POPs Originating from Incineration and Open Burning of Healthcare- and Electronic Waste Project in Egypt (UNDP PIMS#4567)."

The project is fully consistent with the GEF-5 Chemicals focal area strategy of Objective 1: Phase-out POPs and reduce POPs releases as well as Objective 3: Pilot sound chemicals management and mercury reduction.

The project will contribute to the achievement of GEF's main indicators under this strategic programming area:

- Outcome 1.4: By 2016, key national and sub-national Agencies, in partnership with the private sector and communities, implement and monitor laws, policies and programmes for more efficient use of natural resources and environmental management, and implement commitments under international conventions
    - Indicator 1.4.3: Number of tons of (POPs—obsolete pesticides, pesticide contaminated soils and dioxin contaminated soil - contained and remediated in accordance with international environmental requirements
- Output 1.4.3: Policies, plans and technical skills are strengthened for the sound management of hazardous chemicals and persistent organic pollutants (POPs), in accordance with international conventions.

The project is being implemented by the United Nations Development Programme (UNDP). The project's Executing Agency/Implementing Partner is the Ministry of Environment of Egypt.

The evaluation mission team consisted of Dr. Ute Pieper (Team Leader), who was responsible for the review of the healthcare waste related components and Prof. Sudhakar Yedla (International Consultant), who focused on the E-waste components. The meetings and site visits were accompanied by the Project team members:

- Dr. Tarek El Araby - Project Manager
- Eng. Hoda Shakra - E-Waste Technical officer
- Dr. Sherif Elnagdy - Medical Waste Technical officer

The detailed agenda for both areas of the MTR can be found in the annex.

Acknowledgement

The evaluators wish to extend special thanks to all entities and individuals who made themselves available for discussions and interviews during the course of the Midterm Review mission from 08. – 11. October 2018, and value their continuous cooperation and assistance during subsequent contacts for clarifications and/or additional information.

The evaluators also like to extend special appreciation to the Project's Management Office for their cooperation in preparing the itinerary for the evaluation mission, arranging for discussions and interviews with a large number of project partners and field visits to project sites: Tarek El Araby (Project Manager), Hoda Shakra (E-Waste Technical officer), Sherif Elnagdy (Medical Waste Technical officer) and Eman Abdallah (Communication Officer). Furthermore, we are thankful for the support UNDP Country Office Egypt – namely Sylvain Merlen (Deputy Country Director), Mohamed Bayoumi (Environment Team Leader) and Heba Helmy (Programme Assistant / Environment and Energy).

All of these efforts facilitated an efficient and thorough evaluation mission.

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Acronyms and Abbreviations

AWP	Annual Work Plan
BAT	Best Available Technology
BEP	Best Environmental Practice
CTF	Central Treatment Facility
EEAA	Egyptian Environmental Affairs Agency
GEF	Global Environment Facility
M&E	Monitoring & Evaluation
MCIT	Ministry of Communication and Information Technology
MoE	Ministry of Environment
MoHP	Ministry of Health and Population
MTR	Mid Term Review
NGO	Non-Governmental Organization
NIP	National Implementation Plan
PBDE	Polybrominated diphenyl ether
PIR	Project Implementation Review
POPs	Persistent Organic Pollutants
PPE	Personal Protection Equipment
PCDD/F	Polychlorinated dibenzodioxins/furans (Dioxin / Furan)
ProDoc	Project Document
UNDP	United Nations Development Programme
U-POPs	Unintentional released POPs
USD	United States Dollar
WMRA	Waste Management Regulatory Authority

1 Executive Summary

1.1 Project Description

To provide a first overview of the project, the table below is summarizing the facts of the project. Furthermore, the project background and content are described.

TITLE: PROTECT HUMAN HEALTH AND THE ENVIRONMENT FROM UNINTENTIONAL RELEASES OF POPS ORIGINATING FROM INCINERATION AND OPEN BURNING OF HEALTHCARE- AND ELECTRONIC WASTE PROJECT IN EGYPT			
UNDP PROJECT ID	4567	**PIF APPROVAL DATE**	Apr 13, 2013
GEF PROJECT ID (PIMS)	4392	**CEO ENDORSMENT DATE**	Nov 19, 2014
ATLAS BUSINESS UNIT, AWARD	00083771	**PROJECT DOCUMENT SIGNATURE**	Sep 15, 2015
PROJ. ID	00092079	**PROJECT START**	Sep 15, 2015
COUNTRY	Egypt	**DATE PROJECT MANAGER HIRED**	May 2016
REGION	Arab States	**INCEPTION WORKSHOP DATE**	Nov 26, 2017
FOCAL AREA	POPs	**MIDTERM REVIEW COMPLETION DATE**	Nov, 2018
GEF FOCAL AREA STRATEGIC OBJECTIVE	POPs	**PLANNED CLOSING DATE**	Sept 15, 2020
TRUST FUND	GEF Trust Fund (GEF-5)	**IF REVISED, PROPOSED CLOSING DATE**	-
EXECUTIVE AGENCY / IMPLEMENTING PARTNER	Ministry of Environment		

PROJECT FINANCING	**AT CEO ENDORSMENT**	**AT MIDTERM REVIEW**
[1] GEF FINANCING:	4,100,000 USD	588,446.57 USD
[2] UNDP CONTRIBUTION:	50,000 USD	5,569.00 USD
[3] GOVERNMENT:	378,000 USD	*2,784,372.00 USD*
[4] OTHER PARTNERS:	17,090,000 USD	7,530,000.00 USD
[5] TOTAL CO-FINANCING [2 + 3+ 4]:	17,568,000 USD	10,319,941.00 USD
PROJECT TOTAL COSTS [1 + 5]:	**21,668,000 USD**	**10,908,387.57 USD**

Table 1 Project Information Overview

The project objective is to prevent and reduce health and environmental risks related to POPs and harmful chemicals through their release reduction achieved by provision of an integrated institutional and regulatory framework covering environmentally sound Health Care Waste and E-waste management. The project will reduce emissions of UPOPs as well as other hazardous releases (e.g. mercury, lead, etc.) resulting from the unsound management, disposal and recycling of a) Health-Care Waste (HCW), in particular due to substandard incineration practice and open burning of HCW; and, b) Electronic Waste (E-Waste), in particular due to the practice of unsound collection and recycling activities and open burning of electronic waste. The project aims to achieve this by i) determining the baseline for releases of UPOPs and other hazardous substances (e.g. mercury, lead) resulting from unsound HCW and E-waste practices; ii) conducting facility assessments; iii) building capacity among key stakeholders; iv) implementing BEP at selected model hospitals, health-care facilities (HCFs) and a central treatment facility (CTF); v) introducing Best Available Technologies (BAT) and Best Environmental Practices (BEP) to formal and informal E-waste processors; vi) preparing health care facilities for the use/maintenance of non-mercury devices followed by introduction of mercury-free devices; vii) evaluating facilities to ensure that they have successfully implemented BEP; viii) installing and evaluating BAT technologies at one Central Treatment Facility based on a defined evaluation criteria; and, xi) enhancing national HCWM training opportunities to reach out to additional hospitals/HCFs.

1.2 Summary of Project Results

Project Progress Summary

The main project results at the time of the MTR review are listed below. It needs to be considered, that the project starting time was delayed by a year, therefore especially the HCWM components have been initiated but final results are not available yet.

HCWM components (1&2):

a) Baseline assessment report on HCWM including the legal framework, current practices and Rapid Assessment of the 5 target hospitals using the WHO "Rapid Assessment Tool" RAT.
b) Strengthening of the legal and policy framework. Two legal documents have been revised on governorate level: HCWM Policy and the HCWM Guideline. Both documents are including the management of mercury waste and need to be issued to the governorates through the Egyptian Environmental Affairs Agency (EEAA). HCWM plans for the project hospitals have been drafted. The project is part of the Working Group on the development of the "Law on Waste Management" by the WMRA / MoE. Persistent Organic Pollutants (PoPs) have been inserted, but it will be more difficult to convince the MoE to insert mercury waste management in specific, as Egypt has not signed the Minamata Convention.
c) Capacity Building and introduction of BEP: In August 2018 a 10 days Training of Trainer (ToT) based on the training material of the global UNDP GEF project has been conducted. The training included the management of mercury containing waste. 60 persons from authorities from 11 governates, faculty members of university hospitals, nursing schools, inspectors and environmental researchers from the Ministry of Environment (EEAA and WMAR) participated. Furthermore, of a tailored HCWM training for hospital staff has been developed - the training in one of the project hospitals started at the time of the MTR mission.
d) Demonstrating BAT: The CUH hospital decided to use autoclaving instead of incineration before project start. In accordance to the project manager the non-burning equipment treating infectious and sharp (autoclaves) is operational. A Memorandum of Understanding (MoU) between the project and the target hospitals were signed. The sites of the 2 Central Treatment Facilities (CTF) in Gharbia governate have been identified and the EIA is under development. The specifications for the needed equipment and infrastructure are available and the procurement process is almost finalized. Based on the baseline assessment the quantity of mercury-free medical devises is identified – specifications have been drafted.

E-waste components (3&4):

a) Assessment of the recycling facilities of electronic waste management was carried out well. Baseline establishment of UPOPs/POPs and other hazardous chemicals was not completed as planned and is now embarked onto 'secondary data'.
b) Capacity building component of the project has been progressing well. Capacity of various stakeholders including customs officers and informal recyclers has progressed well. The fact that only a few recyclers have approached for the process of "getting approvals" indicates the need to continue the "training" further. Replication efforts need to be augmented further.

c) The regulatory framework and its institutionalization need to pick up phase and may also need to have augmented efforts to meet the desired outcome of the project. As some elements that are very essential both for the "sustained" capacity enhancement and self-reinforcing enforcement mechanisms for better e-waste management are missing in the present phase of the project, it may be needed to have an extended phase of the project to realize the objectives, particularly on "long term sustainability" perspective. E-Waste Rules may be made with institutional arrangement for their implementation. And all concerned ministries should be involved at a higher level and play long term role by invoking the much-needed initiatives such as EPR, Special Economic Zones and Environmentally Sustainable Industrial Monitoring Policies.

d) More pilots on BAT/BEP may be required to reach the "self-propelling" stage of the change from unsafe means of E-waste management to environmentally sound ways. The training for the formal recyclers has to be inclusive to ensure environmentally safe disposal of hazardous and non-recyclable components of E-waste.

MTR Ratings & Achievement

In the following the ratings of the project's results and brief descriptions of the associated achievements are summarized. The ratings are following a 6 points scheme[1] or 4 points scheme[2]:

The detailed description of the rating schemes can be found in Annex 6.4.

Measure	MTR Achievement Rating	Achievement Description
Project Strategy	N/A	The project conceptualization is a passable way to reach the objective. The separation of the activities of the HCWM sector in 2 Components same as in the E-waste sector, resulted in redundant reporting and complication of implementation.
Objective	Protect human- and environmental health by reducing releases of POPs and other hazardous releases resulting from the unsound management of waste, in particular the sub-standard incineration and open burning of hazardous health care waste and electronic waste by demonstrating and promoting BAT and BEP to soundly manage and dispose of such wastes. **Moderate Satisfactory**	Due to the delay of the project start at the time of the MTR, the reduction in the release of PoPs and mercury are 0%. The PoPs reduction aimed in the E-waste component is at about 50 % at the time of the MTR – the reduction of c-PBDE is likely to be reached at the end of the project. The implementation of BEP and the setup of CTF have been initiated.
Progress Towards Results	**Component 1** HCWM: Reduction of UPOPs	A baseline assessment report on the HCWM system including detailed assessment of the 5 project is available.

[1] 6 points scale: Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory

[2] 4 points scale for the sustainability measure: Likely, Moderately Likely, Moderately Unlikely, Unlikely.

	emissions through capacity building, introduction and demonstration of BEP and BAT and strengthening of the legislative and policy framework **Satisfactory**	Based on the results the HCWM guideline and HCWM policy on governorate level have been revised and hospital specific waste plans developed – further strengthening is needed. Capacity building activities have been started. The sites of the CTF have been identified and the procurement process of non-burning waste treatment technology and infrastructure is initiated. Equipment and infrastructure are not operational yet.
	Component 2 HCWM: Reduction of Mercury emissions through capacity building, demonstration and introduction of mercury-free medical instruments and strengthening of the legislative/policy frameworks. **Moderate Satisfactory**	A baseline assessment of mercury containing devises has been conducted, the needed quantities identified, and specification of non-mercury devices are drafted. The procurement process is pending. Capacity building by training activities have been initiated together with component 1. Mercury waste management has been included in the revised HCWM Policy and guideline on governorate level. The strengthening of the legal framework on national level will be challenge as Egypt has not signed the Minamata Convention but could be tackled by highlighting it in the chemical waste management frame.
	Component 3 E-waste: Reduction of emissions of UPOPs, and POPs through capacity building, introduction and demonstration of BEP and BAT (refurbishment and end-of-life) and strengthening of the legislative and policy framework. **Satisfactory**	This component has two major parts of which one is largely based on capacity building and awareness raising campaigns and the other is augmenting regulatory framework for better e-waste management. While the capacity building component has progress well the regulatory framework and its institutionalization needs to pick up phase and may also need to have augmented efforts in order to meet the desired outcome of the project. As some elements that are very essential both for the “sustained” capacity enhancement and self-reinforcing enforcement mechanisms for better e-waste management are missing in the present phase of the project, it may be needed to have an extended phase of the project to realize the objectives, particularly on “long term sustainability” perspective.
	Component 4 E-waste: Reduction of emissions of other hazardous substances (mercury, lead, cadmium) through capacity building, introduction and demonstration of BEP and BAT (in combination with Component 3’s investments for the end-of-life management) and strengthening of the legislative and policy framework **Moderate Satisfactory**	This component has been clubbed with component 3, though informally as the activities carried out for this outcome are same as the activities of outcome 3. Hence, all the observations meant for Outcome 3 would also be applicable to this outcome. Moreover, in the activities carried out in component 3 are more focused on U-POPs/POPs and the emphasis on hazardous materials such as Pb, Hg, Cd is not as much as it is required. Hence, the project may enhance the focus on these aspects and may even try to plan some of the activities separately for this component with complete focus on these hazardous chemicals coming from e-waste management.
	Component 5 Monitoring, learning, adaptive feedback, outreach and evaluation	Monitoring and Evaluation (M&E) of the project, both at project design phase and during implementation are in line with UNDP rules and procedures of GEF projects. Outreach component is also progressing well but there is still scope for making it more structured.

	Satisfactory	
Project Implementation & Adaptive Management	**Satisfactory**	In general, the project activities are carried out in accordance with the approved work plans, project documents, procedures and UNDP standards. Risks are regularly updated in the Atlas system. Quarterly reports are submitted. Financial management is conducted strictly with the project document and in accordance with the procedures and standards of UNDP. Disbursement of the grant at the time of the MTR is at 12% due to the delay of the project start. Further review and acceleration of activities need to be conducted. To evaluate the pilot projects with sufficient time an extension of the project time might be needed.
Sustainability	**Moderate Likely**	The likelihood that the sustainability of the project results will be weak at the end of the project can be considered as high, due to the time delay. The project needs to have sufficient time frame for substantive testing of pilot centers and for communication of the results and lessons. Though the project aimed at capacity building, awareness raising and incorporation of e-waste in regulatory regime of Egypt its long-term sustainability may not be ensured as the degree and coverage of these activities may not deliver enough drive for its long-term sustainability. E-waste management has a number of segments of which some are lucrative the others are not. The present project lacks in "inclusiveness" in managing e-waste "end-to-end" which makes it incomplete. Of course, the project design itself did not consider "the inclusiveness" and hence may not be expected as an outcome of the project. But non-inclusiveness in managing e-waste surely hampers the possibility of "avoiding health impacts from improper e-waste management on human health".

Table 2 MTR Rating and Achievement Summary

Recommendations summary

Beside finalization of the activities towards the end-term targets the following table summarizes the recommendations of the MTR.

REC	Recommendation	Responsible Party
A	**Project Strategy**	
1	**Exit Strategy:** A clear exit strategy needs to be developed so that the mechanisms and structures are created during the project implementation to guarantee the end of funding sustainability.	Project team
2	**Project extension:** Based on time delay of the project, the remaining budget and questionable sustainability of the project results, it is recommended that the project is extended without additional budget until September 2022 to have sufficient time frame for substantive testing of pilot centers and for communication of the results and lessons.	UNDP-GEF Regional Technical Advisor Project team MoE MCIT
	Given the long-term efforts needed towards awareness raising and also the need to augment the economic and social aspects of recyclers the project may need to have a second phase. However, such a call can be made during the terminal evaluations.	
B	**Project activities towards results**	
3	**Legal framework:** Electronic waste (management and Handling) Rules and Policies to be developed for a comprehensive management of E-Waste in Egypt. The enhancement of HCWM legal framework need to be accelerated to the national level in close collaboration with the line ministries.	Project team MoE MCIT
4	**Capacity building:** Insert HCWM training modules into the institutional training of medical staff (nursing schools and medical universities). Further training of inspectors and sanitarians is needed.	Project team MoHP
5	**BEP:** The project should play an active role in increasing BEP with focus on the proper segregation of waste – not only in the project hospitals but at least in all HCF of the two target governorates and CUH. The project results of non-incineration technology in comparison to the environmental risks of the incinerators established by the MoHP should be used to advocate investing in alternative environmentally friendly technologies in future.	Project team MoHP
6	**Asset Management:** Develop a systematic process for the central treatment centers of deploying, operating, maintaining and upgrading their assets like waste equipment, infrastructure and transport vehicles.	Project team MoE, MoHP Pilot facilities
C	**Project Implementation & Adaptive Management**	
7	**Access to project documents:** The evaluators recommend reorganizing the webpage to provide an easier access to project information and to upload useful project materials, such as training materials, specifications of equipment and infrastructure and facility-based healthcare waste management plans in Arabic and English language.	Project team
8	**Social media and networks:** Good project keepsake by share experiences and information with stakeholder, the public and other by frequent use of social networks like facebook and twitter, updating and enhancing of the project webpage (or merge web page with other UNDP GEF project with the similar content) and providing of project video with BEP and BAT in the HCW and E-waste sector.	Project team
D	**Sustainability**	
9	**Organizational Structure:** Ensuring that the responsible person for HCWM (HWO) is	Project team

	part of the Infection Control Committee. A clear job description of the HWO (tasks and duties) need to be elaborated and the HWO should be certified as such by an independent certification unit. HCWM training modules to be inserted into the curriculum of medical universities and nursing schools. E-waste management protocol should be included in standard industrial process catalogue and also the material on awareness towards sustainable practice of E-waste management should be included in curriculum of Civil Engineering and other professional courses related to waste management.	MoE MoHP MCIT
10	**Certification of HWOs:** HWOs need to be trained and certified for their job. Therefore, an independent certification unit / agency needs to be established, which is educating the HWO on basics and updates.	Project team MoHP
11	**Awareness raising:** Awareness campaigns on HCWM and E-waste to be conducted in cooperation with Swiss projects, to increase knowledge and sensitize the public on the risks of unsafe waste management.	Project team MCIT Swiss projects
12	**Governmental monitoring:** It is important to establishing an independent monitoring authority including monitoring processes and tools / checklists on which the inspectors / sanitarians are trained.	Project team MoE MoHP
13	**Lessons learnt:** Capture lessons-learned and project results. The project results will be highly beneficial not only for the replication of this project's results within the country, but also for other countries in the Region.	Project team

Table 3 Recommendation Summary

2 Introduction

As the UNDP-supported GEF-financed project "Protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste (PIMS#4392) is a full-sized project, it requires a Mid Term Review (MTR). The project is to be undertaken in 2014-2020 and is implemented through the Ministry of Environment of Egypt. This MTR process is following the guidance outlined in the document "Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects (2014)."

The objective of the mission, as proposed in the TOR, is to provide the project partners (GEF, UNDP) and the Government of Egypt with an independent MTR of the project. The MTR is intended to:

- Identify potential project design problems,
- Assess progress towards the achievement of objective,
- Identify and document lessons learned (including lessons that might improve design and implementation of other UNDP/GEF projects),
- Recommend specific actions that might be taken to improve the project.

Aims of evaluation are as follows:

i. To evaluate the project effectiveness and cost-efficiency;
ii. To analyze the arrangements of project management and implementation;
iii. To evaluate the progress attained so far in relation to the project outcomes;
iv. To investigate the strategies and plans intended for the timely achievement of the overall project goal;
v. To document and analyze lessons learned in respect of the project design, its implementation and management;
vi. To assess the sustainability of project interventions;
vii. To assess the relevance in relation to the national priorities;
viii. To provide the recommendations for the future project activities.

The project effectiveness has been measured based on the indicators of the project's logical framework. Indicators related to project implementation applied in the assessment.

The MTR provides evidence-based information that is credible, reliable and useful. The MTR consultant reviewed all relevant sources of information including documents prepared during the preparation phase. The MTR consultants followed a collaborative and participatory approach ensuring close engagement with the Project Team, government counterparts, the UNDP Country Office, UNDP-GEF Regional Technical Adviser, and other key stakeholders.

Mainly three sources of primary data and information have been examined:

1. A wide variety of **document**s covering project design, implementation progress, monitoring, amongst others (complete list can be found in the annex):
    a. Project document
    b. PIFs,
    c. UNDP Environmental & Social Safeguard Policy,
    d. Project reports including Annual Project Review/PIRs,

e. Project budget revisions,
f. Project results: baseline assessment results, awareness raising materials, outputs of the project.

The MTR reviewed the baseline GEF focal area Tracking Tool submitted to the GEF at CEO endorsement, and the midterm GEF focal area Tracking Tool.

2. **Face-to-face consultations** with relevant of stakeholders who have project responsibilities: Ministry of Environment/Egyptian Environmental Affairs Agency (EEAA), Ministry of Health, Ministry of Communication and Information Technology, Project consultants (Chemonics, CEDARE, EnviGlobe and Eco Conserv), private sector stakeholder and Swiss funded project representatives.
   For the interviews a "semi-structured interviews" with a key set of questions in a conversational format have been used. The questions asked aimed to provide answers to the points described in the following section. Triangulation of results, i.e. comparing information from different sources, such as documentation and interviews, or interviews on the same subject with different stakeholders, were used to corroborate or check the reliability of evidence.
3. **Direct observations** of project results and activities in selected facilities at the following project sites:
   a. HCWM: Gharbia (2 sites of CTF and training in one project hospital)
   b. E-waste: Green Core facility for e-waste recycling (private company)

The information collected, including documentary evidence, interviews and observations, are compiled and organized according to the questions asked in the assessment.

Limitations of the MTR could be observed in the lack of transparence of the Cairo University Hospital (CUH), as access to the non-incineration waste treatment equipment was not possible. Furthermore, the onsite visit of the informal sector on E-waste recycling was not included in the MTR agenda, as these are not considered as registered companies and are therefore not official.

The **structure of the MTR** follows the "Guidance for conducting Midterm Reviews of UNDP-supported GEF-financed projects." It reviews the project findings (Chapter 4) considering in detail the Project Strategy, Progress towards results, Project Implementation and Adoption and the Sustainability of the project. Furthermore, it provides conclusions and recommendations (Chapter 5) of the actual project results and further steps.

3 Project Description and Background Context

3.1 Project Development and Scope

Due to the great concern in protecting human health and the environment from POPs, Egypt signed the Stockholm Convention on 17/5/2002 and ratified it on 2/5/2003. The National Implementation Plan (NIP) proposal for fulfilling the requirements of the Stockholm Convention on Persistent Organic Pollutants (POPs) for Egypt was prepared within the framework of the project "Enabling Activities to facilitate early action in the implementation of the Stockholm SC on POPs" under GEF Project GEF/EGY/02/22. Egypt's 2005 National Implementation Plan (NIP) with respect to the management of dioxins and furans identifies open burning of wastes, medical waste incinerators and industrial processes as the three largest emitters of Unintentionally Produced Persistent Organic Pollutants (UPOPs). Priorities related to dioxins and furans, which have been included in the NIP are the following: Prevention of uncontrolled waste combustion; Sound environmental management of waste; Implementation of BAT/BEP measures for the reduction of dioxin and furan emissions; Adjustment of national legislation to adequately address POPs/UPOPs issues; as well as the provision of education and awareness building. Information relevant to the submission to the GEF by the Egyptian Government of any Enabling Activity project on NIP review and update are not available.

The project is implemented by the MoE in collaboration with the Ministry of Health and Population (MoHP) for the health care waste management component and the Ministry of Communication and Information Technology (MCIT) for E-Waste management component.

3.2 Problems that the project sought to address

Before the project was implemented the following problems on POPs, Mercury waste and healthcare waste management have been identified and outlined in the ProDoc:

HCWM - POPs and Mercury: The generation of HCW is rapidly increasing in Egypt, as a result of expanding healthcare systems, increased utilization of single-use items, and poor segregation practices. As an unintended consequence, the resulting larger healthcare waste quantities and their subsequent treatment and disposal are resulting in increased releases of UPOPs as well as volatile heavy metals and other pollutants. Increased UPOPs releases are the consequence of HCW treatment in low technology incinerators that do not meet standards established under the Stockholm Convention and Basel Convention BAT/BEP guidance (predominant treatment applied in Egypt), or the open burning of such waste when they are mixed with regular municipal waste and end up on uncontrolled dumpsites. In the ProDoc the overall estimated quantities of hazardous HCW generated from all hospitals and HCFs of various categories and affiliations is 103.8 tons a day. The total 'treatment capacity' is approximately 25,722 kg/hour. However, about 35.1% of that capacity is not currently working (see section on "Barriers"), while working technologies only operate for an average of 2.5 hrs/day. The reasons behind such low capacity utilization is the rudimentary status of the treatment facilities, unavailability of trained operators, inadequate maintenance and lack of supervision.

Healthcare facilities (HCFs) in Egypt are also a significant source of atmospheric releases of Mercury. Mercury spills and the breakage/disposal of Mercury-containing devices, such as thermometers and sphygmomanometers, are the principal ways by which Mercury from health facilities enters the environment. The use of Mercury-containing devices in the healthcare sector in Egypt is widespread, mostly due to limited availability of low-cost Mercury-free devices, and unfamiliarity with their use. At the time of the ProDoc development, no Mercury inventory has been undertaken in the past.

E-waste - PoPs and other toxic substances: POPs of concern originating from inadequate E-waste processing are: i) Polychlorinated dibenzo-pdioxins (PCDD) and dibenzofurans (PCDF) originating from smouldering of cables or plastic metal mixes to obtain copper and precious metals as well as from burning of printed circuit boards and plastics in order to reduce the volume of unrecyclable waste; ii) Polybrominated diphenyl ethers (PBDEs) contained as flame retardants in plastics of TV and computer casings, circuit boards. Assuming a plastic content of 42%, and that only 20% of the plastic generated by the E waste stream would be burnt in the open, the PCDD/F emission could reach 16gTEq. In any case, the emission of around 10mgEq/t of PCDD/F can be avoided if a proper disposal technology for wire recycling and plastic disposal is adopted. Therefore, if the project can divert to a proper recycling / disposal scheme around 4000 t of E-waste, the expected reduction of PCDD/F emission from open burning could reach 3.36 g/TeQ (4000t x 0.42 plastic content x 0.2 burnt in the open-air x 10 mg/t). Other toxic substances from E-waste treatment: Relatively new electric and electronic equipment manufactured for the international market have to fulfill international regulations – like the EU ROHS directive, the EU REACH regulation so that in this equipment, the content of heavy metals (Lead, Mercury, Cadmium) is usually low. However in older articles, the content of these metals can be relatively high.

At the time the ProDoc was written, the **main barriers,** which prevent sound uPOPs, mercury and HCW management were considered the following:

HCWM:

- **Regulatory and Policy Barriers**: The existing Environment Law 4/1994 and its Executive Regulation (EEAA 1994), govern the management of hazardous waste, including healthcare ("infectious / clinical") wastes. In its current form, the regulation stipulates that HCW needs to be treated on the premises of HCFs by incineration. In reality many HCFs treat their waste using non-incineration technologies, or use CTFs. Secondly, due to lack of resources and awareness, implementation of the HCWM regulation is not adhered to by all HCFs nor are inspectorate able to monitor/enforce its implementation.
- **Technical Barriers:** Many incinerators in operation are of very basic design, badly maintained and/or are inadequately operated, and as such do not meet the UPOPs emission standards as set forth in the Environment Law 4/1994. Of the total in-country 'HCW treatment capacity' (~ 25,722 tons/hour) about 35.1% is currently not working[3] (leaving 53.4 tons/day[4] of hazardous HCW untreated every day). This is due to the unavailability of good technical and experienced operators; lack of maintenance and spare parts; and objection of neighborhood residents to pollution (smoke and smell) from incinerators. When technologies are of out of service, HCFs revert again to disposal of HCW at landfills/dumpsites without prior treatment, or burning it in the open.
  With respect to treatment residues, there are limited options for disposing of incinerator ashes[5], resulting in potentially UPOPs containing ashes being discarded along with municipal waste at

[3] On the other hand, the engineering capacity of the non-working treatment technologies represents 34.7% and 0.6% for incinerators and sterilizers, respectively.

[4] However, there is an excess treatment capacity in 5 governorates: Suez (750.7 Kg/day), Assuit (126.2 Kg/day), South Sinai (151.4 Kg/day), Red Sea (2.9 Kg/ day), and Matrouh (869.32 Kg/day).

[5] Although limited, there exists some disposal capacity in Egypt for incinerator ashes as well as remains of sterilization: 3 sites in Cairo assigned to use by 3 licensed companies: Egyptian Company for Environmental Services, Eco-Con-Serv, and ALBA; 2

regular dumpsites. Although there are a few designated disposal areas for sterilization remains, these are far too few, and recycling options for disinfected and shredded HCW are currently absent.

- **Equipment/Supplies Barriers:** Because of financial constraints and insufficient budget allocation for HCWM, many HCFs lack the necessary equipment/supplies/infrastructure to be able to practice good segregation, adhere to best environmental practices for HCWM and safeguard staff, patients and surrounding communities. This includes color-coded bags, waste bins, Personal Protection Gear (PPG) for those handling the waste; waste carts for transportation; (intermediate) storage facilities; designated HCW transportation vehicles; and (functioning) HCW treatment facilities adhering to BAT requirement (including fuel to operate them and budgets for spare parts and maintenance).

- **Organizational/Institutional Barriers:** The most obvious reasons for identified shortcomings appear to result from insufficient training and awareness of staff in combination with limited financial and human resources allocated to HCWM at national, governorate and HCF level.
  Although Ministerial Decree No. 273 (2010) sets out the organizational framework, responsibilities and rules and standards for HCWM at central, governorate and HCF level, enforcement of the decree is limited in many (small) HCFs. Often caused by limited training opportunities on HCWM/infection control; low capacity and awareness of committees in charge of HCWM and/or infection control; insufficient HCWM budget allocations (e.g. for centralized treatment facilities), limited autonomy of HCFs due to centralized management and funding structure; in combination with constrained manpower at central/governorate level to be able to instruct, coach and monitor hospitals and other healthcare facilities.
- **Awareness and Training Barriers:** In general there is limited awareness related to i) the risk of healthcare waste; 2) proper segregation, collection, storage, transportation and treatment techniques for healthcare waste; and 3) general cleanliness and hygiene among the staff of healthcare facilities. Furthermore, the workers and informal operators in the sector receive no formal education/training on HCWM and waste pickers at dumpsites are unaware of the risks. There are a few reasons for this situation, firstly issues on HCWM are not included in the curricula of doctors and nurses, secondly limited training opportunities on HCWM exist and thirdly issues related to the risk of HCWM are not communicated to the wider public.

E-waste

- **Regulatory and Policy Barriers**: Environmental and chemical regulation is still incomplete and not compliant with SC requirements. A specific regulation on E-waste is completely missing. The enforcement of rules aimed at limiting EOL Equipment to enter the country and at ensuring that used ICT equipment entering the country is functional is still very limited. A licensing system for the processors of E-waste is missing. Lack of control of hazardous waste containing POPs across borders of the country. The customs have no knowledge and capacity to effectively control POPs containing waste or articles which cross the country's border.

- **Economic Barriers:** Door-to-door collection of E-waste and the informal sector are more competitive than the formal sector on this side. People tend to keep their EOL equipment at home or to give it away for money. They do not consider this is a waste, therefore a large and scattered E-waste stockpile is accumulating with time.

sites in Alexandria belonging to licensed companies: Al-Nahda (previously Arab Contractors' or Viola) and Al-Nasereya at Al-Amereya; 1 site in Suez belonging to licensed company: Tanzefco; and, 1 site in Beni-Suef (under construction).

- **Technical Barriers**: Technologies for the segregation of POPs containing waste in E-waste stream are either unknown or unavailable in Egypt. In any case these technologies are at their early stage even in developed countries. Lack of disposal facilities and of procedures for testing and permitting the disposal of hazardous waste, with specific reference to Electric and Electronic waste. Lacking the monitoring capability and related environmental standards for POPs and U-POPs generated by the waste management processes. Lacking standard methodologies for selecting and evaluating POPs waste disposal and remediation technologies. There is not an agreed methodology /guidance for the evaluation, testing and inspection of technologies for the disposal of POPs containing waste, which ensure that these technologies are in compliance with the Stockholm Convention.
- **Awareness and Training Barriers:** Limited awareness on POPs / PTS issues. The knowledge of the effect of POPs and PTS for the health and the environment generated by the unsafe management of E-waste is limited to some central and local institutions and some operators. Absence of awareness of the hazardous waste issues. There is no official hazardous waste classification built into the national regulation. Egypt relies on the Basel convention classification, however there is the need to incorporate this classification into the national regulation to ensure its implementation and enforcement.

3.3 Project Description and Strategy

The goal of the GEF chemicals program is to protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste. The project is fully consistent with the GEF-5 Chemicals focal area strategy, Objective1 and Objective 3. The project will contribute to the achievement of GEF's main indicators under this strategic programming area through the interventions described in the Project Description and in the Result Framework. The project intends not only to be compliant with the existing Egyptian policy, but to effectively promote the integration of the requirements of the Stockholm Convention on POPs in the country's policy and regulation. Indeed, in Egypt there is a strong need of establishing policies and legislations related to E-waste management, and to revise and strengthen the management of healthcare waste, specifically in ensuring investment in future facilities and supporting practices, which meet international standards. Keeping in view the weak legislation and absence of a sound enforcement mechanism regarding POPs in HCW and E-waste, the role of the project emphasizing upon strengthening the regulatory and policy framework, capacity development of relevant institutions, inventory of U-POPs, HCW and E-waste is of major importance. In this way, successful implementation of the project would enable the state institutions for complying with the provisions of Stockholm Convention that has already been ratified by Government of Egypt.

The **Objective** of the project is to protect human- and environmental health by reducing releases of POPs and other hazardous releases (e.g. mercury, lead, etc.) resulting from the unsound management of waste, in particular the sub-standard incineration and open burning of hazardous health care waste (Project component 1 & 2) and electronic waste (Project component 3 & 4) by demonstrating and promoting BAT and BEP to soundly manage and dispose of such wastes. The project intends to achieve this objective through improving the regulatory system, enhancing its enforcement, raising awareness on POPs, and by establishing the capacity for safe handling, transport and improved disposal of POPs containing waste.

This will contribute to the broader **Goal**, which is to reduce risk for the human health and the environment by avoiding the release of POPs in the environment and preventing people's exposure to POPs.

The project has been arranged in five components as following:

- Component 1. HCWM: Reduction of UPOPs emissions through capacity building, introduction and demonstration of BEP and BAT and strengthening of the legislative and policy framework
    - Outcome 1.1 UPOPs emissions reduced through support to HCWM initiatives at health-care facility(ies) level, Central Treatment Facility (CTF) level and training institutions
    - Outcome 1.2. National Policy and regulatory framework strengthened/developed with respect to HCWM and UPOPs emissions
- Component 2. HCWM: Reduction of Mercury emissions through capacity building, demonstration and introduction of mercury-free medical instruments and strengthening of the legislative/policy frameworks (in combination with component 1)
    - Outcome 2.1 Mercury emissions in HCWM sector are reduced.
    - Outcome 2.2 National Policy and regulatory framework strengthened / developed with respect to sequestration, phase-out, storage and disposal of Mercury waste in HCWM sector.
- Component 3. E-waste: Reduction of emissions of UPOPs, and POPs through capacity building, introduction and demonstration of BEP and BAT (refurbishment and end-of-life) and strengthening of the legislative and policy framework Component
    - Outcome 3.1 Emissions of UPOPs (including new POPs) and POPs reduced through support to e- Waste Management at municipality and national level.
    - Outcome 3.2 National policy and regulatory framework strengthened with respect to E-waste
- Component 4. E-waste: Reduction of emissions of other hazardous substances (mercury, lead, cadmium) through capacity building, introduction and demonstration of BEP and BAT (in combination with Component 3's investments for the end-of-life management) and strengthening of the legislative and policy framework
    - Outcome 4.1 Emissions of other associated hazardous substances (mercury, lead, cadmium) reduced through support to E-waste management at municipality and national level.
    - Outcome 4.2 National policy and regulatory framework on associated hazardous releases from E-waste processing strengthened.
- Component 5. Monitoring, learning, adaptive feedback, outreach and evaluation.

The project aims to reduce/prevent the generation of UPOPs, mercury and PBDE waste in the two outlined areas:

1. Health-Care Waste Management:
    - UPOPs emissions will be reduced by, at least, 63.2 g-TEQ/yr, and Mercury emissions by 5 kg/yr.
    - Through replication and adoption of BEP and BAT for Health-Care Waste Management across the two governorates it is expected that an additional 126.4 g-TEQ/yr UPOPs (PCDD/PCDF) reduction could be achieved, while governorate wide phase-out of Mercury

containing devices could ultimately reduce yearly Mercury emissions by 53.3 kg. Finally the project also anticipates replication beyond governorate boundaries, however considering the duration of the project (4 years) it is unlikely that such replication results will be able to be reported on, for that reason they have not been taken up in the project document.

2. E-waste
   - Assuming that in the course of the project at least 1,000 tons per year of ICT E-waste, plus 500 tons per year of CRT monitors will be collected after the first two years of project implementation, it may be estimated that:
   - The release of 378 kg of c-PBDE from IC EOL equipment plus 1,513 kg c-PBDE from CRT monitors would be prevented;
   - The proposed project will be able to reduce the amounts of UPOPs emitted from the improper treatment of E-waste by ~5 g-TEQ/year.
   - The introduction of BEP and BAT at this point in time will also avoid the generation of much higher UPOPs emissions in four years time when E-waste volumes will have tripled. As such it can be argued that the project's E-waste component expects to reduce UPOPs emissions by ~15 g-TEQ/yr. It will also enable the reduction in releases of associated heavy metals from the improper handling of E-waste.

3.4 Project Implementation Arrangements and main Stakeholder

The project is executed by Ministry of Environment (MoE), with the overall responsibility for the achievement of project results as UNDP's Implementing Partner. UNDP provides overall management and guidance from its Country Office in Cairo and the Regional Centre in Istanbul and is responsible for monitoring and evaluation of the project as per normal GEF and UNDP requirements. The project is executed according to UNDP's National Implementation Modality.

The Steering Committee consists of 9 members, namely the Chief Executive Officer of Egyptian Environmental Affairs Agency (EEAA), the Head of Waste Management Regulatory Authority (WMRA), the International Environmental Relations Expert , the Medical and Electronic Waste Management (MEWM) Project Manager, the Assistant Foreign Minister for International Cooperation, the Director of General Administration of Environmental Health MoHP), the Assistant Resident Representative- UNDP Egypt, the Chairman Steering Committee of Swiss project "Sustainable Recycling Industries" - Ministry of Communications and Information Technology and the Dean of Al-Qasr Al-Aini Faculty of Medicine, Chairman of the Board of Directors of Cairo University Hospitals, Representative of Cairo University Hospitals. Meetings of the Steering Committee are held for the purposes of reporting on the work progress and approval of the Work Plan for the forthcoming period. They are carried out in accordance with the dates that are pre-planned and coordinated with the UNDP.

Furthermore, two Technical Committees (TC) have been established – one for the HCWM components and one for the E-waste component. They meet twice a year each. The TC comprised of representatives of various spheres, as well as experts competent in the implementation of the components of the project:

- **HCWM TC** consisting of 11 members: Medical and Electronic Waste Management (MEWM) Project Manager, MEWM Medical Waste Technical officer, Manager of Hazardous medical waste Department (Waste Management Regulatory Authority (WMRA)), EEAA (Sharkia Branch), Researcher, Waste and Hazardous Waste Department of EEAA (Gharbia Branch), Director of General Administration of Environmental Health, Hazardous Medical Waste Department

manager, MOHP Director of Medical Waste Disposal Unit (Directorate of Health Affairs Sharkia Governorate), Medical Waste Safe Disposal Department manager (Gharbia Governorate), Deputy Director of Environment Affairs (Cairo University Hospitals), PMU Swiss Project "Healthcare Waste Management in Sharkia Governorate."

- **E-Waste TC** consisting of 12 members: MEWM Project Manager, MEWM E-Waste Technical officer, Manager of Hazardous medical waste Department – Waste Management Regulatory Authority (WMRA), Director of Waste and Hazardous Waste Department – EEAA (Alexandria Branch), Director of Research and Policies, International Relations Division (Ministry of Communications and Information Technology), Regional Programme Manager of the Sustainable Growth Programme, Centre for Environment and Development for the Arab Region and Europe (Cedare), Director of Importers Affairs (National Telecommunications Regulatory Authority), Head of Central Administration for Financial and Administrative affairs, representative of General Authority of Government Services (Ministry of Finance), Executive Director of the Environmental Compliance Office (Egyptian Federation of Industries), Director of Environment Unit (Social Fund for Development- The Cabinet of Ministers), Director of Information Center (Consumer Protection Agency), Director of Planning (Ministry of Local Development).

Main stakeholder:

- Ministry of Environment, Ministry of Health and Population (MoHP) and the Ministry of Communications and Information Technology (MCIT), Stockholm Convention Focal Point,
- Authorities of 2 Governorates: EEAA Sharkia and Gharbia Branch, Medical Waste Disposal Unit, Directorate of Health Affairs in Sharkia and Gharbia Governorate.
- 5 pilot hospitals: 2 hospitals in Sharkia governorate, 2 hospitals in Gharbia governorate and 1 Hospital of CUH in Cairo.
- Formal and informal E-waste recyling sector.

4 Findings

4.1 Project Strategy (Moderate Satisfactory)

4.1.1 Project design

The evaluator of the HCWM components consider that the holistic approach sought by the project, aimed at establishing an entire chain of healthcare waste management (from production to disposal) and at the same time supporting non-combustion technologies, is the correct approach for minimizing the release of U-POPs from the sector. Experiences of similar relevant projects on HCWM have been taken into account and incorporated into this project's design. Gender issues have been raised in the project design and need to be followed up more intensively. Safe and correct segregation is a huge issue in the hospitals and is the key of all further steps in the process. Improper segregation becomes immediately a problem for the non-incineration waste treatment plants as only potential infectious / sharp waste can be treated. BEP must be followed up and supervised intensively by the project team – not limited to the project hospitals but extended in close cooperation with the MoHP to all hospitals in the governorates. Also the BEP principle on "green procurement" should be initiated. The main concern of the consultant is to establish projects results, which are sustainable in the long run. All project results like developed documents and tools should be available in English language, to enable the spread of results and lessons learned worldwide.

E-waste management has a number of stages. While some stages are pure recycling other stages include dismantling, refurbishing, extraction of material/metal and finally disposal of the non-recyclable material in environmentally safe manner. Though the training module did include refurbishing, dismantling along with recycling, BATs/BEPs and the pilots did not direct enough focus on all components of e-waste management. By managing only some segments of e-waste would not lead to sustainable management of it. Therefore, non-inclusive frame of waste management would go as an issue in this project design.

Capacity building by training programs is one of the central things of this project in e-waste components. E-waste management is a systemic procedure where a number of stakeholders are involved at different levels. The training needs of those stakeholders are also different. For instance, top officials/policy makers in the relevant line ministries would need a day long sensitization and the workers engaged in e-waste handling would require week long training in practicing sustainable e-waste handling. Therefore, it is important to design the capacity building program-based training needs assessment study. However, the present project doesn't seem to have any such structure approach. For its long-term sustainability, the project may adopt such a method and if required the project may be extended or get the second phase in order to have the capacity built at all levels for its long-term sustainability.

MEWM project conducted most if its capacity building activities (particularly BATs/BEPs component) in collaboration with Swiss funded SRI (Sustainable Recycling Industries) project which was completed recently. Such collaboration was not done at project design level and hence there is a sense of compromise on the way the training programs were designed. For instance, SRI project with an objective of "enhanced business" needs capacity augmentation in micro-management which need more of hand-on training for the workers whereas the capacity augmentation for MEWM project is at all levels with more focus on shift of e-waste management from informal to formal recyclers. Training needs are different for these two programs, but they have conducted joint training programs, instead.

Moving e-waste management from informal recyclers to formal recyclers is one of the major objectives of the project. Such a transformation needs capacity augmentation and also other supports some are economical and some on social and cultural aspects. For instance, in order to get a license as formal recyclers, the informal units may need to be relocated to a place where they are out of their business catchment and that affects their business negatively. The new place may require higher rents and that may imbalance their profit streams. Unless such barriers are addressed it is not going to be a smooth transition. However, the present project focused only on capacity building leaving behind these important aspects of transformation. This may prove to be an important short fall towards achieving the objectives of the project and make a deeper claim for phase 2 of the project or a no-cost extension.

4.1.2 Project Results Framework

The Project's Results Framework (PRF) was developed for the project and incorporated in the signed ProDoc and has been reviewed and assessed as part of this MTR. The PRF outlines the project's overall objective, the project's components and outcomes, indicators, provides pre-project baseline information as well as End of Project Targets. Mid Term Target have not been set.

For various reasons the E-waste and HCWM management components of the project are divided into two components for each area. But the activities of both the components are the same where both U-POPs/POPs and hazardous chemicals are included. Therefore, the reporting of the project outcomes is also reported as only one. Due to this it is very evident that components 1 and 2 as well as 3 and 4 should be merged in reporting. In last PIR, this is issue was tackled by merging the same indicators on awareness and capacity building under 3.1 and 4.1 in one bullet and report on them jointly. Same applies for the similar indicators under Outcome 3.2 and 4.2. However, this must be approved by project board members.

One of the main objectives of the project is to create a national training system on sound management of healthcare waste. Nursing staff is mostly responsible for handling waste in healthcare organization. These are mostly women. Component 1 and 2 of the project are aimed at improving professional work standards for all employees of hospitals, in this case, the majority of them are women. The project is also aimed at building capacity and awareness on managing persistent organic pollutants and mercury. Due to the fact that women have the potential to deliver accumulated in their body chemicals to children these issues were given special attention during training sessions and seminars. The results are not available yet and will be subject the Terminal Evaluation.

Most of the project components and indicators are "Specific, Achievable, Relevant and Time Bound." Nevertheless, some deviations have been identified. Repetitive indicators for the output activities have been identified, which are requested for all compounds. Mid-term targets have not been set, the evaluation team finds it difficult to monitor and review the indicators / targets based on the end-of-project targets.

4.2 Progress Towards Results (Satisfactory)

4.2.1 Analyze of the status of project objectives and outcomes

The status of the project objective and outcomes is described and rated in detail in the "Progress towards Results Matrix" of Annex 6.10. This table rates the progress towards the end-of-project targets for the project objective and each outcome is analyzed in detail. **Midterm Targets have not been identified in the ProDoc.** The columns "End-of-project Target" were populated with information from

the results framework, scorecards, PIRs and the Project Document. The results of the status of the project towards the end of project targets are visualized by a color system:

Green= End-of project target already been achieved	Yellow= End-of project target is partially achieved or on target to be achieved	Red= End of project target is at high risk of not being achieved by the end of the project and needs attention.

The "Achievement Rating" column is used by the MTR team to assign ratings for the project objective and each outcome, based on the achievement towards the **end-of-projects.** The rating is based on the following scale:

Highly Satisfactory (HS)	The objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/outcome can be presented as "good practice".
Satisfactory (S)	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.
Moderately Satisfactory (MS)	The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings.
Moderately Unsatisfactory (MU)	The objective/outcome is expected to achieve its end-of-project targets with major shortcomings.
Unsatisfactory (U)	The objective/outcome is expected not to achieve most of its end-of-project targets.
Highly Unsatisfactory (HU)	The objective/outcome is not expected to achieve any of its end-of-project targets.

Table 4 Rating for Progress towards results

The following section provides the reasoning on the rating of the objective and outcomes that was provided by the MTR team, as well as summarizes some project results and facts important for the argumentation of the rating.

Objective: "Protect human- and environmental health by reducing releases of POPs and other hazardous releases (e.g. mercury, lead, etc.) resulting from the unsound management of waste, in particular the sub-standard incineration and open burning of hazardous health care waste (Project component 1 & 2) and electronic waste (Project component 3 & 4) by demonstrating and promoting Best Available Techniques (BAT) and Best Environmental Practices (BEP) to soundly manage and dispose of such wastes."

Indicators	Rating[6]
Amount of U-POPs release in the environment from HCW disposal avoided.	MS
Amount of PBDE release in the environment from E-waste disposal avoided.	S
Existence of a SC compliant regulatory framework on HC waste and E-waste.	S

Justification of the ratings

Activities have been initiated and are on track – although with substantial time delay. In the midterm of the project it cannot be expected that the end-term targets on U-POPs release are fully reached. The U-POPs reduction in the HCWM sector is 0% at the time of the MTR due to the time delay of the project. Nevertheless, it is likely that the U-POPs reduction can be reached at the end of the project. The use of BEP in all hospitals of the governorates and the sustainable implementation of proper segregation is seen as a major threat – mitigation measures are to be implemented.

[6] 6 point Progress Towards Results Rating Scale considering mid-term and end-term project targets: HS, S, MS, his MU, U, HU

The project will be able to reduce the amounts of UPOPs emitted from the improper treatment of E-waste by ~5 g-TEQ. Reduction of c-PBDE for an overall amount of 378 kg of c-PBDE from IC EOL equipment, plus 1513 kg c-PBDE from CRT monitors would likely be prevented during the project life span (2015-2020) with the activities taken up so far in the form of awareness improvement, training of stakeholders.
The projected reduction of U-POPs as 3.36 gTeq/yr would likely be achieved as the 50% of the targeted routing of 4000 t of E-waste to the formal recyclers is already achieved by the mid-term of the project Transforming the present regulatory framework into a sustainable and inclusive regulatory framework would require more elaborate and deeper efforts.

Outcome 1.1 UPOPs emissions reduced through support to HCWM initiatives at health-care facilities level, Central Treatment Facility (CTF) level and training institutions

Outcome and output / activities Indicators	Rating[6]
UPOPs releases reduced by 50% for Gharbia and by 40% for Sharkia. Output indicators: • Baseline assessments conducted for all project facilities. All project HCFs (5) that will be serviced by a project CTF have introduced BEP in a satisfactory manner. 250 HCF staff trained in BEP. Number of non-incineration technologies that are operational at CTF I and Cairo University Hospitals. % of HCFs in each governorate served by a CTF. Number of institutions that offer HCWM training/certificate courses.	MS

Justification of the ratings

At the time of the MTR the autoclaves were not yet installed, therefore the UPOPs release was not reduced (current reduction rate: 0%). However, the procurement process and Environment Impact Assessment (EIA) has been initiated and the sites of the CTF have been identified and are approved. It is envisaged to have the autoclaves operational in the first quarter of 2019. At the Cairo University Hospital 3 non-incineration waste treatment plants have been installed by the hospital itself. The consultant had not the chance to visit the site. A detailed assessment has been conducted by using the I-RAT tool and analyzing of the HCWM system in general – a baseline assessment report is available. MoHP is investing in incinerators which are not in accordance to Stockholm Convention. Emissions need to be measured as a baseline in comparison to EU standard. Currently Infection Control Teams are available in the hospitals but no HCWM Committees. A comprehensive 10 days Training of Trainer (ToT) was conducted in Sharm El Sheik at which 60 persons from authorities from 11 governates, faculty members of university hospitals, nursing schools, inspectors and environmental researchers from the Ministry of Environment (EEAA and WMAR) participated in August 2018 (woman/man ratio: 21 / 39). The training was based on training tools developed by the global UNDP GEF project and were adapted to the conditions of Egypt. All material was translated in Arabic and was provided to the participants. It was agreed that the participants from the governorates are developing a training plan for their region and the plan will be discussed with the project. The training material will be handed over to the collaborating Swiss Project.

During the MTR mission in one target hospital in Gharbia (Menshavi Hospital) the first training of hospital staff on Best Environmental Practices (BEP) started. The consultant had the chance to visit the trainings and interviewed the lecturer and participants. The methodology has been tailored to the needs of the different stakeholder: Administration, physicians, nurses and cleaner / logistic staff. It is planned to include all 5 hospitals and train staff by the end of October 2018. Further training of other hospitals is

not envisaged – it is envisaged that this is taken over by the governorates. The cooperation with the Swiss project is quite close. The exchange of information and developed material is actively taking place. In this framework an economic cash flow analysis of central cluster facilities and stakeholder has been conducted by the Swiss project and the training material of the GEF project will be provided to the Swiss project in return.

In conclusion most outcomes are initiated but not implemented yet. The proper implementation of BEP the hospitals of the governorates to ensure the delivery of the correct waste kinds for the autoclaves (infectious and sharp waste) in the given timeframe seems unlikely. Therefore the rating is set as "moderate satisfactory."

Outcome 1.2. National Policy and regulatory framework strengthened/developed with respect to HCWM and UPOPs emissions

Outcome and output / activities Indicators	Rating
Number of laws, regulations and guidelines pertaining to HCWM drafted/revised. Output Indicators: • Number of laws, regulations and guidelines drafted/revised. No of environment and health inspectors/ women and men trained on revised regulations and guidelines.	S

Justification of the ratings

The legal framework has been analyses in the baseline assessment report outlined in Outcome 1.1. In the project time 2 legal documents have been revised on governorate level: HCWM Policy and Guideline. Both documents will be issued to the governorates through the EEAA, through which is becomes an official and approved document. In the timeframe of the MTR the documents have not been sent to the governorates. However, the documents have been used in the ToT training: 3 sanitarians from health directorate and 4 inspectors from EEAA have been trained on the updated draft guideline and policy. At the point of the MTR no more trainings for sanitarians and inspectors are foreseen. The Swiss project is planning to continue the revision of the legal framework on national level.

Currently a "Law on Waste Management" is under development by the newly established WMRA department of the MoE. The project is part of the Working Group and providing input. Furthermore, a HCWM plan has been developed for the 5 project HCFs by an external company, the plans are adapted to the structure of the different hospitals but are not implemented yet.

In conclusion the revision of the legal framework with respect to HCWM and UPOPs emissions has been strengthened but need to be accelerated to the national level. The training of inspectors and sanitarians needs to be followed up. The rating is set as "Satisfactory."

Outcome 2.1 Mercury emissions in HCWM sector are reduced

Outcome and output / activities Indicators	Rating
Outcome indicator: Hg releases reduced by 5 kg/yr and Kg of Mercury waste safely stored/disposed of. Output indicators: • Hg Baseline assessments conducted for all project facilities. BEP related to the life-cycle management of Mercury containing medicals devices and wastes introduced in 5 PFs. Number of Hg free devices procured and distributed. Project model facilities are Mercury-free. Kg of recovered/ phased-out Mercury waste safely stored.	S

Justification of the ratings

A baseline assessment of mercury containing thermometers and sphygmomanometers has been conducted. Specifications of mercury free devises has been drafted but is lacking international norms and are not based on staff preference study.

Due to the time delay of the project the exchange of mercury containing equipment with non-mercury ones has not been conducted yet. Therefore, Hg release has not been reduced (0kg) and storage facilities have not been identified or specified. A phasing out plan is available and training on mercury waste management has been conducted during the ToT training and is currently elaborated in the training. It can be expected that the end-of-project targets can be reached – this Outcome is rated as "Satisfactory."

Outcome 2.2 National Policy and regulatory framework strengthened / developed with respect to sequestration, phase-out, storage and disposal of Mercury waste in HCWM sector.

Outcome and output / activities Indicators	Rating
Outcome indicator: Number of regulations/degrees and guidelines pertaining to Hg-containing medical products drafted/revised. Output Indicators: • Number of regulations/degrees and guidelines pertaining to Hg-containing medical products drafted/revised. Number of environment and health inspectors women and men trained on revised regulations and guidelines.	MS

Justification of the ratings

The management of mercury containing waste and phasing out of mercury from hospitals has been considered in HCWM policy and guideline on governorate level, like outlined in Outcome 1.2. Environmental inspectors (4) and sanitarians from the health departments (3) have been trained on the updated legal documents. Additional training for inspectors is not envisaged. As the country has not signed the Minamata Convention Mercury phasing out is not a priority of the government, therefore the insertion of mercury phasing out in the new Law on Waste Management developed of WMRA will be a challenge for the project. Therefore this Outcome is rated as "Moderate Satisfactory."

Outcome 3.1 Emissions of UPOPs (including new POPs) and POPs reduced through support to e-Waste Management at municipality and national level.

Outcome and output / activities Indicators	Rating
Outcome indicators: • Availability of baseline on POPs – U-POPs release.	MS
• Availability of awareness campaigns and related feedback from women and men	S
• Amount of E-waste collected	S
• Evidence of replication initiatives	MS
Output Indicators: Availability of a completed national level characterization study of informal WEEE processing sector, Availability of a detailed baseline of POPs and UPOPs from the E-waste management releases with trends, Number of operators women and men successfully trained on E-waste management, with specific reference to segregation of PBDE contaminated waste, Availability of recordings of campaign broadcasted on relevant media on ICT equipment and CRT Availability of a website on the above, Availability of awareness raising materials, Number of people reached	

by the campaign, Number of municipalities where a collection scheme was implemented, Availability of E-waste collection system and infrastructures, Amount of E-waste collected, Availability of a rapid screening technology for PBDE in E-waste, Effectiveness of the rapid screening technology (% of success), Availability of national and international workshop proceeding, Availability of a replication plan.

Justification of the ratings

Analysis of POPs was found to be extremely expensive and that hampered the efforts to conduct a baseline study. The project as an adaptive management has employed an international consultant to map the accredited laboratories for the analysis of POPs. The study revealed that only overseas labs can be engaged for the analysis and they are extremely expensive. Based on this they have decided to make the baseline study on secondary data by indirect estimation of U-POPs and POPs which would have its bearing on estimation accuracies data. The consultant highlights that, it would have been more sustainable to establish a laboratory to analyses POPs and that would have allowed the project to undertake baseline as planned and also enhance the capacity of Egypt in analyzing POPs and other micro pollutants.
For all other outputs: Progressing as planned. Replication scheme or strategy for its successful imprint needs certain components and such components are not observed as part of the project.

Outcome 3.2 National policy and regulatory framework strengthened with respect to E-waste

Outcome and output / activities Indicators	Rating
Outcome Indicator: Availability of an improved E-waste regulatory framework Output Indicator: Availability of a reviewed or strengthened policy and regulatory framework on: E-waste manifest; Licensing system for E-waste managers; Rules on the import of second-hand equipment; Concentration limit for POPs in EEE and E-waste.	MS

Justification of the ratings

It is still a long way before we see a perfect system of regulation for e-waste management in Egypt. However, basic steps are taken but it would require much deeper and longer effort to reach the target.

Outcome 4.1 Emissions of other associated hazardous substances (mercury, lead, cadmium) reduced through support to E-waste management at municipality and national level.

Outcome and output / activities Indicators	Rating
Outcome indicators • Availability of baseline on release of Cd and Hg.	MS
• Availability of awareness campaigns and related feedback from women and men.	S
• Amount of E-waste collected.	S
Output indicators: Availability of a detailed baseline of hazardous release from the E-waste management releases with trends, including batteries for electric/electronic devices. Number of municipalities where a collection scheme was implemented. Availability of E-waste collection system and infrastructures. Amount of E-waste collected. Number of professional women and men successfully trained. Amount of battery safely collected. Amount of E-waste containing hazardous material segregated and channeled to safe disposal. Number of professional and operators successfully trained on E-waste management, with special reference to E-waste containing toxic metals. Availability of recordings of campaign broadcasted on relevant media on EOL batteries and CRT. Availability of a website on the above. Availability of gender sensitive awareness raising materials. Number of people reached by	

the campaign.

Justification of the ratings

Justification is same as Outcome 3.1 as the activities undertaken under these two outcomes are the same.

Outcome 4.2 National policy and regulatory framework on associated hazardous releases from E-waste processing strengthened.

Outcome and output / activities Indicators	Rating
Availability of an improved E-waste regulatory framework.	MS
Outcome Indicators: Availability of a reviewed or strengthened policy and regulatory framework on E-waste manifest; Licensing system for E-waste managers; Rules on the import of second-hand equipment; Concentration limit for toxic metals in EEE and E-waste	

Justification of the ratings:

Justification is same as Outcome 3.2 as the activities undertaken under these two outcomes are the same.

4.2.2 Results GEF Tracking Tool

As the GEF tracking tool used during development of the ProDoc has been updated in June 2015 the current GEF-6 Waste and Chemical tracking tool is used.

Indicators	Implementation Status[7]	Comments
NIP coordinating mechanism in place	0	Not an objective of the project.
Inventories undertaken	0	Not an objective of the project.
Draft updated NIP prepared	0	Not an objective of the project.
Updated NIP submitted to the Stockholm Convention	0	Not an objective of the project.

Table 5 GEF tracking tool: Update in Status of NIP

Indicators	Quantity (tons)*		Cost	Comments
	Project target	Achieved to date		
Reduction of U-POPs from HCWM in demonstration facilities	Reduction of 63.2 g/TEQ/yr	0	0	The U-POPs emission reduction from HCWM cannot be determined at this stage of the project as most of the project activities concerning the proper management of wastes have not started yet.
Kg of mercury phased out	Reduced by 5 kg/yr	0 kg /yr	0	Mercury containing devises have not been collected for the health facilities at the time of the MTR.
Reduction of U-POPs from E-waste sector	Reduction of~5 g-TEQ	1.177 g-TEQ	854.2 US$/mg-TEQ	By the midterm, the project was able to report on sound management of 1,402 tons of ICT waste, which had reached formal recyclers. In

[7] 0 = Not applicable: not an objective of the project; 1 = Indicator not considered; 2 = Indicator considered and partly conducted; 3 = Indicator fulfilled.

				terms of mg-TEQ (toxicity equivalent in line with international definitions) this results in 1177 mg-TEQ. This accounts to 24% of the original target.
Reduction of c-PBDE in the E-waste sector	378 kg of c-PBDE from ICT EOL equipment, plus 1513 kg c-PBDE from CRT monitors	132.5 kg of c-PBDE	7588.56 US$/kg of c-PBDE	As a result of the project at its mid-term target, about 1,402 tons of ICT waste was re-directed to formal recyclers active in the country. This corresponds to a reduction of about 132.5 kg of c-PBDE, which emit into the air during open burning when e-waste is mishandled. It accounts to 35% of the targeted reductions

** Note: The ProDoc refers to the reduction aims*

Table 6 GEF Tracking tool: Reduction of POPs, Mercury and POP- PBDE

4.2.3 Identify remaining barriers to achieving the project objective

Role of the Ministry of Environment was not felt sufficiently deep with only lower level staff involved in deliberations. Involvement of Deputy Minister or Secretary to the Ministry level bureaucrats is crucial for the success of the project with respect to making robust regulatory regime for e-waste management in Egypt. One of the most important barriers is the **lack of sufficient communication and coordination** from the line ministries towards having a robust regulatory regime for HCWM and E-waste management in Egypt. **Lack of ownership** of the initiative by any line ministry is going to a pull-down factor post project period. **Not having in house expertise on e-waste management is also a barrier for MEWM project.** One possible way is to appoint an advisor (e-waste management) on full time to design components, modules and help in planning their implementation. At present the PMU concentrates on administrative issues and the overall management, which resulted on a strategic decision to limit PMU staff and outsource to external experts. Due to **lack of "comprehensive/inclusive" approach** to the transformation of informal recyclers to formal ones, the replication of the same in other municipalities of Egypt would be hampered significantly. This could be another barrier for the replication possibilities of the project. Although it is likely that the project indicators are achieved by the end of the project, the **sustainability** of the results is questionable (see chapter 4.4).

4.3 Project Implementation and Adaptive Management (Satisfactory)

In the following the implementation and adoptive management of the project is evaluated. The reviewed objectives "management, work planning, financing and project monitoring and evaluation" are analyzed and rated. A summary of the rating results is applied in the table below.

Review Objectives	Ratings for Project Implementation & Adaptive Management
Management arrangements	*Satisfactory*
Work planning	*Moderate satisfactory*
Finance and co-finance	*Moderate satisfactory*
Project-level monitoring and evaluation systems	*Satisfactory*
Reporting	*Satisfactory*
Communications	*Satisfactory*

Table 7 Rating summary of project implementation and adoptive management review

4.3.1 Management arrangement

The management arrangements as presented in the ProDoc had been clearly described and were based on common project management arrangement for UNDP National Implementation Modality. The responsibilities and reporting lines are clear. The project had followed the management arrangements as described with some deviations. The project team is in close contact with the project partners MoE, MCIT, MoHP and CUH. Engineer Essam Abd El Aziz has been appointed as the Project focal point from WMRA. Although EEAA is a direct partner of the project, the clearance of the contract of the Project Manager took unusual long. Also, the governmental approval to allow the project team to enter the 5 model HCFs and conduct the baseline assessment study delayed the project. The government ownership needs to be strengthened and monitored closely.

Project Steering Committee performed as a key decision-making body at a project strategic planning level. The project held 1 documented Steering Committee meetings over the evaluation period mainly focused on progress reporting and planning. Additionally, Technical Committees one for E-Waste and one for HCWM have been established – they have met 4 times each. The Project Management Unit (PMU) or project team consists of Project Manager, Project Accountant, Project Communication Officer, E-Waste Technical Officer and HCWM Technical Officer. The position of a project assistant is still vacant. Instead of a Project Coordinator like outlined in the ProDoc the two mentioned Technical Officers (HCWM and E-Waste) have been hired. Considering the time delay additional work power is considered as adequate.

UNDP acts as the GEF Implementing Agency. The project is executed by MoE with the overall responsibility for the achievement of project results as UNDP's Implementing Partner. UNDP country office provided overall program, administrative, and financial oversight of the project progress in accordance with the common UNDP procedures and tracking tools available in Atlas system. Both entities focused appropriate on the results, provided adequate input and realism in the annual reporting. The quality of risk management is adequate. The consultant sees an environmental and social risks by the implementation of incinerators which are partly old non-state of the art ones and not in line with the Stockholm Conventions BAT requirements. There is a need of strong support of the MoHP which is investing in inadequate incinerators and to advocate non-incineration solutions.

At present the project management is implementing the project components mainly by external consultants and agents without much of in-house management. Given the fact that the management had difficult time in identifying e-waste management specialist for the project testimonies that capacity in e-waste management is limited in Egypt and the present project should do everything within its framework to augment this gap in knowledge.

4.3.2 Work planning

The project actual start date was delayed from September 2015 to May 2016, when the project manager Dr. Tarek El Araby was hired – the recruitment of project staff was completed in November 2016. The main reason for the delay was it was the difficulty to find a suitable candidate for the Project Manager position and additional the clearance of the position by the government to contract the Project Manager. Further delays are based on the governmental approval to allow the project team to enter the 5 model HCFs and conduct the baseline assessment study and the delay of the procurement process of the 2 Central Infectious Waste Treatment Facilities in Gharbia Governorate. The project is trying its best to catch up with the implementation plan by hiring additional staff and outsourcing of activities (trainings, development of specifications and tender documents, legal review) to national / international consultants.

The project prepared Annual Work Plans (AWP) based on the ProDoc strategy description, log frame targets and indicators. Although during the inception workshop no changes were reported, the project transferred the significant part of the pilot activities from the second (as planned in the ProDoc) to the third / fourth year of the project implementation due to above outlined delays.
Further, owing to the joint organization of training programs and capacity building activities with SRI project, component 4 which is focused on hazardous chemicals such as Pb, Hg, Cd stemming from e-waste are not so much covered as desired. Post MTR this part has to be augmented significantly.

4.3.3 Finance and co-finance

Based on the Combined Delivery Reports (CDRs) provided by UNDP Egypt for the years 2016 and 2017 a summary of project expenditures by year in accordance to the ProDoc, AWP, and CDRs can be found in table below.

Year	Project Document (USD)	CDR and at Midterm Review (USD)	AWP (USD)	Delivery CDR / ProDoc	Delivery AWP / ProDoc
2015	490,605.00				
2016	1,211,732.00	105,668.46	112,214.31	22%	23%
2017	916,203.00	137,500.37	139,430.58	11%	12%
2018	647,260.00	348,277.74*	455,000.00	38%	50%
2019	834,200.00				
Total	4,100.000.00	499,377.36	706,644.89	14%	17%

*Expenditures until end of November 2018

Table 8 Project financing overview

Like outlined in chapter 4.3.1 the project started with a year delay. The project team is eager to implement the project as effective as possible, but the activities are beyond the plan and so are the budget expenditures. Financial control and due diligence are implemented and operational. The planned budget outlined in the AWP and the spent budget as in the CDR are matching, considering the procurement of infrastructure and equipment like planned within this year. In general, it needs to be considered, that the procurement process at UNDP is complex and time consuming. The consultant notes that the procurement process has started too late despite the time delay of the project. It is unlikely that the project will be able to spend the remaining 3.5 Million USD until the project end date. Based on the remaining budget commitments, it is recommended that the project would be extended until September 2022 to have sufficient time for substantive testing of pilot centers and for communication of the results and lessons.

Source of co-financing	Name of co-financer	Type of co-financing	Amount at CEO endorsement (US$)	Actual at MTR (US$)	Actual % of expected amount
Bilateral	Swiss Government including co-financing by Sustainable Recycling industries project (SRI) on E-waste-Phase 1	Parallel	10,300,000	1,930,000	19
Private sector	ITG	Parallel	5,600,000	5,600,000	100
Multi-lateral agency	UNDP	Cash	50,000	5,569	11
Government	Cairo University Hospital	Parallel	1,190,000	700,000	59
Government	Ministry of Health	Parallel	150,000	**1,954,372 (150 000)**	100

Source of co-financing	Name of co-financer	Type of co-financing	Amount at CEO endorsement (US$)	Actual at MTR (US$)	Actual % of expected amount
Government	Ministry of Environment	Parallel/in-kind	260,000	130,000	50
Government	Ministry of Communication and Information Technology	In kind	100,000		0
			17,650,000	***8,515,569***	***48***

Table 9 Co-financing overview

The reported co-financing contribution from the MoHP is much higher than agreed in the ProDoc. In accordance to co-financing letter MoHP agreed to share 50 Million Egyptian Pound (about 2.8 Million USD) with the project for transport vehicles, infrastructure of CTF and incinerators. 1,954,372 USD is already spent. Therefore, the percentage of already spent amount would be misleading and is set to 100%. The increased co-financing is supporting the project as more treatment equipment will be available. On the other hand,

4.3.4 Project-level Monitoring and Evaluation Systems

The table below summarizes the M&E activities as planned for in the project document and conducted throughout the project's implementation. The column "*Comments & Observations*" summarizes the views of the MTR team for each of these M&E activities. In summary the MTR team is of the opinion that the M & E of the project, both at project design phase and during implementation, can be rated as **Satisfactory (S)**.

Type of M&E activity	*Responsible Parties*	*Comments and Observations*
Inception Workshop & associated arrangements	Project Manager (PM), UNDP CO	Substantial time delay and completed as a mere formality with only 2 hrs of inception workshop.
Inception Report	Project Team, UNDP CO, National and international consultant support if needed	The quality of the inception report is **moderately satisfactory**. The logframe of the project is redundant with overlapping outcomes, which should have been be revised at the inception stage to simplify the annual reporting.
APR/PIR	PM, UNDP CO	**Satisfactory:** available and in time
Meetings of Technical Advisory Board and relevant meeting proceedings (minutes)	PM, UNDP CO, other stakeholders	**Satisfactory** Steering Committee Meetings, Technical Committee Meetings (HCWM and E-waste), Minutes are only available in Arabic language.
Meetings of Steering Committee and relevant meeting proceedings (minutes)	PM, UNDP CO, National implementing agency	**Moderate Satisfactory:** SC and TC meetings. SC meetings should be conducted at least once a year. Minutes are only available in Arabic language.
Quarterly status reports	Project team	**Satisfactory:** Quarterly status reports are available.
Technical monitoring, evaluation, and reporting within project components, including final assessment of pilot hospitals, HCW treatment centers, avoided emissions, and reduced HCW and mercury	Project team, National and international consultants as needed	**Satisfactory:** Technical monitoring and evaluation is initiated and partly implemented. Follow-up actions and/or adaptive management were taken in response to annual PIRs and sufficient

Type of M&E activity	*Responsible Parties*	*Comments and Observations*
releases		resources have been allocated.
Midterm Evaluation (external)	Project team, UNDP CO, UNDP/GEF RCU, evaluation team	**Satisfactory:** The MTE was postponed from April to October as it was difficult to find a qualified evaluation team.
Compilation of lessons learned	Project team, UNDP CO, UNDP/GEF RCU	**Unsatisfactory:** Although some lessons may be derived from the technical reports, the project has not yet stared to log the findings and successes.
Financial audit	UNDP CO, Project team	**Satisfactory:** M&E plan is sufficient budgeted.
Visits to field sites	PM, UNDP CO, National implementing agency	**Satisfactory** Visits of stakeholder for the e-waste compounds are regular. However, the collaboration of the project team can be improved further.

Table 10 Project Monitoring and Evaluation Tools

4.3.5 Stakeholder engagement

The ProDoc contained a section on "Stakeholder Analysis" which listed the roles and responsibilities of various stakeholders having a role in the management of healthcare and E-waste. The project document listed particular stakeholders with whom the project had engaged during the PIF/PPG phase, as well as larger groups of project stakeholders, which the project anticipated to engage with during project activities (e.g. Health facilities, NGOs, regional and local government authorities, general public and international development agencies, etc.). In the section "Stakeholder Involvement Plan", the ProDoc elaborated upon the ways in which it would engage various project stakeholders, including among else, project board meetings, technical consultations, trainings and outreach activities and awareness raising events.

In the past project time the project had been able to reach out to and engage a number of stakeholders. For example, the was able to create awareness and capacity on E-waste of about 800 to project beneficiaries. By conducting a ToT the project spread information on POPs, mercury and healthcare waste management to 60 key stakeholder, who should spread the gained knowledge in their own areas following a snow ball system. The trainings for the hospital staff just started but is planned in accordance to the ProDoc and it is likely that the aim to train more than 250 staff members will be reached.

Unlike the management of other wastes, E-waste management involves a number of stakeholders. While the involvement of a number of line ministries is important, involvement of non-governmental organization/social groups is critical due to the fact that community participation is a crucial factor for successful management of electronic waste. The present project did not sufficient involvement of NGO at any stage. Sustainable management of electronic waste involves a number of line ministries such as Ministry of Industries, Ministry of Health, Ministry of Communication and Information Technology, Ministry of Environment and Ministry of Urban Development. Though MEWM project did make efforts to involve most of the ministries their participation is not to that extent desired to have meaningful impacts on the project outcomes. Sense of ownership for this issue is missing from most of the ministries and for effective implementation the long-term sustainability it is important to have ownership**.** This initiative to transform the informal setup of recyclers to formal set up is central to the ministry of industries and ideally they should have hosted it or anchored this effort. The committee that

is constituted with inter-ministerial presence should ideally be hosted by Ministry of Industries instead of MCIT. However, Ministry of Industry doesn't have a representation on this important committee.

Sustainable management of electronic waste need to have 3R (Reduce, reuse and recycle) principles embodies in policy making. As e-waste involves significant value embodied material it is important to integrate it in industrial policy of the city or country. Transforming informal recyclers into formal system and establishing new SME in e-waste management sector (objective of SRI project funded by Swiss agency) needs a government policy in support of these industries. Government of Egypt should embark onto policies such as promoting SEZs and establishment of E-waste Parks etc. MCIT must embark onto policies such as making extended producer responsibility (EPR) a central theme of IT industries and the end users alike. Ministry of Environment should play a catalytic role in attributing "Sustainability and Green" character to these transforming and new recycling units. Drawing from other countries which have make extensive regulatory framework for the management of electronic waste in Asia, it is necessary to enact the protection of environment and people from the impacts of electronic waste and its handling followed by making a detailed rule (WEEE Handling & Management Rules) and the necessary institutional arrangement in the governance structure of Egypt.

4.3.6 Reporting

The project fully complies with reporting cycle and tools as required by UNDP-GEF guidance and reflected in the project document. Apart from progress reporting to UNDP/GEF, the project used the mandate of the SC and TCs to communicate its results within key governmental institutions and other stakeholders and to adapt to unexpected change in selected pilot hospitals and centers over the project course.

The evaluators reviewed 2 PIRs for 2017 and 2018 and found that they provide concise information on project progress, management, and achievements and prove success in reaching multiple stakeholders and beneficiaries over the project implementation. Both PIRs were rated as moderate satisfactory with risk rating changed down from "low" in 2017 to "moderate" in 2018 mainly due to limited willingness of End of Life (EOL) equipment' owners to have it disposed by formal collectors is considered a critical risk.

4.3.7 Communications

The project does not have formulated communication strategy, but it undertakes targeted activities to communicate its objectives and results to various groups through the setup of a webpage (http://mewm-egypt.net/en/e-waste-management-project/). The project web page has been launched which needs to be filled with more content and planned activities. Leaflets on "Healthcare Waste Management Activities" and "E-Waste Management Activities" have been developed / disseminated.

Key project target groups and beneficiaries included:

National Government entities: MoE, MoHP, MCIT, Stockholm Convention Focal Point.

Authorities of 2 Governorates: EEAA Sharkia and Gharbia Branch, Medical Waste Disposal Unit, Directorate of Health Affairs in Sharkia and Gharbia Governorate.

5 pilot hospitals: 2 hospitals in Sharkia governorate, 2 hospitals in Gharbia governorate and 1 hospital of CUH in Cairo.

Formal and informal E-waste recycling companies: Recyclekey Company; Gameel El Soury, International Co. For Import & Export, EcoConServ, EnviGlobe, Green Core,

The project reached out to almost 800 people through its E-waste trainings and workshops, and was able to train, create awareness and build capacity on HCW management by a ToT event of 60 workshop and training participants. The overall recommendation from the MTR team is to better capture lessons-learned and project results in a more systemic manner. The project has achieved many results that would be highly beneficial not only for the replication of this project's results within the country, but also for other countries in the region.

Facilitate future access to guidelines, technical documentation and information materials. At the time of the MTR it seemed that most of this information was available within the project management's unit – project results are mainly in Arabic language. The evaluators felt that when the project comes to an end, it is likely that useful information materials, such as technical documentation, guidelines, methodologies and the like, as well as visual materials (photos/videos, etc.) prepared by the project, would not continue to be easily accessible to project stakeholders or international partners, as a lot of material is only available in Arabic language.

4.4 Sustainability (Moderate Likely)

In the table below, four aspects of sustainability (Financial Sustainability; Socio-Political; Institutional Framework and Governance; and Environmental Sustainability) are analyzed as well as the rated. The ratings used for sustainability aspects of the project are the following: Highly Likely (HL); Likely (L); Moderately Likely (ML) Moderately Unlikely (MU); Unlikely (U); Highly Unlikely (HU). More details on the rating system can be found in the annex.

Aspects	Risk to sustainability	Rating
Financial risks to sustainability	To continue the project activities after finalization of the project in a sustainable manner, budget need to be allocated based on a full cost calculation by the government. The fees currently charged for HCW treatment are insufficient. MEWM project aims to help the informal recyclers to become formal by helping them in getting the license. Their capacity is improved by training them in various aspects of e-waste management. However, their transformation onto formal setup requires economic and financial incentives from the government and or from the finance institutions. In the absence of such financial mechanisms the project runs a risk of not meeting sustainability clause in long run, if not in short.	ML
Socio-economic risks to sustainability	Another major risk of failure in long run is the "supply side" risk. Functioning of recyclers and they business depends on the supply of "waste material" to their firm. While government and corporate constitute a fraction of waste that need to be treated, household play a critical role too. If the household doesn't participate in well in "returning goods" as part of EPR, the model tends to fail. Project information leaflets for interested parties are available. The public need to be sensitized on the risks of HCW and safe management. So, it is extremely important to continue with the awareness programs on social media and TV. MEWM project did not display any long-term plans (beyond its project period) for such long-term awareness raising needs.	ML
Institutional Framework and Governance risks to sustainability	Governmental ownership seemed to be weak at the beginning of the project, which led to substantial delay of the project. Egypt has not signed the Minamata Convention and is therefore not following its aims like phasing out / down mercury from health facilities. The unconditional support of the authorities to implement the project component on mercury free equipment in a sustainable way is questionable. Currently the implementation and monitoring of HCWM is under responsibility of the	ML

Aspects	Risk to sustainability	Rating
	same authority. This indicates a substantial risk of insufficient monitoring activities and jeopardizes the sustainability of the project activities. As part of making regulatory regime for the sustainable management of e-waste MEWM project aims to bring in EPR clause in the regulation being prepared by the steering committee. However, it has to be a multi-pronged approach to sustainability. First, all the line ministries have to bring in their initiatives into regulation. The regulatory framework should have an integrated approach involving all segments of e-waste management, both market-valued and no-value segments. One such framework is to have "E-waste Handling and Management Policy and Rules" implemented by an institutional arrangement on the Ministry of Environment. In the absence of such integrative regulatory regime the practice of e-waste management may not be sustainable.	
Environmental risks to sustainability	The environmental risk to sustainability regarding the activities of this project can be considered as low as up to now the environmental risk has been lowered by raising awareness, the use of environmentally friendly waste treatment technologies and phasing out of mercury containing thermometers and sphygmomanometers. Nevertheless, the final disposal of mercury containing equipment will become a difficult task - a final solution needs to be identified. Awareness and capacity on POPs, healthcare waste management and mercury management has been significantly increased, aware of the environmental issues, and people have been involved in awareness and training activities. This all will benefit the environmentally sound management of POPs containing products, healthcare waste management and mercury waste management. In various components of the projects, efforts are made to educate and empower the recyclers in managing the recycling of E-waste in more environmentally sound ways. However, more focus on "value embodied" stages of E-waste with less emphasis on "non-value added but environmentally damaging" stages. As a result the control of environmental pollution is compromised.	MU

Table 11 Risk to sustainability

Overall, the evaluation team feels that the sustainability of the project is **Moderate Likely (ML),** which indicates negligible risks to sustainability, with key outcomes on track to be achieved by the project's closure and expected to continue into the foreseeable future.

5 Conclusions and Recommendations

5.1 Conclusions

Project Strategy: The project objectives are in line with the country's priorities and plan- except the phasing out / down of mercury in healthcare facilities, as Egypt has not signed the Minamata Convention and seems not to be planning to follow this approach. The evaluators consider that the project conceptualization and design are moderate satisfactory. The holistic approach sought by the project, aimed at establishing an entire chain of healthcare waste management (from production to disposal) and at the same time supporting non-combustion technologies, is the correct approach for minimizing the release of POPs from the sector. The exchange of mercury-containing thermometers and sphygmomanometers is considered as a safe measure to prevent the release of mercury to the environment and protect the health of health workers, waste workers and the public. E-waste has a number of segments in its management and the project could have been more inclusive in addressing them. Throughout the MTR it was obvious that the project during its implementation of the E-waste component had been able to reach out to and engage a very large numbers of stakeholders. However, the training programs on E-waste were not always tailored to the needs of the participants. The ToT training on HCWM is considered as a success approach to reach out to additional relevant persons in the country, as there is a good chance that the training is continued also in other governorates. The conceptual design and methodology of the HCWM training for hospital staff is well developed in accordance to the needs of the different needs. Gender issues have been considered in the ProDoc in all training activities and are followed up by the PMU.

In the Project Document, HCWM and E-waste was separated both into two components, although the 2 components of HCWM and the 2 components of E-waste are mainly implemented at the same time, resulted in repetitive and inefficient reporting. In last PIR, this is issue was tackled by merging the same indicators on awareness and capacity building under 3.1 and 4.1 in one bullet and report on them jointly. Same applies for the similar indicators under Outcome 3.2 and 4.2. However, this must be approved by project board members.

Most of the project components and Objectively Verifiable Indicators are "Specific, Achievable, Relevant and Time Bound". As the capacity building activities have been indicated for different components but have been provided within the same workshop / training framework, the targets are difficult to evaluate. Mid-term targets have not been set, the evaluation team finds it difficult to monitor and review the indicators / targets based on the end-of-project targets.

Progress Towards Results: The objective of the project is tackled by the initiation and implementation of the 4 project components. All activities are behind schedule based to the 1-year delay of the project start. The sites of the CTFs to establish alternative non-burning waste treatment technologies has been identified and the procurement process is initiated. As the MoHP is investing in incineration which is not in accordance to the Stockholm Convention, the results of emission measurements (Dioxin & Furan) in comparison to the non-incinerator technology implemented by the project, the project can help the Ministry understand how current technology can be improved and what are the costs to do that. Training interventions have started for the HCWM components and have been progressing well and as planned for the E-waste components. Although it can be expected that the main indicators / end of project target level of the objective will be reached at the end of the project, the sustainability of the project results is questionable, as with limited time the project results need to be monitored and adjusted over time and

lessons learned elaborated. Especially the segregation quality as part of the BEP needs time as changes in behavior is difficult and time consuming. The update of GEF-tracking tools needs to be conducted regularly.

Project Implementation & Adaptive Management. The project had followed the management arrangements as described with some minor deviations. Due to the time delay of the project start the activities of the work plan of the project is squeezed from 5 to 4 years. The project team tries to implement all project components in accordance to the ProDoc. There is high risk that the project sustainability and lessons learned exercises will fall by the wayside. The Monitoring and Evaluation plan as described and included in the Project Document was comprehensive and in line with the UNDP rules and procedures for M&E of GEF projects. The communication within the project stakeholder is well organized, although the ownership of the government seems to be difficult, which might be due to the insufficient communication within the ministries and between the ministries. The Atlas system provides the UNDP country office provided overall program, administrative, and financial oversight of the project progress in accordance with the common UNDP procedures and tracking tools. Based on Atlas data (October 2018) the amount of GEF grant is disbursed up to 12%, which is in line with the project delay. The procurement of autoclaves and infrastructure for the CTF is envisaged in the first quarter of 2019. It is unlikely that the project will be able to spend the remaining 3.6 Million USD from October 2018 to September 2020 (2 years). Based on the remaining budget commitments, it is recommended that the project would be extended until September 2022 to have sufficient time for substantive testing of pilot centers and for communication of the results and lessons. The co-financing table show that the input of the partners is on track.

Sustainability. The aspects of sustainability (Financial Sustainability; Socio-Political; Institutional Framework and Governance; and Environmental Sustainability) is rated as “Moderate Likely” which indicates negligible risks to sustainability, with key outcomes on track to be achieved by the project’s closure and expected to continue into the foreseeable future.

Financial and institutional risks have been evaluated based on data gathered at component and country level in the course of the evaluation. A general financial risk can be identified at the end of the project, when the activities like waste treatment and disposal, training, monitoring etc. are taken over fully by national stakeholder. Economic recourses need to be reliable available to operate and maintain the newly introduced HCWM and E-waste system. Therefore, the project needs to support the relevant stakeholder to set up specific economic incentives to transform the informal e-recycling sector to a formal one and a full costs calculation and allocation system for HCWM.

The project has updated and revised existing legal HCWM documents on governorate and facility level. In general it is important to follow up the revision of the legal framework also on national level, to reduce the risk of jeopardizing project benefits. Currently the implementation and monitoring of HCWM is under responsibility of the same authority. This indicates a substantial risk of insufficient monitoring activities and jeopardizes the sustainability of the project activities. An independent monitoring authority is needed. It is envisaged to insert training modules in the training curriculum of nursing schools to ensure continues following up of the project activities. To institutionalize HCWM and E-waste these activities need to be accelerated.

The evaluation team identified weak governmental ownership at the beginning of the project, which led to substantial delay of the project. Egypt has not signed the Minamata Convention and is therefore not

following its aims like phasing out / down mercury from health facilities. The unconditional support of the authorities to implement the project component on mercury free equipment in a sustainable way is questionable. Lessons learned are not documented continuously by the Project Team. Capacity building activities are initiated, partly implemented and followed up. At the time of the MTR public awareness activities of the project were weak. The private sector is very interested in taking over e-waste recycling and HCWM collection and treatment. The involvement of the private sector is a very good indicator for the sustainable continuation of some of the project results.

The HCW components are not significantly endangered by environmental parameters. As most the benefit of the project in term of reduction of POPs by using alternative waste treatment technology and mercury release in the environment depends on the continuation and replication of the activities and of the good practices established at the model facilities, sustainability is an important criterion for evaluating the project success. The safe storage of mercury containing equipment needs to be ensured. Nevertheless, a strategy how to treat and dispose the waste after finalization of the project need to be developed together with the relevant national stakeholder.

Sustainability of the project with respect to E-waste depends on how effectively the informal recyclers move onto formal set up and the degree of flow of E-waste to these formal and environmental sound recyclers. The present project relies heavily on capacity building by means of training the recyclers. However, the economic and social incentives required for such transformation of industries is not included which outs a concern on the sustainability of the effort. The awareness rising among different stakeholders is also the important component of the project. However, it is not expected to reach a sustainable level to have a self-propagating ability. Therefore, sustainability of these efforts can't be ensured. For the sustainable avoidance of the U-POPs/POP and other hazardous material from E-Waste is it important to have inclusive management of the waste. Such an inclusive management is yet to be ensured in the present project. However, these issue of sustainability stem from the project design. Some changes to the ProDoc may be suggested accordingly for the remaining duration of the project.

5.2 Recommendations

The MTR team identified the following recommendations:

- ⇒ **Exit Strategy:** A clear exit strategy needs to be developed so that the mechanisms and structures are created during the project implementation to guarantee the end of funding sustainability.
- ⇒ **Project extension**: Based on the remaining project budget and the delay of the project start, the MTR team recommends having a no-cost extension of the project to September 2022 to have sufficient time for substantive testing of pilot centers and for communication of the results and lessons. Given the long-term efforts needed towards awareness raising and also the need to augment the economic and social aspects of recyclers the project may need to have a second phase. However, such a call can be made during the terminal evaluations.
  Given the long-term efforts needed towards awareness raising and also the need to augment the economic and social aspects of recyclers the project may need to have a second phase. However, such a call can be made during the terminal evaluations.
- ⇒ **Further improvement of legal framework**: The HCWM guideline on governorate level to be tailored for different service level of the healthcare facilities (primary, secondary, tertiary).
  Inserting of chemical management – including heavy metals into the newly developed Waste Law by WMRA. Norms (EN / AAM) to be included in specs for non-mercury containing equipment.

Electronic waste (management and Handling) Rules and Policies to be developed for a comprehensive management of E-Waste in Egypt. The present attempt to bring guidelines with a mention to extended producer responsibility may not be comprehensive enough to address this problem. Such E-Waste rules would include both POPs (both intentional and unintentional) and other hazardous chemicals such as Pb, Hg and Cd. Institutional arrangement to enforce the "E-waste Rules" would play the key for the sustainable implementation of environmentally sound e-waste management.

⇒ **Capacity Building:** Future training programs and awareness raising initiatives in collaboration with Swiss project needs to be designed in "integration" to meet the differential needs of these two different projects. Insert HCWM training modules into the institutional training of medical staff (nursing schools and medical universities). Further training of inspectors and sanitarians is needed.

⇒ **Accelerate BEP:** The project should play an active role in increasing BEP with focus on segregation in all healthcare facilities in the two target governorates and CUH – not only in the project hospitals. This has been included in the project for the electronic waste component in the form of replication efforts. Such replication of these BEPs in other municipalities of Egypt plays an important role in long term sustainability. The project (MoHP) should provide emission measures of the non-state of the art incinerators established by MoHP. Based on the emission results and the environmental and health risks the project can advocate alternative treatment technologies. Non-combustion techniques will be making progress to influence decision making in parallel as was planned originally.

⇒ **Asset Management:** Develop a systematic process for the central treatment centers of deploying, operating, maintaining and upgrading their assets like waste equipment, infrastructure and transport vehicles.

⇒ **Knowledge Management**

- Access to project documents: Reorganizing the webpage to provide an easier access to project information and to upload useful project materials, such as training materials, specifications of equipment and infrastructure and facility-based healthcare waste management plans in Arabic and English language.
- Increase the use of social media and networks: Good project keepsake by share experiences and information with stakeholder, the public and other by frequent use of social networks like facebook and twitter, updating and enhancing of the project webpage (or merge web page with other UNDP GEF project with the similar content) and providing of project video with BEP and BAT in the HCW and E-waste sector. Such dissemination on public and social media should be for a long term and far beyond the project life and such arrangements would prove crucial for "scaling up" of the benefits stream. Such dissemination on public and social media should be for a long term and far beyond the project life and such arrangements would prove crucial for "scaling up" of the benefits stream.

⇒ **Improve sustainability of the project results:**

- Organizational Structure of HCWM: Ensuring that the responsible person for HCWM (Healthcare Officer – HWO) is part of the Infection Control Committee. A clear job description of the HWO (tasks and duties) need to be elaborated. E-waste management protocol should be included in standard industrial process catalogue and also the material on awareness towards sustainable practice of E-waste management should be

included in curriculum of Civil Engineering and other professional courses related to waste management.

- Certification of HWO: The HWO should be certified as such by an independent certification unit. HCWM training modules to be inserted into the curriculum of medical universities and nursing schools.

⇒ **Increase awareness raising activities:** Awareness campaigns on HCWM and E-waste to be conducted in cooperation with Swiss projects, to increase knowledge and sensitize the public on the risks of unsafe waste management. As E-waste generation and management involve various stakeholders at different levels, it is important to have complete coverage of all stakeholders in capacity building and awareness programs. Further, it is important to design the awareness and training programs based on the training needs assessment.

⇒ **Improve governmental monitoring structure:** The governmental monitoring system on HCWM and E-waste to be assessed and improved by establishing an independent monitoring authority and development of monitoring processes and tools / checklists on which the inspectors / sanitarians are trained.

⇒ **Capture lessons learnt:** Capture lessons-learned and project results in a more systemic manner. The project results will be highly beneficial not only for the replication of this project's results within the country, but also for other countries in the Region.

6 Annexes

6.1 MTR Terms of Reference

UNDP-GEF Midterm Review Terms of Reference

Protect Human Health and the Environment from Unintentional Releases of POPs Originating from Incineration and Open Burning of Healthcare- and Electronic Waste Project in Egypt

1. INTRODUCTION

This is the Terms of Reference (ToR) for the UNDP-GEF Midterm Review (MTR) of the full-sized project titled Protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic waste (PIMS 4567) implemented through the Ministry of Environment which is to be undertaken in 2018. The project started on the 15 September 2015 and is in its third year of implementation. In line with the UNDP-GEF Guidance on MTRs, this MTR process was initiated before the submission of the second Project Implementation Report (PIR). This ToR sets out the expectations for this MTR. The MTR process must follow the guidance outlined in the document Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects (http://web.undp.org/evaluation/documents/guidance/GEF/mid-term/Guidance_Midterm%20Review%20_EN_2014.pdf).

2. PROJECT BACKGROUND INFORMATION

The project was designed to prevent and reduce health and environmental risks related to POPs and harmful chemicals through their release reduction achieved by provision of an integrated institutional and regulatory framework covering environmentally sound Health Care Waste and E-waste management. The project will reduce emissions of UPOPs as well as other hazardous releases (e.g. mercury, lead, etc.) resulting from the unsound management, disposal and recycling of a) Health-Care Waste (HCW), in particular due to substandard incineration practice and open burning of HCW; and, b) Electronic Waste, in particular due to the practice of unsound collection and recycling activities and open burning of electronic waste. The project will achieve this by i) determining the baseline for releases of UPOPs and other hazardous substances (e.g. mercury, lead) resulting from unsound HCW and E-waste practices; ii) conducting facility assessments; iii) building capacity among key stakeholders; iv) implementing BEP at selected model hospitals, health-care facilities (HCFs) and a central treatment facility (CTF); v) introducing BAT and BEP to formal and informal E-waste processors; vi) preparing health care facilities for the use/maintenance of non-mercury devices followed by introduction of mercury-free devices; vii) evaluating facilities to ensure that they have successfully implemented BEP; viii) installing and evaluating BAT technology(ies) at one Central Treatment Facility based on a defined evaluation criteria; and, xi) enhancing national HCWM training opportunities to reach out to additional hospitals/HCFs.

The project is implemented by the Ministry of Environment in collaboration with the Ministry of Health for the health care waste management component and the Ministry of Communication and Information

Technology for E-Waste management component. The total budget of the GEF contribution is USD 4.1 million

3. OBJECTIVES OF THE MTR

The MTR will assess progress towards the achievement of the project objectives and outcomes as specified in the Project Document, and assess early signs of project success or failure with the goal of identifying the necessary changes to be made in order to set the project on-track to achieve its intended results. The MTR will also review the project's strategy, its risks to sustainability.

4. MTR APPROACH & METHODOLOGY

The MTR must provide evidence-based information that is credible, reliable and useful. The MTR consultant will review all relevant sources of information including documents prepared during the preparation phase (i.e. PIF, UNDP Initiation Plan, UNDP Environmental & Social Safeguard Policy, the Project Document, project reports including Annual Project Review/PIRs, project budget revisions, lesson learned reports, national strategic and legal documents, and any other materials that the consultant considers useful for this evidence-based review). The MTR consultant will review the baseline GEF focal area Tracking Tool submitted to the GEF at CEO endorsement, and the midterm GEF focal area Tracking Tool that must be completed before the MTR field mission begins.

The MTR consultant is expected to follow a collaborative and participatory approach ensuring close engagement with the Project Team, government counterparts (the GEF Operational Focal Point), the UNDP Country Office(s), UNDP-GEF Regional Technical Advisers, and other key stakeholders.

Engagement of stakeholders is vital to a successful MTR. Stakeholder involvement should include interviews with stakeholders who have project responsibilities, including but not limited to Ministry of Environment/Egyptian Environmental Affairs Agency/National Waste Management Agency, Ministry of Health, Ministry of Communication and Information Technology, CEDARE, Cairo University Hospital, etc. Additionally, the MTR consultant is expected to conduct field missions to Egypt, including the following project sites in selected hospital facilities in Sharkia and Gharbia

The final MTR report should describe the full MTR approach taken and the rationale for the approach making explicit the underlying assumptions, challenges, strengths and weaknesses about the methods and approach of the review.

5. DETAILED SCOPE OF THE MTR

The MTR consultant will assess the following four categories of project progress. See the Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects for extended descriptions.

6. TIMEFRAME

The total duration of the MTR will be approximately 17 days for the Team Leader and 10 days for the Team Member with a total of 27 working days over a time period of 12 weeks starting 1 June 2018, and shall not exceed five months from when the consultant(s) are hired. The tentative MTR timeframe is as follows:

ACTIVITY	NUMBER OF WORKING DAYS	COMPLETION DATE
Application closes		10 May 2018
Select MTR Consultant		31 May 2018
Prep the MTR Consultant (handover of Project		1 September 2018

Documents)		
Document review and preparing MTR Inception Report	*4 days*	5 September 2018
Finalization and Validation of MTR Inception Report- latest start of MTR mission		15 September 2018
MTR mission: stakeholder meetings, interviews, field visits	*8 days*	19 September 2018
Mission wrap-up meeting & presentation of initial findings- earliest end of MTR mission	*1 day*	20 September 2018
Preparing draft report	*10 days*	30 September July 2018
Incorporating audit trail from feedback on draft report/Finalization of MTR report)	*4 days*	20 October 2018
Preparation & Issue of Management Response		30 October 2018
Expected date of full MTR completion		15 November 2018

7. MIDTERM REVIEW DELIVERABLES

#	Deliverable	Description	Timing	Responsibilities
1	**MTR Inception Report**	MTR consultant clarifies objectives and methods of Midterm Review	No later than 2 weeks before the MTR mission: 15 September 2018	MTR consultant submits to the Commissioning Unit and project management
2	**Presentation**	Initial Findings	End of MTR mission: 20 September 2018	MTR Consultant presents to project management and the Commissioning Unit
3	**Draft Final Report**	Full report (using guidelines on content outlined in Annex B) with annexes	Within 2 weeks of the MTR mission: 30 September 2018	Sent to the Commissioning Unit, reviewed by RTA, Project Coordinating Unit, GEF OFP
4	**Final Report***	Revised report with audit trail detailing how all received comments have (and have not) been addressed in the final MTR report	Within 1 week of receiving UNDP comments on draft: 20 October 2018	Sent to the Commissioning Unit

8. MTR ARRANGEMENTS

The principal responsibility for managing this MTR resides with the Commissioning Unit. The Commissioning Unit for this project's MTR is UNDP Egypt

The commissioning unit will contract the consultants and ensure the timely provision of per diems and travel arrangements in Egypt for the MTR consultants. The Project Team will be responsible for liaising

with the MTR consultants to provide all relevant documents, set up stakeholder interviews, and arrange field visits.

9. Team Composition and Qualifications

A team of two independent consultants will conduct the MTR.- One Team Leader (with experience and exposure to projects and evaluations in other regions globally as well as experience in one of the two project topics) and one team member who is an expert in the other project topic. The Team Leader will be responsible for the overall delivery of the MTR report.

The consultants cannot have participated in the project preparation, formulation, and/or implementation (including the writing of the Project Document) and should not have a conflict of interest with project's related activities.

The selection of consultant will be aimed at maximizing the overall qualities in the following areas:

- A Master's degree in Environmental Management/Engineering, or other closely related field. (25%)
- Work experience in hazardous waste management for at least 10 years; (25%)
- Recent experience with result-based management evaluation methodologies; (20%)
- Experience working with the GEF or GEF-evaluations; (10%)
- Experience applying SMART indicators and reconstructing or validating baseline scenarios; (5%)
- Competence in adaptive management, as applied to POPs; (5%)
- Experience working in Arab States; (5%)
- Demonstrated understanding of issues related to gender and POPs; experience in gender sensitive evaluation and analysis. (5%)
- Good command of English language is a must

10. PAYMENT MODALITIES AND SPECIFICATIONS

10% of payment upon approval of the final MTR Inception Report

40% upon submission of the draft MTR report

50% upon finalization of the MTR report

11. APPLICATION PROCESS

6.2 MTR evaluative matrix

Evaluative Questions	Indicators	Sources	Methodology
Project Strategy: To what extent is the project strategy relevant to country priorities, country ownership, and the best route towards expected results?			
• Does the project objective fit within the national and municipal priorities?	• Level of coherence between project objective and national policy priorities and strategies, as stated in official document, as well as stated priorities of municipal stakeholders	• National policy documents, such as National Transport Strategy, Action Plan for production and use of environmentally friendly transport, etc. • National legislation regulations, state target programs related to road transport • Relevant regional and local planning documents • Government stakeholders at federal level and in two project pilot municipalities	• Field visit interviews • Desk review
• Did the project concept originate from local or national stakeholders, and/or were relevant stakeholders sufficiently involved in project development?	• Level of involvement of municipal and national stakeholders in project origination and development as indicated by number of planning meetings held, representation of stakeholders in planning meetings, and level of incorporation of stakeholder feedback in project planning	• Project developers • Project staff • Local and national stakeholders • Project documents	• Field visit interviews • Desk review
• Does the project design and project strategy seem adequate for the achievement of the declared objective?	• The project Results Framework is clear and its indicators respond to SMART criteria • The project is designed in a way that the route towards achievement of the expected results is clear and the project interventions are planned to contribute to the achievement of the overall objectives	• Project documents	• Desk review • Brainstorming with the project team and key experts

Progress Towards Results: To what extent have the expected outcomes and objectives of the project been achieved thus far?			
• Are the planned outputs being produced? Are they likely to contribute to the expected project outcomes and objective?	• Level of project implementation progress relative to expected level at current stage of implementation • Existence of logical linkages between project outputs and outcomes/impacts	• Project documents • Project staff • Project stakeholders	• Field visit interviews • Desk review
• Are the anticipated outcomes likely to be achieved? Are the outcomes likely to contribute to the achievement of the project objective?	• Existence of logical linkages between project outcomes and impacts	• Project documents • Project staff • Project stakeholders	• Field visit interviews • Desk review
• Are impact level results likely to be achieved? Are they likely to be at the scale sufficient to be considered Global Environmental Benefits?	• Environmental indicators, first of all – CO2 emission reductions	• Project documents • Project reports • Project staff • Project stakeholders	• Field visit interviews • Desk review • GEF methodology for CO2 emission reduction calculations for the transport sector
Project Implementation and Adaptive Management: Has the project been implemented efficiently, cost-effectively, and been able to adapt to any changing conditions thus far? To what extent are project-level monitoring and evaluation systems, reporting, and project communications supporting the project's implementation?			
• Are management and implementation arrangements efficient in delivering the outputs necessary to achieve outcomes?	• Appropriateness of structure of management arrangements • Extent of necessary partnership arrangements • Level of participation of relevant stakeholders	• Project documents • Project staff • Local, regional and national stakeholders	• Desk review • Interviews with project staff • Field visit interviews
• Is the project cost-effective?	• Quality and comprehensiveness of financial management procedures • Project management costs share of total budget	• Project documents • Project staff	• Desk review • Interviews with project staff
• Is the project objective	• Level of progress toward project	• Project documents	• Field visit interviews

likely to be met? To what extent and in what timeframe?	indicator targets relative to expected level at current point of implementation	• Project reportgs • Project staff • Project stakeholders	• Desk review
• What are the key factors contributing to project success or underachievement?	• Level of documentation of and preparation for project risks, assumptions and impact drivers	• Project documents • Project staff • Project stakeholders	• Field visit interviews • Desk review
• What are the key risks and priorities for the remainder of the implementation period?	• Presence, assessment of, and preparation for expected risks, assumptions and impact drivers	• Project documents • Project staff • Project stakeholders	• Field visit interviews • Desk review
• Is adaptive management being applied to ensure effectiveness?	• Identified modifications to project plans, as necessary in response to changing assumptions or conditions	• Project documents • Project staff • Project stakeholders	• Field visit interviews • Desk review
• Is monitoring and evaluation used to ensure effective decision-making?	• Quality of M&E plan in terms of meeting minimum standards, conforming to best practices, and adequate budgeting • Consistency of implementation of M&E compared to plan, quality of M&E products • Use of M&E products in project management and implementation decision-making	• Project documents • Project staff • Project stakeholders	• Field visit interviews • Desk review
Sustainability: To what extent are there financial, institutional, socio-economic, and/or environmental risks to sustaining long-term project results?			
• To what extent are project results likely to be dependent on continued financial support? What is the likelihood that any required financial resources will be available to sustain the project results once the GEF assistance ends?	• Financial requirements for maintenance of project benefits • Level of expected financial resources available to support maintenance of project benefits • Potential for additional financial resources to support maintenance of project benefits	• Project documents • Project staff • Project stakeholders	• Field visit interviews • Desk review
• Do relevant stakeholders	• Level of initiative and engagement of	• Project documents	• Field visit interviews

have or are likely to achieve an adequate level of "ownership" of results, to have the interest in ensuring that project benefits are maintained?	relevant stakeholders in project activities and results	• Project staff • Project stakeholders	• Desk review
• To what extent are the project results dependent on issues relating to institutional frameworks and governance?	• Existence of institutional and governance risks to project benefits	• Project documents • Project staff • Project stakeholders	• Field visit interviews • Desk review

6.3 Example Questionnaire or Interview Guide used for data collection

Questions for structured interviews with the project partners

General questions on the implementation of the project

1. What targets of the project have not been achieved and what are the reasons and impacts of this a) in the context of Egypt; b) in the context of your organization.
2. What were the key challenges and barriers over the project's implementation. Are there any challenges that remain to exist and that still need to be overcome, either by the project or by the government?
3. Do you think the results of the project are sustainable and why a) in the context of Egypt; b) in the context of your organization.
4. What is a scaling up potential of the project? Do you think the project has undertaken sufficient scaling up activities and what would be your recommendations to further improve project sustainability?
5. Has your organization provided any (in-kind/cash co-financing) to the project, if so could you estimate how much approximately?

Specific Questions (HCWM / E-waste)

1. Please describe the role of your organization in the project (goal, objectives, and completed activities).
2. What are the current obligations of your organization on HCW / E-waste management and what are the official documents regulating your obligations.
3. What are the most important achievements of the project a) in the contexts of Egypt's obligations on Hg management, b) in the context of your organization?
4. What were the main contributions from the project:
    a. technical assistance and advise on the implementation and scope of new regulations;
    b. knowledge/skills on the good management of HCW, Hg containing equipment, E-waste;
    c. equipment/infrastructure;
    d. training/awareness raising on handling, storage, transportation, maintenance, etc. purchased equipment;
    e. inventory support;
    f. access to funding for the best practice's introduction, treatment centers, mercury phase-out, E-waste recycling,
    g. Transforming the informal E-waste recycling sector to formal
5. Any other recommendations/wishes that would improve Egypt's (and your organization's) ability to manage HCW / E-waste in the future?
6. When the project comes to an end how do you see your organization continuing the phase-out of Hg containing products and treat/dispose HCW/ E-waste. And what would be the financial mechanisms your organization/entity would make use of to ensure the continued disposal of HCW/ recycling of E-waste.

6.4 Ratings Scales

Ratings for Progress Towards Results: (one rating for each outcome and for the objective)		
6	Highly Satisfactory (HS)	The objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/outcome can be presented as "good practice".
5	Satisfactory (S)	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.
4	Moderately Satisfactory (MS)	The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings.
3	Moderately Unsatisfactory (HU)	The objective/outcome is expected to achieve its end-of-project targets with major shortcomings.
2	Unsatisfactory (U)	The objective/outcome is expected not to achieve most of its end-of-project targets.
1	Highly Unsatisfactory (HU)	The objective/outcome has failed to achieve its midterm targets, and is not expected to achieve any of its end-of-project targets.

Ratings for Project Implementation & Adaptive Management: (one overall rating)		
6	Highly Satisfactory (HS)	Implementation of all seven components – management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications – is leading to efficient and effective project implementation and adaptive management. The project can be presented as "good practice".
5	Satisfactory (S)	Implementation of most of the seven components is leading to efficient and effective project implementation and adaptive management except for only few that are subject to remedial action.
4	Moderately Satisfactory (MS)	Implementation of some of the seven components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action.
3	Moderately Unsatisfactory (MU)	Implementation of some of the seven components is not leading to efficient and effective project implementation and adaptive, with most components requiring remedial action.
2	Unsatisfactory (U)	Implementation of most of the seven components is not leading to efficient and effective project implementation and adaptive management.
1	Highly Unsatisfactory (HU)	Implementation of none of the seven components is leading to efficient and effective project implementation and adaptive management.

Ratings for Sustainability – 4 points scale (one overall rating)		
4	Likely (L)	Negligible risks to sustainability, with key outcomes on track to be achieved by the project's closure and expected to continue into the foreseeable future
3	Moderately Likely (ML)	Moderate risks, but expectations that at least some outcomes will be sustained due to the progress towards results on outcomes at the Midterm Review
2	Moderately Unlikely (MU)	Significant risk that key outcomes will not carry on after project closure, although some outputs and activities should carry on
1	Unlikely (U)	Severe risks that project outcomes as well as key outputs will not be sustained

6.5 MTR mission itinerary and persons interviewed

6.5.1 HCWM Components

Day	Time	Meeting topic	Venue
1	09:00-11:00	Welcoming Consultants and planning the mission, in the presence of EEAA officials	UNDP headquarters
	11:00-12:30	Transportation to the MEWM Office and lunch	
	12:30-16:00	Introducing the project to the consultant, detailed description of the activities done so far and planned activities and answering their questions	MEWM Office
2	9:00-12:00	Discussion of the Medical component and its activities, and outcomes.	MEWM Office
	12:00-13:00	Lunch	
	13:00-14:30	Meeting with the MoHP officials and the Project Consultants (Chemonics)	
	14:30-16:00	Meeting with the Project Stakeholders (Private Sector representative & Swiss funded project representative)	
3	8:00-17:00	A site visit to a Model Healthcare Facilities and the 2 locations proposed for the CTFs	Gharbia Governorate
4	09:00-11:00	Final Discussions for the Medical component then lunch	MEWM Office
	11:00-12:00	Transportation to the UNDP headquarters	
	12:00-15:00	A debriefing meeting about the mission with the project staff and the UNDP representative and Closing Remarks	UNDP headquarters

6.5.2 E-waste components

Day	Time	Meeting topic	Venue
1	09:00-11:00	Welcoming Consultants and planning the mission, in the presence of EEAA officials	UNDP headquarters
	11:00-12:30	Transportation to the MEWM Office and lunch	
	12:30-16:00	Introducing the project to the consultant, detailed description of the activities done so far and planned activities and answering their questions	MEWM Office
2	9:00-11:20	Meeting with "formalize the informal" consultant (EcoConserv)and informal representatives	MEWM Office
	12:00-13:00	Lunch break	
	13:00-15:30	Meeting with the training consultant (EnviGlobe) and representative of the trainers	MEWM Office
3	09:00-10:30	Meeting with the Project Stakeholders (Ministry of communication and information technology)	Smart Village, MCIT
	10:30-11:30	Transportation to CEDARE	
	11:30-1:00	Meeting with CEDARE (SWISS funded project local developer)	CEDARE
	1:00-2:00	Transportation to Green Core facility	
	2:00-3:30	Site visit to Green Core facility for e-waste recycling	15th of May, Cairo
4	09:00-10:30	Meeting with IDA	IDA premises
	10:30-11:30	Transportation to the MEWM Office	
	12:30-1:00	Lunch break	
	1:00-4:00	A debriefing meeting about the mission with the project staff and the UNDP representative and Closing Remarks	MEWM Office

6.5.3 People met and interviewed

Monday, 8 October 2018	
Venue: **UNDP Country Office in Egypt**	**Attendees:** • Dr. Mohamed Bayoumi - Assistant Resident Representative- UNDP Egypt • Dr. Tarek El Araby - Medical and Electronic Waste Management (MEWM) Project Manager • Eng. Hoda Shakra - E-Waste Technical officer- MEWM project • Dr. Sherif Elnagdy - Medical Waste Technical officer- MEWM project • Mrs. Hoda Omar, GEF unit director - EEAA, Ministry of Environment • Eng. Essam Mohamed Abdel Aziz - Manager of Hazardous medical waste Department – Waste Management Regulatory Authority (WMRA), Ministry of Environment • Dr. Shaimaa El-Sayed mohamed - Hazardous waste researcher - Waste Management

	Regulatory Authority (WMRA), Ministry of Environment • Mrs. Elham Refaat Abd El Aziz - National Focal Point for Stockholm Convention
Tuesday, 9 October 2018	
Venue: **MEWM Project premises**	**Meeting with "formalize the informal" consultant (EcoConserv) and informal representatives** **Attendees:** • Eng. Hoda Shakra - E-Waste Technical officer- MEWM project • Mrs. Elham Refaat Abd El Aziz - National Focal Point for Stockholm Convention • Dr. Shaimaa El-Sayed mohamed - Hazardous waste researcher - Waste Management Regulatory Authority (WMRA), Ministry of Environment. • **Consultancy Firm Representatives:** - **Dr. Hisham Mahmoud, Financial Analyst- EcoConserv** - **Eng. Tarek Yasser, Project Coordinator-EcoConserv** • **Informal E- Waste Recycler Representatives:** - **Mohamed Said - Recyclekey company** - **Gameel El Soury - International Co. For Import & Export**
Venue: **WMRA Headquarters**	**Meeting with the training consultant (EnviGlobe) and representative of the trainers** **Attendees:** • Eng. Hoda Shakra- E-Waste Technical officer, MEWM project • Mrs. Elham Refaat Abd El Aziz - National Focal Point for Stockholm Convention • Dr. Shaimaa El-Sayed mohamed, Hazardous waste researcher - Waste Management Regulatory Authority (WMRA), Ministry of Environment. • **Consultancy Firm Representatives:** **- Dr. Fatheya Soliman, CEO EnviGlobe** **- Mohamed Sherif, Technical Manger- EnviGlobe** • **Mrs. Nahed Ali Hassan- Head of central administration of National Institute for Customs Training.** • **Dr. Fadia Hasan- General Manager of Compliance and Inspection, Egyptian Environmental Affairs Agency (EEAA)**
Venue: **MEWM Project premises**	**Meeting with the MoHP officials and the Project Consultants (Chemonics)** • Dr. Tarek El Araby - Medical and Electronic Waste Management (MEWM) Project Manager • Dr. Sherif Elnagdy - Medical Waste Technical officer- MEWM project • Dr. Omaima Ezz El din - Director of General Administration of Environmental Health, Ministry of Health and Population. • Dr. Hossam Hosny - Hazardous Medical Waste Department manager, Ministry of Health and Population. • **Dr. Djihan Hasan- Representative of Chemonics Egypt**

	Meeting with Private Sector representative & Swiss funded project representative • Dr. Tarek El Araby, Medical and Electronic Waste Management (MEWM) Project Manager • Dr. Sherif El Nagdy, Medical Waste Technical officer- MEWM project • **Eng. Mostafa Eissa- Deputy Project Manager, Hazardous Healthcare Waste Management Project (HHWMP)** • **Sherif Hamoda- CEO Dar El Arab** • **Yasser Askar - Dar El Arab**
Wednesday, 10 October 2018	
Venue: **Ministry of communication and information technology**	**Attendees:** • **Nevine Tewfik, Director of Research and Policies, International Relations Division - Ministry of Communications and Information Technology**
Venue: **CEDARE**	**Attendees:** • **Dr. Hosam Allam, Project Director- Sustainable Recycling Industries (SRI) project** • **Ms. Ghada Moghny, Project Coordinator- Sustainable Recycling Industries (SRI) project**
Venue: **Green Core Facility**	**Site visit to Green Core for e-waste recycling** • **Hatem Esmat, CEO Green Core** • **Hisham Hatem, Manager Green Core**
Venue: **Gharbia Governorate**	**A site visits to the 2 Model Healthcare Facilities and the 2 locations proposed for the CTFs** • Dr. El Saeed Mazroua - Waste Management Director - Directorate of Health Affairs Gharbia Governorate • Dr. Eman Ahmed Matouk- Director of therapeutic Medicine, Directorate of Health Affairs Gharbia Governorate • Eng. Sahar Soliman- Planning Engineer, Directorate of Health Affairs Gharbia Governorate • Eng. Ahmed Sadallah – Planning Engineer, Directorate of Health Affairs Gharbia Governorate • Eng. Saeed Al Abiyad- Planning Engineer, • Eng. Ahmed Habib- Planning Engineer, • Mr. Abd El Salam El Marasy- Planning Department,
Venue: **Gharbia Governorate**	**Tanta Training Centre:** • **Prof. Gehad Abu Atta, Chemonics Egypt Consultants** • **Prof. Bahira Mohamed, Chemonics Egypt Consultants** • **Dr. Djihan Hasan, Chemonics Egypt Consultants**
Thursday, 11 October 2018	

Venue: **Industrial Development Authority**	**Attendees**: • **Mrs. Aisha Abolaban - Head of Central Administration for Industrial Records, Industrial Development Authority** • **Mrs. Samia Eid - Head of Central Administration of Industrial Licenses, Industrial Development Authority** • Eng. Hoda Shakra, E-Waste Technical officer- MEWM project • Mrs. Elham Refaat Abd El Aziz, National Focal Point for Stockholm Convention • Dr. Shaimaa El-Sayed mohamed, Hazardous waste researcher - Waste Management Regulatory Authority (WMRA), Ministry of Environment.
Venue: **UNDP Country Office in Egypt**	**Wrap up meeting attendees:** • Mr. Sylvain Merlen – Deputy Country Director UNDP Egypt • Dr. Mohamed Bayoumi- Assistant Resident Representative- UNDP Egypt • Dr. Tarek El Araby - Medical and Electronic Waste Management (MEWM) Project Manager • Eng. Hoda Shakra - E-Waste Technical officer- MEWM project • Dr. Sherif Elnagdy - Medical Waste Technical officer- MEWM project • Mrs. Elham Refaat Abd El Aziz - National Focal Point for Stockholm Convention

6.6 List of documents reviewed

#	Document	Language
1	Project Document	English
2	Project Identification Form (PIF) 2012 - signed	English
3	Project Implementation Review (PIR) 2017	English
4	Project Implementation Review (PIR) 2018	English
5	GEF E-Waste Implementation Plan Dec 2017	English
6	HCWM Implementation Plan Gant Chart 2018	English
7	Procurement Plan 2018	English
8	Signed BCP and AWP 2016 2018	English
9	CDR 2016 - 2018	English
10	Audit report and Management Letter, Jan-Dec 2017, Russel Bedford	English
11	Co-financing letters	English
12	Inception Report	English
13	E-waste inception workshop report 2017	English
14	Inception workshop materials (ppt, video)	Arabic / English
15	Monthly Reports 2017 - 2018	
16	HCWM ToT training materials and handouts 2018	Arabic
17	Baseline Assessment Report	Arabic
18	Results baseline assessment and BEP training concept for project hospitals (ppt)	English
19	Project leaflets on E-waste and HCWM	Arabic / English
20	Specification of CTF equipment and infrastructure (procurement notice)	English
21	Draft specifications of non-mercury medical equipment	English
22	Draft specifications of medical waste equipment	English

6.7 Committee Members and meetings

6.7.1 Steering Committee Members

Steering Committee Members		
1	Dr. Mohamed Salah	Chief Executive Officer of Egyptian Environmental Affairs Agency (EEAA)
2	Dr. Nahed Youssef	Head of Waste Management Regulatory Authority (WMRA)
3	Dr. Yasmin Fouad	International Environmental Relations Expert
4	Dr. Tarek El Araby	Medical and Electronic Waste Management (MEWM) Project Manager
5	Amb. Heba Sedhom	Assistant Foreign Minister for International Cooperation
6	Dr. Hamdy El Dardiry	Director of General Administration of Environmental Health- Ministry of Health and Population
7	Dr. Mohamed Bayoumi	Assistant Resident Representative- UNDP Egypt
8	Eng. Khaled El Attar	Chairman Steering Committee of Swiss project "Sustainable Recycling Industries" - Ministry of Communications and Information Technology
9	Dr. Fathy Khodair	Dean of Al-Qasr Al-Aini Faculty of Medicine, Chairman of the Board of Directors of Cairo University Hospitals, Representative of Cairo University Hospitals.

6.7.2 E-Waste Technical Committee Members

E- Waste Technical Committee Members		
1	Dr. Tarek El Araby	Medical and Electronic Waste Management (MEWM) Project Manager
2	Eng. Hoda Shakra	E-Waste Technical officer- MEWM project
3	Eng. Essam Abdel Aziz	Manager of Hazardous medical waste Department – Waste Management Regulatory Authority (WMRA)
4	Mrs. Amal Barkat	Director of Waste and Hazardous Waste Department - EEAA, Alexandria Branch
5	Mrs. Nevine Tewfik	Director of Research and Policies, International Relations Division - Ministry of Communications and Information Technology
6	Dr. Hossam Allam	Regional Programme Manager, Sustainable Growth Programme, Centre for Environment and Development for the Arab Region and Europe (Cedare)
7	Dr. Mohamed Farouk	Director of Importers Affairs - National Telecommunications Regulatory Authority (NTRA)
8	Mr. Mohamed Zakaria	Head of Central Administration for Financial and Administrative affairs, representative of General Authority of Government Services - Ministry of Finance
9	Eng. Ahmed Kamal	Executive Director of the Environmental Compliance Office - Egyptian Federation of Industries
10	Dr. Walid Wagih	Director of Environment Unit, Social Fund for Development- The Cabinet of Ministers

11	Mr. Khaled Omar	Director of Information Center - Consumer Protection Agency
12	Eng. Mohamed Elsayed	Director of Planning - Ministry of Local Development

6.7.3 Healthcare Waste Technical Committee Members

Healthcare Waste Technical Committee Members		
1	Dr. Tarek El Araby	Medical and Electronic Waste Management (MEWM) Project Manager
2	Dr. Sherif Elnagdy	Medical Waste Technical officer- MEWM project
3	Eng. Essam Abdel Aziz	Manager of Hazardous medical waste Department – Waste Management Regulatory Authority (WMRA)
4	Mrs. Rasha Abd Elwahab	EEAA Sharkia Branch
5	Eng. Amr Effat	Researcher, Waste and Hazardous Waste Department - EEAA, Gharbia Branch
6	Dr. Omaima Ez El din	Director of General Administration of Environmental Health
7	Dr. Hossam Hosny	Hazardous Medical Waste Department manager, MOHP
8	Dr. Ekhlas Ibrahim	Director of Medical Waste Disposal Unit, Directorate of Health Affairs Sharkia Governorate
9	Dr. Mohamed Kaoad	Medical Waste Safe Disposal Department manager Gharbia Governorate
10	Dr. Gihan El Kholy	Deputy Director of Environment Affairs, Cairo University Hospitals
11	Dr. Tamer El Agrody	PMU Swiss Project “Healthcare Waste Management in Sharkia Governorate”

6.7.4 Technical Committee meetings

	Committee	Date	Number of Participants
1	E-waste	09 January 2017	18
2	E-waste	23 May 2017	11
3	E-waste	19 December 2017	22
4	E-waste	7 June 2018	14
1	HCWM	10 January 2017	12
2	HCWM	24 May 2017	11
3	HCWM	25 February 2018	15
4	HCWM	3 June 2018	23

6.8 Overview of trainings, workshops – gender analysis

6.8.1 E-waste trainings & workshops

#	Content	Date	Attendees (Gender analysis)			Notes
			Male	Female	Total	
1	Technical guidelines on transboundary movements of electrical and electronic waste and used electrical and electronic equipment organized in cooperation with Basel Convention Regional Center for Arab States	22nd of Feb 2017	38	14	52	From the different Egyptian ministries namely the Ministry of Communication and Information Technology, the Ministry of Environment, Egyptian custom authority, ministry of finance, ministry of industry and foreign trade, Academia, BCRC, and formal E-waste recyclers.
2	A Training Workshop on the "Sustainable E-waste Management" organized in cooperation with The Sustainable Recycling Industries (SRI) Project in Egypt	10th and 11th of April 2017	60	39	99	From the different Egyptian ministries namely the Ministry of Communication and Information Technology, the Ministry of Trade and Industry, the Ministry of Environment, Academia, International organizations (SOFIES), and national counterpart (CEDARE), formal recyclers, and the future entrepreneurs.
3	Site visit to one of the formal recycling facility (ITG)	12th of April 2017	16	14	30	Inspectors and auditors
4	Train of trainers for the auditors and inspectors	15th of May 2017	19	16	35	Inspectors and auditors
5	A Training Workshop on the "BEP and BAT of E-waste recycling" organized in cooperation with The Sustainable Recycling Industries (SRI) Project in Egypt	16th and 17th of May 2017	27	15	42	From the different Egyptian ministries namely the Ministry of Communication and Information Technology, the Ministry of Environment, Academia, International organizations (SOFIES), and national counterpart (CEDARE), formal recyclers, and informal recyclers, NGOs, and the future entrepreneurs.

#	Content	Date	Attendees (Gender analysis)			Notes
			Male	Female	Total	
6	A workshop was organized for raising the ICT sector's awareness regarding sustainable management of their E-waste to comply with the national laws and international conventions. The workshop was organized back-to-back with the inception workshop. The number of participants reached 90 people from different public and private sectors	26th of November 2017	58	22	90	The institutions and stakeholders that participate in the project are: The Ministry of Environment, Ministry of Communications and Information Technology, The Ministry of Industry, the Environment and energy committee in the Egyptian Parliament, Center for Environment and Development for Arab Region and Europe (CEDARE), Egyptian Customs Authority, Social Fund for Development, Mobile Operators, Toshiba, Formal E-waste recycling Facilities, E-waste Informal sector, electronic equipment importing companies, the UNDP- GEF team and other relevant stakeholders.
7	"Classification and dismantling of electronic waste training workshop" on the techniques of dismantling end-of-life electronic products with particular focus on identifying hazardous fractions	4th to 5th of December 2017	15	10	25	Environmental auditors and inspectors and formal/informal E-waste recyclers
8	Training of Egyptian customs officers on Identification, classification and proper handling of hazardous waste in accordance with the Egyptian laws and the relevant global treaties – Cairo Customs Institute	22nd to 24th of January 2018	35	3	38	Customs officers of Cairo port
9	Training of Egyptian customs officers on Identification, classification and proper handling of hazardous waste in accordance with the Egyptian laws and the relevant global treaties – Alexandria Customs Institute	30th January to 1st of February 2018	48	23	71	Customs officers of Alexandria, Dekhela and Marsa Matrooh)
10	Specialized training workshop of Egyptian customs officers on Identification, classification and proper handling of hazardous waste – Suez Customs Institute	13th to 15th of February 2018	32	32	64	Customs officers of Adabeya, Suez, Einsokhna Ports

#	Content	Date	Attendees (Gender analysis)			
			Male	Female	Total	Notes
11	Fourth specialized training workshop on the identification of hazardous waste and their classification – Port Said Customs Institute	27th to 28th of February 2018	52	21	73	Customs officers of Port Said, Ismailia, Masoura Ports
12	Fifth specialized training workshop of Egyptian customs officers on the identification of hazardous waste and their classification – South Sinai Ports	6th to 8th of April 2018	51	1	52	Customs officers of Newbie Port
13	Sixth specialized training workshop on the identification of hazardous waste and their classification – Safaga	19th to 21st of April 2018	58	5	63	Customs officers of Safaga, Sohag, Luxor, Aswan and El Minya Ports
14	Seventh specialized training workshop of Egyptian customs officers on the identification of hazardous waste and their classification – Damietta	2nd to 5th of May 2018	45	18	63	Customs officers of Damietta Port
	Gender ratio		70%	30%	100%	

6.8.2 HCWM training

#	Content	Date	Attendees (Gender analysis)			
			Male	**Female**	**Total**	**Notes**
1	Train of trainers on sustainable management of Healthcare Waste	3rd to 11thof August 2018	21	39	60	Departments of the Ministry of Health and Population from 11 governorates, faculty members of university hospitals, nursing schools, inspectors and environmental researchers from the Ministry of Environment (Egyptian Environmental Affairs Agency and Waste Management Organization Agency).
	Gender ratio		35%	65%	100%	

6.9 Minutes of Meetings of the MTR mission

Briefing

MTR Consultants: Ute Pieper and Sudakar Yedla

Component 1-4: HCWM and E-waste

Date	8.10.2018	**Time**	9:00 – 11:00
Main objective	General overview of the project	**Venue**	UNDP Headquarters
Participants	Mr. Mohammed Bayoumi, Assistant Resident Representative, UNDP, Cairo; Dr. Ute Pieper, MTR team leader; Prof. Sudhakar Yedla, International Consultant, MTR team; Prof. Tarak El-Araby, Project Manager, MEWM; Dr. Sherif Elnagdy; Technical Officer, MEWM; Mrs. Hoda Omar, GEF Unit Director, EEAA, MOE, Government of Egypt; Ms. Hoda Shakra, Technical Officer, MEWM; Ms. Elham Refaat, Stockholm Convention Focal Point; EEAA; Ms. Shaimaa El-Sayed Mohamed, WMRA, Egypt		

Content:

- Introduction of participants
- Brief outline of the different partner and stakeholder:
    - MoE: counterpart of the project, approval of EIA, project staff approval etc.
    - MoHP: Co-financing of the project by providing of CTF sites, purchase of incinerators for Sharkia govenorate, providing trucks and staff for the collection of waste, fees for treatment, legal framework development, revision and update.
    - Swiss project:
        - Cooperation in capacity building, legal framework, development of background documents etc. in both areas E-waste and HCWM
        - Concentrates on a different govenerate to develop 2 CTF using incineration technology
    - Chemonics Consultants: Baseline assessment
- Co-financing: MoHP, Swiss project, ITG (private sector)
- MoHP is taking over both responsibilities: implementation and monitoring which causes conflicts
- The project is following up the harmonizing and facilitating of involvement of the private sector in the market
- HCWM: Before the procurement of equipment and Infrastructure of the CTFs can be issued an approved EIA is needed: The site, planned infrastructure and the equipment specs of the CTFs are part of the EIA. Approval is envisaged beginning of November 2018.
- Steering Committee is established and 2 Technical Committees; one for HCWM and one for E-waste
- Delay of the project due to recruitment problems – long approval time of the project manager by EEAA
- Adaptive Strategy:

- It has been decided to work with the informal sector instead of heading to encourage new recyclers to build up formal activities in the country: informal sector to be transferred to formal – it is expected that things are evolving over the years (the work with the formal and informal sector at the same time is difficult).
- The cooperation with the Swiss projects is fruitful and effective

Wrap up

Date	11th October 2018	**Time**	13:00 – 16:00
Venue	UNDP Office, Cairo		
Main objective	Debriefing on the evaluation mission Presentation of preliminary findings of the evaluation mission to Cairo		
Participants (Name, Organisation)	Mr. Sylvain Merlen, Deputy Country Director, UNDP Egypt; Mr. Mohammed Bayoumi, Assistant Resident Representative, UNDP, Cairo; Dr. Ute Pieper, Leader, MTR team leader; Prof. Sudhakar Yedla, International Consultant, MTR team; Prof. Tarek Mohamed El-Araby, Project Manager, MEWM; Dr. Sherif Elnagdy, Medical Waste Technical Officer, MEWM; Ms. Hoda Shakra, Technical Officer, MEWM; Ms. Elham Refaat, Stockholm Convention Focal Point; EEAA; Ms. Shaimaa El-Sayed Mohamed, WMRA, Egypt		

6.9.1 HCWM component

Ute Pieper - Component 1-2: HCWM

Date	09.10.2018	**Time**	13:00 – 16:00
Main objective	Meeting with the MoHP, Project Consultants Chemonics, Private Sector, Swiss funded project representatives.	**Venue**	Project office
Participants	**UNDP GEF Project:** Dr. Tarek El Araby, Dr. Sherif Elnagdy **a) MoHP:** Dr. Omaima Ezz El din - Director of General Administration of Environmental Health, Dr. Hossam Hosny - Hazardous Medical Waste Department manager. **b) Chemonics:** Dr. Djihan Hasan- Representative of Chemonics Egypt **c) Swiss project:** Eng. Mostafa Eissa- Deputy Project Manager, Hazardous Healthcare Waste Management Project (HHWMP) **d) Private sector – Dar El Arab:** Sherif Hamoda- CEO, Yasser Askar		

Content

a) MoHP

- Planning of the project started in 2010
- Population increases 10% per year – accordingly the waste amount increases
- 40-60 % of the waste is collected
- In the project ToT project 1-2 staff from the health department of 11 governorates have been trained. Now the trained persons are instructed to develop their own training plan for their

governorate, which will be revised by the project. Training should be continued by the health departments of the governorates under supervision of the project.

- MoHP is establishing a CTF in Sharkia governorate in the framework of the project:
    - 2 new incinerators have been purchased and others will be relocated to the CTF, renovated and tested.
    - Area: 5000 m2
    - EIA is under approval – public participation and sites are included but the incinerators are not completely included yet – problems are not seen.
    - Project provided baseline assessment and training – no input on the incinerator specs, CTF design etc from the project

b) Chemonics - project consultants (assessment, training, legal revise)

- During October 2017 to February 2018 a baseline assessment has been conducted using the I-RAT tool of WHO and GEF assessment tools. Furthermore, a legal framework assessment regarding HCWM has been included. The results have been presented. A comprehensive report is available
- Capacity building:
    - A ToT program has been adapted, which is taken from the training available from the global HCWM UNDP GEF project. The available ppts have been translated into Arabic. The training was conducted 3-11 of August in Sharm Al Sheik. Participants from MoE and MoHP as well as staff from the target hospitals and other hospitals (nurses, pharmacists, doctors, managers) were trained. Monitoring and supervision staff from the 11 out of 27 governorates were included – including the target governorates from this project as well from the Swiss project. The training was spit in 2 groups – in summary 58 persons have been trained over 10 days. Every day training evaluation and feedback session have been conducted. A comprensive training report is available. The particpants received the slides as a handbook and all training contents on a USB stick. The feedback and resonance of the training was very good, first inspectors from the governorates have already handed in training plans for their region.
    - IN the week of the MTR the inhouse training of target HCF on HCWM will start. The training is tailored to the different needs of the staff: Admin and management, physisians and pharmacists, nurses, workers. The training will be conducted in parallel by two groups – duration, content and kind of presentation differs based on needs. Most training materials are based on the global UNDP GEF project documents, but available only in Arabic language.
- Legal framework (the documents need not to be official approved as they are not national documents – a cover page by EEAA and distribution to the governorates is sufficient)
    - A HCWM policy on governorate level has been developed. The draft was introduced and discussed on a stakeholder meeting on the 3. June 2018 and the comments included in the draft. A second stakeholder meeting was conducted. The Policy is ready to be distributed.
    - The National HCWM guideline on HCWM from 2015 was revised by a Chemonics consultant (the consultant was one of the core focal points on HCWM in Egypt) to be used as a guideline for the governorates. The policy is reflected in the plan. The

guideline is only available in Arabic language. A translation is not envisaged. Main updates:
    - Revision of Current situation, legal framework and training chapter
    - New chapters: Hg management, Waste minimization, green procurement, risk management
    - Some old chapters have been removed to the annex.
  - HCWM plans for HCF have been drafted for each of the 5 target hospitals including specifics on each hospital: layout, budgeting, hospital data. The Policy is reflected in the plans.
  - National documents will be revised/ developed by the Swiss project

c) Swiss project

- The Swiss State Secretariat for Economic Affairs (SECO) finances the implementation of two large incinerators for healthcare and hospital waste in the region of the Nile Delta in Egypt.
- The project in the Dakahleya Governorate should be a model for upgrading similar systems in other Egyptian governorates. It includes infrastructure subprojects as well as all the organization of all the institutional and financial models necessary to operate the waste collection and treatment.
- CSD is piloting the project and will work with the Swiss Tropical and Public Health Institute (Basel) and specialized Egyptian and German partners.
- 2 sites have been identified – each will receive a 6 tones incinerator
- Currently a GIS database is established for a model area which will be the base to plan the collection and transport logistics for the Central Treatment plants – this strategy will then be expended to the governorate.
- The project is in close cooperation with the UNDP GEF project, as there are a lot of overlapping areas:
  - Training of HC staff
  - Swiss project provides “fee strategy document”
  - Clarification of project problems with government
  - Participation of round tables and trainings
- Results so far:
  - Feasibility study,
  - site identification – EIA is initated, the approval by the governorate EEAA is expected end of 2018
  - Specs for the incinerator drafted (including flue gas treatment, training etc.)
  - Ash disposal: planned on the landfill in Sharkia (designated safe cell)
- Policy dialog: Development of national policy und revision of National Strategy and Plan from 2010 - based on documents provided by the UNDP GEF project
- Sustainablity
  - Dep of haz waste safe disposal from the directorate of Health Affairs of the governorate is responsible for the fees (4,5 P/kg = 3,75 P for treatment and 0,75 P for transport)
  - Project will provide a full cost calculation and fee system recommendations

d) Dar El Arab – Private Sector

- Company is already active in the HCWM sector, HCWM in 40 military hospitals,

- HCWM treatment in Alexandria: incineration and non-incineration, treatment plant is owned by the MoHP, 1-year concession for the operation,
- Strategic approach:
    - Installation of continues feeding incineration with flue gas treatment. The segregation is very week and therefore non-incineration is not a solution now – might change within the next 10 years.
    - Introduction of a continues monitoring system with barcodes, GPS tracking, door sensors (no opening of the door during transport), waste transport manifest
- Problem autoclaving: as segregation is week, the MoE is classifying the waste after treatment still as hazardous – need to be disposed accordingly. Steel in the waste is blocking the shredder.
- Pricing/kg:
    - 8 Pound for private facilities, 6.5 for university hospitals, 4.5 for public hospitals
    - MoHP is planning to increase the payment for public hospitals to 8 Pounds
- A new hazardous waste transport regulation has been issued by MoHP

Sustainability discussion (all)

- Project will be sustainable because:
    - establishing of Certification body on HCWM responsible persons in HCF (not established yet)
    - Establish of a network of HCWM trainers in the country who are in contact with each other
    - Toolkits for trainer are available
    - Project results can be easily scaled up by the ministry
- Sustainability will be a problem:
    - Without institutionalization of HCWM structure in the MoHP the results will not be sustainable
    - An independent monitoring and supervision authority for HCWM is needed, which is not under the MoHP (implementing and monitoring authority at the same time is not effective).
    - Social enforcement and awareness are weak – more public work and campaigns are needed.

Barriers (all)

- Slow increasing of awareness and segregation
- Pre-justice to waste treatment technology – all incineration – incineration is bad
- Bureaucracy is slow and complicated

6.9.2 E-Waste Components

Date	8th October 2018	**Time**	12:30 – 16:00
Venue	MEWM Office, Cairo		
Main objective	Introduction to the project components by the project manager and the technical officer of E-Waste Components. Progress made in each component of E-Waste management was explained by the Project team. Both components relevant to electronic waste (Outcome 3 and Outcome 4) were explained to the evalution team.		
Participants (Name, Organisation)	Prof. Sudhakar Yedla, International Consultant, MTR team; Prof. Terak Mohamed El-Araby, Project Manager, MEWM; Ms. Hoda Shakra, Technical Officer, MEWM; Ms. Elham Refaat, Stockholm Convention Focal Point; EEAA; and Ms. Shaimaa El-Sayed Mohamed, WMRA, Egypt		

Date	9th October 2018	**Time**	9 – 11:20
Venue	MEWM Office, Cairo		
Main objective	Meeting with informal electronic waste recyclers in Cairo to understand the process of capacity building to move from informal setup to the formal system of e-waste recycling. Various capacity building activities were explained and the difficulties in transformation were discussed. The issues of exporting of electronic waste components and the recent development of seizing the consignment at different Egyptian ports were also discussed.		
Participants (Name, Organisation)	Prof. Sudhakar Yedla, International Consultant, MTR team; Ms. Hoda Shakra, Technical Officer, MEWM; Ms. Elham Refaat, Stockholm Convention Focal Point; EEAA; Ms. Shaimaa El-Sayed Mohamed, WMRA, Egypt; Mr. Mohamed Said, Recyclekey Company; Gameel El Soury, International Co. For Import & Export		

Date	9th October 2018	**Time**	13:00 – 15:30
Venue	MEWM Office, Cairo		
Main objective	Meeting with EcoConserve, a consulting firm that provided services of charectarization of wastes, screening of informal electronic waste recyclers for the conversion onto formal system and conducting EIA as a part of getting the permits for formal recycling. The process of selection of informal recycling units for the conversion into formal system was explained followed by the indicative EIAs conducted. Various aspects that are important in conerting the informal recyclers onto the formal setup were discussed.		
Participants (Name, Organisation)	Prof. Sudhakar Yedla, International Consultant, MTR team; Ms. Hoda Shakra, Technical Officer, MEWM; Ms. Elham Refaat, Stockholm Convention Focal Point; EEAA; Ms. Shaimaa El-Sayed Mohamed, WMRA, Egypt; Hasham Mahmoud, Financial Controller, EcoConServ; Mr. Tarek Yasser, Project Coordinator, EcoConServ		

Date	9th October 2018	**Time**	15:30 – 16:00
Venue	WMRA Office, Cairo		
Main objective	Meeting with EnviGlobe, a consulting firm that provided services of training and capacity building for various stakeholders in electronic waste recycling and regulating its movement.		

	The entire process of capacity building was explained with the details of number of participants and the course content and the schedules.
Participants (Name, Organisation)	Prof. Sudhakar Yedla, International Consultant, MTR team; Ms. Hoda Shakra, Technical Officer, MEWM; Ms. Elham Refaat, Stockholm Convention Focal Point; EEAA; Ms. Shaimaa El-Sayed Mohamed, WMRA, Egypt; Dr. Fathema Soliman, CEO EnviGlobe; Mohamed Sherif, Technical Manager, EnviGlobe

Date	9th October 2018	**Time**	16:00 – 16:30
Venue	WMRA Office, Cairo		
Main objective	Meeting with participants of various training and capacity building programmes under this project. Various aspects, expectations and the way they are met was discussed and the self-sustaining possibility and self propogation capabilities of the training were discussed with the trained actors – customs officers and the formal e-waste recyclers.		
Participants (Name, Organisation)	Prof. Sudhakar Yedla, International Consultant, MTR team; Ms. Hoda Shakra, Technical Officer, MEWM; Ms. Elham Refaat, Stockholm Convention Focal Point; EEAA; Ms. Shaimaa El-Sayed Mohamed, WMRA, Egypt; Mrs. Nahed Ali Hassan, Head of Central Administration of National Institute for Customs Trainaing, Cairo; Dr. Fadia Hasan, General Manager of Compliance and Inspection, Egyptial Environmental Affairs Agency; Mr. Hatem Youssef and Mr. Hisham Youssef of Green Core, Cairo.		

Date	10th October 2018	**Time**	9:00 – 10:30
Venue	Smart Village, MCIT		
Main objective	The role of MCIT as a partner in this project was explained by Ms. Nevine Tewfik. Various issues that are pertaining to the formalization of waste recycling and the regulatory regime that is required from the view point of industries are discussed in this meeting.		
Participants (Name, Organisation)	Prof. Sudhakar Yedla, International Consultant, MTR team; Ms. Hoda Shakra, Technical Officer, MEWM; Ms. Elham Refaat, Stockholm Convention Focal Point; EEAA; Ms. Shaimaa El-Sayed Mohamed, WMRA, Egypt; Ms. Nevine Tewfik, Deputy Director, International Relations Division, MCIT, Egypt		

Date	10th October 2018	**Time**	11:30 – 13:00
Venue	CEDARE		
Main objective	Discussion with the co-existing and complementing actor for the project in the form of a project Sustainable Recycling Industry (SRI) funded by Swiss agency. Various overlapping issues between these two complementing projects especailly towards the capacity building component and the future directions and possibilities of cooperation were discussed with CEDARE representatives		
Participants (Name, Organisation)	Prof. Sudhakar Yedla, International Consultant, MTR team; Ms. Hoda Shakra, Technical Officer, MEWM; Ms. Elham Refaat, Stockholm Convention Focal Point; EEAA; Ms. Shaimaa El-Sayed Mohamed, WMRA, Egypt; Dr. Hossam Allam, Regional Director, Sustainable Growth Division, CEDARE, Cairo; Ghada Moghny, Programme Coordinator, SGD, CEDARE, Cairo		

Date	10th October 2018	**Time**	14:00 – 15:30
Venue	15th of May, Cairo		
Main objective	Visit to a formal e-waste recycler who got trained with Best Available Technology (BATs)/Best Envrironmental Policy (BEPs) training by EnviGlobe. The process of recycling of mother boards was explained and the demonstrated the metal recovery process in this formal recycler of electronic waste in Cairo		
Participants (Name, Organisation)	Prof. Sudhakar Yedla, International Consultant, MTR team; Ms. Hoda Shakra, Technical Officer, MEWM; Ms. Elham Refaat, Stockholm Convention Focal Point; EEAA; Ms. Shaimaa El-Sayed Mohamed, WMRA, Egypt; Mr. Hatem Youssef and Mr. Hisham Youssef of Green Core, Cairo.		

Date	11th October 2018	**Time**	9:00 – 10:30
Venue	IDA Office, Cairo		
Main objective	Meeting with an important player in the entire process of formalizing and regulating electronic waste recycling in Egypt. Discussed various industrial policies that have relevance to electronic waste recycling industry and the policy direction towards their future.		
Participants (Name, Organisation)	Prof. Sudhakar Yedla, International Consultant, MTR team; Prof. Tarek Mohamed El-Araby, Project Manager, MEWM; Ms. Hoda Shakra, Technical Officer, MEWM; Ms. Elham Refaat, Stockholm Convention Focal Point; EEAA; Ms. Shaimaa El-Sayed Mohamed, WMRA, Egypt; Dr. Aisha Mohamed abou Laban, Director of the Central Dept for Industrial Approvas and Registrations, Industrial Development Authority of Egypt, Cairo; and Ms. Samia Mohamed Eid, Head of Central Dept for Industrial Approvas and Registrations, Industrial Development Authority of Egypt, Cairo		

6.10 Matrix of Assessing Progress Towards Results Table (chapter 4.2)

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
Project Objective: Protect human- and environmental health by reducing releases of POPs and other hazardous releases resulting from the unsound management of waste, in particular the incineration and open burning of hazardous health care waste and electronic waste by demonstrating and promoting Best Available Techniques (BAT) and Best	Amount of U-POPs release in the environment from HCW disposal avoided. Amount of PBDE release in the environment from E-waste disposal avoided. Amount of emission	U-POPs from HCWM in demonstration facilities: 123 g/TEQ/yr U-POPs from E-waste sector: U-POPs from E waste: 16gTeq/yr (2012) c-PBDE from E-waste sector: 472 to 756 kg/yr from IC E-waste; 6.5 t from CRT monitors.	U-POPs from HCWM in demonstration facilities: Reduction of 63.2 g/TEQ/yr U-POPs from E-waste sector: The proposed project will be able to reduce the amounts of UPOPs emitted from the improper treatment of E-waste by ~5 g-TEQ Reduction of c-PBDE for an overall amount of 378 kg of		Moderate Satisfactory Satisfactory	This target can not be achieved at the MTR time – activities have been initiated and are on track – although with delay. Sustainability BEP in the hospitals is a major threat of the long-term perspective of the results. It can be predicted that the project will be able to reduce the amounts of UPOPs emitted from the improper treatment of E-waste by ~5 g-TEQ. Reduction of c-PBDE for an overall amount of 378 kg of c-PBDE from IC EOL equipment, plus 1513 kg c-PBDE from CRT monitors would likely be prevented during the project life span (2015-2020) with the activities taken up so far in the form of awareness improvement, training of stakeholders. The projected reduction of U-POPs as 3.36 gTeq/yr would likely be achieved as the 50% of the targeted

[8] Colour coded this column only

[9] Ratings assigned using the 6 point Progress Towards Results Rating Scale: Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), or Highly Unsatisfactory (HU)

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
Environmental Practices (BEP) to soundly manage and dispose of such wastes.	of PTS from HCW and E-waste reduced. Existence of a SC compliant regulatory framework on HC waste and E-waste-		c-PBDE from IC EOL equipment, plus 1513 kg c-PBDE from CRT monitors would be prevented during the project life span. U-POPs reduction of 3.36 gTeq /yr assuming the project would ensure the proper management of 4000 t of E-waste-		Satisfactory	routing of 4000 t of E-waste to the formal recyclers is already achieved by the mid-term of the project Transforming the present regulatory framework into a sustainable and inclusive regulatory framework would require more elaborate and deeper efforts
Outcome 1.1 UPOPs emissions reduced through support to HCWM initiatives at health-care facility(ies) level, Central Treatment Facility (CTF) level and training institutions.	UPOPs releases reduced by 50% for Gharbia and by 40% for Sharkia.	UPOPs releases from Sharkia and Gharbia combined total 143 g-TEQ/yr	UPOPs releases reduced by 63.2 g-TEQ/yr		MS	UPOPs release not reduced yet as the autoclaves have not been installed: 0% This target cannot be achieved at the MTR. Sustainability BEP in the hospitals is a major threat of the long-term perspective of the results.
1.1.1: Facility assessments conducted and UPOPs baseline determined.	Baseline assessments conducted for all project facilities	A limited number of preselected HCFs (9) has undergone an assessment	▪ I-RATs conducted for each of the project HCFs. ▪ UPOPs (and Hg) releases before and after project determined for each project facility (PF).		HS Not applicable at the time of MTR.	I-RATs conducted for each of the project HCFs. The CUH decided to close the incinerators before the project started. Therefore, UPOPs release before project activities have not been conducted.
1.1.2 BEP	All project HCFs (5)	The preliminary	▪ Memoranda of			MOU between CTF and HCF is not

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
implemented at project facilities (followed by evaluation).	that will be serviced by a project CTF have introduced BEP in a satisfactory manner. 250 HCF staff trained in BEP.	baseline assessment (I-RATs) indicated that some practices are in place but further improvements are needs related to segregation, collection, transport, storage, HCWM committees and responsibilities and meeting environmental standards.	Understanding (MoUs) signed with Project Facilities. ▪ HCWM committees established in each PF. ▪ Facility specific HCWM policies, procedures and plans developed and implemented at each PF. ▪ PF staff trained in best HCWM practices. ▪ Each PF evaluated to verify introduction of BEP practices.		Not applicable. MS S S MS	needed, as it is located on the HCF premises (MoH). MoU between project and HCF available. Infection Control Teams are established – no HCWM Committees. Introduction of BEP in the 5 project HCFs has been initiated (see ProDoc) Output 1.1.2: - MoU with all HCF - Draft Policy on national level which will be used for HCF. - Draft HCWM Plans for HCF but are not implemented 10 days ToT training for 60 participants from 10 governates including CUH (including the faculty of nursing) has been conducted in August 2018. Training on BEP started during the Mid Term Review at one hospital: Menshavi (Gharbia governate). It is planned to include all 5 hospitals and train staff by the end of October 2018 aiming to train more than 250 HCF staff.
Output 1.1.3 Identification of technology	▪ Number of non-incineration technologies that	▪ No BAT in place at any of the PFs.	▪ Technical specifications for HCW treatment technologies for CTF I		S	Specs for CTF1 available – procurement process started. At CUH 3 non-incinerator treatment

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
requirements, competitive procurement, selection and installation of BAT non-incineration and incineration technology at the respective CTFs.	are operational at CTF I and Cairo University Hospitals. ▪ % of HCFs in each governorate served by a CTF.	▪ No recycling programmes in place at any of the HCFs. ▪ No operational maintenance schemes in place.	and II drafted. ▪ Non-incineration technologies procured, installed and tested at CTF I.		S	technologies are operational. Specs for CTF1 available – procurement process started. At CUH 3 non-incinerator treatment technologies are operational. CTF2 specs have been delivered by the cooperation project Swiss Siting of CTF has been identified and EIA for Sharkia is available and for Gharbia is in process. In the framework of the EIA of the sites the landfill operators have been included and recommendations provided. Further project support will be provided in this issue to the National Solid Waste Management Program. Sketch of the CTF of Gharbia is available – a detailed drawing is part of the RoP which is ongoing. PPP involvement has been explored, private sector submitted proposals and discussions are ongoing. Assistance to the central Cluster facilities and stakeholder in the preparation of economic cash flow analysis etc. has been done by the Swiss project. The possibility of recycling of treated waste is still under discussion between MoHP and MoE – waste to

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
			▪ Procurement of an initial set of HCWM related supplies for the project HCFs. ▪ Staff trained in the operation and maintenance of the new technologies.		S S	energy might be a possibility in future. Specifications for an initial set of HCWM supplies are available but not procured yet. Can only be done after equipment is installed.
1.1.4 National HCWM training opportunities enhanced to disseminate best practices to additional hospitals/HCFs.	Number of institutions that offer HCWM training/certificate courses.	Training programmes for waste management exist, but training programmes for HCWM need to be further improved.	▪ Assessment of existing HCWM training opportunities conducted. ▪ National training infrastructure for HCWM established/improved.		HS S	The current status has been assessed - baseline assessment report available. Not established / improved yet.
Outcome 1.2. Nat. Policy and regulatory framework strengthened/developed with	Number of laws, regulations and guidelines pertaining to HCWM drafted/revised.	In 2010, a HCWM strategy was finalized and adopted (April 2010). The strategy that	▪ Law/regulations and degrees create an enabling regulatory and policy environment for HCFs and CTFs to reduce UPOPs emissions.		S	It needs to be verified, that the updated draft HCWM guideline and policy will be approved / published accordingly, as the inspectors have been trained on the draft ones. Inspectors from the target

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
respect to HCWM and UPOPs emissions		should also include regulatory analysis update has not implemented yet.				governorates have not been trained.
1.2.1 Nat. HCW policies, regulations and plans reviewed and enhanced.	Number of laws, regulations and guidelines drafted/revised. No of environment and health inspectors/ women and men trained on revised regulations and guidelines.	Same as above.	▪ Assessment of the national policy, regulatory framework, and national plan governing HCWM conducted (incl. Act. 2.2.1) ▪ Guidelines, standards and technical regulations on HCWM revised/developed following the recommendations from the national policy and regulatory assessment. ▪ Environment and health inspectors trained on revised regulations and		HS S	Regulative Framework has been considered in the baseline assessment – baseline assessment report available. 3 legal documents on national level have been drafted / revised / provided input. 1. The project provides technical input to the development of the "Law on Waste Management" of the WMRA of MoE. 2. National HCWM Policy has been drafted. 3. National HCWM guideline has been revised and will be issued by EEAA. The project drafted a HCWM plan for model HCF. In the ToT inspectors of the

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
			guidelines.		MS	governorates (3 sanitarian from health directorate and 4 inspectors from EEAA) have been trained on the updated DRAFT guideline and policy.
Outcome 2.1 Mercury emissions in HCWM sector are reduced.	Hg releases reduced by 5 kg/yr. Kg of Mercury waste safely stored/disposed of.	16.2 kg Hg/yr	Hg releases reduced by 5 kg/yr		MS	Hg release has not been reduced yet: 0kg/y 0 kg of mercury has been safely stored / disposed yet. Although it can be assumed, that at the end of the project the target will be reached, sustainability is a major risk, as the country did not sign the Minamata Convention.
2.1.1 Mercury assessments conducted and Hg baseline determined (*in combination with Act. 1.1.1*)	Hg Baseline assessments conducted for all project facilities	A limited number of preselected HCFs (9), has undergone an assessment	▪ I-RATs conducted for each of the project HCFs. ▪ Hg emissions before and after project determined for each project facility (PF).		HS S	Hg baseline has been conducted – IRats are available. Number of mercury-free devices to be procured in the 5 HCF has been determined.
2.1.2 BEP related to the safe management, storage, phase-out and disposal of Mercury containing devices and wastes	BEP related to the life-cycle management of Mercury containing medicals devices and wastes introduced in 5 PFs.	▪ Broken/spent Mercury containing medical devices and wastes are discarded along with municipal	▪ Assessment on potential Hg disposal/storage sites conducted. ▪ A Mercury management and phase-out plan prepared and implemented for each project facility. ▪ Temporary storage sites		S S	Not yet conducted. Phasing out plan for all facilities conducted.

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
implemented at project facilities		waste or infectious HCW and subsequently incinerated. ▪ No storage sites for Mercury or Medical devices containing Mercury are available in the country.	for Mercury containing wastes established at PF level. ▪ HCFs staff trained in the clean-up, storage and safe management (incl. transport) of Mercury wastes. ▪ Staff preference study for selection of Hg and PVC-free alternatives conducted in a limited number of PFs.		MS S MU	Not yet. Training on Hg management in the HcF started during the Midterm review. Not envisaged yet. Specs have been drafted without staff preference study.
2.1.3 Mercury free device specifications determined, devices procured and introduced	▪ Number of Hg free devices procured and distributed. ▪ Project model facilities are Mercury-free. ▪ Kg of recovered/ phased-out Mercury waste safely stored.	Some project HCFs already use some Mercury-free medical devices, but none of the PFs is Mercury-free.	▪ Technical specifications for Hg-free devices drawn-up. ▪ Mercury-free devices procured for project facilities (and a number of departments of CUH). ▪ PF staff and maintenance technicians trained in the use and maintenance of Hg-free devices. ▪ Mercury-free devices used in the project facilities.		MS MS MS MS	Specifications are drafted the procurement process is planned to be finalized end of 2018. International Norms are lacking. Not yet. Will be done after delivery of mercury free equipment.

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
			▪ Spent Hg-devices/waste collected and temporarily stored.		MS	
Outcome 2.2 Nat. Policy and regulatory framework strengthened / developed with respect to sequestration, phase-out, storage and disposal of Mercury waste in HCWM sector.	Number of regulations/degrees and guidelines pertaining to Hg-containing medical products drafted/revised.	In 2010, a HCWM strategy was finalized and adopted (April 2010). The strategy that should also include regulatory analysis update has not implemented yet.	▪ Law/regulations and degrees create an enabling regulatory and policy environment for HCFs and CTFs to reduce Hg releases.		MS	Hg waste management has been included in 2 revised draft legal documents. As the country has not signed the Minamata Convention Mercury phasing out is not a priority of the Ministries.
2.2.1 Policies/guidelines on sequestration, phase-out and management of mercury waste from HCFs developed.	Number of regulations/degrees and guidelines pertaining to Hg-containing medical products drafted/revised. No of environment and health inspectors women and men trained on revised regulations and guidelines.	Same as above.	▪ Assessment of the national policy, regulatory framework, and national plan governing Mercury conducted (in coordination with Act. 1.2.1). ▪ Guidelines, standards and technical regulations on Mercury management revised/developed following the recommendations from		HS MS	Legal assessment on Hg waste is included in the baseline assessment. Hg waste management has been included in the: - Revised draft HCWM policy - Revised draft HCWM guideline. Hg waste management will not be included in the new developing law

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
			the national policy and regulatory assessment. ▪ Environment and health inspectors trained on revised regulations and guidelines.		MS	of the WMRA as Egypt has not signed Minamata Convention. Sanitarians (health inspectors) and inspectors of EEAA have been trained during the ToT but need further specialized training.
Outcome 3.1 Emissions of UPOPs (including new POPs) and POPs reduced through support to e- Waste Management at municipality and national level.	Availability of baseline on POPs – U-POPs release. Availability of awareness campaigns and related feedback. From women and men Amount of E-waste collected Evidence of replication initiatives.	Few data on POPs-U-POPs release from E-waste. Limited awareness on E-waste issue. Most of E-waste still being collected informally with harm to the environment. No replication scheme implemented	Baseline data on U-POPs and POPs released from E-waste management are available. E-waste informal processors mapped. Multi-media awareness campaign concluded. At least 4,000 tons of E-waste collected and management in an environmentally sound way. Prevention of C-PBDE release of around 1,791 kg.		MS HS Satisfactory Satisfactory Satisfactory	Due to various reasons, the primary collection of data is replaced with a secondary/indirect estimation of U-POPs and POPs which would have its bearing on estimation accuracies. Progressing as planned Replication scheme or strategy for its successful imprint needs certain components and such components are not observed as part of the project
3.1.1. National mapping of E-waste processors and refurbishers	Availability of a completed national level characterization	There is currently scattered information on	A national level characterization study of informal WEEE processing sector completed.		Highly Satisfactory	

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
and applied practices completed and baseline on POPs and UPOPs releases from E-waste processing determined.	study of informal WEEE processing sector Availability of a detailed baseline of POPs and UPOPs from the E-waste management releases with trends	informal WEEE processing sector. Baselines of POPs and U-POPs from E-waste in Egypt are not available. Preliminary figures calculated in the course of PPG based on statistical data on E-waste.	A detailed baseline of POPs and UPOPs from the E-waste management releases with trends completed.		Moderately Satisfactory	As the analyse POPs is expensive baseline development was changed to literature review based secondary data approach, which compromises a great deal with the accuracy of estimation
3.1.2 Capacity/ awareness among key among key stakeholders at national and municipal level built.	Number of operators women and men successfully trained on E-waste management, with specific reference to segregation of PBDE contaminated waste.	No capacity on the segregation of PBDE contaminated waste. Limited campaign carried out on take-back	Specific training for the operator on the issue of POPs brominated flame retardants in waste and electronic equipment. At least 50 professionals from the public and private sector trained. A campaign aimed at		Highly Satisfactory S	Almost achieved at the mid-way of the project Development of material for various

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
	Availability of recordings of campaign broadcasted on relevant media on ICT equipment and CRT. Availability of a website on the above. Availability of awareness raising materials. Number of people reached by the campaign	schemes under different initiatives, mostly for mobile phones and batteries Website on E-waste collection incentives (which however cannot only reach people connected to the web)	creating awareness on E-waste launched on different media (internet, TV, newspapers), providing reference and contact numbers. Establishment of a toll-free line		S	social media is almost completed or being completed. Once ready they would be uplinked/uploaded/ telecasted. Toll free number is being developed and going as per the planned time frame
3.1.3 Introduction of BEP/BAT to priority municipalities, selected formal and informal E-waste processors/refurbishers.	Number of municipalities where a collection scheme was implemented. Availability of E-waste collection	The largest amount of E-waste still being collected and processed by informal sector, with serious environmental consequences.	Pilot projects on collection scheme implemented in 2 municipalities (Cairo and Alexandria). At least 6,000 t of WEEE of which 2,000 tons of CRT monitors will be collected during the project.		S S	This effort concentrates only on capacity building/awareness to channel the waste streams to the formal recyclers. 1,400t of e-waste from targeted sections has been routed to formal recyclers and it is very much in tune with the planned target. In addition 667t of e-waste stranded at various

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
	system and infrastructures Amount of E-waste collected. Availability of a rapid screening technology for PBDE in E-waste. Effectiveness of the rapid screening technology (% of success	Take back campaign limited to some E-waste categories have been carried out in the past by Mobinil and other operators under MPPI. A website for incentivizing E-waste recovery implemented by one firm (Recyclobekia)	Technology for the rapid screening of PBDE in E-waste demonstrated. At least 1,000 t of hazardous E-waste component disposed of in compliance with the Stockholm Convention		S S	ports has also been routed to the formal recyclers. The required equipment is being procured Progress is on track. Take back campaigning is being implemented as planned
3.1.4 Replication of project results at international, regional, national and municipality level	Availability of national and international workshop proceedings. Availability of a replication plan.	No replication plan available for E-Waste management	A plan for the replication of the methodologies in other Egyptian municipalities / provinces, including financial plan, timeframe, technology selection and targets developed. With the support of Basel Convention Regional Center for Arab States		MS MS	Neither in pro-doc nor in the project discussion such an inclusive plan of replication was observed. However, the outreach activities by means of participating in various fora are satisfactory. This component needs to be pursued more aggressively and at the present rate things may fall

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
			(BCRC), the project will seek the collaboration of other countries to extend the replication plan to other African countries.			short
3.2 National policy and regulatory framework strengthened with respect to E-waste	Availability of an improved E-waste regulatory framework	The E-waste regulatory framework including licensing system for E-waste manager is incomplete.	Reviewed / improved regulatory framework on E-waste fully compliant with Stockholm and Basel convention		MS	It is still a long way before we see a perfect system of regulation for e-waste management in Egypt. However, basic steps are taken but it would require much deeper and longer effort to reach the target.
3.2.1 National policy and regulatory framework (incl rules and regulations) on E-waste management reviewed, revised and improved (pertaining to processing, refurbishing, storage, disposal, illegal trade etc.) and fully integrated into the	Availability of a reviewed or strengthened policy and regulatory framework on : • E-waste manifest; • Licensing system for E-waste managers; • Rules on the import of second hand equipment; • Concentration limit for POPs in	The regulatory framework for E-waste management is incomplete, as there are no waste manifest requirements under the current law and the licensing scheme for E-waste managers is weak. This situation makes informal waste collectors and	Reviewed / strengthened policy and regulatory framework, in compliance with the Stockholm Convention, on: • E-waste manifest; • Licensing system for E-waste managers; • Rules on the import of		S S	The manifest has been developed and also a training component has been introduced in the project. It is a capacity building component alone aiming at helping the informal recyclers to gain a license. As it is designed it may not lead to sustainable transformation. But as planned it is making good progress. Out of 5 short listed firms three have applied for license and waiting for the approval. Customs officers have been trained

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
national policy and regulatory framework for waste management.	EEE and E-waste	recycler unfairly competitive compared with formal waste management companies.	second hand equipment; • Concentration limit for POPs in EEE and E-waste		S S	with almost all aspects of e-waste management and the training is almost at self-propelling level. However, rule making has not been demonstrated.
Outcome 4.1 Emissions of other associated hazardous substances (mercury, lead, cadmium) reduced through support to E-waste management at municipality and national level.	Availability of baseline on release of Cd and Hg. Availability of awareness campaigns and related feedback from women and men . Amount of E-waste collected	Few data on Hg and Cd release from E-waste. Limited awareness on E-waste issue. Most of E-waste still being collected informally with harm to the environment.	Baseline data on Cd and Hg released from E-waste management are available. Multi-media awareness campaign concluded. At least 50 tons of E-waste containing PTS collected and managed in an environmentally sound way.		MS S S	Notes as explained in outcome 3
4.1.1. Baseline on associated hazardous releases (mercury, lead, cadmium) from E-waste processing determined (as	Availability of a detailed baseline of hazardous release from the E-waste management releases with trends, including batteries for	Few data on release of hazardous substances release from E-waste. Most of E-waste including	A detailed baseline with expected trend of release of hazardous substances deriving from the E-waste management including batteries completed.		MS	The entire project is more skewed towards U-POPs and POPs. And the hazardous substances such as Cd, Hg, Pb are not sufficiently focused (on relative basis). Further, practically/functionally outcome 3 and 4 are clubbed as the activities are the same for both the

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
part and parcel of Component 3).	electric/electronic devices.	batteries still being collected informally or simply dumped with obvious harm for the environment.				components.
4.1.2 Introduction of BEP/BAT to formal and informal E-waste processors. (as part and parcel of Component 3).	Number of municipalities where a collection scheme was implemented. Availability of E-waste collection system and infrastructures Amount of E-waste collected. Number of professionas women and men successfully trained. Amount of battery safely collected. Amount of E-waste	Although projects on the collection of batteries have been implemented in the past, most EOL battery still being dumped. CRT monitors in most cases are dumped in landfills or open burnt as these are considered low-values	A pilot project for collection scheme E-waste containing PTS (i.e. mercury, lead or cadmium), built on the experience of similar projects (i.e. the Waste Mobile Battery Collection and Recycling (2005-2006) implemented, resulting in the collection of at least 10 t of E-waste. Training (at least 50 professionals) on classification, segregation, dismantling of EOL equipment with specific reference to component containing heavy metals. Demonstration on BAT/BEP technologies for the		S HS S	

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
	containing hazardous material segregated and channelled to safe disposal.		dismantling of WEEE and the segregation of hazardous component containing heavy metals (i.e. segregation of lead containing glass from CRT monitors) Demonstration of Environmental Safe Disposal of E-waste containing hazardous material.		S	
4.1.3 Capacity/ awareness among key stakeholders built (as part and parcel of Component 3).	Number of professional and operators successfully trained on E-waste management, with special reference to E-waste containing toxic metals. Availability of recordings of campaign broadcasted on relevant media on EOL batteries and CRT.	Although projects on the safe collection of batteries have been conducted in the past there is still low capacity in the collection / management of EOL batteries and CRT monitor as the recycling of this waste is not profitable.	Specific training for the operator on the issue of toxic metals in EOL batteries and CRT. At least 50 professionals from the public and private sector trained. A campaign aimed at creating awareness on E-waste launched on different media (internet, TV, newspapers), providing reference and contact numbers.		S S	

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
	Availability of a website on the above. Availability of gender sensitive awareness raising materials. Number of people reached by the campaign					
4.2 National policy and regulatory framework on associated hazardous releases from E-waste processing strengthened.	Availability of an improved E-waste regulatory framework	The E-waste regulatory framework including licensing system for E-waste manager is incomplete.	Reviewed / improved regulatory framework on E-waste including concentration limit of toxic metals in EEE and E-waste		MS	

	Indicator	Baseline	Targets End of Project	2018 Midterm Level & Assessment[8]	Achievement Rating[9]	Justification for Rating
4.2.1 National policy and regulatory framework on E-waste management and recycling with respect to associated hazardous releases (mercury, lead, cadmium) reviewed/ improved (as part and parcel of Component 3).	Availability of a reviewed or strengthened policy and regulatory framework on • E-waste manifest; • Licensing system for E-waste managers; • Rules on the import of second hand equipment; • Concentration limit for toxic metals in EEE and E-waste	The regulatory framework for E-waste management is incomplete, as there are no waste manifest requirements under the current law and the licensing scheme for E-waste managers is weak. This situation makes informal waste collectors and recycler unfairly competitive compared with formal waste management companies.	In addition to what is envisaged under outcome 3.2, concentration limit for toxic metal in EEE and E-waste will be established		S	

6.11 Signed UNEG Code of Conduct forms

Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Ute Pieper:

Evaluation Consultant Agreement Form*

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: Ute Pieper

Name of Consultancy Organization (where relevant): NA

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at 29.11.2018

Signature: 

*www.unevaluation.org/unegcodeofconduct

Prof. Sudhakar Yedla:

Evaluation Consultant Agreement Form*

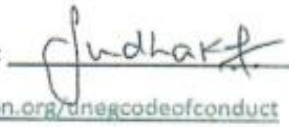
Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: Prof. Sudhakar Yedla

Name of Consultancy Organization (where relevant): NA

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at 29.11.2018

Signature: 

*www.unevaluation.org/unegcodeofconduct

6.12 Signed MTR final report clearance form

(to be completed by the Commissioning Unit and UNDP-GEF RTA and included in the final document)

Midterm Review Report Reviewed and Cleared by:

Commissioning Unit

Name: _____

Signature: _____ Date: _____

UNDP-GEF Regional Technical Advisor

Name: _____

Signature: _____ Date: _____

6.13 Audit trail (separate file)

Added as separate file.