

Terminal Evaluation Report

2015 August

Version: final R

Implementation of Phase I of a comprehensive polychlorinated biphenyls (PCBs) management system in the Hashemite Kingdom of Jordan

GEF Project ID: 4124

UNDP PIMS ID: 4095

Country:	Hashemite Kingdom of Jordan
Region:	Arab States
GEF Funding Cycle:	GEF-4
Focal Area:	Persistent Organic Pollutants
Strategic Programs:	POPs-SP1, POPs-SP2
Implementing Agency:	United Nations Development Programme
Executing Agency:	Ministry of Environment
Other Partners Involved:	Electricity Utility and Private Sector Industrial Companies

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Terminal Evaluation Opening Page:

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Country:	Hashemite Kingdom of Jordan		
Region:	Arab States		
Focal Area:	Persistent Organic Pollutants		
GEF-4 Strategic Programs:	POPS-SP1, POPS-SP2		
PIF Approval Date:	02 October 2009		
PPG Approval Date:	02 October 2009		
Approval Date:	19 December 2009		
Project Start Date:	January 2011		
Project Closing Date:	Original: December 2013	Planned: March 2016	
Implementing Agency:	United Nations Development Programme		
Implementation Modality:	National Implementation		
Implementing Partner:	Ministry of Environment		
Project Cost:	USD 3,180,000		
GEF Project Grant:	USD 1,000,000 (including the USD 50,000 PPG Grant)		
Co-Financing, Pledged:	USD 2,180,000		
(according to prodoc)	Government	Cash	USD 200,000
	Government	In-kind	USD 530,000
	UNDP	Cash	USD 150,000
	Private Sector	Cash	USD 600,000
	Private Sector	In-kind	USD 700,000
TE Timeframe:	July-August 2015		
Evaluator:	James Lenoci		
TE Reporting Language:	English		

The evaluator would like to acknowledge the feedback provided by the interviewed officials of the Ministry of Environment, members of the project advisory committee, and the other stakeholders from governmental agencies and electric utility and private sector industrial companies. Special thanks are also extended to the UNDP Country Office staff, the UNDP-GEF Technical Advisor, the project international PCBs expert, and the project management team.

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Executive Summary

Exhibit 1: Project Summary Table

Project Title: Implementation of Phase I of a comprehensive Poly Chlorinated Biphenyls (PCBs) management system in the Hashemite Kingdom of Jordan		at endorsement (USD million)	to date (USD million)	
GEF Project ID:	4124	GEF financing:	0.950	0.812
UNDP PMIS ID:	4095	IA own:	0.150	0.151
Country:	Jordan	Government:	0.650	0.107
Region:	Arab States	Other:	2.360	3.498
Focal Area:	Persistent Organic Pollutants	Total co-financing:	3.160	3.757
Strategic Programmes:	GEF-4: POPS-SP1, POPS-SP2	Total Project Cost:	4.110	4.568
Executing Agency:	Ministry of Environment	Prodoc Signature (date project began):		Dec 2010 (Jan 2011)
Other Partners Involved:	Electric Utility and Private Sector Industrial Companies	(Operational) Closing Date:	Proposed: 31 Dec 2013	Planned: 31 Mar 2016

Note: Total expenditures and cofinancing figures, through June 2015

Project Description

The subject project was designed to provide the necessary tools and increase technical capacity of the country to meet the requirements with respect to the Stockholm Convention with the overall objective of safeguarding the environment and health from PCB impacts at the national and global levels. A comprehensive system for environmentally sound management and disposal of equipment and wastes containing PCB have been put in place, including up-to-date and functional PCB regulatory standards aligned with internationally recommended benchmarks. The system allows the required capacity building at the national level with a demonstration element targeting PCB material disposal abroad. The demonstration disposal component in the project was envisaged to further re-enforce the awareness raising effect to ensure that industrial sector is fully aware of the Government requirements and approaches for safe PCB management through its ultimate disposal.

Terminal Evaluation Purpose and Methodology

This terminal evaluation was conducted to provide conclusions and recommendations about the relevance, efficiency, effectiveness, sustainability, and impact of the project. The evaluation also aimed to identify lessons from the Project for future similar undertakings, and to propose recommendations for ensuring the sustainability of the results. The evaluation was an evidence-based assessment and relied on feedback from persons who have been involved in the design, implementation, and supervision of the project, review of available documents and records, and findings made during field visits.

Summary of Findings and Conclusions

Major Achievements/Strengths

Drafting and prime ministerial endorsement of Instruction on PCB Management under Article 4/D of Environmental Law 52/2006

One of the most notable achievements of the project has been the drafting and prime ministerial endorsement of the Instruction on PCB Management (hereinafter referred to as "PCBs Regulation") under Article 4/D of Environmental Law 56/2006. This was achieved in the fourth

year of project implementation. Although there are a few items that need to be strengthened in this regulation, it provides a foundational regulatory framework for managing PCB-containing wastes.

Cofinancing contributions closely integrated with project activities

Cofinancing, including cash contributions from the government and electric utilities, has been closely integrated with project activities. These cofinancing commitments have demonstrated a high level of ownership for management of PCB-containing wastes.

Nation-wide inventory of electrical equipment, including more than 14,000 transformers

The project has supported an extensive, nation-wide inventory of electrical equipment, including more than 14,000 transformers. This covers the vast majority of electrical equipment in the country, thus the likelihood of discovering additional equipment containing PCBs after project closure has been significantly reduced through these efforts.

Disposal/destruction of a large proportion of PCB-containing waste in the country

Within the project budget and financing support from some of the owners of the electrical equipment containing PCBs, a large proportion of PCB-containing wastes will be disposed/destroyed by the end of the project. The first transboundary shipment to waste disposal facilities in Europe included a total of approximately 47 tons of PCB-containing wastes, including nineteen (19) Askarel transformers (38.8 tons), and known PCB capacitors (6.175 tons), along with 2 tons of other PCB materials. The second shipment, which is slated to be transported later in 2015, will contain approximately 57.3 tons of PCB-containing dielectric oil, drained from cross-contaminated transformers, and 5 scrap transformers.

Capacity building delivered across a broad spectrum of stakeholders

The project has been successful in delivering capacity building to a broad spectrum of stakeholders, including:

- ✓ Electric utility companies were trained in sampling dielectric oil, analyzing the oil with organic chlorine analyzers provided by the project, draining of transformers, etc. Through these trainings and involvement over the course of the project, these companies have become much more aware of issues associated with PCBs.
- ✓ The Royal Scientific Society laboratory has attained national accreditation for analyzing dielectric oil for PCBs by gas chromatography analysis. This laboratory is now one of the few laboratories in the region with this capacity.
- ✓ The Ministry of Environment officials, particularly within the Hazardous Substances and Waste Management Directorate, have received training on management of PCBs, and the environmental sound management system developed with project support provides a useful tool in support of the implementation and enforcement of the PCBs regulation.

The project has been cost-effective

This medium sized project, with a GEF grant of USD 950,000, has managed to satisfactorily achieve the intended outcomes within the allocated budget. By the end of the project, the project will have inventoried the vast majority of electrical equipment in the country for PCBs and disposed a large proportion of the PCB-containing wastes.

Key Shortcomings:

At the time of the terminal evaluation, interim storage facilities for PCBs-containing wastes were not ready. This is a significant shortcoming with respect to the environmentally sound management system. Circumstances are now different as compared to those at project entry; for example, the quantities of PCB containing equipment are considerably lower than estimated. For example, the majority of the discovered PCBs containing equipment and oils will be disposed/destroyed by the end of the project, and it is now essentially too late to provide interim storage facilities needed to temporary hold equipment and wastes until project sponsored transboundary shipments are made. But, there remains need for interim storage infrastructure in the country after project closure, to accommodate other equipment and waste that might be discovered in the coming years. Two electric utilities, JEPCO and IDECO, have committed resources for constructing and operating interim storage. IDECO has made significant progress with the construction, but contractor problems have resulted in delays, and JEPCO representatives indicated to the TE evaluator that they hope to start in the coming months and be ready with the facility by the end of the year. In addition to these delays, there is a risk that these private companies will not allow other owners of PCB containing equipment or wastes to use the envisaged interim storage facilities, e.g., due to possible changes in management in the future.

Stakeholder involvement has been generally good, but certain stakeholder groups, including the Inspection Directorate, Monitoring Directorate, and Customs Authority, although they have participated in technical workshops on the development of the PCBs regulation, are not yet trained on the implementation and enforcement of the endorsed PCBs regulation.

There are a few gaps with respect to the PCBs inventory that could be addressed before project closure. For example, cross-contamination of transformers filled with Midel[®] oil, especially older ones, cannot be excluded. These transformers have not been tested for PCBs. And, inventory of electrical equipment among private sector industrial companies has not included steel companies. There could also be other private sector companies not yet assessed.

The PCBs database has satisfactorily served the project implementation phase, but it is not being used as intended, e.g., companies are not uploading information on new transformers installed in the country, and it is not set up to support the implementation and enforcement of the PCBs regulation.

Parties to the Stockholm Convention are obliged to eliminate the use of PCBs (at >50 ppm) in equipment such as transformers and capacitors, and they are required to implement an environmentally sound management system for handling liquids containing PCBs and equipment contaminated with PCBs (>50 ppm) as soon as possible and no later than 2028. In this context, the PCBs regulation endorsed by the Prime Minister of the Hashemite Kingdom of Jordan fulfills the requirements outlined in the Stockholm Convention, but certain conditions in the regulation are not supported with complementary legislation. For example, if electrical equipment contains PCBs at concentrations less than 50 ppm, then there are no restrictions on owners from selling these out of service equipment to scrap dealers, who in turn could unsafely store them at scrap yards, where residual PCBs, albeit at low concentrations, could potentially impact the environment. Similarly, there are no restrictions on used oil having containing less than 50 ppm. Although such used would probably be regenerated, possible mishandling of the oil could also result in inadvertent environmental impacts. The PCB regulation states that PCBs are prohibited from being released to the environment, but there are no associated regulations on maximum allowable levels in soil or water.

Finally, there is insufficient evidence verifying that there are insignificant ecological impacts associated with past handling of PCBs. For example, the earlier practice of uncontrolled disposal of out-of-service transformers to metal scrap yards was highlighted in the project design, but there has been no assessment of possible impacts at these sites. Limited soil and water sampling have been completed, but the scope of the investigations was fairly limited, mostly within or near the premises of the participating electric utility and private sector industrial companies. The focus of such an investigation should be across the entire life cycle of the equipment containing PCBs.

Evaluation Ratings

Evaluation ratings are tabulated below in **Exhibit 2**.

Exhibit 2: Evaluation Rating Table		
Criteria	Rating	Comments
1. Monitoring and Evaluation (M&E)		
M&E Design at Entry	Satisfactory	The M&E plan was reasonably well put together using the template for GEF-financed projects; and the allocated M& budget was sufficient.
M&E Plan Implementation	Moderately Satisfactory	PIR reports contained feedback from key stakeholders and provided detailed summaries of project performance. The project team has done a good job preparing regular monitoring reports, documenting completed field activities.
Overall Quality of M&E	Moderately Satisfactory	Follow up to midterm review recommendations has been incomplete, including the issue of the interim storage facilities. The fact that the project board has only convened twice in more than four years of implementation is considered a significant shortcoming, diminishing the effectiveness of adaptive management.
2. Implementing Agency (IA) and Lead Implementing Partner (Executing Agency - EA) Execution		
Quality of IA (UNDP) Execution	Satisfactory	UNDP's extensive experience in Jordan and their favorable standing with the Government has been a strong comparative advantage.
Quality of EA (Ministry of Environment) Execution	Satisfactory	There has been active participation by high-level Ministry of Environment officials. But, there has been no tracking of in-kind cofinancing contributions.
Overall IA-EA Execution	Satisfactory	The project management team is qualified and dedicated, but the national project manager relocated to the Ministry of Environment regional directorate in Irbid two years ago, resulting in less day-to-day involvement on the project. Finally, the fact that the project board has only convened twice in more than four years of project implementation diminishes the quality of IA-EA execution.
3. Assessment of Outcomes		
Overall Quality of Project Outcomes	Satisfactory	The project has been satisfactorily effective in achieving the intended outcomes, particularly with respect to development of a regulatory framework, completion of a nation-wide PCBs inventory, strengthening national capacity in identifying and analyzing for PCBs, and disposal of a high proportion of the discovered equipment and wastes containing PCBs. The lack of interim storage facilities diminishes overall effectiveness, but this could be rectified before project closure.
Relevance	Relevant	The project was directly aligned with the National Implementation Plan for Stockholm Convention on Persistent Organic Pollutants ¹ , specifically

¹ National Implementation Plan for Stockholm Convention on Persistent Organic Pollutants, The Hashemite Kingdom of Jordan. Ministry of Environment, 2006.

Exhibit 2: Evaluation Rating Table

Criteria	Rating	Comments
		<p>the implementation strategy regarding the production, import, export, use, identification, labelling, removal, storage, and disposal of PCBs and equipment containing PCBs (Annex A, Part II, Chemicals).</p> <p>The project was also relevant with respect to the first two strategic programs (POPS-SPs) under the GEF-4 long-term objective of the POPS focal area¹, “to reduce and eliminate production, use, and releases of POPS”.</p> <p>The 2008-2012 Country Programme Action Plan (CPAP) of the United Nations Development Programme in Jordan included two relevant outcome indicators under the “Sustainable Management of Natural Resources and Environment” outcome: (i) amount of hazardous (PCB) waste disposed correctly according to international criteria, and (ii) percentage reduction in the number of PCB contaminated areas.</p>
Effectiveness	Satisfactory	The project has been satisfactorily effective, particularly within the available budget.
Efficiency	Satisfactory	<p>The GEF funding addressed the key barriers with respect to environmentally sound management of PCBs in the country. And, the project has managed to satisfactorily achieve the intended outcomes within the allocated budget.</p> <p>Cofinancing contributions from electric utilities and private sector industrial companies exceeded the pledged amounts and were well integrated into the project activities.</p> <p>Overall efficiency is diminished by the fact that there has been no tracking of in-kind cofinancing from the Ministry of Environment. And, the project timeframe ended up being more than 2 years longer than the originally planned 3-year duration; although 3 years was probably an under-estimation to achieve the agreed outcomes.</p>
4. Sustainability		
Overall Likelihood of Risks to Sustainability	Moderately Likely	The vast majority of relevant electrical transformers have been tested for PCBs, and most of the discovered equipment and oils containing PCBs will be disposed by the end of the project. And, the endorsed PCBs regulation has created a regulatory framework, thus further enhancing the likelihood of sustaining project results.
Financial	Likely	The cofinancing contributions from the electric utilities and private sector industrial companies has demonstrated that these organizations are committed and capable of funding the technical requirements associated with safe management of PCBs.
Socio-Economic	Likely	Available government funding for these activities is fairly uncertain, however, even for operation of the database, which according to the project team will require less than USD 5,000 per year.
Institutional Framework and Governance	Moderately Likely	With respect to governance, some of the key stakeholders, including the Inspection Directorate of the Ministry of Environment, responsible for implementing and enforcing the regulation on PCBs management after project closure are insufficiently familiar with the requirements involved.
Environmental	Likely	And, with no interim storage facilities built yet, there are governance risks that should be addressed before project closure.
5. Impact		
Environmental Status Improvement	Negligible	Removal and disposal of equipment and oils containing PCBs, and prime ministerial endorsement of the PCBs regulation are substantive

¹ Focal Area Strategies and Strategic Programming for GEF-4, GEF Council, July 2007.

Exhibit 2: Evaluation Rating Table

Criteria	Rating	Comments
Environmental Stress Reduction	Minimal	contributions with respect towards stress/status change.
Progress towards stress/status change	Minimal	There were no ecological impacts identified associated with possible mishandling of equipment and wastes containing PCBs, so the activities completed on the project are not leading to verifiable improvements in ecological status. The safe disposal of equipment and liquids containing PCBs does contribute to the global environmental benefit of removing PCBs that could potentially impact the environment and/or human health in the future.
6. Overall Project Results	Satisfactory	The project has succeeded in satisfactorily achieving the majority of intended results, including facilitating the drafting and eventual endorsement of a regulation on environmentally sound management of PCBs. More than 14,000 pieces of electrical equipment have been inventoried and tested for PCBs, and the information gathered is uploaded onto a web-based, flexible database. 47 tons of PCB-containing wastes, including nineteen (19) Askarel transformers (38.8 tons) and known PCB capacitors (6.175 tons), along with 2 tons of other PCBs materials have been shipped and disposed of at state-of-the-art facilities in Europe. And, an additional 57.3 tons of cross-contaminated dielectric oil and 5 scrap transformers will be disposed by the end of the project. There has been active participation by electric utilities and private sector industrial companies, as evidenced by the higher than expected cofinancing contributions. The strengthened national capacity with respect to safe management of PCBs enhances the likelihood that the project outcomes will be sustained after project closure.

Recommendations

The recommendations compiled below in **Exhibit 3** have been formulated based upon the findings of the terminal evaluation (TE).

Exhibit 3: Recommendations Table

No.	Recommendation	Responsible Entities*
Actions to follow up or reinforce initial benefits from the project		
1.	<p>A re-evaluation and advocacy campaign for interim storage requirements should be made as soon as possible, and adaptive solutions implemented before the end of the project. The re-evaluation and advocacy campaign should include, but not be limited to the following:</p> <ol style="list-style-type: none"> Estimate the required capacity and evaluate the preferred geographic locations for interim storage infrastructure, taking into consideration possible future shared use for storing waste electrical and electronic wastes containing PCBs and other possible PCBs containing waste streams. Together with the Ministry of Environment, hold discussions with JEPCO and IDECO regarding their specific plans for completing the interim storage facilities that they have planned. An agreement should be reached with these companies regarding exact dates of completion of the facilities and on shared use of the facilities by other owners of electrical equipment or wastes containing PCBs which might be discovered after project closure. Assess the technical and financial feasibility of establishing an interim PCBs storage facility at the central hazardous waste landfill site in Swaqa, which is owned and operated by the Ministry of Environment. 	PMU, MoEnv, UNDP, Electric Utilities, Private Sector Industrial Companies

Exhibit 3: Recommendations Table		
No.	Recommendation	Responsible Entities*
2.	The project should sponsor a practical training workshop, preferably involving field modules, on implementation and enforcement of the PCBs regulation. Some of the key stakeholders that should be invited to the training include representatives from the Inspection Directorate of the Ministry of Environment, Monitoring Directorate of the Ministry of Environment, Customs Authority, Chamber of Industry, Ministry of Health, etc.	PMU, MoEnv
3.	The project team should assist waste generators and government agencies in the process of preparing, reviewing, and managing annual reports on PCB wastes. It would be advisable to also prepare a manual, that would be available online, that outlines: <ul style="list-style-type: none"> a. Preparation of annual reports. b. Review of the annual reports by the Ministry of Environment staff. c. Record keeping, including database entry, hardcopy management, and correspondence, e.g., from the Ministry of Environment to the electric utilities and private sector companies, confirming receipt of the annual reports and/or requiring additional information, etc. 	PMU, MoEnv, Electric Utilities, Private Sector Industrial Companies
4.	A representative number of transformers containing Midel® oil should be tested for PCBs by gas chromatography analysis, to verify that the assumption that this type of dielectric oil is not cross-contamination with PCBs.	PMU, Electric Utilities, Private Sector Industrial Companies
5.	Before finalizing the contract for the second transboundary shipment of PCB wastes, further outreach should be made to the private industry sector, including the steel plants, to search for additional PCB-containing electrical equipment. The Ministry of Trade and Industry, and the Chamber of Industry should be involved in this outreach campaign, to assist with dissemination of information to the industry sector.	PMU, MoEnv, UNDP
6.	The PCBs database should be further developed, so that it could be a more useful tool in support of the implementation of the PCBs regulation. Further development should include the following: <ul style="list-style-type: none"> a. Support electric utilities in registering information on new transformers. b. Clarify units of measure, and add sampling dates. c. Add a feature on the database for receiving and storing annual reports from electric utilities and private industrial companies, and also inspection reports filed by the Inspection Directorate. d. Add a feature for storing information on disposed PCB-containing wastes, including wastes disposed to and other waste streams that might be generated after project closure. e. Enhance the flexibility of the database, e.g., enable data entry on waste electrical and electronic equipment. 	PMU, MoEnv
7.	The project team should prepare a sustainability plan, including, but not limited to the following aspects: <ul style="list-style-type: none"> a. Identify activities that are likely required to be implemented in the 5 years following project closure. b. Define roles and responsibilities of stakeholders involved in activities after project closure. c. Prepare instructions for operating the environmentally sound management system, including the PCBs database; d. Outline how the training module on handling PCBs can be internalized into the 	PMU, MoEnv, UNDP

Exhibit 3: Recommendations Table		
No.	Recommendation	Responsible Entities*
	<p>recurrent capacity building activities of the Ministry of Environment and, possibly, other agencies of institutions.</p> <p>e. Prepare cost estimations for implementation of the recommended activities, and identify committed or proposed financing sources.</p>	
8.	The project team should support the Ministry of Environment in preparing and submitting the online national report (PCBs section) to the Stockholm Convention.	PMU, MoEnv
9.	<p>The final tally of cofinancing contributions should be recorded at the end of the project, including:</p> <p>a. Cofinancing realized from electric utilities and private sector industrial companies, disaggregated by cash and in-kind contributions.</p> <p>b. In-kind cofinancing contributions from the Ministry of Environment.</p>	PMU, MoEnv, Electric Utilities, Private Sector Industrial Companies
10.	Budget permitting, the project should sponsor a study tour for the key governmental and private sector stakeholders, to exchange information on how PCB-containing wastes are managed in another country.	PMU, MoEnv, UNDP, Electric Utilities, Private Sector Industrial Companies
Proposals for future directions underlining main objectives		
11.	The PCBs regulation should be mainstreamed across the relevant national regulatory framework, e.g., with respect to used oil management, waste landfilling, waste electronic and electrical equipment management, protection of soil resources, protection of water resources, occupational safety and health concerns, etc. It is beyond the scope of the project to support amendments to regulations covering these aspects, but a critical review of the endorsed regulation on PCB management should be carried out, in order to identify cross-sectoral regulatory reform required for complementing the conditions outlined in the PCB regulation.	PMU, MoEnv, UNDP
12.	An assessment should be made of potentially at-risk areas, including scrap yards, waste disposal sites, inland fisheries, etc. The assessment should take into account where equipment containing PCBs were operating, maintained, and disposed in the past.	PMU, MoEnv, UNDP
MoEnv: Ministry of Environment; PMU: project management unit; UNDP: United Nations Development Programme		

Abbreviations and Acronyms

Exchange Rates on 30 July 2015: Jordan Dinar (JOD) : United States Dollar (USD) = 0.706

BEP/BAT	Best Environmental Practice and Best Available Technologies
CDR	Combined Delivery Report
GEF	Global Environment Facility
IA	Implementing Agency
JOD	Jordanian dinar
M&E	Monitoring and Evaluation
NIM	National Implementation Modality
NGO	Non-governmental Organization
NIP	National Implementation Plan for the Stockholm Convention
PB	Project Board
PCBs	Polychlorinated biphenyls
PIF	Project Identification Form
PIR	Project Implementation Report
PMU	Programme Management Unit
POPs	Persistent Organic Pollutants
PPG	Project Preparation Grant
RTA	Regional Technical Advisor
SRF	Strategic Resource Framework
TOR	Terms of Reference
UNDAF	United Nations Development Assistance Framework
UNDP	United National Development Programme
UNDP CO	UNDP Country Office
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
USD	Unite States dollar

1. INTRODUCTION

1.1. Purpose of Evaluation

The objectives of the evaluation were (1) to assess the achievement of project results, with the following purposes:

- ✓ To promote accountability and transparency, and to assess and disclose the extent of project accomplishments;
- ✓ To contribute to the overall assessment of results in achieving GEF strategic objectives aimed at global environmental benefit;

and (2) to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming:

- ✓ To synthesize lessons that can help to improve the selection, design and implementation of future GEF financed UNDP activities;
- ✓ To provide feedback on issues that are recurrent across the UNDP portfolio and need attention, and on improvements regarding previously identified issues;
- ✓ To gauge the extent of project convergence with other UN and UNDP priorities, including harmonization with other UN Development Assistance Framework (UNDAF) and UNDP Country Programme Action Plan (CPAP) outcomes and outputs.

1.2. Evaluation Scope and Methodology

The terminal evaluation (TE) was an evidence-based assessment and relied on feedback from persons who have been involved in the design, implementation, and supervision of the project, and also review of available documents and findings made during field visits.

The overall approach and methodology of the evaluation followed the guidelines outlined in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects¹.

The evaluation was carried out by one international consultant, and included the following activities:

- ✓ A TE mission was carried out from 26 July through 02 August 2015; the itinerary is compiled in **Annex 1**;
- ✓ As a data collection and analysis tool, an evaluation matrix was adapted from the preliminary set of questions included in the TOR (see **Annex 2**). Evidence gathered during the fact-finding phase of the TE was cross-checked between as many sources as practicable, in order to validate the findings;
- ✓ Key project stakeholders were interviewed for their feedback on the project. On 27 July, a group interview was held with the Project Advisory Committee during a meeting convened at the Ministry of Environment on that day. A list of interviewed persons is included in **Annex 3**;
- ✓ The evaluator completed a desk review of relevant sources of information, such as the project document, project progress reports, financial reports, midterm review, and key project deliverables. A complete list of information reviewed is compiled in **Annex 4**;
- ✓ A field visit was made to the Jordan Electric Power Company facility in Zarqa, and to the Royal Scientific Society in Amman. A summary of the field visits is presented in **Annex 5**;

¹ Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects, 2012, UNDP.

- ✓ A questionnaire survey was carried out in order to obtain feedback from the participating electric utility companies and industrial sector stakeholders. The survey findings are summarized in **Annex 6**;
- ✓ The project logical results framework was also used as an evaluation tool, in assessing attainment of the project objective and outcomes (see **Annex 7**);
- ✓ A compilation of actual financial expenditures is included in **Annex 8**, available cofinancing information is summarized in **Annex 9**;

The GEF Tracking Tool for Persistent Organic Pollutions (POPS) projects was updated by the project team, and the filled-in tracking tool is annexed in a separate file to this report.

Evidence gathered during the fact-finding phase of the evaluation was cross-checked between as many sources as practicable, in order to validate the findings.

The rationale for implementing the utilized evaluation methodology is described as follows:

- ✓ A significant component of the project was the nation-wide inventory of electrical equipment. The selected methodology to assess achievement of the outcomes formulated for this component included interviewing representatives of the companies where the inventories were carried out, interviewing the project team members, interviewing and visiting the laboratory (RSS) that analyzed dielectric oil samples, interviewing the international consultant who provided guidance and training, and reviewing the database that was created to manage the data collected.
- ✓ With respect to the site visits, JEPSCO was the electric utility company having the greatest amount of cross-contaminated dielectric oil, they were one of two companies that have committed to construct an interim storage facility at their premises, and they are located reasonably close to Amman.
- ✓ There was limited information available regarding cofinancing contributions from the private sector project partners, including the electric utility and industrial sector companies. For this reason, a questionnaire survey was sent to the participating companies, to obtain cofinancing information and also feedback on the project implementation and results.
- ✓ The endorsement of the regulation on PCB management was also a significant achievement of the project. Evaluation of this aspect of the project included reviewing the regulation, interviewing the national consultant retained to draft the regulation, interviewing representatives of agencies responsible for implementing the regulation, and making a comparison to international best practice.

1.3. Structure of the Evaluation Report

The evaluation report starts out with a description of the project, indicating the duration, main stakeholders, and the immediate and development objectives. The findings of the evaluation are broken down into the following sections in the report:

- ✓ Project Formulation
- ✓ Project Implementation
- ✓ Project Results

The discussion under **project formulation** focuses on an evaluation of how clear and practicable were the project's objectives and components, and whether project outcomes were designed according to SMART criteria (see **Exhibit 4**).

Exhibit 4: SMART Criteria	
S	Specific: Outcomes must use change language, describing a specific future condition
M	Measurable: Results, whether quantitative or qualitative, must have measurable indicators, making it possible to assess whether they were achieved or not
A	Achievable: Results must be within the capacity of the partners to achieve
R	Relevant: Results must make a contribution to selected priorities of the national development framework
T	Time-bound: Results are never open-ended. There should be an expected date of accomplishment
Source: Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects, 2012, UNDP	

Also, project formulation covers whether or not capacities of the implementation partners were sufficiently considered when designing the project, and if partnership arrangements were identified and negotiated prior to project approval. An assessment of how assumptions and risks were taken into account in the development phase is also included.

The report section on **project implementation** first looks at how the logical results framework was used as an M&E tool during the course of the project. Also, the effectiveness of partnerships and the degree of involvement of stakeholders are evaluated. Project finance is assessed, by looking at the degree of cofinancing that was materialized in comparison to what was committed, and also whether or not additional or leveraged financing was secured during the implementation phase. The cost-effectiveness of the project is evaluated by analyzing how the planned activities met or exceeded the expected outcomes over the designed timeframe, and whether an appropriate level of due diligence was maintained in managing project funds.

The quality of execution by both the implementing agency and the lead implementing partner (executing agency) is also evaluated and rated in the project implementation section of the report. This evaluation considers whether there was sufficient focus on results, looks at the level of support provided, quality of risk management, and the candor and realism represented in the annual reports.

The project implementation section also contains an evaluation and rating of the project M&E system. The appropriateness of the M&E plan is assessed, as well as a review of how the plan was implemented, e.g., compliance with progress and financial reporting requirements, how were adaptive measures taken in line with M&E findings, and management response to the recommendations from the midterm review.

In GEF terms, **project results** include direct project outputs, short- to medium-term outcomes, and longer term impact, including global environmental benefits, replication efforts, and local effects. The main focus is at the outcome level, as most UNDP supported GEF financed projects are expected to achieve anticipated outcomes by project closing, and recognizing that global environmental benefit impacts are difficult to discern and measuring outputs is insufficient to capture project effectiveness.

Project outcomes are evaluated and rated according to relevance, effectiveness, and efficiency:

- Relevance:** The extent to which the activity is suited to local and national development priorities and organizational policies, including changes over time. Also, relevance considers the

extent to which the project is in line with GEF Operational Programs or the strategic priorities under which the project was funded.

Effectiveness: The extent to which an objective has been achieved or how likely it is to be achieved.

Efficiency: The extent to which results have been delivered with the least costly resources possible; also called cost effectiveness or efficacy.

In addition to assessing outcomes, the report includes an evaluation of country ownership, mainstreaming, **sustainability** (which is also rated), catalytic role, mainstreaming, and impact.

With respect to **mainstreaming**, the evaluation assesses the extent to which the Project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

In terms of **impact**, the evaluator assessed whether the Project has demonstrated: (a) verifiable improvements in ecological status, (b) verifiable reductions in stress on ecological systems, and/or (c) demonstrated progress towards these impact achievements.

Finally, the evaluation presents **recommendations** for reinforcing and following up on initial project benefits. The report concludes with a discussion of **lessons learned** and **good practices** which should be considered for other GEF and UNDP interventions.

1.4. Ethics

The evaluation was conducted in accordance with the UNEG Ethical Guidelines for Evaluators, and the evaluator has signed the Evaluation Consultant Code of Conduct Agreement form (**Annex 10**). In particular, the evaluator ensures the anonymity and confidentiality of individuals who were interviewed and surveyed. In respect to the UN Declaration of Human Rights, results are presented in a manner that clearly respects stakeholders' dignity and self-worth.

1.5. Audit Trail

As a means to document an "audit trail" of the evaluation process, review comments to the draft report are compiled in **Annex 11**, along with responses from the evaluator. Relevant modifications to the report are incorporated into the final version of the TE report.

1.6. Limitations

The evaluation was carried out in July-August 2015; including preparatory activities, field mission, desk review, and completion of the evaluation report, according to the guidelines outlined in the Terms of Reference (**Annex 12**).

The project has been granted a second extension, until March 2016. The additional time will allow the project team to implement the recommendations outlined in the terminal evaluation. The only limitation is that some of the information documented in the terminal evaluation report will change by the end of the project; e.g., financial expenditures, cofinancing contributions, quantities of wastes disposed (as the second transport is scheduled to be carried out later in 2015).

The evaluator visited one of the electric utility companies that participated in the project. Representatives from the other companies were part of the group interview with the Project Advisory Group held on 27 July. The information obtained from the field visit and interviews is assumed to be representative.

Some of the project deliverables are only available in Arabic. But, there were no significant limitations with respect to language, as the project progress reports and other key documents are in English, the interviews were held in English without translation, and English translations were provided of some of the Arabic-language documents.

1.7. Evaluation Ratings

The findings of the evaluation are compared against the targets set forth in the logical results framework, and also analyzed in light of particular local circumstances. The effectiveness and efficiency of project outcomes are rated according to the 6-point GEF scale, ranging from Highly Satisfactory (no shortcomings) to Highly Unsatisfactory (severe shortcomings). Monitoring & evaluation and execution of the implementing and executing agencies were also rated according to this scale. Relevance is evaluated to be either relevant or not relevant.

Sustainability is rated according to a 4-point scale, ranging from Likely (negligible risks to the likelihood of continued benefits after the project ends) to Unlikely (severe risks that project outcomes will not be sustained). Impact was rated according to a 3-point scale, including significant, minimal, and negligible. The rating scales are compiled below in **Exhibit 5**.

Exhibit 5: Rating Scales		
Ratings for Effectiveness, Efficiency, M&E, IA & EA Execution 6. Highly Satisfactory (HS): The project had no shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency 5: Satisfactory (S): There were only minor shortcomings 4. Moderately Satisfactory (MS): There were moderate shortcomings 3. Moderately Unsatisfactory (MU): The project had significant shortcomings 2. Unsatisfactory (U): There were major shortcomings in the achievement of project objectives in terms of relevance, effectiveness, or efficiency 1. Highly Unsatisfactory (HU): The project had severe shortcomings	Sustainability Ratings: 4: Likely (L) Negligible risks to sustainability 3. Moderately Likely (ML): Moderate risks to sustainability 2. Moderately Unlikely (MU): Significant risks to sustainability 1. Unlikely (U): Severe risks to sustainability	Relevance Ratings: 2. Relevant (R) 1. Not relevant (NR) Impact Ratings: 3. Significant (S) 2. Minimal (M) 1. Negligible (N)
Additional ratings where relevant: Not Applicable (N/A) Unable to Assess (U/A)		
<small>Source: Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects, 2012, UNDP</small>		

2. PROJECT DESCRIPTION

2.1. Project Start and Duration

Key project dates are listed below:

PIF approval:	02 October 2009
PPG approval:	02 October 2009
Approval:	09 December 2010
Project start:	01 January 2011
Project inception workshop:	22 February 2011
Midterm review report:	May-June 2013
Project completion (planned):	31 December 2013
Project completion (approved):	31 March 2016 (approved second extension)
Terminal evaluation	July-August 2015

The project was conceptualized shortly after the Government of Jordan completed the National Implementation Plan (NIP) in 2006, according to Stockholm Convention guidelines. According to the GEF Regional Technical Advisor (RTA), the initial project identification form (PIF) was for a full size project, with a budget of approximately USD 5 million. Due to the high degree of uncertainty of the quantity of PCB containing equipment, the project was scaled down to a medium size project, concentrating on inventorying the stock in the country and capacity building. The PIF was approved on 02 October 2009, which is the same date when the USD 50,000 GEF project preparation grant (PPG) was approved. After completing the project design, the project was approved a bit more than a year later, on 09 December 2010.

The official start date of the project was 01 January 2011, and the inception workshop was held the following month, on 22 February. The planned completion date for the 3-year project was 31 December 2013. Two extensions have been granted: the first one was 30 June 2015, which is 1-1/2 years longer than the planned closure date. In order to allow more time to ensure completion of the second waste shipment, a second extension was granted to 31 March 2016.

2.2. Problems that the Project Sought to Address

The main problems addressed by the project include the following:

Limited legislation for comprehensive regulation of the PCB management: There was a lack of basic regulatory instruments on: (1) inventory, labelling and reporting of PCB equipment stocks; (2) environmentally sound standards of PCB management; (3) requirements for environmentally sound storage and final disposal, requires substantial technical assistance and experience sharing.

Insufficient sectors wide data on the PCB inventory/stockpiles: There were insufficient data regarding PCB inventory and stockpiles in the country.

Limitations in the PCB analytical capability: Despite the existence of analytical capability in the country, there were gaps with regard to the GC protocols and procedures to test dielectric oil samples.

Low level awareness on the PCB associated risks and dangers: There was an insufficient level of knowledge among PCB equipment holders and regulatory authorities regarding PCB issues and associated environmental and health risks.

Limited capacity and knowledge in maintenance procedures for PCB containing equipment: At the enterprise level, there was limited knowledge regarding PCB associated risks and proper PCB handling.

Limited infrastructure to store the PCB materials for their sound management in line with international standards: There was no established capacity for the safe storage of PCB materials.

Lack of experience at the country level for PCB disposal: At the design stage, relatively low quantities of pure PCBs were estimated, thus establishing a national disposal/destruction facility was considered not viable. The project strategy was to increase technical capacity within the country to manage disposal of PCB waste through the use of Basel Convention instruments, i.e., transboundary shipment of the wastes to countries having functioning disposal/destruction facilities.

2.3. Immediate and Development Objectives of the Project

The principle global environmental benefit from the project was envisaged to be the mitigation or elimination of risks associated with the release of PCBs into the environment and their subsequent global distribution with resultant ecological and human health impacts from exposure to these chemicals.

2.4. Baseline Indicators Established

The following baseline indicators were established during the design phase of the project.

- Lack of regulatory framework for safe management of PCBs;
- Lack of national capacity and experience with PCB identification and management;
- Limited national resources for the implementation of the Stockholm Convention;
- Low level awareness on the PCB risks;
- Country does not have a comprehensive inventory of PCB equipment
- Potential PCB contaminated equipment goes for metal scrapping without oil testing;
- Unprotected storages for disconnected electrical equipment, including PCB equipment, increase the risks of PCB spread into the environment;
- Lack of modern and safe interim PCB accumulation and storage points;
- No mandatory identification, registration and reporting on PCB equipment ;
- Laboratories are not accredited and lack protocols for analyzing dielectric oil for PCBs;

2.5. Main Stakeholders

The main stakeholders included the Ministry of Environment, the executing agency, other governmental ministries and agencies, the electric utilities and major industrial sector companies, and institutional stakeholders, including the Royal Scientific Society.

Implementing Agency:

- ✓ United Nations Development Programme

Executing Agency:

- ✓ Ministry of Environment, Hazardous Substances and Waste Management Directorate

Considering that the Ministry formulates the framework of policies and action plans related to chemicals and waste management in cooperation with other national authorities, it was sensible that they were the executing agency for the project. The Ministry hosted the project management unit, in fact, the project manager was a Ministry staff member, and also provided both cash and in-kind cofinancing contributions.

Governmental Stakeholders:

- ✓ Ministry of Planning and International Cooperation
- ✓ Ministry of Health
- ✓ Ministry of Energy and Mineral Resources
- ✓ Ministry of Trade and Industry
- ✓ Energy and Mineral Regulatory Commission

These ministries and governmental agencies primarily participated in the project in advisory roles, including representation on the project advisory committee.

Institutional and Academic Stakeholders:

- ✓ University of Jordan
- ✓ Royal Scientific Society (RSS)

The envisaged role of the University and the RSS was to support the inventory of electrical equipment, through laboratory analysis of the sampled dielectric oil. Both of these institutions had technical capacity for such analysis.

Electric Utilities and Private Sector Industrial Companies:

- ✓ Central Electricity Generating Company (CEGCO)
- ✓ Electricity Distribution Company (EDCO)
- ✓ Irbid District Electricity Co. Ltd (IDECO)
- ✓ Jordan Electric Power Co (JEPCO)
- ✓ Jordan Industrial Chamber
- ✓ National Electric Power Company (NEPCO)
- ✓ Aqaba Special Economic Zone Authority (ASEZA)
- ✓ Jordan Petroleum Refinery Co Ltd (JoPetrol)
- ✓ Jordan Phosphate Mines Co. PLC (JPMC)
- ✓ Lafarge Holcim Cement Jordan (Lafarge)
- ✓ Port Corporation

These stakeholders were the primary beneficiaries of the inventory of electrical equipment and disposal of discovered units containing PCBs, as they are the main owners and operators of such equipment. These utility and private sector companies provided cash and in-kind cofinancing contributions, including labor support for inspecting and sampling the electrical equipment, provision of temporary storage, and costs associated with refilling or replacing and putting back into service impacted units.

2.6. Expected Results

As outlined in the project document, the expected results of the project included the following:

- ✓ Providing physical capacity to secure present and future PCB stockpiles such that random release is prevented until they are destroyed. This covers an estimated 210 tons of PCB contaminated equipment and material containing 75 tons of PCBs that might otherwise be released.
- ✓ Environmentally sound disposal of up to 50 tons of or 25% of currently identified volume of PCB contaminated equipment in the country.
- ✓ Support for regional solutions related to treatment and disposal of PCBs in the longer terms should create more cost effective solutions for ultimate elimination of PCB stockpiles and waste in a region remote from existing capacity, something that should further stimulate capture and timely destruction of PCBs.
- ✓ Phase out of 4 priority transformers accounting for 34 tons of PCB containing equipment from service.
- ✓ Elimination of exposure risk to PCBs to individuals in close proximity to existing stockpiles, and in the future those that might experience such exposure due to the continuation of historical practices.
- ✓ Planning complete phase out of PCB containing equipment in service on a prioritized basis.
- ✓ Developing capacity for identification, assessment, prioritization, and clean up action respecting PCB contaminated sites.
- ✓ Strengthening capability to effectively monitor and analyze for PCBs in the environment and human receptor pathways, enabling better decision making on priority actions in preventing uncontrolled releases of PCBs, as well allowing performance measurement on the effectiveness of such actions as contributing to global monitoring of the concentration of PCBs in the environment.
- ✓ Providing for a comprehensive national legislative and regulatory base for control of PCBs and eliminating gaps that allow uncontrolled release.
- ✓ Developing the knowledge base in terms of information management and technical capacity to sustain planning, decision making and program execution related to PCBs, as well as engage in effective information exchange nationally and globally.
- ✓ Creating a high level of awareness by policy makers, stakeholders and the public on the need for environmentally sound management of PCB which will stimulate sustained attention to the issue and timely responses.

2.7. Budget and Finance Breakdown

A GEF grant of USD 950,000 was approved for implementation of the project. Approximately 37% of this sum was allocated for Component 2, which included inventorying the stock of electrical equipment owned and operated by electric utilities and private sector industrial companies, and building capacity among key stakeholder groups. The indicative budget included USD 400,000 or 42% of the total for demonstration of testing the Environmentally Sound Management system and disposal of PCB containing equipment (Component 3). The other two components, Component 1, strengthening the regulatory and administrative structures for implementation safe

management of PCBs in the country, and Component 4, monitoring, learning, and adaptive feedback and evaluation, had 7% and 4%, respectively, of the USD 950,000 budget. Project management accounted for 10% of the budget. A complete breakdown of the GEF grant is shown below in **Exhibit 6**.

Exhibit 6: Breakdown of Project Budget	
<i>Component</i>	GEF Grant Prodoc Budget % of Total
Component 1: Regulatory and administrative strengthening for PCB management	USD 65,000 7%
Component 2: Improving PCB inventory and technical capacity for Environmentally Sound Management (ESM) of PCB equipment and materials	USD 350,000 37%
Component 3: Demonstration projects for testing ESM system and disposal of PCB containing equipment	USD 400,000 42%
Component 4: Monitoring, learning, adaptive feedback and evaluation	USD 40,000 4%
Project Own Operational Management	USD 95,000 10%
Total:	USD 950,000

Source: Project Document

Cofinancing contributions were pledged from the government, private sector, and UNDP. The total amount of committed cofinancing recorded in the project document was USD 2,180,000, but a higher sum was indicated in the project inception report, as itemized below.

<u>Co-financing Source:</u>	<u>Cash</u>	<u>In-Kind</u>	<u>Total</u>
Government	USD 450,000	USD 850,000	USD 1,300,000
Private Sector	USD 880,000	USD 830,000	USD 1,710,000
UNDP	USD 150,000	USD 0	USD 150,000
Total:	USD 1,480,000	USD 1,680,000	USD 3,160,000

Contributions from the government and the private sector are higher in the breakdown presented in the inception report, compared to the project document.

3. FINDINGS

3.1. Project Design / Formulation

3.1.1. Analysis of Logical Results Framework

The objective of the project was designed to be achieved through the following four components:

Component 1: Regulatory and administrative strengthening for PCB management

Component 2: Improving PCB inventory and technical capacity for Environmentally Sound Management (ESM) of PCB equipment and materials

Component 3: Demonstration projects for testing ESM system and disposal of PCB containing equipment

Component 4: Monitoring, learning, adaptive feedback, outreach and evaluation

The four components were mutually supporting, starting with strengthening the regulatory framework associated with environmentally sound management of PCBs (Component 1), building technical capacity for inventorying and testing electrical equipment for PCBs (Component 2), demonstrating safe storage and disposal of discovered PCB containing equipment and oils (Component 3), and monitoring and evaluating the progress over the course of the project, ensuring that lessons learned and good practices are disseminated among the key stakeholder groups (Component 4).

There were limited sustainability structures built into the strategic results framework. Such structures could have included internalizing the developed training module into recurrent Ministry capacity building programs, financing of the operation of the PCBs database following project closure, evaluation of at least one year of implementation of the environmentally sound management system, etc.

3.1.2. Assumptions and Risks

There were four project risks outlined in the project inception report, and the highest rated one, with a “medium risk rating”, was associated with the concern that decreasing prices for copper and other metals contained within transformers would be a disincentive for owners to dispose of PCB containing equipment.

Over the course of the implementation phase a few additional risks were added to the risk log, particularly ones affecting the progress in the field, including concerns that electric utilities and private sector industrial companies were not forming inspection teams in timely manner, reported lack of cooperation from some departments within the Ministry of Environment, including the IT staff and ministry drivers, and longer than expected time to achieve accreditation by the RSS laboratory for analysis of dielectric oil for PCBs.

The assumptions outlined in the strategic results framework were indeed relevant, including the following:

- ✓ Electrical equipment owners are fully committed to support the project’s objective on a sector wide basis.
- ✓ Legislative upgrade and enforcement capacity is ensured by the authorities and the implementation is done in good cooperation with project stakeholders.
- ✓ Enforcement capacity is ensured by the authorities and the implementation is done in good cooperation with project stakeholders.

- ✓ Professional technical advice is ensured and the quality of information is high.
- ✓ All 3 foreseen interim storages are agreed by the owners.
- ✓ ESM system regulations are adopted in time.

It would have been advisable to convert some of these assumptions into project risks, e.g., regarding the interim storage facilities. At the time of the terminal evaluation, the interim storage facilities were not ready. Highlighting this as a risk, even a critical risk later in the implementation phase, might have prompted earlier mitigation.

3.1.3. Lessons from other Relevant Projects

Preparation of the National Implementation Plan (NIP) in 2005-2006 provided the most valuable lessons for development of this project. During field surveys made when preparing the NIP, electric utilities and private industrial companies were found to have no accurate documentation on PCB equipment, particularly for units installed prior to 1980. Limited laboratory capacity was also highlighted as a barrier affecting completion of a PCBs inventory in the country.

Lessons learned on other PCBs projects within the GEF corporate portfolio were also taken into account when designing the project. For example, the likelihood of cross contamination due to poor maintenance practices is something observed in other countries.

3.1.4. Planned Stakeholder Participation

The project had an ambitious stakeholder involvement plan, including governmental agencies, electric utilities and private sector industrial companies, academia, and non-governmental agencies. In practice, stakeholder participation has been satisfactory, albeit not as extensive as originally planned. Apart from the Ministry of Environment, involvement by other government agencies was limited, including inconsistent participation at project advisory committee (PAC) meetings. It would have also been advisable to more actively involve the Inspection Directorate of the Ministry of Environment, as this authority will be one of the primary stakeholders moving forward, responsible to enforce the regulation on PCBs management.

Electric utilities and the major private sector industrial companies were actively involved. There were a few exceptions, however, including private sector steel companies. More focused outreach to the Ministry of Trade and Industry and the Chamber of Industry might have reduced possible gaps in inventory coverage.

Non-governmental organizations (NGOs) were invited to participate in project sponsored workshops and committee meetings, but management of PCBs is not typically advocated by NGOs in Jordan, and in fact, in other countries also, except where there are known ecological and/or public health damages caused by releases of PCBs.

3.1.5. Replication Approach

The stock of PCB containing equipment and oils in the country is finite, and the inventory facilitated by the project has covered the vast majority of these, and the demonstration component in fact resulted in disposal/destruction of most of discovered the PCB containing equipment and wastes. For these reasons, the replication approach for management of PCBs mainly involved institutional and technical capacity building, with the aim or ensuring that any newly discovered PCB containing equipment and wastes are managed in an environmentally sound manner, and disposed before the 2025 deadline prescribed in the Stockholm Convention.

The environmental management system developed over the course of the project could also be applied to management of other POPs; a replication approach that was identified in the project document.

3.1.6. UNDP Comparative Advantage

The UNDP comparative advantage as implementing agency was based on their extensive experience working in Jordan and their favorable standing among national stakeholders, including the Ministry of Environment. The implementing agency for the GEF-funded project supporting the country in preparation the National Implementation Plan (NIP) was UNEP, but UNDP had the comparative advantage of having an in-country operation, and also, UNDP has implemented several GEF-funded PCB management projects in other countries.

3.1.7. Linkages between Project and other Interventions

A number of linkages with other national and regional projects were outlined in the project document, but there was no evidence during the terminal evaluation of any specific ones realized during the implementation phase.

Involvement of the international consultant was also a means of transferring knowledge that he has acquired from other projects. Considerable knowledge transfer was also shared by the international expert from Trédi, the waste disposal company who was awarded the contract for the first transboundary shipment of equipment and debris containing PCBs. And, UNDP facilitated an exchange of experiences between the project team and a similar PCBs project in Kazakhstan.

3.1.8. Management Arrangements

During the project inception workshop, a few changes were agreed to the management arrangements, compared to what was presented in the project document. The revised project organization is shown below in **Exhibit 7**.



Exhibit 7: Project Organization Chart¹

¹ Source: project inception workshop report

The changes included the addition of the project advisory committee (PAC), which included representatives from the Ministry of Environment (chair), from other relevant governmental agencies, and from electric utilities and major private sector industrial companies. The PAC was tasked with providing overall guidance and direction to the project implementation. The national project manager was appointed by the Ministry of Environment, from among the staff members of the Hazardous Substances and Waste Management Directorate. Another change to the management arrangements was the agreement that the UNDP would hire a project assistant and project officer, to support the national project manager in the execution of the project.

The project board (PB) consisted of the following members, according to the inception workshop report:

- The Secretary General of Ministry of Environment (MoEnv) - Chair
- The Secretary General of Ministry of Planning and International Cooperation / GEF Operational Focal Point (MoPIC)
- United Nation Development Programme UNDP Country Office Director
- National Project Manager (NPM)/ acting as the PB secretariat

The PB had a critical role on the project, providing overall supervision, making strategic management decisions, approval the annual work plans, and arbitrates on any conflicts or disputes over the course of the implementation phase.

3.2. Project Implementation

3.2.1. Adaptive Management

The original project objective and the four components, as well as the strategic results framework remained unchanged throughout the implementation timeframe. There have been limited adaptive management measures implemented, but certain actions were taken to facilitate the inventory process, e.g., a technical team from the Ministry of Environment was formed to support companies that were having difficulties assembling technical task teams due to a lack of capacity. Also, the project organized a training workshop for 20 individuals from the regional directorates of Ministry of Environment, to strengthen their capacity to verify the PCB equipment inventory process.

The project has not adapted to the changed circumstances associated with the need for interim storage facilities for PCB containing equipment and waste. Much of the affected equipment will be disposed/destroyed by the end of the project, and it is now essentially too late to provide interim storage facilities needed to temporary hold equipment and wastes until project sponsored transboundary shipments are made. But, there is a need to have interim storage infrastructure in the country after project closure, to accommodate other equipment and waste that might be discovered in the coming years. There should be a re-evaluation of the storage requirements, and an adaptive solution implemented before the end of the project.

3.2.2. Partnership Arrangements

As the project was run under a national implementation modality (NIM), the signed project document formalized the partnership arrangements with the executing agency (the Ministry of Environment) and other involved parties. The most significant partnerships were with the involved electric utilities and private sector industrial companies. Representatives from these companies regularly participated in PAC meetings, participated in trainings, mobilized technicians from their organizations to carry out the PCB inventories, etc., all at their own costs. Two of the

utility companies, JEPCO and IDECO, have further committed resources for constructing interim storage facilities at their premises that, reportedly, can be used by other companies as well, in the event that PCB containing equipment or oils is discovered after project closure.

The work activities completed under the various outputs were arranged through contracts with service providers or individual consultants, and mostly based upon competitive bidding.

3.2.3. Feedback from M&E Activities used for Adaptive Management

The project board (PB) meetings were intended to be the main decision-making mechanisms used for adaptive management. In more than 4 years of implementation, the PB has only convened two meetings, one in 2012 and the other in 2013. The board has, therefore, been fairly ineffective in addressing M&E activities used for adaptive management. One of example is this is the lack of progress with respect to interim storage facilities.

The project advisory committee (PAC) met regularly, but their mandate was more related to technical matters. The PB had an overall, supervisory role.

Project reporting was satisfactory, including timely completion project implementation reviews (PIRs) and annual progress reports (APRs). These reports were sufficiently detailed, with input provided by key implementation stakeholders, including the regional technical advisor (RTA), UNDP Country Office programme analyst, and the national project manager.

3.2.4. Project Finance

Financial Expenditures

According to available records, the total cost expended against the USD 950,000 GEF grant has been USD 811,607 through June 2015, leaving a balance of USD 138,393 (see **Exhibit 8**).

Exhibit 8: Actual project expenditures		
<i>Component</i>	GEF Grant Prodoc Budget % of Total	Actual Expenditure* % of Total
Component 1: Regulatory and administrative strengthening for PCB management	USD 65,000 7%	USD 62,008 7.6%
Component 2: Improving PCB inventory and technical capacity for Environmentally Sound Management (ESM) of PCB equipment and materials	USD 350,000 37%	USD 426,966 53%
Component 3: Demonstration projects for testing ESM system and disposal of PCB containing equipment	USD 400,000 42%	USD 168,629 21%
Component 4: Monitoring, learning, adaptive feedback and evaluation	USD 40,000 4%	USD 67,979 8.4%
Project Own Operational Management	USD 95,000 10%	USD 86,024 10.6%
Total:	USD 950,000	USD 811,607

*Actual expenditures obtained from combined delivery reports (UNDP). For 2015, figures are through June, obtained from Project Transactional Detail Report (UNDP)

Spending on Component 2 has been more than estimated in the indicative budget included in the project document; USD 426,966 has been spent so far, compared to the USD 350,000 indicative budget. Costs expended under Component 3 on the other hand have been considerably lower, although spending will increase before the close of the project as a result of the second transboundary shipment of equipment and dielectric oil containing PCBs.

Project management costs incurred through 30 June 2015 are USD 86,024, which is approximately 10.6% of the USD 811,607 total spent to date and 9.1% of the USD 950,000 GEF grant. According to work plans for the period through project closure and the waste disposal procurement in process, the full allocated funds are expected to be expended and final project management costs will be below the 10% threshold stipulated according to GEF policies and procedures.

Financial delivery was low the first year, in 2011, at 70%, but this is fairly typically, with underestimated time required for mobilization. Delivery rates improved in the following two years, reaching 88% and 87% in 2013 and 2014, respectively. The rate dropped to 47% in 2014, with only USD 190,512 of the GEF grant spent, compared to an annual budget of USD 404,051 for that year (see **Exhibit 9**).

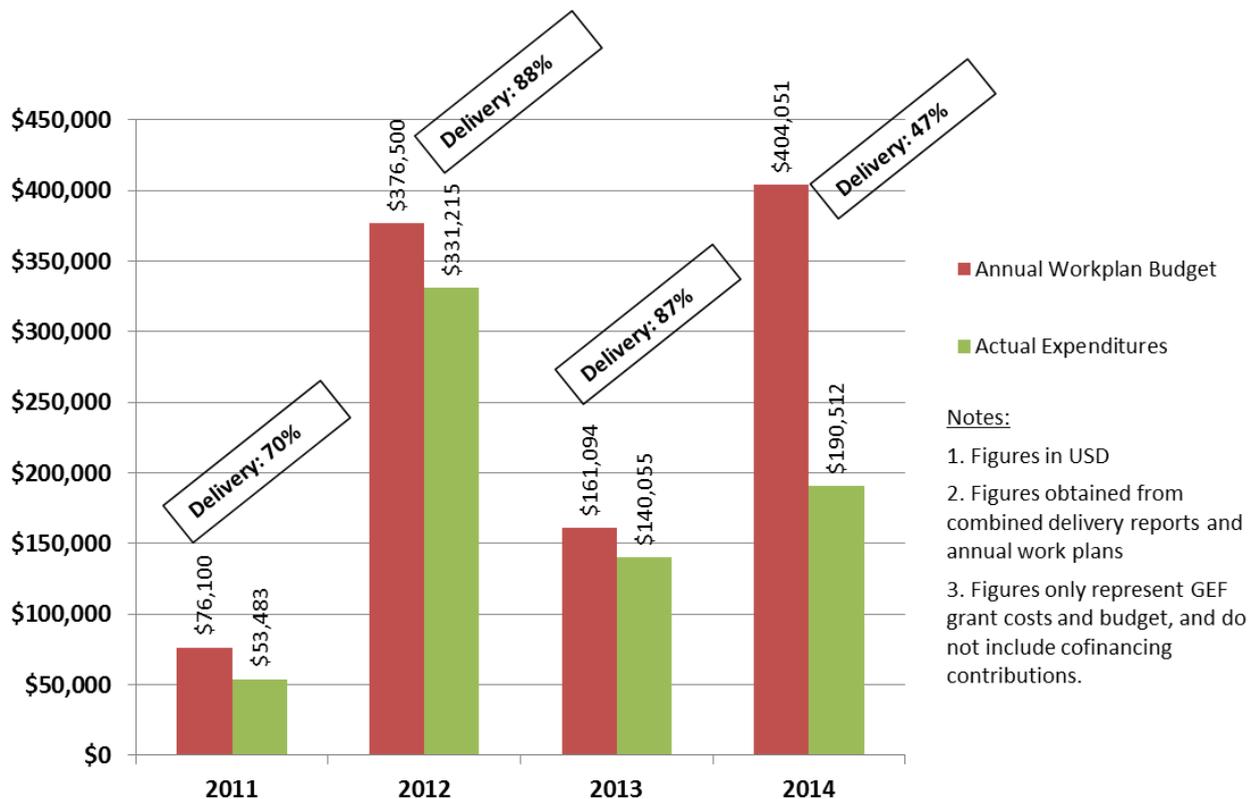


Exhibit 9: Financial delivery, 2011-2014

As shown in **Exhibit 9**, spending was relatively modest in 2013, compared to the rates in 2012 and 2014. This is reflective of the delays associated with the inventory activities.

When looking at the pattern of spending across components, significant resources were expended in the second year of the project, in 2012, for the activities associated with the equipment inventories. More than USD 250,000, under Component 2 was spent on six portable organic chlorine analyzers, plus a number of personal digital assistant (PDAs), bar code scanners, etc. (see **Exhibit 10**).

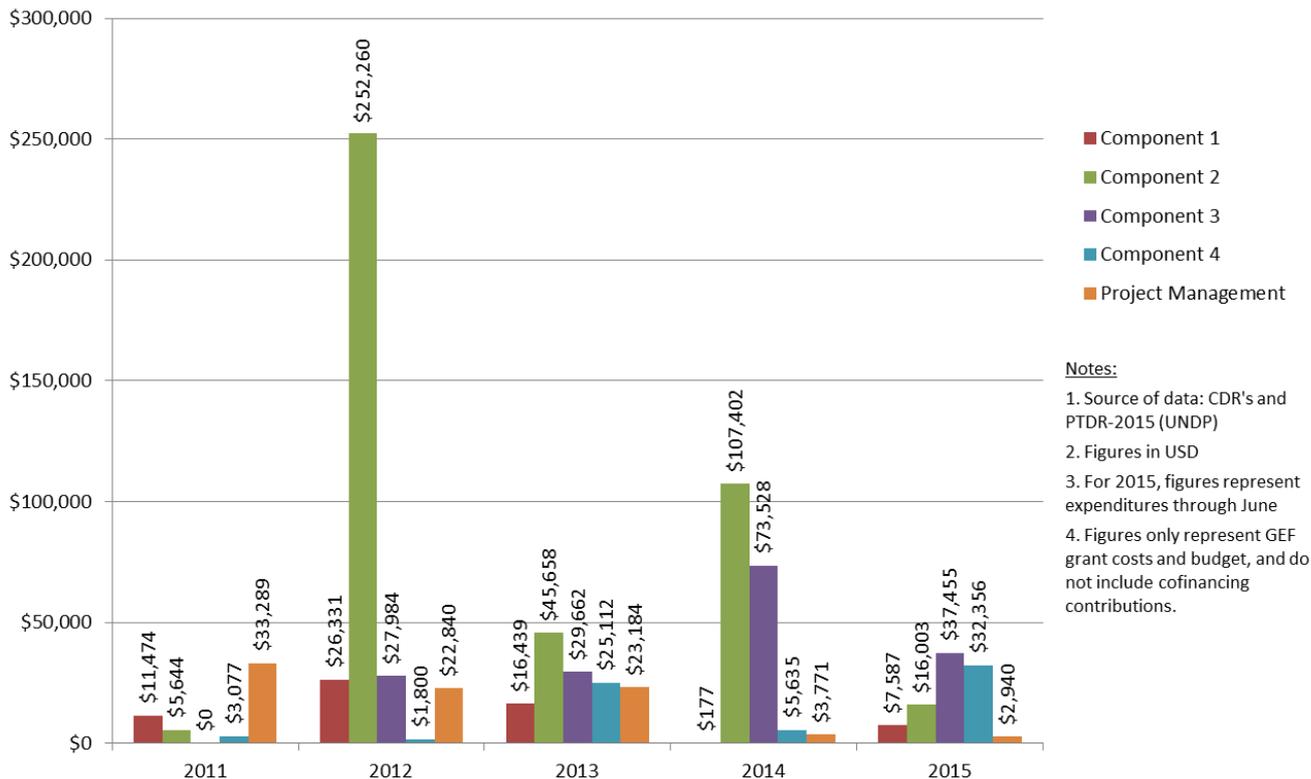


Exhibit 10: Distribution of expenditures by component, 2011-2015

In 2014, the most substantive proportion of project spending was under Component 2, when more than USD 100,000 was expended for laboratory testing of collected dielectric oil samples. In 2014, the first transboundary shipment of equipment and debris containing PCBs was made, with USD 73,528 spent under Component 3.

According to the asset register attached to the 2014 annual progress report, there were 77 asset items having a combined purchase value of USD 100,966 (JOD 71,282). This figure is inconsistent with the information contained within the combined delivery reports (CDRs). For example, the 2012 CDR indicates USD 125,026 for four line items assigned under Atlas Category 72210, which is for Machinery and Equipment (Laboratory Equipment). The items in these four line items alone have a higher value than the total list of assets in the 2014 annual progress report.

The terminal evaluator reviewed the independent financial audit report for calendar year 2012, prepared by Talal Abu-Ghazaleh & Co. International (TAGI), March 2013. The report included the following statement: *“the result of our audit did not disclose any material misstatements that, from our point of view, could affect the CDR presentation”*.

Cofinancing

As broken down below in **Annex 9**, the total amount of cofinancing realized has been USD 3.757 million, which is about 19% more than the USD 3.16 million pledged. UNDP cofinancing contributions closely match the USD 0.15 million pledged at project approval. The amount of cofinancing contributed from governmental funders has been only USD 0.107 million, compared to the USD 0.65 million committed. It is noted that there were no data available regarding in-kind cofinancing realized from the Ministry of Environment; a figure of USD 200,000 was indicated in the midterm review report, but this could not be verified during the terminal evaluation.

Contributions from the private sector were about 50% more than the USD 2.36 million pledged.

3.2.5. Monitoring & Evaluation

Overall Quality of Monitoring & Evaluation is rated as: Moderately Satisfactory

Supporting Evidence:

- + Monitoring and evaluation plan was reasonably well prepared, the standard GEF template;
- + Allocated funding for monitoring and evaluation was satisfactory, at USD 40,000, for a medium size project;
- + PIR reports contained feedback from key stakeholders and provided detailed summaries of project performance;
- + Regular monitoring reports have been prepared, documenting completed field activities;
- + Some adjustments were made following recommendations made in the midterm review;
- + GEF tracking tool for POPS projects was completed, and included quantitative support to progress toward project performance indicators;
- The project board has only convened twice in more than four years of implementation;
- Follow up to midterm review recommendations has been incomplete, including the issue of the interim storage facilities.

Monitoring and Evaluation design at entry is rated as: Satisfactory

Monitoring and evaluation was integrated into the project as the fourth component. The monitoring and evaluation (M&E) plan included in the project document was prepared according to the standard GEF template. The allocated USD 40,000 M&E budget, roughly 4.2% of the total GEF grant, included costs for international consultants for the midterm review and terminal evaluation, at USD 20,000 each. The other activities in the M&E plan were carried out by project management or UNDP staff, so there were no additional costs added.

Implementation of Monitoring and Evaluation Plan is rated as: Moderately Satisfactory

Implementation of the M&E plan has been implemented more or less according to plan. The project has done a good job at regularly recording monitoring reports on completed field activities. These reports provide a good audit trail of the work that has been done.

Reporting on overall project progress has also been satisfactory. Project implementation reviews (PIRs) include feedback from key implementation stakeholders, and issues affecting implementation are described with candor.

The project implemented certain adjustments in response to the midterm review (MTR) recommendations. For example, the first time extension was granted in response to one of the MTR recommendations, and additional focus was placed on the feasibility analysis of alternative disposal/destruction technologies for the generated wastes containing PCBs. There was insufficient response on some of the other MTR recommendations, including the slow progress with respect to establishing the interim storage facilities.

Another factor that reduced the overall effectiveness of monitoring and evaluation was the infrequent convening of project board meetings; there have been only two meetings in the more than four years of implementation. This irregular involvement of the project board reduces the

timeliness of implementing corrective actions with respect to issues impeding implementation progress, including the interim storage facilities.

3.2.6. Implementing Agency (IA) and Executing Agency (EA) Execution

Overall IA-EA Execution: Satisfactory

Supporting Evidence:

- + UNDP's extensive experience in Jordan and their favorable standing with the Government has been a strong comparative advantage;
- + Active participation by high-level Ministry of Environment officials;
- + Qualified and dedicated project management unit staff members;
- + Intended outcomes have been mostly achieved, within the allocated budget;
- + Annual progress reports and project implementation reviews contain candor accounts of project performance;
- + Country ownership has been satisfactory;
- There has been no tracking of in-kind contributions from the Ministry of Environment;
- The national project manager relocated to the Ministry of Environment regional directorate in Irbid two years ago, resulting in less day-to-day involvement on the project;
- The project board has only convened twice in the 4+ years of project implementation.

Quality of Implementing Agency (UNDP) Execution is rated as: Satisfactory

UNDP Country Office staff within the environment and energy team changed at the beginning of the implementation phase. Staff members have been actively involved in the project, providing management guidance, procurement services, and financial accounting. The regional technical advisor (RTA) has been involved since the design phase, and has provided regular support to the project management team.

Certain aspects of project oversight have been fairly weak, though. The low frequency of project board meetings should have been picked up through the regular interaction with the Ministry and the project management team. And, risk management and follow up to recommendations made at the midterm review were not sufficiently controlled. For example, slow progress with respect to interim storage facilities was highlighted in the midterm review.

Quality of the Executing Agency Execution is rated as: Satisfactory

There has been proactive involvement by high-level Ministry of Environment officials, including the Director of the Hazardous Substances and Waste Management Directorate. The Secretary General of the Ministry is the chair of the project board, which, however, has only convened twice in more than 4 years of implementation. Overall country ownership has been satisfactory, as evidenced, for instance, by the fact that the regulation on PCBs management has not only been drafted but also endorsed by the Prime Minister in 2014. This process required concerted advocacy by Ministry officials.

Cash cofinancing contributions from the Ministry of Environment have been USD 36,253 through June 2015, compared to USD 50,000 pledged at project approval. An additional USD 300,000 of in-

kind cofinancing from the Ministry of Environment was committed, but there has been no tracking of the actual amount realized to date.

The project management unit consists of qualified and dedicated professionals. The national project manager is a technical staff member of the Hazardous Substances and Waste Management Directorate who was involved in the preparation of the National Implementation Plan (NIP) back in 2005-2006, and is very knowledgeable about POPS issues in the country. Two years ago he was relocated to the regional Ministry directorate in Irbid, and has since been less involved on the project, with respect to day-to-day activities. The rest of the management team, including the project officer and project assistant, has been able to provide the required administrative support during this period, but overall efficiency and effectiveness have been reduced without a full-time project manager.

3.3. Project Results

3.3.1. Overall Results (Attainment of Objective)

Objective/Outcome	Attainment of Project Objective/Outcomes
Project Objective: Implementation of a comprehensive PCBs management system in the Hashemite Kingdom of Jordan	Satisfactory

The project has facilitated drafting and prime ministerial endorsement of the Instruction on PCB Management under Article 4/D of Environmental Law 56/2006 ("PCBs regulation).

Two electric utilities, JEPCO and IDECO, have committed resources for constructing and operating interim storage. IDECO has made significant progress with the construction, but contractor problems have resulted in delays, and JEPCO representatives indicated to the TE evaluator that they hope to continue in the coming months and be ready with the facility by the end of the year. An environmentally sound management system has been developed, but it is not being used fully as intended. For example, companies are not uploading information to the database on new transformers installed in the country. The PCBs database is a flexible web-based platform that is fully functional. Certain additions should be made to the database to make it more relevant for implementation of the PCBs regulation.

The project has been very practical, including a nation-wide inventory of electrical equipment, field testing for PCBs, and draining and packaging equipment containing PCBs. The Ministry of Environment and key electric utility and private sector industrial companies have been actively involved in these activities, as well as in workshops and committee meetings sponsored by the project.

The project will exceed the envisaged quantity of equipment and wastes containing PCBs.

<p>Component 1: Regulatory and administrative strengthening for PCB management</p> <p>Indicative budget in project document: USD 65,000</p> <p>Actual cost incurred on this component (through June 2015): USD 62,008</p>	Satisfactory
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Outcome 1: Laws, regulations and guidelines for PCB management developed	Satisfactory
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The project has facilitated drafting and prime ministerial endorsement of the Instruction on PCB Management under Article 4/D of Environmental Law 56/2006 ("PCBs regulation). The scope of the regulation is broad, not only dealing with electrical equipment. And, there are gaps in complementary legislation and enforcement, including regulations on protection of soil and groundwater, disposal of used oil, occupational safety and health provisions for workers handling PCBs, etc.

Outcome 2: Sustained and targeted awareness raising on various levels	Moderately Satisfactory
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The project has been moderately satisfactory in developing knowledge products. A training manual on handling PCBs has been developed in English and Arabic, and distributed to relevant stakeholders. But, there is no evidence that this is internalized into the recurrent capacity building program of the Ministry of Environment, or other company or institution.

The project has sponsored workshops on environmentally sound management of PCBs, and socialization of the PCBs regulation. Additional workshops should be considered with respect to implementation and enforcement of the new regulation.

There has been limited media coverage of the project. The PCBs database is available online, but limited knowledge based products have been disseminated online or through other media outlets.

Component 2: Improving PCB inventory and technical capacity for Environmentally Sound Management (ESM) of PCB equipment and materials Indicative budget in project document: USD 350,000 Actual cost incurred on this component (through June 2015): USD 426,966	Satisfactory
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Outcome 1: Development of PCB detection and analytical capacity through equipment/ tools and specialized training for analytical surveys	Satisfactory
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More than 14,000 transformers have been inventoried and tested for PCBs. This is the majority of units in the country.

The results of the equipment inventory and PCBs testing are recorded on the PCBs database. Reporting of new transformers added to the market since project inception has been limited, however.

The information gathered during the equipment inventory, field testing, and laboratory analyses are recorded on the PCBs database. The database should be adapted to the needs following project closure, e.g., for documenting inspection reports.

The PCBs database primarily includes information on field testing and laboratory analyses. The database should be expanded to include detailed information regarding disposal/destruction of the generated equipment and wastes containing PCBs.

One laboratory, the Royal Scientific Society has acquired national accreditation for GC analysis of dielectric oil for PCBs.

Outcome 2: Development of ESM system and specialized training for PCB experts to promote the system's applicability in practice	Satisfactory
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The environmentally sound management system has been developed. There are key field components missing, including the interim storage facilities.

PCB holders have received extensive training on safe handling of PCBs, and they have confirmed through interviews and the TE questionnaire survey that their awareness regarding risks associated with PCBs has considerably increased.

Electric utility and private sector industrial companies expended significant amounts of their own funds on identifying and registering electrical equipment.

At the time of the terminal evaluation, there were no interim storage facilities ready. According to interviews and feedback received from the TE questionnaire survey. JEPCO and IDECO have committed resources for constructing and operating interim storage. IDECO has made significant progress with the construction, but contractor problems have resulted in delays, and JEPCO representatives indicated to the TE evaluator that they hope to continue in the coming months and be ready with the facility by the end of the year.

The project has facilitated transboundary shipment and disposal/destruction of equipment and wastes containing PCBs. By the end of the project, the vast majority of discovered equipment and wastes containing PCBs will have been disposed.

Outcome 3: Identification and setup of storage facilities for proper interim PCB containment	Moderately Unsatisfactory
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At the time of the terminal evaluation, there was no PCB accumulation or storage facilities ready.

Considering that the interim storage facilities were not ready, equipment and drained oil containing PCBs are unsafely stored. Collected cross-contaminated dielectric oil and scrap transformers are stored temporarily at an open storage area at the JEPCO premises until they are reconnected to the network. This storage area does not have a protective coating on the concrete surface, there is no roof, and there are no provisions in place to contain accidental spills or releases.

One of the aims of the project was to dispose up to 25% of electrical equipment containing PCBs. By the end of the project, the vast majority of the discovered equipment containing PCBs will have been disposed.

Component 3: Demonstration projects for testing ESM system and disposal of PCB containing equipment	Satisfactory
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Indicative budget in project document: USD 400,000

Actual cost incurred on this component (through June 2015): USD 168,629

Outcome 1: Development of capacity to securely transport, handle, package, securely stockpile PCB wastes and disposal of stockpiles (pure and contaminated)	Satisfactory
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The project has done a good job facilitating capacity building in environmentally sound management of PCBs.

Considering the relatively low quantities of cross-contaminated oil discovered the most feasible solution was transboundary shipment of the units to Europe.

The first shipment included 47 tons of PCB-containing wastes, including nineteen (19) Askarel transformers (38.8 tons) and known PCB capacitors (6.175 tons), along with 2 tons of other PCBs materials. . The second shipment is envisaged to include 57.3 tons of drained dielectric oil having a concentration of PCBs greater than 50 ppm and 5 scrap transformers. The number of equipment cross-contaminated was lower than expected, thus the 100 tons estimated will likely not be met.

Although this was a demonstration project, the vast majority of electrical equipment transformers and capacitors containing PCBs will have been disposed/destroyed by project closure.

<p>Component 4: Monitoring, learning, adaptive feedback, outreach and evaluation</p> <p>Indicative budget in project document: USD 40,000</p> <p>Actual cost incurred on this component (through June 2015): USD 67,979</p>	<p>Moderately Satisfactory</p>
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<p>Outcome 1: Project results are evaluated, used in adaptive management and replicated</p>	<p>Moderately Satisfactory</p>
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There was no evidence of a more specific monitoring and evaluation system developed, compared to the plan outlined in the project document.

Follow up to the recommendations of the MTR were incomplete, including the slow progress with respect to the interim storage facilities.

The project board has only convened twice in more than four years of implementation, thus limiting the effectiveness of adaptive management.

The terminal evaluation was completed in August 2015, about 7 months before the extended closure of the project (March 2016). This allows sufficient time to implement recommendations included in the terminal evaluation report.

3.3.2. Relevance

Relevance is rated as: Relevant

The project was directly aligned with the National Implementation Plan for Stockholm Convention on Persistent Organic Pollutants¹, specifically the implementation strategy regarding the production, import, export, use, identification, labelling, removal, storage, and disposal of PCBs and equipment containing PCBs (Annex A, Part II, Chemicals), which included the following activities:

1. Conduct comprehensive field surveys in order to complete the PCBs inventories on the national level.
2. Develop guidelines for collection and safe disposal of contaminated oils and equipment.

¹ National Implementation Plan for Stockholm Convention on Persistent Organic Pollutants, The Hashemite Kingdom of Jordan. Ministry of Environment, 2006.

3. Define, label, and store stockpiles of existing contaminated oils and equipment.
4. Clean or replace contaminated equipment.
5. Dispose of PCBs stockpiles and/or contaminated equipment in an environmentally sound manner.

The project was also relevant with respect to the first two strategic programs (POPS-SPs) under the GEF-4 long-term objective of the POPS focal area¹, “to reduce and eliminate production, use, and releases of POPS”:

- ✓ POPS-SP1, “Strengthening capacity for NIP (National Implementation Plan) development and implementation”, and
- ✓ POPS-SP2, “Partnering in investments for NIP implementation”. With respect to POPS-SP1, capacity building was an integral dimension of the project, represented in each of the four components. Successful partnerships were concluded with electric utilities and private sector companies in implementing the NIP; which is relevant with respect to POPS-SP2.

The 2008-2012 Country Programme Action Plan (CPAP) of the United Nations Development Programme in Jordan included two relevant outcome indicators under the “Sustainable Management of Natural Resources and Environment” outcome: (i) amount of hazardous (PCB) waste disposed correctly according to international criteria, and (ii) percentage reduction in the number of PCB contaminated areas.

3.3.3. Efficiency

Efficiency is rated as: Satisfactory

Supporting Evidence:

- + The GEF funding addressed the key barriers with respect to environmentally sound management of PCBs in the country;
- + The project has managed to satisfactorily achieve the intended outcomes within the allocated budget;
- + Cofinancing contributions from electric utilities and private sector industrial companies exceeded the pledged amounts and were well integrated into the project activities;
- The project timeframe ended up being more than 2 years longer than the originally planned 3-year duration;

With respect to incremental cost criteria, the project was satisfactorily efficient, addressing key barriers, including lack of regulatory framework for environmental sound management of PCBs, limited capacities in testing and analyzing dielectric oil, absence of interim storage infrastructure for PCB-containing equipment and wastes, low awareness of the risks associated with PCBs, and limited maintenance capacity among electric utilities and other owners of PCB containing equipment.

The project was also cost-effective, satisfactorily achieving the intended outcomes within the allocated budget. The duration of the implementation has extended more than 2 years longer than the 3-year approved timeframe. The additional time for implementation seems more attributed to an under-estimation of the time required rather than inefficient implementation.

¹ Focal Area Strategies and Strategic Programming for GEF-4, GEF Council, July 2007.

Cofinancing contributions, particularly from electric utilities and private sector industrial companies further enhances project efficiency. These contributions were closely integrated into project activities, e.g., some of the cofinancing partners transferred cash contributions directly to the project account.

3.3.4. Country Ownership

Supporting Evidence:

- + The project is closely aligned with National Implementation Plan (NIP) for Stockholm Convention on Persistent Organic Pollutants;
- + Relevant country representatives, including high-level Ministry of Environment officials and management and technical staff of electric utilities and private sector industrial companies were involved in the project;
- + The regulation on sound environmental management of PCBs was developed with project support and attained prime ministerial endorsement in 2014;
- Governmental cofinancing contributions from the Ministry of Environment are considerably less than amounts pledged at project entry;
- Inconsistent participation by some governmental agencies in project advisory committee (PAC) meetings;
- Unclear ownership of the process of updating and facilitating approval of the land use plans;

Country ownership has been generally satisfactory. Firstly, project design was closely aligned with the National Implementation Plan for Stockholm Convention on Persistent Organic Pollutants. The national implementation modality also enhanced country ownership, as high-level and technical staff members within the Ministry of Environment were actively involved in the project. Participation by representatives of electric utilities and private sector industrial companies was also high throughout the implementation phase. Apart from the Ministry of Environment, however, involvement by other governmental agencies was, however, only moderately satisfactory, e.g., inconsistent and generally low participation in project advisory committee (PAC) meetings.

Country ownership is also diminished by the relatively low level of Government cofinancing: only USD 107,000 has been realized through June 2015, compared to USD 650,000 committed at project inception.

3.3.5. Mainstreaming

The scope of the project and the involved stakeholders were limited, and consequently was not extensively mainstreamed into other UNDP priorities. Through legislative reform and better collaboration between governmental and private sector stakeholders, there were advances made with respect to improved governance. Also, the removal and safe disposal of equipment containing PCBs reduces the potential adverse impacts to local communities from an inadvertent accident, such as fire. Apart from such indirect benefits, there was limited involvement with local communities, and the project did not contribute toward general UNDP poverty alleviation objectives.

The project did not have a gender mainstreaming plan at entry, which is typical of PCBs projects, where there is limited focus on local communities and social inclusion, and rather on industrial

enterprises and strengthening institutional capacities. The 2014 PIR references a work plan considering gender mainstreaming, but this plan was not reviewed by the terminal evaluator. There was moderately satisfactory participation by women during project implementation, including:

- ✓ The lead developer from RSS of the PCBs database;
- ✓ The National Project Officer, of the project management unit;
- ✓ Among 19 members of the PAC, only one was a woman;
- ✓ Among the 55 participants in the legislative consultation workshop on the PCB control framework, 10 were women;
- ✓ Among the 60 participants in the technical training workshop, 7 were women;
- ✓ Among the 44 team leaders of the field sampling teams, only one was a woman;
- ✓ Among the 10 technicians trained to operate the organic chlorine analyzer (L2000), one was a woman; and
- ✓ Among the 20 participants in the technical training workshop for the Ministry of Environment task force, 4 were women.

3.3.6. Sustainability

Sustainability is generally considered to be the likelihood of continued benefits after the GEF funding ends. Under GEF criteria, each sustainability dimension is critical, so the overall ranking cannot be higher than the lowest one.

The Overall Likelihood of Risks to Sustainability is Rated as: Moderately Likely

Supporting Evidence:

- + Endorsement of regulation on PCBs management;
- + Extensive inventory of electrical equipment completed, and verification of many samples using gas chromatography analysis;
- + Large proportion of PCB-containing equipment and oils will be disposed by project closure;
- + Functional database;
- + Strengthened capacities, among governmental, private sector, and laboratory stakeholders;
- + Cofinancing contributions from electric utilities and private sector industrial companies greater than the sums pledged at project entry;
- Inspection personnel largely unfamiliar with enforcement requirements of the regulation on PCBs management;
- Interim storage facilities are not yet ready;
- Database is not being used as intended, e.g., uploading information on new transformers;
- Uncertain financing for database operation after project closure;

Financial Risks

The Likelihood of Financial Risks to Sustainability is rated as: Likely

The cofinancing contributions from the electric utilities and private sector industrial companies has demonstrated that these organizations are committed and capable of funding the technical requirements associated with safe management of PCBs. Considering that most of the discovered PCB-containing equipment and oils will be disposed by the end of the project, there seem to be a relatively low risk that considerable financial resources will be required to manage residual PCBs in the country.

Implementation of the regulation on PCBs management will, however, require concerted efforts by the Ministry of Environment, including regular inspections, reviewing reports from owners of PCB containing equipment, and operation of the environmentally sound management system, which includes the PCBs database developed under the project. Available government funding for these activities is fairly uncertain, even for operation of the database, which according to the project team will require less than USD 5,000 per year.

Socio-Economic Risks

The Likelihood of Socio-Economic Risks to Sustainability is rated as: Likely

Risks to local communities, e.g., as a result of an accident or fire of PCB-containing equipment, have been significantly reduced identification and disposal of most of the PCB equipment and oils in the country. Electricity distribution is fairly unaffected by economic downturns, so the electric utilities should be able to finance management of PCB equipment and wastes that might be discovered after project closure. Private industrial sector companies are more sensitive to market forces, so there is a moderate risk that some of these organizations would not be able to fund disposal of PCB-containing equipment at their properties. In most cases, however, the electric utilities own and operate electrical transformers at industrial sites. But, there are some industries that own the equipment outright.

The increased intensity of the armed conflicts in neighboring countries, including in Syria and Iraq, and the resultant influx of refugees into Jordan is a significant burden to the Government of Jordan. The sustainability of the project outcomes is, of course, partly affected by this situation, i.e., the financing priorities of the Government need to be balanced against these extraordinary circumstances.

Institutional Framework and Governance Risks

The Likelihood of Institutional Framework/Governance Risks to Sustainability is rated as: Moderately Likely

The project made substantive contributions to the regulatory framework for safe PCBs management, by facilitating the development and eventual endorsement of the regulation on PCBs management. Acting as executing agency, the Hazardous Substances and Waste Management Directorate of the Ministry of Environment was actively involved in the project, and the capacity of the staff members of the directorate has been strengthened through this involvement, including participation in trainings, workshops, and working with international experts. This further enhances the sustainability of project outcomes, with respect to institutional framework.

With respect to governance, some of the key stakeholders, including the Inspection Directorate of the Ministry of Environment, responsible for implementing and enforcing the regulation on PCBs management after project closure are insufficiently familiar with the requirements involved. And, with no interim storage facilities built yet, there are governance risks that should be addressed before project closure.

Environmental Risks

The Likelihood of Environmental Risks to Sustainability is rated as: Likely

There was a finite stock of electrical equipment containing PCBs in the country, and the majority of these will be disposed/destroyed by the end of the project. The endorsed regulation on PCBs management creates a regulatory framework that reduces the likelihood of activities that might pose a threat to the sustainability of project outcomes.

Parties to the Stockholm Convention are obliged to eliminate the use of PCBs (at >50 ppm) in equipment such as transformers and capacitors, and they are required to implement an environmentally sound management system for handling liquids containing PCBs and equipment contaminated with PCBs (>50 ppm) as soon as possible and no later than 2028. In this context, the PCBs regulation endorsed by the Prime Minister of the Hashemite Kingdom of Jordan fulfills the requirements outlined in the Stockholm Convention, but certain conditions in the regulation are not supported with complementary legislation. For example, there are gaps in the legislation with respect to the maximum allowable concentrations of PCBs that can remain without requiring special handling. For example, if electrical equipment contains PCBs at concentrations less than 50 ppm, then there are no restrictions on owners from selling these out of service equipment to scrap dealers, who in turn could unsafely store them at scrap yards, where residual PCBs, albeit at low concentrations, could potentially impact the environment. Similarly, there are no restrictions on used oil having containing less than 50 ppm. Although such used would probably be regenerated, possible mishandling of the oil could also result in inadvertent environmental impacts.

3.3.7. Catalytic Role

The main catalytic role the project has been demonstration. Firstly, electric utilities and private sector industrial companies were trained on testing electrical equipment for PCBs, and draining PCB containing dielectric oil from equipment in an environmentally sound manner. These organizations were also trained on international best practice with respect to interim storage of PCB containing equipment, disposal and destruction technologies for PCB wastes, and on ensuring newly procured equipment are PCBs free.

Through involvement on the project, the Royal Scientific Society (RSS) has obtained accreditation for GC analysis of dielectric oil. This increased capacity and qualification could be applied after project closure, not only in Jordan but also regionally.

The regulation on PCBs management that was developed with project support also provides a regulatory framework for subsequent replication, e.g., an environmentally sound management system for PCB containing waste electrical and electronic equipment (WEE). The requisite institutional and technical capacities are largely in place to implement upcoming WEE regulations.

The project has produced a few knowledge products, including a training manual for handling PCBs and a manual on the environmental sound management system for PCBs. Institutionalizing these training manuals, e.g., as part of the recurrent capacity building programs within the

Ministry of Environment, or by a training or academic institution, would enhance the potential replicability of project outcomes.

The project has also been used as a model approach, including for a project in Lebanon implemented by the World Bank. One of the main aspects adopted from the project is the way in which the inventory was done, with constructive support from the utility sector, which was also due to the sensitization at the PIF and PPG stages.

3.3.8. Impact

In addition to testing dielectric oil, the project team sampled and analyzed 14 soil samples and 43 water samples, to assess possible environmental impacts associated with the handling of PCB containing equipment. Each of the analyzed soil and water samples tested negative for PCBs; indicating that the environmental impacts, at least at the facilities where the inventoried electrical equipment is located are negligible. The removal of the PCB containing equipment and oils from the network is reducing the likelihood of future impacts, due to accidents, fires, or other inadvertent releases.

There are certain gaps in the regulation on environmentally sound management of PCBs that pose moderate risks to the environment. For example, if dielectric oil contains less than 50 ppm, there are no restrictions on disposal or reuse of this oil. If such equipment and used oil are mishandled, there could be releases of PCBs to the environment. The PCB regulation states that PCBs are prohibited from being released to the environment, but there are no associated regulations on maximum allowable levels in soil or water.

It would, however, be advisable to evaluate possible environmental impacts at potentially at-risk areas, including marine and inland fisheries, dairies, at the premises of scrap yards where out-of-service electrical equipment were delivered in the past, etc. Such a sampling program should be based upon an assessment of potential at-risk areas, taking into account where the PCB containing equipment were operating, maintained, and disposed in the past.

An evaluation of the status of the impact indicators outlined is summarized below.

Impact Indicator	Comments	Impact Rating
Verifiable improvements in ecological status	There have not been ecological impacts identified, so the activities completed on the project are not leading to verifiable improvements in ecological status.	Negligible
Verifiable reductions in stress on ecological systems	Removal and disposal/destruction of the majority of PCB containing equipment and oils is considered to be a substantive contribution in reducing the risk for potential inadvertent releases of PCBs to the environment.	Minimal
Progress towards stress/status change	Removal and disposal of PCB containing equipment and oils, and prime ministerial endorsement of the regulation on environmentally sound management of PCBs are substantive contributions with respect towards stress/status change.	Minimal

4. CONCLUSIONS, RECOMMENDATIONS, LESSONS, GOOD PRACTICES

4.1. Major Achievements/Strengths

MAJOR ACHIEVEMENTS/STRENGTHS

Drafting and prime ministerial endorsement of Instruction on PCB Management under Article 4/D of Environmental Law 52/2006

One of the most notable achievements of the project has been the drafting and prime ministerial endorsement of the Instruction on PCB Management under Article 4/D of Environmental Law 56/2006. This was achieved in the fourth year of project implementation. Although there are a few items that need to be strengthened in this regulation, it provides a foundational regulatory framework for managing PCB-containing wastes.

Cofinancing contributions closely integrated with project activities

Cofinancing, including cash contributions from the government and electric utilities, has been closely integrated with project activities. These cofinancing commitments have demonstrated a high level of ownership for management of PCB-containing wastes.

Nation-wide inventory of electrical equipment, including more than 14,000 transformers

The project has supported an extensive, nation-wide inventory of electrical equipment, including more than 14,000 transformers. This covers the vast majority of electrical equipment in the country, thus the likelihood of discovering additional equipment containing PCBs after project closure has been significantly reduced through these efforts.

Disposal/destruction of a large proportion of PCB-containing waste in the country

Within the project budget and financing support from some of the owners of the electrical equipment containing PCBs, a large proportion of PCB-containing wastes will be disposed/destroyed by the end of the project. The first transboundary shipment to waste disposal facilities in Europe included a total of approximately 47 tons of PCB-containing wastes, including nineteen (19) Askarel transformers (38.8 tons) and known PCB capacitors (6.175 tons), along with 2 tons of other PCB materials such as concrete from the base of the transformers. The second shipment, which is slated to be transported later in 2015, will contain approximately 57.3 tons of PCB-containing dielectric oil, drained from cross-contaminated transformers, and 5 scrap transformers.

Capacity building delivered across a broad spectrum of stakeholders

The project has been successful in delivering capacity building to a broad spectrum of stakeholders, including:

- ✓ Electric utilities were trained in sampling dielectric oil, analyzing the oil with organic chlorine analyzers provided by the project, draining of transformers, etc. Through these trainings and involvement over the course of the project, these companies have become much more aware of issues associated with PCBs.
- ✓ The Royal Scientific Society laboratory has attained national accreditation for analyzing dielectric oil for PCBs by gas chromatography analysis. This laboratory is now one of the few laboratories in the region with this capacity.
- ✓ The Ministry of Environment officials, particularly within the Hazardous Substances and Waste Management Directorate, have received training on management of PCBs, and the

environmental sound management system developed with project support provides a useful tool in support of the implementation and enforcement of the regulation on PCBs management.

The project has been cost-effective

This medium sized project, with a GEF grant of USD 950,000, has managed to satisfactorily achieve the intended outcomes within the allocated budget. By the end of the project, the project will have inventoried the vast majority of electrical equipment in the country for PCBs and disposed a large proportion of the PCB-containing wastes. The first shipment of PCB containing equipment was disposed of at a licensed facility in Europe for a rate of USD 2.68 per kilogram, including packaging, shipment, and disposal.

4.2. Key Shortcomings and Recommendations

ACTIONS TO FOLLOW UP OR REINFORCE INITIAL BENEFITS FROM THE PROJECT

1. **Conclusion:** At the time of the terminal evaluation, interim storage facilities for PCBs-containing wastes were not ready. Circumstances are now different, as compared to those at project entry. For example, the majority of the discovered PCBs containing equipment and oils will be disposed/destroyed by the end of the project, and it is now essentially too late to provide interim storage facilities needed to temporary hold equipment and wastes until project sponsored transboundary shipments are made. But, there remains need for interim storage infrastructure in the country after project closure, to accommodate other equipment and waste that might be discovered in the coming years. Two electric utilities, JEPSCO and IDECO, have committed resources for constructing and operating interim storage. IDECO has made significant progress with the construction, but contractor problems have resulted in delays, and JEPSCO representatives indicated to the TE evaluator that they hope to continue in the coming months and be ready with the facility by the end of the year. And, there is a risk that these private companies will not allow other owners of PCB containing equipment or wastes to use the envisaged interim storage facilities, e.g., due to possible changes in management in the future.

Recommendation No. 1: A re-evaluation and advocacy campaign for interim storage requirements should be made as soon as possible, and adaptive solutions implemented before the end of the project. The re-evaluation and advocacy campaign should include, but not be limited to the following:

- a. Estimate the required capacity and evaluate the preferred geographic locations for interim storage infrastructure, taking into consideration possible future shared use for storing waste electrical and electronic wastes containing PCBs and other possible PCBs containing waste streams.
- b. Together with the Ministry of Environment, hold discussions with JEPSCO and IDECO regarding their specific plans for completing the interim storage facilities that they have planned. An agreement should be reached with these companies regarding exact dates of completion of the facilities and on shared use of the facilities by other owners of electrical equipment or wastes containing PCBs which might be discovered after project closure.

- c. Assess the technical and financial feasibility of establishing an interim PCBs storage facility at the central hazardous waste landfill site in Swaqa, which is owned and operated by the Ministry of Environment.

2. **Conclusion:** Certain stakeholder groups, including the Inspection Directorate, Monitoring Directorate, and Customs Authority, are not yet trained on the implementation and enforcement of the endorsed PCBs regulation.

Recommendation No. 2: The project should sponsor a practical training workshop, preferably involving field modules, on implementation and enforcement of the PCBs regulation. Some of the key stakeholders that should be invited to the training include representatives from the Inspection Directorate of the Ministry of Environment, Monitoring Directorate of the Ministry of Environment, Customs Authority, Chamber of Industry, Ministry of Health, etc.

3. **Conclusion:** Electric utilities, private sector companies, and the Ministry of Environment do not have practical experience with respect to the reporting requirements of the PCBs regulation.

Recommendation No. 3: The project team should assist waste generators and government agencies in the process of preparing, reviewing, and managing annual reports on PCB wastes. It would be advisable to also prepare a manual, that would be available online, that outlines:

- a. Preparation of annual reports.
- b. Review of the annual reports by the Ministry of Environment staff.
- c. Record keeping, including database entry, hardcopy management, and correspondence, e.g., from the Ministry of Environment to the electric utilities and private sector companies, confirming receipt of the annual reports and/or requiring additional information, etc.

4. **Conclusion:** Cross-contamination of transformers filled with Midel® oil, especially older ones, cannot be excluded. These transformers have not been tested for PCBs.

Recommendation No. 4: A representative number of transformers containing Midel® oil should be tested for PCBs by gas chromatography analysis, to verify that the assumption that this type of dielectric oil is not cross-contamination with PCBs.

5. **Conclusion:** Inventory of electrical equipment among private sector industrial companies has not included steel companies. There could also be other private sector companies not yet assessed.

Recommendation No. 5: Before finalizing the contract for the second transboundary shipment of PCB wastes, further outreach should be made to the private industry sector, including the steel plants, to search for additional PCB-containing electrical equipment. The Ministry of Trade and Industry, and the Chamber of Industry should be involved in this outreach campaign, to assist with dissemination of information to the industry sector.

6. **Conclusion:** The PCBs database has satisfactorily served the project implementation phase, but it is not being used as intended, e.g., companies are not uploading information on new transformers installed in the country, and it is not set up to support the implementation and enforcement of the PCBs regulation.

Recommendation No. 6: The PCBs database should be further developed, so that it could be a more useful tool in support of the implementation of the PCBs regulation. Further development should include the following:

- a. Support electric utilities in registering information on new transformers.
 - b. Clarify units of measure, and add sampling dates.
 - c. Add a feature on the database for receiving and storing annual reports from electric utilities and private industrial companies, and also inspection reports filed by the Inspection Directorate.
 - d. Add a feature for storing information on disposed PCB-containing wastes, including wastes disposed to and other waste streams that might be generated after project closure.
 - e. Enhance the flexibility of the database, e.g., enable data entry on waste electrical and electronic equipment.
7. **Conclusion:** The scope, roles and responsibilities, and financing of activities following project closure have not been consolidated into a coherent sustainability plan.

Recommendation No. 7: The project team should prepare a sustainability plan, including, but not limited to the following aspects:

- a. Identify activities that are likely required to be implemented in the 5 years following project closure.
 - b. Define roles and responsibilities of stakeholders involved in activities after project closure.
 - c. Prepare instructions for operating the environmentally sound management system, including the PCBs database;
 - d. Outline how the training module on handling PCBs can be internalized into the recurrent capacity building activities of the Ministry of Environment and, possibly, other agencies of institutions.
 - e. Prepare cost estimations for implementation of the recommended activities, and identify committed or proposed financing sources.
8. **Conclusion:** Jordan completed the POPs National Implementation Plan (NIP) in 2006 and is currently finalizing a NIP update, but has not yet submitted national reports, which are required every four years.

Recommendation No. 8: The project team should support the Ministry of Environment in preparing and submitting the online national report (PCBs section) to the Stockholm Convention.

9. **Conclusion:** There are uncertainties in the cofinancing contributions realized to date, including from electric utilities and private sector industrial companies.

Recommendation No. 9: The final tally of cofinancing contributions should be recorded at the end of the project, including:

- c. Cofinancing realized from electric utilities and private sector industrial companies, disaggregated by cash and in-kind contributions.

d. In-kind cofinancing contributions from the Ministry of Environment.

10. **Conclusion:** Electric utilities, private sector companies, and government agency staff tasked with implementation and enforcement of the regulation on PCBs management could benefit by exchanging information on lessons learned and good practice with counterparts in another country, where implementation of regulations on PCBs has been underway for a number of years.

Recommendation No. 10: Budget permitting, the project should sponsor a study tour for the key governmental and private sector stakeholders, to exchange information on how PCB-containing wastes are managed in another country.

PROPOSALS FOR FUTURE DIRECTIONS UNDERLINING MAIN OBJECTIVES

11. **Conclusion:** The PCBs regulation is not only applicable to PCB-containing electrical equipment; it is much broader. There are several conditions in the regulation that are not supported with complementary legislation.

Recommendation No. 11: The PCBs regulation should be mainstreamed across the relevant national regulatory framework, e.g., with respect to used oil management, waste landfilling, waste electronic and electrical equipment management, protection of soil resources, protection of water resources, occupational safety and health concerns, etc. It is beyond the scope of the project to support amendments to regulations covering these aspects, but a critical review of the endorsed regulation on PCB management should be carried out, in order to identify cross-sectoral regulatory reform required for complementing the conditions outlined in the PCB regulation.

12. **Conclusion:** There is insufficient evidence verifying that there are insignificant ecological impacts associated with past handling of PCBs. For example, the earlier practice of uncontrolled disposal of out-of-service transformers to metal scrap yards was highlighted in the project design, but there has been no assessment of possible impacts at these sites.

Recommendation No. 12: An assessment should be made of potentially at-risk areas, including scrap yards, waste disposal sites, inland fisheries, etc. The assessment should take into account where equipment containing PCBs were operating, maintained, and disposed in the past.

4.3. Good Practices and Lessons Learned

GOOD PRACTICES

Practical training by international consultants and experts

Onsite training by the international consultant retained by the project and the international expert from the European disposal company selected for the first transboundary shipment of PCB wastes, were effective in delivering hands-on capacity building development for representatives of the electric utilities and private sector companies, officials from the Ministry of Environment, and members of the project management unit.

Ownership was enhanced through cofinancing contributions from the electric utilities and private sector industries

Electric utilities and private sector industries used their own staff for carrying out inventories of electrical equipment, including testing for PCB content. This commitment of staff time and other cofinancing contributions, including for design and development of interim storage facilities,

draining PCB-containing dielectric oil from transformers, purchase of new dielectric oil, etc., significantly enhanced the ownership from the electric utility and private sector with respect to the responsibility for the safe disposal of PCB-containing equipment.

The project advisory committee fostered collaboration among stakeholders

The project advisory committee allowed for constructive collaboration between government agencies and the private sector, and also fostered better cross-sectoral communication among government agencies.

Involvement of the Legal Department of the Ministry of Environment in developing and advocating the regulation on PCB management

The Legal Department of the Ministry of Environment provided a critical role in assisting the development of the regulation on PCB management and also advocating approval of the regulation. In 2014, the regulation was endorsed by the Prime Minister.

LESSONS LEARNED

Allotted timeframe for implementation was insufficient

The 3-year implementation timeframe indicated in the project document was insufficient. It took some time to mobilize the participation of the electric utility and private sector companies, training of private sector staff to carry out the inventory of electrical equipment also required time, and carrying out the nation-wide inventory of more than 14,000 transformers took nearly 9 months. There were two separate procurements made for the disposal/destruction of the PCB waste discovered, and before the second procurement, a feasibility study was carried out to assess the viability of alternative disposal/destruction technologies. These were just the field dimension of the project; drafting and facilitating endorsement of the regulation on PCBs management also required substantial time. On many GEF-funded projects, a 5-year timeframe is insufficient to realize approval or endorsement of a new regulation or legislative act.

Stakeholder participation needs to take into account post-project requirements

Stakeholder participation on the activity level was sufficiently inclusive. But, certain stakeholders, including representatives of the Inspection Directorate of the Ministry of Environment, and the Customs Authority, who will be required to oversee identification, storage, import/export, and disposal of PCB-containing electrical equipment, have not been adequately involved.

Cross-contamination cannot be discounted

The results of the extensive sampling of dielectric oils confirmed that a significant number of transformers had become cross-contaminated by PCBs, as a result of earlier maintenance practices. Having the fact that screening is done, labeling is completed, pure PCB equipment removed, all had intentions to minimize further spread of PCBs.

Feasibility of alternative disposal/destruction options is limited if quantities are low

The feasibility study of alternative disposal/destruction options concluded that there are technically viable alternatives, including co-incineration in cement kilns or dechlorination of cross-contaminated oil. But, the original plans were related to export to certified HTI plants in EU and the overall cost-effectiveness of these options was lower than transboundary shipment to European disposal facilities, because the quantities requiring disposal/destruction were low. However, cost comparisons need to take into account the full process, e.g., the cost of new transformer oil is

expensive and could be prohibitive to certain companies, and modifications to the cement kiln, including test burns and community acceptance, require significant time and resources to realize.

Travel costs at 5% were insufficient under the project's implementation modality

According to GEF policy, travel costs accounted for the maximum allowable 5% of total project cost in the indicative budget outlined in the project document. The implementation modality, with the project management unit staff providing field supervision, required more intense travel than this 5% limit. It might have been advisable to select an alternative modality, e.g., contracting a service provider to provide field supervision services and the required travel costs would be included in their fee, or alternatively, a variance requested to allocate more than 5% in travel cost to the indicative budget.

Communication with implementing partner regarding policies and procedures

Some of the misgivings regarding certain policies and procedures, including honorarium to members of the PAC for participating in meetings, reimbursement for travel related costs, might have been averted if there was more explanation provided at the inception phase of the project.

5. ANNEXES

Annex 1: Evaluation Mission Itinerary (26 July to 02 August 2015)

Day and Date	Time	Agenda item	Place	Invitees
Day 1: 25 July 2015	2:55 pm	Evaluator arrives to AMM airport		
Day 2: Sunday 26 July	9:00 – 10:00 am	Meeting with PCBs project team and UNDP Environment and Climate Change Portfolio	Ministry of Environment	Mohammad Alatoom/ Environment analyst, UNDP Lina Alnsour/Project officer Mohammad abu- moghli/project Assistant
	10:00 - 12:00 am	Meeting with the Director of Hazardous Material and Waste Management Directorate	Ministry of Environment	Dr. Mohammad Khashashneh
	12:30 – 1:00 pm	Meeting with H.E. Secretary General of MoEnv	Ministry of Environment	H.E. The Secretary General of MoEnv Eng. Ahmad Qatarneh
	2:00 – 3:00 pm	Desk Review	Ministry of Environment	International Consultant's office/desk at PCBs Project's Office at MoEnv
Day 3: Monday 27 July	9:00 – 10:00 am	Discussion with project team	Ministry of Environment	Eng. Nezar Haddad/ Project Manager, MoEnv Lina alnsour/Project officer Mohammad abu- moghli/project Assistant
	10:30 - 1:30 pm	Project Advisory committee meeting (PAC)	Ministry of Environment	PAC members Stakeholders meeting
	2:30 – 3:30 pm	Working in office	Ministry of Environment	International Consultant's office/desk at PCBs Project's Office at MoEnv
Day 4: Tuesday 28 July	9:30 – 11:30 am	Visit to the Royal Scientific Society (RSS)	RSS	Mr. Haytham Naser/ Manager of automated chemical analysis laboratories. 2) Mrs. Eman Ta'an Supervisor of the spectrometer laboratories. 3) Mr. Hani Duqm: Supervisor of chromatography laboratories (responsible for PCBs analysis) 4) Mr. Mohammad abu Othman: Anayst
	12:30 – 2:30 pm	Presenting the PCBs database	RSS	Mrs. Faten Abdel hafiz/ senior system Analyst Lina Alnsour + Mohammad abu mogli
	2:30 - 3:30 pm	Working in office	Ministry of Environment	International Consultant's office/desk at PCBs Project's Office at MoEnv
Day 5: Wednesday 29 July	9:00 – 1:00 pm	Field visit to Jordan Electric Power Company (JEPCO) Objective: visit the analysis room and PCBs storage site	JEPCO in Zarqa	Eng. Jafar Obaidat Eng. Ayham Bakeer
Day 6: Thursday 30 July	9:30 – 10:30 am	Meeting with UNDP county Director and Head of Environment & Climate Change Portfolio / UNDP	UNDP office	Ms. Zaina Ahmad Mr. Mohammad Alatoom
	11:30 – 12:30 am	Meeting with National consultant	MoEnv	Mr. Ziyad Alawneh
	3:00 – 4:00 pm	Skype Call with the International technical Consultant (ITC)	From Hotel	Mr. Michael Muller (not confirmed yet)
Day 7: Friday 31 July	09:00 – 2:00 pm	Desk review	From Hotel	International consultant
	2:30 – 4:30 pm	Skype call with regional technical advisor	From Hotel	Mr. Maksim Surkov
Day 8: 01 August	All day	Evaluator consolidates evaluation findings, prepares for debriefing on 02 August		
Day 9: Sunday 02 August	9:00 – 12:00 am	Debriefing meeting	MoEnv	Dr. Mohammad Khashashneh Mohammad Alatoom/ Environment analyst, UNDP Rana Saleh/ Environment associate, UNDP Lina alnsour/Project officer Mohammad abu- moghli/project Assistant
	4:15 pm	Evaluator departs AMM airport		

Annex 2: Evaluation Matrix

Evaluation Criteria Questions	Indicators	Sources	Methodology
Relevance: How does the Project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local, regional and national levels?			
To what extent is the principle of the project in line with national priorities?	Level of participation of the concerned agencies in project activities. Consistency with relevant strategies and policies.	Minutes of meetings, Project progress reports, national and regional strategy and policy documents	Desk review, interviews
To what extent is the Project aligned to the main objectives of the GEF focal area?	Consistency with GEF strategic objectives	GEF Strategy documents, PIRs, Tracking Tools	Desk review, interview with UNDP-GEF RTA
Do the outcomes developed during the project formulation still represent the best project strategy for achieving the project objectives?	Consistency with relevant strategies and policies	Lessons learned, evaluations, progress reports	Desk review, interviews
Effectiveness: To what extent have the expected outcomes and objectives of the Project been achieved?			
To what extent have the project objectives and outcomes, as set out in the Project Document, project's Logical Framework and other related documents, have been achieved?	Effectiveness	PIRs, evaluation reports, lessons learned	Desk review, interviews
Were the project budget and duration planned in a cost-effective way?	Cost-effectiveness	Financial expenditure reports, cofinancing records, PIRs	Desk review, interviews
How and to what extent have implementing agencies contributed and national counterparts (public, private) assisted the project?	Execution of implementing partner and other responsible partners	Progress reports, evaluation reports	Desk review, interviews
Efficiency: Was the Project implemented efficiently, in-line with international and national norms and standards?			
Was the Project efficient with respect to incremental cost criteria?	Activities supported by the Project not commonly included among "business as usual" planning and development priorities	National strategies and plans	Desk review, interviews
Were the risks identified in the project document and PIRs the most important and the risk ratings applied appropriately?	Risks mitigated	Risk logs, progress reports, lessons learned	Desk review, interviews
The extent of achievement of Project objective and outcomes according to the proposed budget	Percentage of expenditures in proportion with the results	Progress reports, Project Implementation Reviews	Desk review, interviews
How useful was the logical framework as a management tool during implementation and any changes made to it?	Appropriateness of results framework	Progress reports, evaluation reports, Project Implementation Reviews	Desk review, interviews
Country Ownership:			
Are project outcomes contributing to national and regional development plans and priorities?	Plans and policies incorporating initiatives	Government approved plans and policies	Desk review, interviews
Have the relevant country representatives from government and civil society been involved in the Project?	Effective stakeholder involvement	Meeting minutes, reports	Desk review, interviews, field visits
Have the recipient governments and co-financers maintained their financial commitment to the Project?	Committed co-financing realized	Audit reports, project accounting records, PIRs	Desk review, interviews
Have governments approved policies or regulatory frameworks in line with the Project objective?	Plans and policies incorporating initiatives	Government approved plans and policies	Desk review, interviews
Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results?			
Was project sustainability strategy developed during the project design?	Sustainability	Sustainability strategy	Desk review, interviews
How relevant was the project sustainability strategy?	Sustainability	Sustainability strategy	Desk review, interviews

Evaluation Criteria Questions	Indicators	Sources	Methodology
Are there any financial risks that may jeopardize sustenance of project outcomes? What is the likelihood of financial and economic resources not being available once the GEF assistance ends (resources can be from multiple sources, such as the public and private sectors, income generating activities, and trends that may indicate that it is likely that in future there will be adequate financial resources for sustaining project's outcomes)?	Financial risks	Progress reports, PIRs, testimonial evidence	Desk review, interviews
Has institutional capacity for supporting PCB management been strengthened, and are governance structures capacitated and in place?	Institutional and individual capacities	Progress reports, PIRs, testimonial evidence, training records	Desk review, interviews
Are there any social or political risks that may jeopardize sustenance of project outcomes? What is the risk that the level of stakeholder ownership will be insufficient to allow for the project outcomes/benefits be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there a sufficient public/ stakeholder awareness in support of the long term objectives of the project?	Socio-economic risks	Socio-economic studies, macroeconomic information	Desk review, interviews
Are there ongoing activities that pose an environmental threat to the sustainability of project outcomes?	Environmental threats	State of environment reports	Desk review, interviews, field visits
Impact: Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status?			
Has the project made verifiable environmental improvements	Impact	Progress reports, PIRs	Desk review, interviews
Has the project made verifiable reductions in stress on environmental systems	Impact	Progress reports, PIRs	Desk review, interviews
Has the project demonstrated progress towards these impact achievements?	Impact	Progress reports, PIRs	Desk review, interviews
Are the project outcomes contributing to national development priorities and plans?	Impact	National development strategies and plans, approved legislation	Desk review, interviews
Stakeholder Involvement:			
Has the Project consulted with and made use of the skills, experience, and knowledge of the appropriate government entities, NGOs, community groups, private sector entities, local governments, and academic institutions?	Active stakeholder involvement	Meeting minutes, reports, interview records	Desk review, interviews, field visits
Have relevant vulnerable groups and powerful supporters and opponents of the processes been properly involved?	Active stakeholder involvement	Meeting minutes, reports, interview records	Desk review, interviews, field visits
Has the Project sought participation from stakeholders in (1) project design, (2) implementation, and (3) monitoring & evaluation?	Records of stakeholder consultations	Plans, reports	Desk review, interviews, field visits
Catalytic Role:			
Explain how the Project has had a catalytic or replication effect in the country and/or region.	Reference by other projects, programs	Interview records, project fact sheets	Desk review, interviews
Synergy with Other Projects/Programs			
Explain how synergies with other projects/programs have been incorporated in the design and/or implementation of the project.	Reference to other projects/programs	Plans, reports, meeting minutes	Desk review, interviews
Preparation and Readiness			
Were project objective and components clear, practicable, and feasible within its time frame?	Project efficiency, stakeholder involvement	Logical results framework	Desk review, interviews

Evaluation Criteria Questions	Indicators	Sources	Methodology
Were the capacities of the executing institution(s) and its counterparts properly considered when the Project was designed?	Project efficiency and effectiveness	Progress reports, audit results	Desk review, interviews
Were partnership arrangements properly identified and roles and responsibilities negotiated prior to Project approval?	Project effectiveness	Memorandums of understanding, agreements	Desk review, interviews
Were counterpart resources, enabling legislation, and adequate project management arrangements in place at Project entry?	Project efficiency and effectiveness	Interview records, progress reports	Desk review, interviews, field visits
Financial Planning			
Does the project have the appropriate financial controls, including reporting and planning, that allowed management to make informed decisions regarding the budget and allowed for timely flow of funds?	Project efficiency	Audit reports, project accounting records	Desk review, interviews
Has there been due diligence in the management of funds and financial audits?	Project efficiency	Audit reports, project accounting records	Desk review, interviews, field visits
Has promised co-financing materialized?	Project efficiency	Audit reports, project accounting records	Desk review, interviews
Supervision and Backstopping			
Has GEF Agency staff identified problems in a timely fashion and accurately estimate their seriousness?	Project effectiveness	Progress reports	Desk review, interviews
Has GEF Agency staff provided quality support and advice to the project, approved modifications in time, and restructured the Project when needed?	Project effectiveness	Progress reports	Desk review, interviews
Has the GEF Agency provided the right staffing levels, continuity, skill mix, and frequency of field visits for the Project?	Project effectiveness	Progress reports, back-to-office reports, internal appraisals	Desk review, interviews, field visits
Delays and Project Outcomes and Sustainability			
If there have been delays in project implementation and completion, what were the reasons?	Sustainability of Project outcomes	Progress reports	Desk review, interviews
Have the delays affected project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?	Sustainability of Project outcomes	Progress reports	Desk review, interviews
Monitoring & Evaluation			
Has the Project M&E plan been implemented according to plan?	Project effectiveness	PIRs, M&E reports	Desk review, interviews
Has there been sufficient focus on results-based management?	Project effectiveness	PIRs, M&E reports	Desk review, interviews
Mainstreaming			
Were gender issues had been taken into account in project design and implementation?	Were gender issues had been taken into account in project design and implementation?	Were gender issues had been taken into account in project design and implementation?	Were gender issues had been taken into account in project design and implementation?
Were effects on local populations taken into account in project design and implementation?	Were effects on local populations taken into account in project design and implementation?	Were effects on local populations taken into account in project design and implementation?	Were effects on local populations taken into account in project design and implementation?

Annex 3: List of Persons Interviewed

Name	Position	Organization
Eng. Ahmad Al-Qatarneh	Secretary General	Ministry of Environment
Zena Ali-Ahmad	Country Director	UNDP Jordan
Dr. Mohammed Khashashneh	Director of Hazardous Substances and Waste Management Directorate	Ministry of Environment
Maksim Surkov	Regional Technical Advisor, Chemicals	UNDP Europe and CIS Region
Mohammad Alatoom	Head of Environment & Climate Change Portfolio	UNDP Jordan
Rana Saleh	Environment Programme Associate	UNDP Jordan
Eng. Nezar Haddad	National Project Manager (PCBs project)	Ministry of Environment
Eng. Lina Alnsour	National Project Officer (PCBs project)	UNDP
Mohammad Abumughli	National Field Administrative Assistant (PCBs project)	UNDP
Mr. Haytham Naser	Manager of automated chemical analysis laboratories	Royal Scientific Society
Mrs. Eman Ta'an	Supervisor of the spectrometer laboratories	Royal Scientific Society
Mr. Hani Duqm	Supervisor of chromatography laboratories (responsible for PCBs analysis)	Royal Scientific Society
Mr. Mohammad abu Othman	Analyst	Royal Scientific Society
Mrs. Faten Abdel hafiz	Senior System Analyst (lead developer of database)	Royal Scientific Society
Eng. Ayham Bakeer	Maintenance Engineer	JEPCO
Michael Mueller	International Consultant	Independent Contractor
Members of the Project Advisory Committee		

Annex 4: List of Information Reviewed

1. National Implementation Plan for Stockholm Convention, 2006
2. Project Identification Form
3. Project Document
4. Inception Workshop report, Feb 2011
5. Midterm review (MTR) report
6. Management response to recommendations made in midterm review
7. Annual Project Implementation Reviews (PIRs)
8. Annual Progress Reports
9. Annual Work Plans
10. Project Board meeting minutes
11. Completed GEF Tracking Tool for POPS Projects
12. Combined Delivery Reports
13. Independent Financial Audit report for fiscal year 2012
14. Back-to-office reports, field monitoring reports
15. Manifest records of first transboundary shipment of equipment and debris containing PCBs
16. Photograph documentation of field works
17. Video documentary of project
18. PCBs database (online)
19. Partial English translation of PCBs regulation, 2014
20. Training Material for Handling Poly Chlorinated Biphenyls (PCBs), 2014
21. Environmental Sound Management System for PCBs in Jordan, 2014
22. UNDP Country Programme Action Plan, 2008-2012

Annex 5: Summary of Field Visits

28 July 2015, visit to the Royal Scientific Society (RSS) Laboratory in Amman

The laboratory has national (JAS) accreditation for PCB analyses for oil, soil, and water.

The RSS laboratory reports indicate that the analytical results are representative of the sample delivered; this means that they are not responsible for sampling errors.

The work on the project was the first time they tested transformer oil.

Charge was 70 JOD per sample.

Contract with the project was completed in 2014, and 1,500 samples analyzed in first batch. Second batch is 300 samples. Companies are obliged to have independent, accredited testing of imported units; no cases yet. Also, could be additional samples from post draining checks.

For soil and water, the 43 water and 14 soils tested negative for PCBs. There are no regulations in Jordan regarding PCBs in soil or water.

RSS has not actively marketed their PCB analytical capacities, including regionally. They are one of the few, maybe first lab in the region that is accredited to analyze transformer oil for PCBs.

29 July 2015, field visit to JEPCO in Zarqa, in the Zarqa Governorate

JEPCO (Jordan Electric Power Company) is a publicly traded company. The site is a maintenance yard for the electrical utility company; located within an industrialized part of Zarqa; the nearest residential areas are about 300-400 m away. The maintain transformers and other electrical equipment and then re-install them within their network, which includes primarily residential areas.

We met with Eng. Ayham Bakeer, JEPCO Maintenance Engineer. He has 7 years' experience with the company.

The PCB interim storage area is not yet ready. They have delineated an approx. 150-m² outdoor area, which is surfaced in concrete surrounded by an approx. 1-m high concrete block wall. Currently, they are storing approximately 20 transformers that have been drained of PCB oil. The concrete surface is in fairly poor condition, with moderate oil staining. Mr. Bakeer indicated that the oil stains were there before they drained the transformers. The company plans to improve the concrete surface with an epoxy coating and cover the area with a roof. According to the interim storage specification, there should be perimeter bunding, min. 10-cm high. They could solve this by building a ramp at the entrance for the forklifts, and seal the perimeter walls with epoxy.

To facilitate the work carried out on the PCBs project, the company converted a storage hanger into a maintenance workshop. They installed an overhead crane, installed an epoxy coating on part of the concrete floor where then carried out the transformer oil drainage, and installed a sub-grade, approximate 5-m³ steel containment tank inside an concrete bunker. According to the project team, the sub-grade tank system was not used during the draining work, but rather they conveyed the oil directly into 200-liter drums.

There are about 50 x 200-liter steel drums hold PCB-containing oil, outside of the maintenance workshop. The drums are stacked two high, set on concrete, with no secondary containment. The drums are cordoned off with caution tape, and the project team delivered labels, indicating "contains PCB"s to affix onto the drums until the second waste shipment is organized later in the year. The selected disposal contractor, from Belgium, is due to make an inspection visit to Jordan in September 2015. By that time, drums of PCB-containing oil from other companies in the region are expected to be transported to the JEPCO site. JEPCO will not be ready with their interim storage facility by that time, so the drums will be stored outdoors, next to the ones currently there.

A total of 27 transformers at the JEPCO site were drained in 2015. Among those, 25 are planned to be returned to service. Some of them will be installed where they were removed, but some will go to different locations. When the transformers were taken out of service, there was approximately 3-4 hours of shutdown time, and the company installed replacement transformers. Two of the 27 transformers that have been drained will be scrapped, and JEPCO would like to include those with the second shipment. These two were not included in the tender, so the project team will need to speak with the UNDP about how to best arrange this. Mr. Bakeer was uncertain whether the company would be willing to participate in cost sharing. There is one scrap transformer

that was included in the tender; this unit is owned by a private company but within JEPSCO's service jurisdiction. The project team has not yet heard back from the private company regarding including the transformer in the shipment or not; but it was included in the tender.

Mr. Bakeer indicated that they will respond to the TE questionnaire by tomorrow, with estimated costs the company has incurred as part of PCBs management. Such activities have included the following:

- ✓ Costs for refurbishing the building used as a maintenance workshop (overhead crane, epoxy-coated floor, sub-grade collection tank, etc.);
- ✓ Cost for interim storage facility (not yet constructed);
- ✓ Purchase of new transformer oil;
- ✓ Purchase of replacement transformers;
- ✓ Labor costs for draining the 27 transformers;
- ✓ Labor and expenses for testing 6,000 transformers. They had 8 teams working approximately 8 months. Each team consisted of an engineer and two technicians;
- ✓ Participation in project meetings, including the PAC, and workshops;
- ✓ Etc.

The drained transformers have bar-code labels, some are faded however, but they are not yet labelled with "Contains PCBs" labels. The project team delivered some labels to the company to affix onto the units.

The project team demonstrated the use of the bar code readers and printers. Also, Mr. Bakeer accessed the PCB database from this mobile phone, and with the serial number of one of the transformers, could access available information on this unit.

We also visited the room where the company has set up the Dexil 2000 chlorine electrode. They have not used the unit in the past couple of months, but Mr. Bakeer indicated they will be using in the future, e.g., when they scrap transformers. The calibration solution had an expiration date of June 2014, but according to the project team, the supplier indicated that the solution can still be used, and they ran some tests to confirm this.

In 2015, JEPSCO has purchased approximately 100 transformers. They had separate tenders for the transformers and the transformer oil. They received certification from the oil supplier that the oil is free of PCBs. They run testing of the transformer oil, but only for electrical properties, not for PCBs. For PCBs, they rely on the certificates from the suppliers. After concluding the oil supply contract, they arrange that the oil is shipped to the transformer supplier, and the oil filling is carried out at the premises of the transformer supplier. JEPSCO receives filled transformers.

According to Mr. Bakeer, there are about 10,500 transformers in service in the JEPSCO network. More than 98% of the mineral oil ones have been tested for PCBs. The Midel[®] oil is reportedly known not to contain PCBs, so they have not been tested.

Also, according to Mr. Bakeer, JEPSCO has had an internal policy since 1995 to require "free of PCBs" certificates from their suppliers. But, before this PCBs project, the company did not have any idea what the PCB content was of their stock.

For switch gears, and circuit breakers using mineral oil (same as transformers), the oil is changed within 2-3 years, i.e., free of PCBs.

JEPSCO has about 27 maintenance technicians at this site. Mr. Bakeer is unaware of any particular medical testing due to the fact that some of these technicians are handling PCBs, which are carcinogenic substances.

The company is working toward OHSAS certification, but Mr. Bakeer did not have details. He was also unaware whether the facility's emergency response plan, fire safety plan, labor safety risk assessment, or other plans have been updated with information regarding PCBs.

Photograph Documentation:



Gas chromatography laboratory, Royal Scientific Society, Amman, 28 Jul 2015



Portable chlorinated organics analyzer, JEPCO, Zarqa, 29 Jul 2015



Demonstration of PDA reading label on out-of-service transformer, JEPCO, Zarqa, 29 Jul 2015



Two scrap transformers with PCB-containing oil, pending disposal, JEPCO, Zarqa, 29 Jul 2015



Stacked drums of PCB-containing oil, JEPCO, Zarqa, 29 Jul 2015



Site of proposed interim storage, JEPCO, Zarqa, 29 Jul 2015

Annex 6: Questionnaire Survey

The following survey was sent to the participating electric utility and private sector industrial companies, to obtain feedback on their involvement on the project, information pertaining to their cofinancing contributions, and recommendations moving forward.

No.:	Question:	Response:
1.	Name of company/organization:	
2.	Date of response:	
3.	Name of person responding: (name, affiliation, position)	
4.	Quantity of equipment containing PCBs stored onsite	
5.	Has equipment been drained? If yes, please indicate quantity of PCB oils generated.	
6.	Have equipment containing PCBs been labelled and registered on the national database?	
7.	Have equipment containing PCBs and/or PCB oils been disposed? If yes, please indicate when and the final disposal destination.	
8.	Does the company have a PCB management plan?	
9.	How much money has the company spent on PCB management to date? And, how much is estimated to be spent in the future?	
10.	Does the company maintain PCB inspection logs?	
11.	Has the temporary storage of equipment containing PCBs at the company's premises been inspected by the authorities? If yes, please indicate date of inspection and the name of the authority that made the inspection.	
12.	Please attach a photograph of the storage area.	
13.	Has soil and/or groundwater beneath the storage area been sampled? If yes, please indicate whether impacts were discovered.	
14.	Any other comments:	

Survey Findings:

The following companies completed the survey questionnaire:

- ✓ Aqaba Special Economic Zone Authority (ASEZA)
- ✓ Central Electricity Generating Company (CEGCO)
- ✓ Electricity Distribution Company (EDCO)
- ✓ Irbid District Electricity Co. Ltd (IDECO)
- ✓ Jordan Electric Power Co (JEPCO)
- ✓ Jordan Petroleum Refinery Co Ltd (JoPetrol)
- ✓ Jordan Phosphate Mines Co. PLC (JPMC)
- ✓ Lafarge Holcim Cement Jordan (Lafarge)
- ✓ National Electric Power Company (NEPCO)
- ✓ Port corporation

The companies were very responsive, providing the filled in questionnaires in approximately one week from the time they were sent to them. And feedback was obtained from each of the 10 surveyed companies.

Each of the responding companies provided information on cofinancing, and the details are summarized in Annex 9 of this TE report.

Some of the issues raised include the following:

- ✓ Most of the respondents were interested in learning more information on how management of PCBs is handled in other countries.
- ✓ The respondents noted that no environmental impacts were discovered, based upon soil and water samples analyzed.
- ✓ The process of draining transformers containing PCBs provided a learning experience for staff members, including the safety precautions taken. Overall awareness among the companies regarding the risks associated with PCBs has increased.
- ✓ Two of the companies pointed out that they have transformers containing PCBs that were not included in the tender for the second shipment, planned later in 2015, and they requested to have this equipment transported for disposal.

Annex 7: Matrix for Rating Achievement of Project Objective and Outcomes

<p>This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD:</p> <p>Enhanced capacities for safer management of hazardous waste.</p>
<p>Country Programme Outcome Indicators:</p> <p>(i) amount of Hazardous (PCB) waste disposed correctly according to international criteria, and (ii) percentage reduction in the number of PCB contaminated areas.</p>
<p>Primary applicable Key Environment and Sustainable Development Key Result Area:</p> <p>Environmentally sound management and disposal of PCB in the Hashemite Kingdom of Jordan</p>
<p>Applicable GEF Strategic Objective and Program:</p> <p>Objectives: To reduce and eliminate production, use and releases of POPs</p> <p>Program: (1) POPs SP1 Strengthening Capacities for NIP Development and Implementation, (2) POPs SP2 Partnering in Investments for NIP Implementation</p>
<p>Applicable GEF Expected Outcomes:</p> <p>(1) GEF eligible countries have the capacity to implement the measures required to meet their obligations under the Convention, including POPs reduction measures. As such measures will address the full range of chemicals (e.g., pesticides, industrial chemicals, and unintentionally produced by-products). Countries will also be implementing measures that will improve their general capacity to achieve the sound management of chemicals.</p> <p>(2) Sustainably-reduced POPs production, use, and releases, through phase-out, destruction in an environmentally sound manner, and use of substitute products and alternative processes, that lead to reduced environmental and health risks resulting from POPs.</p>
<p>Applicable GEF Outcome Indicators:</p> <p>(1) Indicators for Outcome 1:</p> <p>(a) legislative and regulatory framework in place in supported countries for the management of POPs and the sound management of chemicals in general;</p> <p>(b) Strengthened and sustainable administrative capacity, including chemicals management administration within the central government in supported countries;</p> <p>(c) Strengthened and sustainable capacity for enforcement in supported countries.</p> <p>(2) Indicators for Outcome 2:</p> <p>(a) POPs phased out from use (tons and cost per ton per compound)</p> <p>(c) POPs destroyed in an environmentally sound manner (tons and cost per ton per compound and mode of destruction)</p> <p>(d) Reduced exposure to POPs, measured as the number of people living in close proximity to POPs wastes that have been disposed of or contained</p>

Objective/Outcome	Objectively verifiable indicators	Baseline	Target	Terminal Evaluation Comments	Rating
Project Objective: Implementation of a comprehensive PCBs management system in the Hashemite Kingdom of Jordan					
Objective: Implementation of a comprehensive PCBs management system in the Hashemite Kingdom of Jordan	Comprehensive PCB management system is installed on country-wide level through capacity building which is tested and promoted by demonstration for PCB final disposal in order to meet Jordan's obligation under the Stockholm Convention by the end of the project.	<ul style="list-style-type: none"> Lack of up-to-date regulatory measures for PCB control Lack of national capacity and experience with PCB identification and management Limited national resources for the implementation of the Convention Low level awareness on the PCB risks 	1. Regulatory measures to assist in the identification, labelling, capturing and disposing of PCB materials.	The project has facilitated drafting and prime ministerial endorsement of the Instruction on PCB Management under Article 4/D of Environmental Law 56/2006 ("PCBs regulation").	Satisfactory
			2. ESM system to cover PCB handling in line with internationally accepted standards.	An environmentally sound management system has been developed, but it is not being used fully as intended. For example, interim storage facilities are not available for holding equipment and oils containing PCBs. The PCBs database is a flexible web-based platform that is fully functional. Certain additions should be made to the database to make it more relevant for implementation of the PCBs regulation.	Moderately Satisfactory
			3. National capacity to manage PCB is upgraded through transfer of technical advice and specialized trainings	The project has been very practical, including a nation-wide inventory of electrical equipment, field testing for PCBs, and draining and packaging equipment containing PCBs. The Ministry of Environment and key electric utility and private sector industrial companies have been actively involved in these activities, as well as in workshops and committee meetings sponsored by the project.	Satisfactory
			4. PCB materials are known, labelled, stored and disposed of in environmentally sound ways	The project will exceed the envisaged quantity of equipment and wastes containing PCBs.	Highly Satisfactory
Achievement towards Project Objective:					Satisfactory
Component 1: Regulatory and administrative strengthening for PCB management.					
Outcome 1 Laws, regulations and guidelines for PCB management developed	Regulations and guidelines for PCB management are in line with international standards including registration, labelling and reporting of potential all PCB and PCB containing materials in use in 2010.	<ul style="list-style-type: none"> Lack of appropriate regulatory measures to start controlling the PCB handling aspects in the country Potentially PCB contaminated equipment goes for metal scrapping without oil testing No mandatory identification, registration 	1.1.1. PCB regulations and guidelines are commonly developed in order to meet international standards and practices to backstop effective and safe PCB controls.	The project has facilitated drafting and prime ministerial endorsement of the Instruction on PCB Management under Article 4/D of Environmental Law 56/2006 ("PCBs regulation"). The scope of the regulation is broad, not only dealing with electrical equipment. And, there are gaps in complementary legislation and enforcement, including regulations on protection of soil and groundwater, disposal of used oil, occupational safety and health provisions for workers handling PCBs, etc.	Satisfactory

Objective/Outcome	Objectively verifiable indicators	Baseline	Target	Terminal Evaluation Comments	Rating
		and reporting on PCB equipment is done across the equipment owners <ul style="list-style-type: none"> In the absence of controls, private sector does not attach importance to voluntary cooperation measures to improve PCB management practices 			
Outcome 2 Sustained and targeted awareness raising on various levels	Information dissemination campaigns ensure availability of printed and electronic information through workshops and work with media	<ul style="list-style-type: none"> Significant gaps in knowledge about PCB associated risks No information products published Very limited number of workshops held 	1.2.1. Information products developed and published	The project has been moderately satisfactory in developing knowledge products. A training manual on handling PCBs has been developed, but there is no evidence that this is internalized into the recurrent capacity building program of the Ministry of Environment, or other company or institution.	Moderately Satisfactory
			1.2.2. National workshops are arranged throughout the project's duration to distribute developed information packages	The project has sponsored workshops on environmentally sound management of PCBs, and socialization of the PCBs regulation. Additional workshops should be considered with respect to implementation and enforcement of the new regulation.	Satisfactory
			1.2.3. Media coverage on PCB issues is ensured	There has been limited media coverage of the project. The PCBs database is available online, but limited knowledge based products have been disseminated online or through other media outlets.	Moderately Satisfactory
Achievement towards outcomes under Component 1:					Satisfactory
Component 2: Improving PCB inventory and technical capacity for Environmentally Sound Management (ESM) of PCB equipment and materials					
Outcome 1 Development of PCB detection and analytical capacity through equipment/tools and specialized training for analytical surveys	<ul style="list-style-type: none"> Country has a comprehensive inventory of PCB containing and contaminated equipment Reports from personnel responsible for equipment testing. Labeling of tested equipment showing the new classifications (PCBs free, contaminated above 50 ppm) 	<ul style="list-style-type: none"> Analytical capacity is limited to specialized labs with GC equipment, lacks modern protocols for PCB identification and skills for the use of such protocols. GC equipment is expensive per unitary sample test and slow in delivering testing 	2.1.1. All potentially contaminated oil transformers at utility sector and major private industries are tested for PCB. Equipment is labeled and registered	More than 14,000 transformers have been inventoried and tested for PCBs. This is the majority of units in the country.	Satisfactory
			2.1.2. Comprehensive PCB equipment inventory is done and helps accurate reporting to the authorities	The results of the equipment inventory and PCBs testing are recorded on the PCBs database. Reporting of new transformers added to the market since project inception has been limited, however.	Satisfactory

Objective/Outcome	Objectively verifiable indicators	Baseline	Target	Terminal Evaluation Comments	Rating
	<ul style="list-style-type: none"> 2 units of portable sampling and testing equipment are supplied 2 engineers per utility company are trained in the use of such equipment. 	results. <ul style="list-style-type: none"> Country does not have a comprehensive inventory of PCB equipment 	2.1.3. PCB equipment is recorded in a centralized manner for the use by authorities and for public information	The information gathered during the equipment inventory, field testing, and laboratory analyses are recorded on the PCBs database. The database should be adapted to the needs following project closure, e.g., for documenting inspection reports.	Moderately Satisfactory
			2.1.4. The database serves reporting obligations to the Stockholm Convention	The PCBs database primarily includes information on field testing and laboratory analyses. The database should be expanded to include detailed information regarding disposal/destruction of the generated equipment and wastes containing PCBs.	Moderately Satisfactory
			2.1.5. Analytical capacity is upgraded through the supply of portable equipment and GC protocols and specialized trainings for existing labs.	One laboratory, the Royal Scientific Society has acquired national accreditation for GC analysis of dielectric oil for PCBs.	Satisfactory
Outcome 2 Development of ESM system and specialized training for PCB experts to promote the system's applicability in practice	Development of ESM system is completed and it's successful implementation is backstopped by appropriate PCB legislative framework	<ul style="list-style-type: none"> PCB equipment handling is unsafe and does not meet any international norms. Potentially PCB contaminated equipment goes for metal scrapping Low level awareness of PCB associated risks No specialized training in safe PCB management has been provided and no capacity exists to prevent PCB releases or equipment cross-contamination No secure PCB material storage facilities exist 	2.2.1. ESM system is developed	The environmentally sound management system has been developed. There are key field components missing, including the interim storage facilities.	Satisfactory
			2.2.2. PCB holders are aware of PCB risks associated with equipment maintenance and retirement.	PCB holders have received extensive training on safe handling of PCBs, and they have confirmed through interviews and the TE questionnaire survey that their awareness regarding risks associated with PCBs has considerably increased.	Satisfactory
			2.2.3. Private sector is trained in identification and registration of PCB equipment	Electric utility and private sector industrial companies expended significant amounts of their own funds on identifying and registering electrical equipment.	Highly Satisfactory
			2.2.4. Three regional PCB storage facilities established and upgraded to meet international standards with appropriate training for personnel	At the time of the terminal evaluation, there were no interim storage facilities ready. According to interviews and feedback received from the TE questionnaire survey, JEPCO and IDECO have plans to construct interim storage facilities and they have committed financing. But, construction has not yet started.	Unsatisfactory
			2.2.5. Private sector is provided professional services to pick-up, transport and handle identified PCB materials in ESM manner to prepare the waste for final disposal	The project has facilitated transboundary shipment and disposal/destruction of equipment and wastes containing PCBs. By the end of the project, the vast majority of discovered equipment and wastes containing PCBs will have been disposed.	Satisfactory
Outcome 3 Identification and setup of storage facilities for proper interim PCB	Three interim PCB accumulation and storage points are installed and meet internationally accepted standards for safety and management by 2012	<ul style="list-style-type: none"> Lack of modern and safe interim PCB accumulation and storage points. Owners of PCB 	2.3.1. Three PCB accumulation and storage facilities are upgraded to meet internationally accepted standards and this backstops the functioning of the ESM system.	At the time of the terminal evaluation, there was no PCB accumulation or storage facilities ready.	Unsatisfactory

Objective/Outcome	Objectively verifiable indicators	Baseline	Target	Terminal Evaluation Comments	Rating
containment		transformers willing to dispose of the priority hazardous materials in poor condition lack the opportunity to do so. <ul style="list-style-type: none"> Unprotected storages for disconnected electrical equipment, including PCB equipment, increase the risks of PCB spread into the environment. 	2.3.2. All phased out transformers, especially those that are tested for PCB above 50 ppm, PCB capacitors and other PCB materials are stored in safe and environmentally sound manner which meets internationally practices	Considering that the interim storage facilities have not been constructed, equipment and drained oil containing PCBs are unsafely stored.	Moderately Unsatisfactory
			2.3.3. Uncontrolled PCB releases from stored disconnected PCB equipment are minimized.	One of the aims of the project was to dispose up to 25% of electrical equipment containing PCBs. By the end of the project, the vast majority of the discovered equipment containing PCBs will have been disposed.	Satisfactory
Achievement towards outcomes under Component 2:					Satisfactory
Component 3: Demonstration projects for testing ESM system and disposal of PCB containing equipment					
Outcome 1 Development of capacity to securely transport, handle, package, securely stockpile PCB wastes and disposal of stockpiles (pure and contaminated)	<ul style="list-style-type: none"> Incoming inventory reports from the interim storages on quantities, characteristics and origin of the PCB materials. Trained personnel at the storage sites to assist in transporting the waste material to storage/handling sites, safe PCB oil draining, packing and securing the wastes by 2012. Additional tests for cross-contaminated equipment which underwent oil replacement (equipment contamination level allowed at 1,000 ppm upper limit level) Disposal of 40 tons of pure and 100 tons of contaminated PCB materials by export to a licensed disposal facility by 2014. 	<ul style="list-style-type: none"> Limited capability in the safe handling of PCB materials. PCB equipment is sent for scrap and contamination of media and exposure of workers continues. 	3.1.1. National capacity to handle PCB materials for final safe disposal is improved.	The project has done a good job facilitating capacity building in environmentally sound management of PCBs.	Satisfactory
			3.1.2. Economical solution for oil transformers with contamination below 1,000 ppm PCB in the oil is developed.	Considering the relatively low quantities of cross-contaminated oil discovered the most feasible solution was transboundary shipment of the units to Europe.	Satisfactory
			3.1.3. Equipment containing PCB (40 tons) and oil contaminated with PCB above 50 ppm (100 tons) will be disposed of according to international standards and practices for all times.	The first shipment included 38 tons of transformers (19 units), 5 tons of capacitors, and 5 tons of debris containing PCBs. The second shipment is envisaged to include approximately 40 tons of drained dielectric oil having a concentration of PCBs greater than 50 ppm. The number of equipment cross-contaminated was lower than expected, thus the 100 tons estimated will likely not be met.	Satisfactory
			3.1.4. Number of PCB contaminated transformers is reduced in the country allowing minimizing further equipment cross-contamination.	Although this was a demonstration project, the vast majority of electrical equipment transformers and capacitors containing PCBs will have been disposed/destroyed by project closure.	Satisfactory
Achievement towards outcomes under Component 3:					Satisfactory

Objective/Outcome	Objectively verifiable indicators	Baseline	Target	Terminal Evaluation Comments	Rating
Component 4: Monitoring, learning, adaptive feedback, outreach and evaluation					
Outcome 1 Project results are evaluated, used in adaptive management and replicated	M&E and adaptive management applied to project in response to needs, mid-term evaluation findings with lessons learned extracted.	<ul style="list-style-type: none"> No Monitoring and Evaluation system No evaluation of project output and outcomes 	4.1.1. Monitoring and Evaluation system developed during year 1.	There was no evidence of a more specific monitoring and evaluation system developed, compared to the plan outlined in the project document.	Moderately Satisfactory
			4.1.2. Mid-term-evaluation of project output and outcomes conducted with lessons learnt at 30 months of implementation.	The midterm review was carried out, approximately after 30 months of implementation.	Satisfactory
			4.1.3. Final evaluation report ready in the end of project	The terminal evaluation was completed in August 2015, about 7 months before the extended closure of the project (March 2016).	Satisfactory
Achievement towards outcomes under Component 4:					Moderately Satisfactory

Annex 8: Financial Expenditure Details

Expenditures for the period January - December 2011

Project Name: "Implementation of phase I of a comprehensive (PCBs) management system"

(Project ID: 0077155)

Ser.	Fund	Donor	Org.	Account	Account Description	Item Description	JOD	USD
Activity 1								
1	62000	10003	GEF	71205	International Consultants- Technical	ITC first payment as per contract # 2011/29	5,097.600	7,200.00
2	62000	10003	GEF	71305	Local Consultants- Technical	Technical Workshop venue and lunch	990.000	1,398.31
6	62000	10003	GEF	71305	Local Consultants- Technical	Jameela Taha Hussein Salman Adwan	-796.337	-1,124.77
6	62000	10003	GEF	71305	Local Consultants- Technical	Clearing C/S deficit	1,828.842	2,583.11
3	62000	10003	GEF	72105	Svc Co - Construction & Engineering	Publications for Inception workshop	490.000	692.09
4	62000	10003	GEF	72105	Svc Co - Construction & Engineering	Hosting Inception workshop	1,500.000	2,118.64
5	62000	10003	GEF	72105	Svc Co - Construction & Engineering	Printing and design project logo + cards	90.000	127.12
6	62000	10003	GEF	72105	Svc Co - Construction & Engineering	Lina Mahmoud Alnsour	-1,077.137	-1,521.38
6	62000	10003	GEF	74525	Sundry	UNDP representative JD account	14.514	20.50
7	62000	10003	GEF	74525	Sundry	UNDP representative JD account	-14.160	-20.00
Total Activity							8,123.322	11,473.62

Activity 2								
1	62000	10003	GEF	72399	Other Materials & Goods	Dell Laptop latitude 5410 - 3 Pcs.	2,175.000	3,072.03
2	62000	10003	GEF	72399	Other Materials & Goods	Multifunction WorkCenter Xerox 3220	330.000	466.10
3	62000	10003	GEF	72399	Other Materials & Goods	HP Laser Jet CP 1525n	177.000	250.00
4	62000	10003	GEF	72399	Other Materials & Goods	Mobile phones - Nokia E72 - 2 Pcs	430.000	607.34
5	62000	10003	GEF	72399	Other Materials & Goods	Sony Video Camera	580.000	819.21
6	62000	10003	GEF	72399	Other Materials & Goods	Wireless router TP Link	45.000	63.56
7	62000	10003	GEF	72399	Other Materials & Goods	Tri-pod & Battery	155.000	218.93
8	62000	10003	GEF	72399	Other Materials & Goods	UNDP representative JD account	66.014	93.24
9	62000	10003	GEF	72399	Other Materials & Goods	UNDP representative JD account	37.715	53.27
Total Activity							3,995.729	5,643.69

Activity 4								
1	62000	10003	GEF	71210	International Consultant - Support	Travel Tickets - International	612.816	865.56
2	62000	10003	GEF	71210	International Consultant - Support	Daily Subsistence Allowance - Intl	1,049.999	1,483.05
3	62000	10003	GEF	71210	International Consultant - Support	Travel - other (Terminal Expenses)	107.616	152.00
4	62000	10003	GEF	71210	International Consultant - Support	UNDP representative JD account	327.974	463.24
5	62000	10003	GEF	71210	International Consultant - Support	UNDP representative JD account	80.096	113.13
Total Activity							2,178.501	3,076.98

Activity 5								
1	04000	00012	UNDP	71405	Service Contracts - individuals.	Pay	1,025.820	1,448.90
2	04000	00012	UNDP	71405	Service Contracts - individuals.	Pay	1,827.827	2,581.68
3	04000	00012	UNDP	71405	Service Contracts - individuals.	Pay	1,827.827	2,581.68
Subtotal							4,681.474	6,612.25
1	04000	00012	UNDP	74525	Sundry	GLE	359.522	507.80
2	04000	00012	UNDP	74525	Sundry	UNDP representative JD account	141.600	200.00
Subtotal							501.122	707.80
1	04000	00012	UNDP	72155	Svc Co-Public Admin Svcs	UNDP representative JD account	80.997	114.40
2	04000	00012	UNDP	72155	Svc Co-Public Admin Svcs	UNDP representative JD account	161.990	228.80
Subtotal							242.987	343.20

1	30071	00140	GOV	71405	Service Contracts - individuals.	Pay	1,827.840	2,581.69
2	30071	00140	GOV	71405	Service Contracts - individuals.	Pay	1,837.588	2,595.46
Subtotal							3,665.428	5,177.16

Expenditures for the period January - December 2011

Project Name: "Implementation of phase I of a comprehensive (PCBs) management system"

(Project ID: 0077155)

Ser.	Fund	Donor	Org.	Account	Account Description	Item Description	JOD	USD
1	30071	00140	GOV	71205	Int Consultant -Sht Term-Tech	Clearing C/S deficit	-1,828.842	-2,583.11
2	30071	00140	GOV	71205	Int Consultant -Sht Term-Tech	Clearing C/S deficit	-1,836.552	-2,594.00
Subtotal							-3,665.394	-5,177.11
1	30071	00140	GOV	71205	Int Consultant -Sht Term-Tech	Clearing C/S deficit	-2,941.560	-4,154.75
2	30071	00140	GOV	71205	Int Consultant -Sht Term-Tech	Clearing C/S deficit	-3,731.995	-5,271.18
Subtotal							-6,673.555	-9,425.93
1	30071	00140	GOV	71205	Int Consultant -Sht Term-Tech	Clearing C/S deficit	-200.208	-282.78
Subtotal							-200.208	-282.78
1	62000	10003	GEF	71405	Service Contracts - individuals.	Jameela Taha Hussein Salman Adwan	3,737.890	5,279.51
2	62000	10003	GEF	71405	Service Contracts - individuals.	Lina Mahmoud Alnsour	4,809.120	6,792.54
13	62000	10003	GEF	72105	Svc Co - Construction & Engineering	Medical Test	90.000	127.12
13	62000	10003	GEF	72105	Svc Co - Construction & Engineering	Medical Test	110.000	155.37
6	62000	10003	GEF	71405	Service Contracts - individuals.	September payroll for NPO & NPA	1,827.839	2,581.69
7	62000	10003	GEF	71405	Service Contracts - individuals.	October payroll for NPO & NPA	1,827.839	2,581.69
8	62000	10003	GEF	71405	Service Contracts - individuals.	November payroll for NPO & NPA	1,827.839	2,581.69
9	62000	10003	GEF	71405	Service Contracts - individuals.	December payroll for NPO & NPA	1,827.839	2,581.69
14	62000	10003	GEF	71405	Service Contracts - individuals.	UNDP REPRESENTATIVE DINAR ACCOUNT	517.697	731.21
14	62000	10003	GEF	71405	Service Contracts - individuals.	Clearing C/S deficit	1,836.557	2,594.01
Subtotal							18,412.620	26,006.53
21	62000	10003	GEF	72160	Travel Ticket - Local	20% DSA for 7 nights	418.340	590.88
Subtotal							418.340	590.88
18	62000	10003	GEF	71605	Travel Ticket - Local	Ticket Amman-Geneva-Amman	581.170	820.86
19	62000	10003	GEF	71605	Travel Ticket - Local	Terminal	107.600	151.98
20	62000	10003	GEF	71605	Travel Ticket - Local	80% DSA for 7 nights	1,673.120	2,363.16
21	62000	10003	GEF	71605	Travel Ticket - Local	UNDP representative JD account	14.160	20.00
Subtotal							2,376.050	3,356.00
18	62000	10003	GEF	71620	Daily Subsistence Allowance - local	Days INN Hotel & Suites	240.000	338.98
19	62000	10003	GEF	71620	Daily Subsistence Allowance - local	EDOM Hotel	75.000	105.93
20	62000	10003	GEF	71620	Daily Subsistence Allowance - local	KARAK Rest House	90.000	127.12
	62000	10003	GEF	71620	Daily Subsistence Allowance - local	Royal Society for Conservation of Nature	101.255	143.02
21	62000	10003	GEF	71620	Daily Subsistence Allowance - local	Aquamarina Hotel	79.990	112.98
Subtotal							586.245	828.03
18	62000	10003	GEF	71635	Travel - Other	Jameela Taha Hussein Salman Adwan	7.650	10.81
19	62000	10003	GEF	71635	Travel - Other	NEZAR ABED AL-ROUF HADDAD	75.000	105.93
20	62000	10003	GEF	71635	Travel - Other	Lina Mahmoud Alnsour	75.000	105.93
21	62000	10003	GEF	71635	Travel - Other	Lina Mahmoud Alnsour	43.750	61.79
21	62000	10003	GEF	71635	Travel - Other	NEZAR ABED AL-ROUF HADDAD	43.750	61.79
18	62000	10003	GEF	71635	Travel - Other	AHMAD MOUSA HASAN AHMAD	62.500	88.28
Subtotal							307.650	434.53
18	62000	10003	GEF	74525	Sundry	Al-Barq For Advertisement	242.550	342.58
19	62000	10003	GEF	74525	Sundry	Al-Barq For Advertisement	242.550	342.58
20	62000	10003	GEF	74525	Sundry	HENRY HANNOUSH & SONS CO.	120.000	169.49
21	62000	10003	GEF	74525	Sundry	HENRY HANNOUSH & SONS CO.	116.350	164.34
21	62000	10003	GEF	74525	Sundry	Jameela Taha Hussein Salman Adwan	53.000	74.86
18	62000	10003	GEF	74525	Sundry	ARABIAN OFFICE AUTOMATION CO.	174.000	245.76
19	62000	10003	GEF	74525	Sundry	HENRY HANNOUSH & SONS CO.	101.150	142.87

Expenditures for the period January - December 2011

Project Name: "Implementation of phase I of a comprehensive (PCBs) management system"

(Project ID: 0077155)

Ser.	Fund	Donor	Org.	Account	Account Description	Item Description	JOD	USD	
20	62000	10003	GEF	74525	Sundry	Jameela Taha Hussein Salman Adwan	23.420	33.08	
	62000	10003	GEF	74525	Sundry	HENRY HANNOUSH & SONS CO.	30.000	42.37	
21	62000	10003	GEF	74525	Sundry	AL AQSA FOR OFFICE SUPPLIES	189.350	267.44	
18	62000	10003	GEF	74525	Sundry	AL AQSA FOR OFFICE SUPPLIES	10.340	14.60	
19	62000	10003	GEF	74525	Sundry	SAMIR & GHASSAN ODEH AND PARTNERS CO.	11.860	16.75	
20	62000	10003	GEF	74525	Sundry	Lina Mahmoud Alnsour	15.500	21.89	
21	62000	10003	GEF	74525	Sundry	NEZAR ABED AL-ROUF HADDAD	15.400	21.75	
21	62000	10003	GEF	74525	Sundry	Lina Mahmoud Alnsour	28.500	40.25	
18	62000	10003	GEF	74525	Sundry	NOOR AL-MAARIF STATIONERY	93.747	132.41	
Subtotal							1,467.717	2,073.05	
Total Activity							GEF Activity 5 = USD 33,289	22,120.476	31,243.61
Total for Project : 00077155							JOD	USD	
							36,418.028	51,437.89	

Source: Combined Delivery Report, UNDP

Expenditures for the period : January - December 2012

Project Name: "Implementation of phase I of a comprehensive (PCBs) management system"

(Project ID: 0077155)

Ser.	Fund	Donor	Org.	Acct.	Account Description	Item Description	JOD	USD
Activity 1								
1	62000	10003	GEF	71205	International Consultants- Technical	UNDP REPRESENTATIVE DINAR ACCOUNT	41.121	58.08
2	62000	10003	GEF	71305	Local Consultants- Technical	1st Pay Consultants-Technical	1,416.000	2,000.00
3	62000	10003	GEF	71305	Local Consultants- Technical	2nd Pay Consultants-Technical	2,832.000	4,000.00
4	62000	10003	GEF	71305	Local Consultants- Technical	3 rd Pay Consultants-Technical	2,832.000	4,000.00
5	62000	10003	GEF	71305	Local Consultants- Technical	UNDP REPRESENTATIVE DINAR ACCOUNT	102.809	145.21
6	62000	10003	GEF	71305	Local Consultants- Technical	UNDP REPRESENTATIVE DINAR ACCOUNT	23.547	33.26
7	62000	10003	GEF	71305	Local Consultants- Technical	UNDP REPRESENTATIVE DINAR ACCOUNT	417.543	589.75
8	62000	10003	GEF	72100	Contractual Services - Co	SMART LINE PRINTING SERVICE	100.000	141.24
9	62000	10003	GEF	72100	Contractual Services - Co	JARASIA PRESS - MOHAMMAD BASHEER AL-ZUBI	340.000	480.23
10	62000	10003	GEF	72100	Contractual Services - Co	JARASIA PRESS - MOHAMMAD BASHEER AL-ZUBI	190.000	268.36
11	62000	10003	GEF	72100	Contractual Services - Co	UNDP REPRESENTATIVE DINAR ACCOUNT	133.614	188.72
12	62000	10003	GEF	72105	Svc-Co Construotion Engineer	AL OULA EVENTS & CONFERENCE SERVICES	2,200.000	3,111.74
13	62000	10003	GEF	72100	Contractual Services - Co	JARASIA PRESS - MOHAMMAD BASHEER AL-ZUBI	55.000	77.79
14	62000	10003	GEF	72130	Svc-Co Transportation Service	AL- BRIGE COMPANY	170.000	240.45
15	62000	10003	GEF	72135	Svc-Co Communication Service	JARASIA PRESS - MOHAMMAD BASHEER AL-ZUBI	80.000	113.15
16	62000	10003	GEF	72145	Svc-Co Training & Educ Serv	CROWNE PLAZA AMMAN HOTEL	7,594.486	10,726.68
17	62000	10003	GEF	72100	Contractual Services - Co	NATIONAL FOOD COMPANY	110.900	156.64
Total Activity 1							18,639.020	26,331.30

Activity 2								
1	62000	10003	GEF	71205	Intl Consultants - shr Term- Tech	Intl Consultants-Technical	1,274.400	1,800.00
2	62000	10003	GEF	71205	Intl Consultants - shr Term- Tech	inv 12006668-PPE	540.000	763.79
3	62000	10003	GEF	71205	Intl Consultants - shr Term- Tech	Air Ticket	523.000	738.70
4	62000	10003	GEF	71205	Intl Consultants - shr Term- Tech	Intl Consultants-Technical	4,248.000	6,000.00
5	62000	10003	GEF	71205	Intl Consultants - shr Term- Tech	Intl Consultants-Technical	7,646.400	10,800.00
6	62000	10003	GEF	71405	Service Contracts - individuals	Pay	2,108.640	2,978.31
7	62000	10003	GEF	71605	Travel Ticket - International	UNDP REPRESENTATIVE DINAR ACCOUNT	434.245	613.34
8	62000	10003	GEF	71605	Travel Ticket - International	DSA and terminal	3,071.800	4,338.70
9	62000	10003	GEF	71635	Travel - others	UNDP REPRESENTATIVE DINAR ACCOUNT	14.118	19.94
10	62000	10003	GEF	72135	Svc Co-Construction & Engineer	AMMAN WEST STORES - BASHITI	105.000	148.31
11	62000	10003	GEF	72135	Svc Co-Construction & Engineer	IKBAL SAFETY CENTRE	127.500	180.34
12	62000	10003	GEF	72135	Svc Co-Construction & Engineer	UNDP REPRESENTATIVE DINAR ACCOUNT	94.214	133.07
13	62000	10003	GEF	72135	Svc Co-Communications Services	CROWNE PLAZA AMMAN HOTEL	4,249.514	6,002.14
14	62000	10003	GEF	72135	Svc Co-Communications Services	JORDAN TELECOM	67.777	95.73
15	62000	10003	GEF	72145	Svc Co- Training and Educ Serev	AL-RAZI DRUG STORE	445.500	629.24
16	62000	10003	GEF	72145	Svc Co- Training and Educ Serev	ARABIAN OFFICE AUTOMATION CO.	87.000	123.06
17	62000	10003	GEF	72145	Svc Co- Training and Educ Serev	JARASIA PRESS - MOHAMMAD BASHEER AL-ZUBI	190.000	268.74
18	62000	10003	GEF	72145	Svc Co- Training and Educ Serev	AMMAN WEST STORES - BASHITI	840.000	1,188.12
19	62000	10003	GEF	72145	Svc Co- Training and Educ Serev	JORDAN TELECOM	35.360	50.01
20	62000	10003	GEF	72145	Svc Co- Training and Educ Serev	LE ROYAL HOTEL	1,155.000	1,631.36
21	62000	10003	GEF	72145	Svc Co- Training and Educ Serev	JARASIA PRESS - MOHAMMAD BASHEER AL-ZUBI	40.000	56.50
22	62000	10003	GEF	72145	Svc Co- Training and Educ Serev	AL-FANAR PRINTING PRESS	1,725.000	2,436.44
23	62000	10003	GEF	72145	Svc Co- Training and Educ Serev	JORDAN TELECOM	33.220	46.92
24	62000	10003	GEF	72145	Svc Co- Training and Educ Serev	ABDIN INDUSTRIAL EST.	494.700	698.73
25	62000	10003	GEF	72145	Svc Co- Training and Educ Serev	AL FADI CO. FOR CHECMICAL SUPPLIES	1,160.000	1,638.42
26	62000	10003	GEF	72210	Machinery and Equipment	Labouratory Equipment	70,796.035	99,994.40
27	62000	10003	GEF	72210	Machinery and Equipment	Labouratory Equipment	8,849.504	12,499.30
28	62000	10003	GEF	72210	Machinery and Equipment	Labouratory Equipment	8,849.504	12,499.30
29	62000	10003	GEF	72210	Machinery and Equipment	UNDP REPRESENTATIVE DINAR ACCOUNT	23.555	33.27
30	62000	10003	GEF	72305	Agro & Forestry Products	UNDP REPRESENTATIVE DINAR ACCOUNT	236.323	333.79
31	62000	10003	GEF	72399	Other Materials & Goods	PRO SOLUTIONS CARGO AND LOGISTICS	156.000	220.65

Expenditures for the period : January - December 2012

Project Name: "Implementation of phase I of a comprehensive (PCBs) management system"

(Project ID: 0077155)

32	62000	10003	GEF	72399	Other Materials & Goods	UNDP REPRESENTATIVE DINAR ACCOUNT	236.323	333.79
33	62000	10003	GEF	72399	Other Materials & Goods	UNDP REPRESENTATIVE DINAR ACCOUNT	94.214	133.07
34	62000	10003	GEF	72815	Inform Technology Supplies	UNDP REPRESENTATIVE DINAR ACCOUNT	47.114	66.55
35	62000	10003	GEF	72815	Inform Technology Supplies	IT Installation Hardware fo	5,383.500	7,614.57
36	62000	10003	GEF	72815	Inform Technology Supplies	IT Installation Hardware fo	3,540.000	5,000.00
37	62000	10003	GEF	72815	Inform Technology Supplies	UNDP REPRESENTATIVE DINAR ACCOUNT	141.331	199.62
38	62000	10003	GEF	72815	Inform Technology Supplies	IT Installation Hardware fo	32,458.430	45,845.24
39	62000	10003	GEF	72815	Inform Technology Supplies	IT Installation Hardware fo	5,383.500	7,603.81
40	62000	10003	GEF	73310	Maint & Licening of Software	Software appliction admin.	2,336.400	3,304.67
41	62000	10003	GEF	73310	Maint & Licening of Software	Software appliction admin.	2,336.400	3,300.00
42	62000	10003	GEF	73310	Maint & Licening of Software	Software appliction admin.	2,336.400	3,300.00
43	62000	10003	GEF	73310	Maint & Licening of Software	Software appliction admin.	4,672.800	6,600.00
44	62000	10003	GEF	76125	Realised Loss	MINISTRY OF ENVIRONMENT / PCB	0.007	0.01
45	62000	10003	GEF	76135	Realised Gain	MINISTRY OF ENVIRONMENT / PCB	-1.586	-2.24
Total Activity 2							178,587.722	252,259.69

Activity 3

1	62000	10003	GEF	71205	Intl Consultant - Sht Term -Tech	Intl Consultants-Technical	2,124.00	3,000.00
2	62000	10003	GEF	71205	Intl Consultant - Sht Term -Tech	Intl Consultants-Technical	2,124.00	3,000.00
3	62000	10003	GEF	71205	Intl Consultant - Sht Term -Tech	Intl Consultants-Technical	424.80	600.00
4	62000	10003	GEF	71205	Intl Consultant - Sht Term -Tech	Intl Consultants-Technical	1,699.20	2,400.00
5	62000	10003	GEF	71205	Intl Consultant - Sht Term -Tech	UNDP REPRESENTATIVE DINAR ACCOUNT	23.56	33.27
6	62000	10003	GEF	71205	Intl Consultant - Sht Term -Tech	Intl Consultants-Technical	2,124.00	3,000.00
7	62000	10003	GEF	71405	Service Contracts - individuals	Pay	4,223.274	5,965.08
Ser.	Fund	Donor	Org.	Account	Account Description	Item Description	JOD	USD
8	62000	10003	GEF	72815	Inform Technology Supplies	IT Installation Hardware fo	7,069.567	9,985.26
Total Activity 3							19,812.396	27,983.61

Activity 4

1	62000	10003	GEF	71200	International Consultant	Intl Consultants-Technical	1,274.400	1,800.00
Total Activity 4							1,274.400	1,800.00

Activity 5

1	62000	10003	GEF	71205	Intl Consultant - Sht Term -Tech	Intl Consultants-Technical	233.64	330.00
2	62000	10003	GEF	71305	Local Consult- Short Term Supp	Pay	169.92	240.00
3	62000	10003	GEF	71405	Service Contracts - individuals.	Pay	11,803.920	16,672.20
4	62000	10003	GEF	71405	Service Contracts - individuals.	Pay	1,827.840	2,585.35
5	62000	10003	GEF	71410	MAIP Ppremium SC	Pay	16.355	23.10
6	62000	10003	GEF	71635	Travel - others	NEZAR ABED AL-ROUF HADDAD	348.000	491.53
7	62000	10003	GEF	71635	Travel - others	GHASSAN MOHAMMED NAYEF QASEM	62.502	88.28
8	62000	10003	GEF	74525	Sundry	JAMEELA TAHA HUSSEIN SALMAN ADWAN	354	500.00
9	62000	10003	GEF	74525	Sundry	JAMEELA TAHA HUSSEIN SALMAN ADWAN	93.38	131.89
10	62000	10003	GEF	74525	Sundry	TOUSHKI FOR ADVERTISING	225.225	318.11
11	62000	10003	GEF	74525	Sundry	MID FOR COMPUTER TECH (MIDTEKS)	64	90.40
12	62000	10003	GEF	74525	Sundry	JORDAN TELECOM	31.15	44.00
13	62000	10003	GEF	74525	Sundry	FUTURE FOR TONERS AND RIBBONS	44	62.15
14	62000	10003	GEF	74525	Sundry	JORDAN TELECOM	51.4	72.60
15	62000	10003	GEF	74525	Sundry	INVENTORY FOR ELECTRONIC	45	63.56
16	62000	10003	GEF	74525	Sundry	TOUSHKI FOR ADVERTISING	433.125	611.76
17	62000	10003	GEF	74525	Sundry	JORDAN TELECOM	27.53	38.88
18	62000	10003	GEF	74525	Sundry	JAMEELA TAHA HUSSEIN SALMAN ADWAN	334.354	472.25
19	62000	10003	GEF	74525	Sundry	MINISTRY OF ENVIRONMENT / PCB	66.836	94.40
20	62000	10003	GEF	74525	Sundry	MINISTRY OF ENVIRONMENT / PCB	-63.83	-90.28

Expenditures for the period : January - December 2012

Project Name: "Implementation of phase I of a comprehensive (PCBs) management system"

(Project ID: 0077155)

21	62000	10003	GEF	76125	Realized loss	MINISTRY OF ENVIRONMENT / PCB	0.18	0.25
Subtotal							16,168.527	22,840.43

1	30071	00140	GOV	71405	Service Contracts - individuals.	Pay	2,108.636	2,978.30
2	30071	00140	GOV	75105	Facilities & Admin - Implement	Pay	63.26	89.35
Subtotal							2,171.896	3,067.65

Total Activity 5							34,508.949	25,908.08
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							JOD	USD
Total for Project : 00077155							218,313.538	334,282.68

Source: Combined Delivery Report, UNDP

Expenditures for the period January - December 2013

Project Name: "Implementation of phase I of a comprehensive (PCBs) management system"

(Project ID: 0077155)

Ser.	Fund	Donor	Org.	Acct.	Item Description	JOD	USD
Activity 1							
1	62000	10003	GEF	71405	Service Contracts - Individuals April payroll for NPO	1,049.015	1,481.660
2	62000	10003	GEF	71405	Service Contracts - Individuals Masy payroll for NPO	1,050.488	1,483.740
3	62000	10003	GEF	71405	Service Contracts - Individuals June payroll for NPO	1,050.488	1,483.740
4	62000	10003	GEF	71305	Local consultant July Payroll for NPO	1,050.488	1,483.740
5	62000	10003	GEF	71305	Local consultant August Payroll for NPO	1,054.658	1,489.630
6	62000	10003	GEF	71305	Local consultant September payroll fo NPO	1,050.488	1,483.740
7	62000	10003	GEF	71305	Local consultant October payroll	1,050.488	1,483.740
8	62000	10003	GEF	71305	Local consultant Nov. Payroll	1,391.765	1,965.770
9	62000	10003	GEF	71305	Local consultant December payroll	1,050.488	1,483.740
10	62000	10003	GEF	71410	Service Contracts - Individuals MAIP premium SC	4.745	6.69
11	62000	10003	GEF	71410	Service Contracts - Individuals MAIP premium SC	4.745	6.69
12	62000	10003	GEF	71410	Service Contracts - Individuals MAIP premium SC	4.745	6.69
13	62000	10003	GEF	71410	Service Contracts - Individuals MAIP premium SC	4.745	6.693
14	62000	10003	GEF	71410	Service Contracts - Individuals MAIP premium SC	4.745	6.693
15	62000	10003	GEF	71410	Service Contracts - Individuals MAIP premium SC	4.740	6.685
16	62000	10003	GEF	71410	Service Contracts - Individuals October payroll	4.740	6.685
17	62000	10003	GEF	71410	Service Contracts - Individuals Nov. Payroll	4.740	6.685
18	62000	10003	GEF	71410	Service Contracts - Individuals December payroll	4.740	6.685
19	62000	10003	GEF	72145	Contractual Services - companies training and education	1,534.500	2,167.373
20	62000	10003	GEF	72145	Contractual Services - companies training and education	263.375	371.999
Total Activity						11,638.926	16,439.08

Ser.	Fund	Donor	Org.	Account	Item Description	JOD	USD
Activity 2							
1	62000	10003	GEF	71205	Inter. Consultant - Sht term- Tech	165.899	234.32
2	62000	10003	GEF	71400	Service Contracts - Individuals UNDP REPRESENTATIVE DINAR ACCOUNT	286.216	404.260
3	62000	10003	GEF	71405	Service Contracts - Individuals January payroll for NPO	1,050.490	1,483.74
4	62000	10003	GEF	71405	Service Contracts - Individuals February payroll for NPO	1,050.490	1,483.74
5	62000	10003	GEF	71405	Service Contracts - Individuals March payroll for NPO	1,050.490	1,483.74
6	62000	10003	GEF	71410	Service Contracts - Individuals MAIP premium SC	4.740	6.69
7	62000	10003	GEF	71410	Service Contracts - Individuals MAIP premium SC	4.740	6.69
8	62000	10003	GEF	71410	Service Contracts - Individuals MAIP premium SC	4.740	6.69
9	62000	10003	GEF	72115	Svc Co - Natural Resources & Environmental Services Disposal containers	3,539.950	4,999.93
10	62000	10003	GEF	72120	Svc Co - Trade and Business Services Translation	742.000	1,048.02
11	62000	10003	GEF	72125	Svc Co - Studies and Research Services filling solution	330.000	466.10
12	62000	10003	GEF	72125	Svc Co - Studies and Research Services filling solution	165.000	233.05
13	62000	10003	GEF	72135	Svc Co - Communications Services Nov 2012_4606666_PCB	40.140	56.69
14	62000	10003	GEF	72135	Svc Co - Communications Services Tel invoice_Feb&Mar	61.570	86.84
15	62000	10003	GEF	72135	Svc Co - Communications Services toner for printer_PCB	87.000	122.71
16	62000	10003	GEF	72135	Svc Co - Communications Services Mar invoice_PCBs	28.610	40.41
17	62000	10003	GEF	72135	Svc Co - Communications Services TOR Ad_PCBs	259.875	367.06
18	62000	10003	GEF	72135	Svc Co - Communications Services April invoice 2013_PCBs	27.850	39.34
19	62000	10003	GEF	72135	Svc Co - Communications Services July invoice	36.220	51.16
20	62000	10003	GEF	72135	Svc Co - Communications Services August invoice	29.090	41.09
21	62000	10003	GEF	72135	Svc Co - Communications Services September invoice	37.340	52.74
22	62000	10003	GEF	72135	Svc Co - Communications Services october invoice	27.620	39.01
23	62000	10003	GEF	72135	Svc Co - Communications Services storage TOR ad	259.875	367.06
24	62000	10003	GEF	72135	Svc Co - Communications Services GC testing Ad	277.000	391.24
25	62000	10003	GEF	72135	Svc Co - Communications Services HDD	85.000	120.06
26	62000	10003	GEF	72135	Svc Co - Communication Services fixed line invoices	59.930	84.65
27	62000	10003	GEF	72135	Svc Co - Communication Services lab bottles- 100 ml	800.000	1,129.94
28	62000	10003	GEF	72135	Svc Co - Communication Services Xerox toner	87.000	122.88
29	62000	10003	GEF	76125	Realized Loss GL_JOURNAL (General Ledger Journal)	0.085	0.12
30	62000	10003	GEF	76135	Realized Loss GL_JOURNAL (General Ledger Journal)	0.050	-0.07
31	62000	10003	GEF	72399	Other Materials and Goods subscription_data reg_PCB	50.000	70.62
32	62000	10003	GEF	72399	Other Materials and Goods Ribbons for bar code printers	1,020.000	1,440.68
33	62000	10003	GEF	72399	Other Materials and Goods Electrodes for L2000	1,710.000	2,415.25
34	62000	10003	GEF	72399	Other Materials and Goods Electrodes clearance	191.150	269.99
35	62000	10003	GEF		UNDP REPRESENTATIVE DINAR ACCOUNT	164.886	232.89

Expenditures for the period January - December 2013

Project Name: "Implementation of phase I of a comprehensive (PCBs) management system"

(Project ID: 0077155)

Ser.	Fund	Donor	Org.	Account	Item Description	JOD	USD
36	62000	10003	GEF	72399	Other Materials and Goods	Chemical reagents	15,245.364 21,533.00
37	62000	10003	GEF	72399	Other Materials and Goods	Translation	906.620 1,280.54
38	62000	10003	GEF	72399	Other Materials and Goods	clearance of reagents	425.000 600.28
39	62000	10003	GEF	72145	Svc Co - Training and Educatgion Services	car rent	850.000 1,200.56
40	62000	10003	GEF	72145	Svc Co - Training and Educatgion Services	Driver	60.000 84.75
41	62000	10003	GEF	72175	Svc Co - Urban, Rural & regional Develop Services.	DSA (16 - 18/9)	348.000 491.53
42	62000	10003	GEF	72175	Svc Co - Urban, Rural & regional Develop Services.	DSA (16 - 18/9)	348.000 491.53
43	62000	10003	GEF	72175	Svc Co - Urban, Rural & regional Develop Services.	DSA (13-14/11)	174.000 245.76
44	62000	10003	GEF	72175	Svc Co - Urban, Rural & regional Develop Services.	DSA (26 - 27/11)	174.000 245.76
45	62000	10003	GEF			PLAZA HOLIDAYS	60.000 84.75
						32,325.717	45,657.79

Total Activity

Ser.	Fund	Donor	Org.	Account	Item Description	JOD	USD
Activity 3							
1	62000	10003	GEF	71305	Local Consultants - Short term - Technical	PO_POENC (Purchase Order) 3829	2,973.600 4,200.00
2	62000	10003	GEF	71205	international consultant	DSA + Ticket	2,807.616 3,965.56
3	62000	10003	GEF	71205	international consultant	D18+D19	2,548.800 3,600.00
4	62000	10003	GEF	71205	international consultant	D 5 + 25	1,699.200 2,400.00
5	62000	10003	GEF	71205	International consultant	D20 + D21	1,274.400 1,800.00
6	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	348.000 491.53
7	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	348.000 491.53
8	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	10.000 14.12
9	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	348.000 491.53
10	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	348.000 491.53
11	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	75.000 105.93
12	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	75.000 105.93
13	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	75.000 105.93
14	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	75.000 105.93
15	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	75.000 105.93
16	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	75.000 105.93
17	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	75.000 105.93
18	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	75.000 105.93
19	62000	10003	GEF	72155	Svc Co - Public Admin, Politics and Infrastructure Svcs	cost of newspaper announcement	196.565 277.24
20	62000	10003	GEF	74200		UNDP documentary activity	708.000 1,000.00
21	62000	10003	GEF	72100	contractual services	containers	6,332.400 8,944.07
22	62000	10003	GEF	72100		UNDP documentary activity	458.720 647.91
23	4000	12	UNDP	72125	studies and research services	chemical reagents	52,709.184 74,448.00
Total Activity						73,710.485	104,110.46

Ser.	Fund	Donor	Org.	Account	Item Description	JOD	USD
Activity 4							
1	62000	10003	GEF	71205	International Consultants - Short term - Technical	PO_POENC (Purchase Order)	2,442.600 3,450.00
2	62000	10003	GEF	71205	International Consultants- Technical	Evaluation Deliverable	2,849.700 4,025.00
3	62000	10003	GEF	71205	International Consultants- Technical	Evaluation Deliverable	2,849.700 4,025.00
4	62000	10003	GEF	74525	Sundry	AR_MISCPAY (Miscellaneous Payment)	-107.90 -152.40
5	62000	10003	GEF	71205	International Consultants- Technical	Deliverable 2 ITC	849.600 1,200.00
6	62000	10003	GEF	71205	International Consultants- Technical	D15 (4 days)	1,699.200 2,400.00
7	62000	10003	GEF	71205	International Consultants- Technical	D16	1,699.200 2,400.00
8	62000	10003	GEF	71205	International Consultants- Technical	Deliverable 11	2,973.600 4,200.00
9	62000	10003	GEF	71205	International Consultants- Technical	Deliverable 24	2,124.000 3,000.00
10	62000	10003	GEF	71300	PKF JORDAN KHATTAB & CO.	Microassessment Ministry of En	400.000 564.17
Total Activity						17,779.700	25,111.77

Ser.	Fund	Donor	Org.	Account	Item Description	JOD	USD
Activity 5							
1	62000	10003	GEF	71405	Service Contracts - individuals.	January payroll for NPA	769.690 1,087.13
2	62000	10003	GEF	71405	Service Contracts - individuals.	Feb payroll for NPA	769.690 1,087.13
3	62000	10003	GEF	71405	Service Contracts - individuals.	March payroll for NPA	769.690 1,087.13
4	62000	10003	GEF	71405	Service Contracts - individuals.	April payroll for NPA	769.695 1,085.61

Expenditures for the period January - December 2013

Project Name: "Implementation of phase I of a comprehensive (PCBs) management system"

(Project ID: 0077155)

5	62000	10003	GEF	71405	Service Contracts - individuals.	May payroll for NPA	769.690	1,087.13
6	62000	10003	GEF	71405	Service Contracts - individuals.	June payroll for NPA	769.680	1,087.13
7	62000	10003	GEF	71405	Service Contracts - individuals.	July payroll for NPA	769.690	1,087.13
8	62000	10003	GEF	71405	Service Contracts - individuals.	August payroll for NPA	773.860	1,093.02
9	62000	10003	GEF	71405	Service Contracts - individuals.	September payroll	769.690	1,087.13
10	62000	10003	GEF	71405	Service Contracts - individuals	October payroll for NPA	769.690	1,087.13
11	62000	10003	GEF	71405	Service Contracts - individuals	November payroll for NPA	1,017.368	1,436.96
12	62000	10003	GEF	71405	Service Contracts - individuals	December payroll for NPA	1,153.035	1,628.58
13	62000	10003	GEF	71410	Service Contracts - Individuals	MAIP premium SC	3.440	4.86
14	62000	10003	GEF	71410	Service Contracts - Individuals	MAIP premium SC	3.440	4.86
15	62000	10003	GEF	71410	Service Contracts - Individuals	MAIP premium SC	3.440	4.86
16	62000	10003	GEF	71410	Service Contracts - Individuals	MAIP premium SC	3.440	4.86
17	62000	10003	GEF	71410	Service Contracts - Individuals	MAIP premium SC	3.440	4.86
18	62000	10003	GEF	71410	Service Contracts - Individuals	MAIP premium SC	3.440	4.86
19	62000	10003	GEF	71405	Service Contracts - individuals.	September payroll	3.440	4.86
20	62000	10003	GEF	71405	Service Contracts - individuals.	September payroll	3.440	4.86
21	62000	10003	GEF	71405	Service Contracts - individuals.	September payroll	3.440	4.86
22	62000	10003	GEF	71405	Service Contracts - individuals.	MAIP premium SC	3.440	4.86
23	62000	10003	GEF	71405	Service Contracts - individuals.	MAIP premium SC	3.440	4.86
24	62000	10003	GEF	71405	Service Contracts - individuals.	MAIP premium SC	3.440	4.86
25	62000	10003	GEF	74110	Audit Fees	PO_POENC (Purchase Order) 3816	2,748.116	3,881.52
26	62000	10003	GEF	74525	Sundry	Petty cash	354.000	500.00
27	62000	10003	GEF	74525	Sundry	Petty cash_2	354.000	500.00
28	62000	10003	GEF	74525	Sundry	Petty cash_3	354.000	500.00
29	62000	10003	GEF	74525	Sundry	Fuel for private car	70.200	99.15
30	62000	10003	GEF	74525	Sundry	DSA _ PCB	174.000	245.76
31	62000	10003	GEF	74525	Sundry	DSA _ PCB	174.000	245.76
32	62000	10003	GEF	74525	Sundry	lunch _PAC meeting _PCB	133.600	188.70
33	62000	10003	GEF	71635	Travel - Other	Taxi Momayaz-transport	55.000	77.68
34	62000	10003	GEF	74525	Sundry	DSA _ PCB	37.000	52.26
35	62000	10003	GEF	71635	Travel - Other	DSA; 3-6 June	348.000	491.53
36	62000	10003	GEF	71635	Travel - Other	DSA; 3-6 June	348.000	491.53
37	62000	10003	GEF	71635	Travel - Other	DSA _ PCB	174.000	245.76
38	62000	10003	GEF	71635	Travel - Other	Travel cost	260.000	367.23
39	62000	10003	GEF	74525	Sundry	UNDP representative	821.315	1,160.05
40	62000	10003	GEF	74500	Miscellaneous Expenses	lunch _PAC meeting _PCB	97.500	137.71
Total Activity							16,415.478	23,184.18

Total for Project : 00077155

JD	USD
151,870.307	214,503.28

Source: Combined Delivery Report, UNDP

Expenditures for the period January - December 2014

Project Name: Implementation of phase I of a comprehensive (PCBs) management system”

(Project ID: 0077155)

Ser.	Fund	Donor	Org.	Acct.	Account Description	Item Description	JOD	USD
Activity 1								
1	62000	10003	GEF	72135	communication service	inv#6368_PCBs	125.000	176.55
Total Activity							125.000	176.55
Activity 2								
1	62000	10003	GEF	71205	international consultant shrt trm	plane ticket	600.000	847.46
2	62000	10003	GEF	71205	international consultant shrt trm	delivrables	1,921.229	2713.6
3	62000	10003	GEF	71405	sevice contract-individual	January Salary	1,239.156	1750.22
4	62000	10003	GEF	71405	sevice contract-individual	February Salary	1,247.475	1761.97
5	62000	10003	GEF	71405	sevice contract-individual	March Salary	1,243.312	1756.09
6	62000	10003	GEF	71405	sevice contract-individual	April Salary	1,243.312	1756.09
7	62000	10003	GEF	71405	sevice contract-individual	May Salary	1,243.312	1756.09
8	62000	10003	GEF	71405	sevice contract-individual	June Salary	1,243.312	1756.09
9	62000	10003	GEF	71400	sevice contract-individual	July Salary	1243.312	1756.09
10	62000	10003	GEF	71400	sevice contract-individual	August Salary	1264.08444	1785.43
11	62000	10003	GEF	71400	sevice contract-individual	September Salary	1264.08444	1785.43
12	62000	10003	GEF	71400	sevice contract-individual	October Salary	1264.08444	1785.43
13	62000	10003	GEF	71400	sevice contract-individual	November Salalry	1264.08444	1785.43
14	62000	10003	GEF	71400	sevice contract-individual	December Salary	1264.08444	1785.43
15	62000	10003	GEF	71410	MAIP Premium SC		5.680	8.02
16	62000	10003	GEF	71410	MAIP Premium SC		5.680	8.02
17	62000	10003	GEF	71410	MAIP Premium SC		5.680	8.02
18	62000	10003	GEF	71410	MAIP Premium SC		5.678	8.02
19	62000	10003	GEF	71411	MAIP Premium SC		5.678	8.02
20	62000	10003	GEF	71411	MAIP Premium SC		5.678	8.02
21	62000	10003	GEF	71411	MAIP Premium SC		5.678	8.02
22	62000	10003	GEF	71411	MAIP Premium SC		5.678	8.02
23	62000	10003	GEF	71412	MAIP Premium SC		5.678	8.02
24	62000	10003	GEF	71410	MAIP Premium SC		5.680	8.02
25	62000	10003	GEF	71410	MAIP Premium SC		5.680	8.02
26	62000	10003	GEF	71410	MAIP Premium SC		5.680	8.02
27	62000	10003	GEF	71415	contribution to security SC		51.153	72.25
28	62000	10003	GEF	71416	contribution to security SC		51.153	72.25
29	62000	10003	GEF	71417	contribution to security SC		51.153	72.25
30	62000	10003	GEF	71417	contribution to security SC		51.153	72.25
31	62000	10003	GEF	71417	contribution to security SC		51.153	72.25
32	62000	10003	GEF	71417	contribution to security SC		51.153	72.25
33	62000	10003	GEF	71400	contribution to security SC		51.153	72.25
34	62000	10003	GEF	71400	contribution to security SC		51.153	72.25
35	62000	10003	GEF	71400	contribution to security SC		51.153	72.25
36	62000	10003	GEF	71400	contribution to security SC		51.153	72.25
37	62000	10003	GEF	71400	contribution to security SC		51.153	72.25
38	62000	10003	GEF	71410	contribution to security SC		51.153	72.25
39	62000	10003	GEF	71615	Daily subsistence allow-intl	f10 cost recovery	451.761	638.08
40	62000	10003	GEF	72145	Svc Co. training and education	PAC meeting_PCB	138.499	195.62
41	62000	10003	GEF	72140	SVC CO. Information Technology	Maintenance contract for database	1,416.000	2,000.00
42	62000	10003	GEF	72105	SVC Co. construction & engineer	prepayment_GC test for 280	19600.00296	27683.62
43	62000	10003	GEF	72105	SVC Co. construction & engineer	GC test_230 sample	16099.99788	22740.11
44	62000	10003	GEF	72105	SVC Co.studies and research services	testing 230 samples GC	16,100	22,740.11
45	62000	10003	GEF	72135	SVC Co. communication services	invoice Janor 14_2014	25.589952	36.144
46	62000	10003	GEF	72135	SVC Co. communication services	invoice Feb 14_PCBs	19.293	27.25
47	62000	10003	GEF	72135	SVC Co. communication services	data upgrading_PCB	1750	2471.75
48	62000	10003	GEF	72135	SVC Co. communication services	inv#23699/2013_PCB	1750	2471.75
49	62000	10003	GEF	72135	SVC Co. communication services	inv March_PCBs	23.36	32.99
50	62000	10003	GEF	72125	SVC Co.studies and research services	advertising_dechlorination	139.14	196.53
51	62000	10003	GEF	72135	SVC Co.studies and research services	water samples bottles	300	423.73
Total Activity							76,040.468	107,401.77

Expenditures for the period January - December 2014

Project Name: Implementation of phase I of a comprehensive (PCBs) management system”

(Project ID: 0077155)

Activity 3

1	62000	10003	GEF	72105	SVC co. construction and engineer	Submission of Accreditation Ce	2,000.001	2824.86
2	62000	10003	GEF	72105	SVC co. construction and engineer	Cost rec.-emails & proc-Inv.12	688.452	972.39
3	62000	10003	GEF	72105	SVC co. construction and engineer	Cost rec.-emails & proc-Inv.12	688.452	972.39
4	62000	10003	GEF	72145	SVC co. training and education	workshop _PCBs	2960.9976	4182.2
5	62000	10003	GEF	71605	Travel Tickets- International	Invoice no. 9287 - cost of	555.001	783.9
6	4000	12	UNDP	72105	SVC co. construction and engineer	Toxic substances monitoring	18,700.885	26413.68
7	4000	12	UNDP	72105	SVC co. construction and engineer	Toxic substances monitoring	18,700.885	26413.68
8	30000	311	CEGCO	72100	SVC co. construction and engineer	Toxic substances monitoring	18,700.885	26413.68
9	62000	10003	GEF	72100	SVC co. construction and engineer	GC test - 230 sample	16,100.000	22740.11
10	62000	10003	GEF	72100	SVC co. construction and engineer	GC test - 230 sample	16,100.000	22740.11
11	30000	311	CEGCO	72100	SVC co. construction and engineer	Toxic substances monitoring	16,457.743	23245.4
12	62000	10003	GEF	72100	SVC co. construction and engineer	Toxic substances monitoring	2,243.142	3168.28
13	62000	10003	GEF	72100	SVC co. construction and engineer	Toxic substances monitoring	2,243.142	3168.28
14	30000	311	CEGCO	72100	SVC co. construction and engineer	Toxic substances monitoring	16,457.743	23245.4
15	62000	10003	GEF	72100	SVC co. construction and engineer	GC test - 200 sample	8400	11864.41
16	4000	12	UNDP	72100	SVC co. construction and engineer	GC test - 200 sample	5600	7909.6
17	62000	10003	GEF	71600		PO-CostRecvry51Apr1-Nov30-2014	55.340	78.16
18	62000	10003	GEF	72105	service co-construction &eng	2013 Cost recovery Inv.86	23.555	33.27
Total Activity							146,676.224	207,169.80

Activity 4

1	62000	10003	GEF	71205	inter. Consultant-sht term	IC cost recovery	165.899	234.32
2	62000	10003	GEF	71305	local consultant	ISS cost recovery	684.771	967.19
3	62000	10003	GEF	71305	local consultant	D22	1,274.400	1,800.00
4	62000	10003	GEF	71305	local consultant	D17	1,699.200	2,400.00
5	62000	10003	GEF	72205	office machinery	inv #1780_PCB	80.000	112.99
6	62000	10003	GEF	72206	office machinery	inv. # 4612_PCBs	85.000	120.06
7	30071	140	GOV	74500	Sundry		151.158	213.5
8	62000	10003	GOV	71635	Travel - Other	Environment retreat	742.359	1048.53
9	62000	10003	GOV	71635	Travel - Other	Environment retreat	83.997	118.64
10	62000	10003	GOV	71635	Travel - Other	Environment retreat	119.998	169.49
11	62000	10003	GOV	71635	Travel - Other	Environment retreat	121.202	171.19
12	62000	10003	GOV	71635	Travel - Other	Environment retreat	57.602	81.36
13	62000	10003	GOV	71635	Travel - Other	Environment retreat	-48.204	-68.08
14	30071	140	GOV	75100	Facilities and Admin	UNDP GMS - 2014 - Q2	4.530	6.41
Total Activity							5,221.911	7,375.60

Activity 5

1	30071	140	Gov	71305	UNDP REPRESENTATIVE DINAR ACCOUNT	ICs-cost Rec.-Inv.15- 1st Q 14	165.898	234.32
2	30071	140	Gov	71305	local consultant	1st Upon delivery of technical	708.000	1000
3	30071	140	Gov	71305	local consultant	2nd Upon delivery of technical	708.000	1000
4	30071	140	Gov	71305	local consultant	3rd Upon delivery of technical	708.000	1000
5	30071	140	Gov	71305	local consultant	4th Upon delivery of technical	708.000	1000
6	30071	140	Gov	71300	local consultant	PO Cost rec. 2014 1st Q Inv18	70.665	99.81
7	30071	140	Gov	71305	local consultant	JORDAN TELECOM	39.22	55.4
8	30071	140	Gov	71305	local consultant	JORDAN TELECOM	26.55	37.5
9	30071	140	Gov	71305	local consultant	Taskforce	696.672	984
10	30071	140	Gov	71305	local consultant	Taskforce	696.672	984
11	30071	140	Gov	71305	local consultant	Taskforce	696.672	984
12	30071	140	Gov	71305	local consultant	Taskforce	696.672	984
13	30071	140	Gov	71305	local consultant	Taskforce	696.672	984
14	30071	140	Gov	71305	local consultant	Taskforce	696.672	984
15	30071	140	Gov	71305	local consultant	Taskforce	696.672	984
16	30071	140	Gov	71305	local consultant	Taskforce	696.672	984
17	30071	140	Gov	71305	local consultant	Taskforce	696.672	984
18	62000	10003	GEF	71305	local consultant	Taskforce	696.672	984
19	62000	10003	GEF	71400	Service Contracts - individuals.	January payroll forPA	927.607	1310.18
20	62000	10003	GEF	71405	Service Contracts - individuals.	February for PA	491.933	694.82
21	62000	10003	GEF	71405	MAIP premium SC		4.227	5.97

Expenditures for the period January - December 2014

Project Name: Implementation of phase I of a comprehensive (PCBs) management system”

(Project ID: 0077155)

22	62000	10003	GEF	71405	MAIP premium SC		2.138	3.02
23	62000	10003	GEF	71405	Travel	inv#1081_PCB	239.998	338.98
24	62000	10003	GEF	71405	Travel	inv# 6185_PCBs	250.002	353.11
25	30071	140	Gov	71405	sundry	inv#2303_PCBs	225.222	318.11
26	30071	140	Gov	71406	sundry	inv Nov.&vDec 13 _PCBs	59.203	83.62
27	62000	10003	GEF	71410	contribution to security	payrol	38.069	53.77
28	30071	140	Gov	71410	daily subsistence allow	DSA_19-23 Jan	695.990	983.05
29	30071	140	Gov	71410	daily subsistence allow	DSA_PCBs	149.997	211.86
30	30071	140	Gov	71410	Miscellaneous expenses	inv#3546_PCBs	168.546	238.06
31	30071	140	Gov	71411	Miscellaneous expenses	petty cash	354.000	500
32	30071	140	Gov	71415			10.953	15.47
33	30071	140	Gov	71415			104.777	147.99
34	30071	140	Gov	71415			34.225	48.34
35	30071	140	Gov	71415			210.339	297.09
36	62000	10003	GEF	71415	contribution to security	Payroll	19.25	27.19
37	4000	12	UNDP	71405	Service Contracts - individuals.	July Salary	786.45348	1110.81
38	4000	12	UNDP	71405	service Contracts - individuals.	August Salary	807.2262	1140.15
39	4000	12	UNDP	71405	service Contracts - individuals.	September Salary	807.2262	1140.15
40	4000	12	UNDP	71405	service Contracts - individuals.	October Salary	807.2262	1140.15
41	4000	12	UNDP	71405	service Contracts - individuals.	November Salary	807.2262	1140.15
42	4000	12	UNDP	71405	service Contracts - individuals.	December Salary	807.2262	1140.15
43	4000	12	UNDP	71410	MAIP premium SC		3.51	4.96
44	30071	140	Gov	74500	insurance	insurance of vehicle -KIA 8548	80.549	113.77
45	4000	12	UNDP	71410	MAIP premium SC		3.51	4.96
46	4000	12	UNDP	71410	MAIP premium SC		3.51	4.96
47	4000	12	UNDP	71410	MAIP premium SC		3.51	4.96
48	4000	12	UNDP	71410	MAIP premium SC		3.51	4.96
49	4000	12	UNDP	71410	MAIP premium SC		3.51	4.96
50	4000	12	UNDP	71415	contribution to security		31.56	44.58
51	4000	12	UNDP	71415	contribution to security		31.56	44.58
52	4000	12	UNDP	71415	contribution to security		31.56	44.58
53	4000	12	UNDP	71415	contribution to security		31.56	44.58
54	4000	12	UNDP	71415	contribution to security		31.56	44.58
55	4000	12	UNDP	71415	contribution to security		31.56	44.58
56	30071	140	Gov	74500	Miscellaneous expenses	toner	85.000	120.06
57	30071	140	Gov	74500	Miscellaneous expenses	Settlement of Petty cash no.4	15.003	21.19
58	30071	140	Gov	74500	Miscellaneous expenses	F10 2ND Q 14 CST RCVRY INV 25	14.118	19.94
59	30071	140	Gov	74500	Miscellaneous expenses	AP's Cost rcv. 1st Q Inv19	50.105	70.77
60	30071	140	Gov	74505	Miscellaneous expenses	JORDAN TELECOM	32.14	45.4
61	4000	12	UNDP	74505	insurance	cost recovery invoice28	42.48	60
62	30071	140	Gov	74525	Miscellaneous expenses	ROYAL SOCIETY FOR CONSERVATION OF NATURE	26.894	37.99
63	30071	140	Gov	74525	Miscellaneous expenses	JORDAN EXPRESS TOURIST TRANSPORT	4.76	6.72
64	30071	140	Gov	74525	Miscellaneous expenses	PAC meeting lunch	397.8	561.86
65	30071	140	Gov	75100	Miscellaneous expenses	telephone bill	62.78	88.67
66	30071	140	Gov	75100	Miscellaneous expenses	NATIONAL INFORMATION TECHNOLOGY CENTER	50	70.62
67	30071	140	Gov	75100	Miscellaneous expenses	NATIONAL CATERING AND SUPPORT SERVICES	133.255	188.21
68	4000	12	UNDP	75105	Sundry	ROYAL SCIENTIFIC SOCIETY	700.00	988.7
Total Activity							20,815.437	29,400.36
Total for the project								
Total for Project : 00077155							JD	USD
							248,879.04	351,524.08

Source: Combined Delivery Report, UNDP

Project Transactional Detail Report (PTD)

Business Unit: JOR10

Project: "Implementation of phase I of a comprehensive (PCBs) management system"

Budget Period: 2015

Project: 00061055

Project ID	Output	Activity	Payee Name (Vendor Name)	USD Amount	Donor	Account
61055	77155	ACTIVITY5	Khaled Abdallah Alshobaki	317.8	140	71600
61055	77155	ACTIVITY5	RASHA ESTABLISHMENT FOR OFFICE SERVICES	120.06	10003	74500
61055	77155	ACTIVITY5	JORDAN TELECOM	30.16	140	71300
61055	77155	ACTIVITY5	LINA MAHMOUD ABDULLAH AL NSOUR	500	10003	74500
61055	77155	ACTIVITY3	ROYAL SCIENTIFIC SOCIETY	2824.86	10003	72100
61055	77155	ACTIVITY5	JORDAN TELECOM	27.94	10003	74500
61055	77155	ACTIVITY5	JORDAN TELECOM	26.72	10003	74500
61055	77155	ACTIVITY5	SUBHI JABRI & SONS CO	225.65	10003	74500
61055	77155	ACTIVITY1	Ghassan Said Mahmoud Faraj	1977.4	10003	71300
61055	77155	ACTIVITY1	Ghassan Said Mahmoud Faraj	-1977.4	10003	71300
61055	77155	ACTIVITY5	ARABIAN OFFICE AUTOMATION CO.	155.37	10003	74500
61055	77155	ACTIVITY5	MAZEN FADEL MOHAMAD ALHUNAITY	70.62	140	71600
61055	77155	ACTIVITY3	MOHAMMAD JAMIL HUSSIEN ALATOOM	2828	10003	71600
61055	77155	ACTIVITY3	MOHAMMAD JAMIL HUSSIEN ALATOOM	152	10003	71600
61055	77155	ACTIVITY3	MOHAMMAD JAMIL HUSSIEN ALATOOM	-2828	10003	71600
61055	77155	ACTIVITY3	MOHAMMAD JAMIL HUSSIEN ALATOOM	-152	10003	71600
61055	77155	ACTIVITY5	Mohmmad Abdel Aziz Al Mohammad	88.28	140	71600
61055	77155	ACTIVITY3	LINA MAHMOUD ABDULLAH AL NSOUR	152	10003	71600
61055	77155	ACTIVITY3	LINA MAHMOUD ABDULLAH AL NSOUR	-152	10003	71600
61055	77155	ACTIVITY3	LINA MAHMOUD ABDULLAH AL NSOUR	-2828	10003	71600
61055	77155	ACTIVITY3	LINA MAHMOUD ABDULLAH AL NSOUR	2828	10003	71600
61055	77155	ACTIVITY3	NEZAR ABED AL-ROUF HADDAD	-152	10003	71600
61055	77155	ACTIVITY3	NEZAR ABED AL-ROUF HADDAD	-565.6	10003	71600
61055	77155	ACTIVITY3	NEZAR ABED AL-ROUF HADDAD	-2262.4	10003	71600
61055	77155	ACTIVITY3	NEZAR ABED AL-ROUF HADDAD	565.6	10003	71600
61055	77155	ACTIVITY3	NEZAR ABED AL-ROUF HADDAD	152	10003	71600
61055	77155	ACTIVITY3	NEZAR ABED AL-ROUF HADDAD	2262.4	10003	71600
61055	77155	ACTIVITY1	INSIGHT	5044.77	10003	72100
61055	77155	ACTIVITY5	JORDAN TELECOM	31.58	10003	74500
61055	77155	ACTIVITY5	MOHAMMAD WASFI MOHAMMAD ABUMUGHLI	84.75	10003	74500
61055	77155	ACTIVITY3	PLAZA HOLIDAYS	-2408.19	10003	71600
61055	77155	ACTIVITY3	PLAZA HOLIDAYS	2408.19	10003	71600
61055	77155	ACTIVITY5	NEZAR ABED AL-ROUF HADDAD	491.53	140	71600
61055	77155	ACTIVITY5	Mohmmad Abdel Aziz Al Mohammad	211.86	140	71600
61055	77155	ACTIVITY5	NEZAR ABED AL-ROUF HADDAD	122.88	140	71600
61055	77155	ACTIVITY5	MAZEN FADEL MOHAMAD ALHUNAITY	70.62	140	71600
61055	77155	ACTIVITY5	MOHAMMAD WASFI MOHAMMAD ABUMUGHLI	245.76	140	71600
61055	77155	ACTIVITY3	ROYAL SCIENTIFIC SOCIETY	19081.92	10003	72100
61055	77155	ACTIVITY1	Ghassan Said Mahmoud Faraj	564.97	10003	72100
61055	77155	ACTIVITY5	JORDAN TELECOM	47.54	10003	74500
61055	77155	ACTIVITY5	ATS Advanced Technologies for Supplies	70.62	10003	74500
61055	77155	ACTIVITY1	Ghassan Said Mahmoud Faraj	1977.4	10003	71300
61055	77155	ACTIVITY3	MOHAMMAD JAMIL HUSSIEN ALATOOM	152	10003	71600
61055	77155	ACTIVITY3	MOHAMMAD JAMIL HUSSIEN ALATOOM	2828	10003	71600

Project Transactional Detail Report (PTD)

Business Unit: JOR10

Project: "Implementation of phase I of a comprehensive (PCBs) management system"

Budget Period: 2015

Project: 00061055

61055	77155	ACTIVITY3	LINA MAHMOUD ABDULLAH AL NSOUR	2828	10003	71600
61055	77155	ACTIVITY3	LINA MAHMOUD ABDULLAH AL NSOUR	152	10003	71600
61055	77155	ACTIVITY3	NEZAR ABED AL-ROUF HADDAD	2262.4	10003	71600
61055	77155	ACTIVITY3	NEZAR ABED AL-ROUF HADDAD	152	10003	71600
61055	77155	ACTIVITY3	NEZAR ABED AL-ROUF HADDAD	565.6	10003	71600
61055	77155	ACTIVITY3	PLAZA HOLIDAYS	2408.19	10003	71600
61055	77155	ACTIVITY3	MICHAEL MUELLER	1400	10003	71200
61055	77155	ACTIVITY3	MICHAEL MUELLER	2800	10003	71200
61055	77155	ACTIVITY4	Richard Joseph Cooke	7880	10003	71200
61055	77155	ACTIVITY4	Richard Joseph Cooke	3940	10003	71200
61055	77155	ACTIVITY4	Richard Joseph Cooke	7880	10003	71200
61055	77155	ACTIVITY4	JAMES FRANCIS LENOCI	5062.4	10003	71200
61055	77155	ACTIVITY4	JAMES FRANCIS LENOCI	5062.4	10003	71200
61055	77155	ACTIVITY4	JAMES FRANCIS LENOCI	2531.2	10003	71200
61055	77155	ACTIVITY2		5832.35	311	75100
61055	77155	ACTIVITY2		72.25	10003	71400
61055	77155	ACTIVITY2		2397.15	10003	71400
61055	77155	ACTIVITY2		72.25	10003	71400
61055	77155	ACTIVITY2		1860.57	10003	71400
61055	77155	ACTIVITY2		1839.79	10003	71400
61055	77155	ACTIVITY2		72.25	10003	71400
61055	77155	ACTIVITY2		1839.79	10003	71400
61055	77155	ACTIVITY2		72.25	10003	71400
61055	77155	ACTIVITY2		72.25	10003	71400
61055	77155	ACTIVITY2		1839.79	10003	71400
61055	77155	ACTIVITY2		6.43	10003	71400
61055	77155	ACTIVITY2		6.43	10003	71400
61055	77155	ACTIVITY2		6.43	10003	71400
61055	77155	ACTIVITY2		6.43	10003	71400
61055	77155	ACTIVITY2		6.43	10003	71400

Annex 9: Cofinancing Table

Cofinancing Table										
Note	Cofinancing Source	Type	UNDP (USD)		Government (USD million)		Private Sector (USD million)		Total Co-Financing (USD million)	
			Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
UNDP										
	UNDP cofinancing	Cash	0.15							0.15
1	Year 2011	Cash		0.0077						0.008
1	Year 2012	Cash		0.0000						0.000
1	Year 2013	Cash		0.0744						0.074
1	Year 2014	Cash		0.0689						0.069
1	Year 2015	Cash		0						0.000
	Sub-total, UNDP cofinancing			0.151						0.151
Government										
	Ministry of Environment (MoEnv), cash cofinancing	Cash			0.050					0.050
1	Year 2011	Cash				-0.0097				-0.010
1	Year 2012	Cash				0.0031				0.003
1	Year 2013	Cash				0.0202				0.020
1	Year 2014	Cash				0.0149				0.015
2	Year 2015	Cash				0.0078				0.008
	Sub-total, MoEnv cash cofinancing	Cash				0.0363				0.0363
	MoEnv, in-kind cofinancing	In-Kind			0.300					0.300
3	Years 2011-2015 (Jun) - NO AVAILABLE DATA	In-Kind				unk				unk
	Sub-total, MoEnv, in-kind cofinancing	In-Kind				0				0
4	National Electric Power Company (NEPCO)	Cash			0.100	0.035				0.100 0.035
4	National Electric Power Company (NEPCO)	In-Kind			0.200	0.035				0.200 0.035
Private Sector										
	Private Sector, cash cofinancing	Cash								
5	Aqaba Special Economic Zone Authority (ASEZA)	Cash					0	0.0097	0	0.010
6	Central Electricity Generating Company (CEGCO)	Cash					0.210	0.0729	0.210	0.073
7	Electricity Distribution Company (EDCO)	Cash					0.300	0.0779	0.300	0.078
8	Irbid District Electricity Co. Ltd (IDECO)	Cash					0.300	0.3541	0.300	0.354
9	Jordan Electric Power Co (JEPCO)	Cash					0.300	0.4887	0.300	0.489
10	Jordan Petroleum Refinery Co Ltd (JoPetrol)	Cash					0.030	0.1416	0.030	0.142
11	Jordan Phosphate Mines Co. PLC (JPMC)	Cash					0.010	0.0500	0.010	0.050
12	Lafarge Holcim Cement Jordan (Lafarge)	Cash					0.030	0.1771	0.030	0.177
13	Port corporation	Cash					0	0.0106	0.000	0.011
	Sub-total, Private Sector Cash	Cash					1.180	1.383	1.180	1.383
	Private Sector, in-kind cofinancing	In-Kind								
5	Aqaba Special Economic Zone Authority (ASEZA)	In-Kind					0	0.0097	0	0.010
6	Central Electricity Generating Company (CEGCO)	In-Kind					0.025	1.0036	0.025	1.004
7	Electricity Distribution Company (EDCO)	In-Kind					0.400	0.0779	0.400	0.078
8	Irbid District Electricity Co. Ltd (IDECO)	In-Kind					0.300	0.1416	0.300	0.142
9	Jordan Electric Power Co (JEPCO)	In-Kind					0.350	0.4887	0.350	0.489
10	Jordan Petroleum Refinery Co Ltd (JoPetrol)	In-Kind					0.050	0.1416	0.050	0.142
11	Jordan Phosphate Mines Co. PLC (JPMC)	In-Kind					0.040	0.0650	0.040	0.065
12	Lafarge Holcim Cement Jordan (Lafarge)	In-Kind					0.015	0.1771	0.015	0.177
13	Port corporation	In-Kind					0	0.0106	0.000	0.011
	Sub-total, Private Sector In-Kind	In-Kind					1.180	2.116	1.180	2.116
Total Cofinancing for Project Implementation:			0.15	0.151	0.650	0.107	2.360	3.498	3.16	3.757

JOD:USD Exchange Rate 0.706 30 Jul 2015

Notes:

- Based upon figures included in combined delivery reports (CDRs)
- MoEnv cash contribution for 2015 through June; figure provided by project management team.
- There are no data available regarding MoEnv in-kind cofinancing contributions.
- Based upon survey, JOD 50,000 spent. Assume 50% cash, 50% in-kind
- Based upon survey results; JOD 13,700 spent. Assume 50% cash, 50% in-kind.
- Based upon survey, CEGCO spent JOD 0.76 million (USD 1.0765 million). Based on 2014 CDR, CEGCO spent USD 0.0729 million in cash, in-kind is the difference.
- Based upon survey, JOD 110,000 spent and an additional JOD 40,000 estimated post project. Assume 50% of JOD 110,000 cash and 50% in-kind.
- Based upon survey, JOD 250,000 spent on storage (cash) and JOD 100,000 on staff costs (in-kind). An additional JOD 350,000 are estimated post project.
- Based upon survey, JOD 690,000 spent. Assume 50% cash, 50% in-kind.
- Based upon survey, JOD 20,000 spent. Assume 50% cash, 50% in-kind.
- Based upon survey, JOD 50,000 direct (cash) cofinancing and JOD 65,000 as "cofinancing" (in-kind)
- Based upon survey, JOD 250,000 spent. Assume 50% cash, 50% in-kind.
- Based upon survey, JOD 15,000 spent. Assume 50% cash, 50% in-kind.

Annex 10: Evaluation Consultant Code of Conduct Agreement Form

Evaluator:

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 limitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form

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

Name of Consultant: James Lenoci

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

Signed in Budapest on 15 July 2015

Signatures:



James Lenoci
Terminal Evaluator

Annex 11: Audit Trail

The following comments were provided in track changes to the draft Terminal Evaluation report; they are referenced by institution (“Author” column) and track change comment number (“#” column):

Author	#	Para No./ comment location	Comment/Feedback on the draft TE report	TE evaluator response and actions taken
LA	1	Opening Page	The Ministries in Jordan have different names. You did not meet any from these Ministries, only Ministry of Health and Ministry of energy and mineral resources	Modified accordingly.
MS	1	Exhibit 1, Summary Table	Arab States is the correct region	Region was changed to Arab States. Please note, according to the project page on the GEF website, the region is “Asia and the Pacific”.
MS	2	Executive Summary	The amounts of PCBs to be found were overestimated, I’d say this could have been resulting in this situation.	OK, noted.
MS	3	Executive Summary	Perhaps not required even as the Hussein Power Plant’s industrial area was used as a platform for accumulating the first batch of pure PCB waste before export	The Ministry of Environment is strongly advocating for the interim storage facilities agreed by the project partners, and is also suggesting to have a dedicated storage at the Swaqa waste landfill site.
LA	2		No, JEPSCO and IDECO started the construction of their storage sites. JEPSCO has already constructed the Hanger where we saw the Epoxy layer, the drain and the tank. All draining activities took place in this place. The area we saw outside is only for their transformers that will go back to the network, they will very soon put the roof and paint the epoxy layer for other equipment and waste that might be discovered in the coming years. I will send you the pictures for each site by separate email!	I have modified the text accordingly.
LA	3	Executive Summary (Stakeholder Involvement)	Representatives from these departments had participated in the development of PCBs regulation. They are fully aware about them. Some of them were also involved in the technical workshops (Ministry Task force) All what we need is to train them on the PCBs issues from technical point of view e.g identification of PCBs, registration, analysis and handling in general. And how to deal with the inspection forms (annex in the regulations) and the annual reporting of PCBs quantities.	Noted. But, the interviewed officials from the Inspection and Monitoring Directorates seemed unprepared to support implementation of the PCBs regulation.
MS	4	Executive Summary (Midel oil filled transformers)	This has to be crosschecked with Michael Muller on what it might result in, worth going for it, where it is found in applications	The recommendation is based upon the TE interview with Michael Mueller. There is a risk of cross contamination, particularly for older units.
LA	4		Midel oil is environmentally friendly. Companies start using Midel oil in 1994 in small quantities because it was very expensive. It is not allowed to mix this oil with other types of oil because this will lead to change electrical properties. The chance to find PCBs is very low.	

Author	#	Para No./ comment location	Comment/Feedback on the draft TE report	TE evaluator response and actions taken
MS	5	Executive Summary (legislation)	Below 50 ppm is no PCB waste according to the POPs convention (while some national regulations in developed countries may have stricter provisions – Japan is 3 ppm if I recall, etc), so this may need to be rephrased in another manner such as to mentioned this element, and to leave this with the Government to decide whether any action is deemed appropriate in those cases and as a recommendation than it would be put forward.	Noted, and this information has been added.
MS	6	Executive Summary (soil sampling)	I thought Lina attempted to do some tests – maybe I'm wrong	The soil and water sampling results were negative with respect to PCBs, but the scope of the investigations was limited, mostly to the premises where of the participating electric utility and private sector industrial companies. In order to evaluate whether there have been environmental impacts, a broader scope should be considered, e.g., taking into account the life cycle of PCBs use in the country.
LA	5		Yes, we did. Soil samples were taken from companies storage site, maintenance site and companies scrap yards and in some cases from the sites where highly contaminated transformers exists.	
MS	7	Executive Summary (Evaluation Ratings)	This project now is used as a model approach project in Lebanon by WB. Main essential aspect taken over on board is the way the inventory was done, and open support by the utility sector which was also due to the sensitization at the PIF and PPG stages. This has to be reflected somewhere.	I have added this information in Section 3.3.7, Catalytic Role.
MS	8	Executive Summary (M&E rating)	UNDP-GEF evaluation started recently advising (or it has been so since the start, hard to say) that MTE starts after 2 nd PIR cycle – this means after at least two, usually 2.5 years.	I have removed this comment, considering that midterm reviews are not required for midsize projects. And, the M&E plan did indicate that the midterm review was planned for month 30.
MS	9	Executive Summary (M&E rating)	I have removed this comment, considering that midterm reviews are not required for midsize projects. And, the M&E plan did indicate that the midterm review was planned for month 30.	OK
MS	10	Executive Summary (Efficiency rating)	From now on, based on this and other experiences, we will be aiming at least 5-year long projects as a standard approach. This is a lesson learned which can be mentioned somewhere – time is usually taken in the beginning of each project for establishing partnerships and starting inventory process	OK, noted.
MS	11	Executive Summary (Sustainability rating)	Maybe the project can still make a copy of this database in paper form for the Ministry, and it can be kept going for another few years (but with a paper copy to the Ministry) in there is an advance payment to the web-platform provider to keep the site for as long as possible. Who would be keeping it then the question is.	The issue made is funding after project closure.

Author	#	Para No./ comment location	Comment/Feedback on the draft TE report	TE evaluator response and actions taken
LA	6		After the closure of the project the database will be hosted by the Ministry of environment then it will be the Ministry responsibility to keep it functional.	
MS	12	Executive Summary (Impact Rating)	POPs circulate in global environment and penetrate into food chain – global benefit, though local benefits are that exposure of technicians is reduced at same time. Some equipment leaked into floor area and that concrete material was removed from El Hussein Power Plant, for instance.	OK, noted.
MS	13	Executive Summary (Overall Project Results Rating)	From previous section: “40 tons of PCB-containing dielectric oil, drained from cross-contaminated transformers, and at least 4 or 5 scrap transformers.”	OK, noted.
MS	14	Executive Summary, Recommendation No. 1	Project was extended – this time can be used to achieve what is still possible	OK.
MS	15	Executive Summary, Recommendation No. 3C	Fully support.	OK.
MS	16	Executive Summary, Recommendation No. 10	Morocco is an example. We can think of Mexico.	OK.
MS	17	Executive Summary, Recommendation No. 11	This is important.	OK.
SU	1	Section 1.1, Purpose of Evaluation	The report should further expand on the objective of the evaluation (i.e. the key objectives of the evaluation should clearly be outlined in relation to the purpose of the evaluation).	The objective of the evaluation was added to Section 1.1.
SU	2	Section 1.2, Evaluation Scope and Methodology	The rational/criteria for the selection of persons interviewed, sites visited, and other data reviewed should be described.	The evaluation rationale is included in Section 1.2, and some additional information has been added in response to this comment.
SU	3	Section 2.5, Main Stakeholders	In section 2.5 the evaluator lists the main stakeholders, but their roles and contributions to the project (including in-kind contributions, technical assistance, participation, staff time, training, leadership and advocacy) are not clearly described.	Additional information regarding the roles of the involved stakeholders.
MS	18	Exhibit 6, Country Map	Since two years now UNDP-GEF likes to limit the use of maps, or have a clearance from UN division on this particular topic. Needs to be brought to the attention of UNDP-GEF on how to use this map better.	OK, I have removed the map, as it does not add too much value to the report. For a reader unfamiliar with the project and country, it would be useful to show where the planned interim storage facilities and the Swaga waste landfill site are located.
LA	7	Section 2.6, Expected Results	You should show that these no. are in the project doc.	OK, noted in the leading sentence to this section.
LA	8	Section 3.1.2, Assumptions and Risks	See previous comment on this.	OK, noted.
MS	19	Section 3.1.4, Planned Stakeholder Participation	Is this a separate entity from MinEnv?	Noted.
LA	9		No it is within the MoENV	

Author	#	Para No./ comment location	Comment/Feedback on the draft TE report	TE evaluator response and actions taken
MS	20	Section 3.2.1, Adaptive Management	See previous comment on this.	The interim storage facilities will probably not be ready before the second waste shipment is made. And, drained PCBs are unsafely stored at the JEPSCO site in the meantime.
MS	21	Section 3.2.4, Financial Expenditures	11% for PMC is above the threshold – this can be an issue with GEF if correct.	Noted below.
MS	22	Section 3.2.4, Financial Expenditures (Assets)	Maybe Lina can be in a better position to clarify on this.	There were more than USD 20,000 in reagents indicated in the 2013 CDR. And, there were computer hardware included in the 2011 CDR. The asset register should be cross-checked with the CDR's.
LA	10		Yes, because the project purchased chemical reagents for the analysis of 10,000 samples by L2000. These consumables were not added to the assets list.	
MS	23	Section 3.2.5, Monitoring and Evaluation	Currently discussion is ongoing in UNDP-GEF evaluation unit whether those older estimates were correct, and if need to be reasonably increased to reflect all costs appropriately. Not sure what to say here – if it was enough, then enough.	The general range is 3-5%. Through June 2015, 8% of costs incurred were for Component 4 (monitoring, evaluation, learning, adaptive management).
MS	24	Section 3.2.5, Monitoring and Evaluation	See some previous comments (regarding timing of midterm review).	This statement is removed.
LA	11	Section 3.3.1, Overall Results	<p>Training manual has already distributed to all relevant stakeholders by email and discussed during workshops, it will distributed during another workshop will take place early September.</p> <p>We have already distributed manuals for the registration process by using PDA's and printers and how to use the database.</p> <p>We have also brochures in Arabic language presents PCBs properties, impact, precautions and PPEs.</p>	OK, noted. The point is that regular training on handling PCBs has not been internalized into recurrent capacity building programs.
MS	25	Section 3.3.1, Overall Results	That was done by Tredi at Hussein plant's industrial area right before export of the first batch. This can be an example of a temporary storing waste, but literally it was not a dedicated storage I agree.	Draining of the transformers was made inside at an improved hanger at the JEPSCO site, but the collected oil and scrap transformers are stored outside, unsafely.
LA	12		<p>For JEPSCO for example, which owns the largest no. of contaminated equipment, the draining process was very safe and in proper way. The location was also properly equipped with epoxy and draining system ... etc.</p> <p>draining process for other companies in different locations was also very professional, with no chance for leaks or site contamination.</p>	
MS	26	Section 3.3.1, Overall Results	Some 2-3 scrap trafos are mentioned earlier.. need consistency	OK, noted.
MS	27	Section 3.3.1, Overall Results	See previous comment on this 2 years is 24 months, so in line with UNDP-GEF recommendations.	OK, noted.
MS	28	Section 3.3.3, Efficiency	A lesson learnt instead – to allow more time in future for this type of projects.	Noted.
MS	29	Section 3.3.3, Efficiency	This is correct.	OK.
SU	4	Section 3.3.5,	The TE should also address the extent to which the	The mainstreaming discussion

Author	#	Para No./ comment location	Comment/Feedback on the draft TE report	TE evaluator response and actions taken
		Mainstreaming	project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, gender etc. The draft report has limited discussion on these topics and needs some improvements in this regard; Section 3.3.5 only discusses gender as a UNDP mainstreaming priority.	in Section 3.3.5 was expanded accordingly.
SU	5	Section 3.3.6, Sustainability	On pg. 26 the evaluator rates the Overall Likelihood of Risks to Sustainability is Rated as Likely , however this category is rated as Moderately Likely in the Executive Summary on pg. viii. This inconsistency should be corrected.	This inconsistency was corrected. The overall rating is Moderately Likely.
MS	30	Section 3.3.6, Sustainability	Did not capture in the text earlier, maybe some more discussion is needed to mention issues and how these can be overcome.	This was indicated in Section 3.3.1.
MS	31	Section 3.3.6, Sustainability	See previous comments on this.	OK, noted.
MS	32	Section 3.3.8, Impact	Something similar was done to water sediments in Latvia many years ago; it proved contamination.	Noted.
MS	33	Section 4.1, Major Achievements	GEF likes to see US\$/ton of waste disposed – needs to be calculated for both pure and the contaminated oils. As a reference to GEF tracking tool maybe.	OK, noted here.
MS	34	Section 4.2, Key Shortcomings and Recommendations, Conclusion No. 1	Only Hussein Plant's platform was used for the first batch by Tredi.	Noted. But, the agreed interim storage facilities have not yet been constructed.
LA	13	Section 4.2, Key Shortcomings and Recommendations, Conclusion No. 3	The content of the annual reports is included in the regulation. We should make a template with all required fields. Then it should be included to the database.	OK.
LA	14	Section 4.2, Key Shortcomings and Recommendations, Recommendation No. 5	Some private companies like Phosphate mines decided to keep their contaminated transformers connected to their network until they are out of service then they will dispose it on their budget. These transformers are already labeled.	OK.
MS	35		For the steel companies, we have 4 companies some of their equipment were samples by JEPSCO, but I am not sure if all their equipment were covered I don't know if existing contract with SITA will allow adding any further waste – Lina can clarify on this. This is visavis the lack of storages if more equipment is found – I would assume it will stay online for some time into the future w/o disconnecting and labelling it as waste.	
LA	15	Section 4.2, Key Shortcomings and Recommendations, Conclusion No. 6	The PDAs and bar code printers were the owned by the project the process for transferring these registration tool from the Ministry property to companies property took longer time than expected. Now they have their equipment and they will be able to upload the new equipment.	It would be advisable to hold a workshop and walk through the process with the companies.
MS	36	Section 4.2, Key Shortcomings and Recommendations, Conclusion No. 6	NIP update is then needed – funded to up to 200k by GEF Currently being done by UNDO - https://www.thegef.org/gef/project_detail?projID=5092	Noted. The comment refers to online reporting, due every 4 years
LA	16		Yes, the NIP update is now in the final stage before submission.	

Author	#	Para No./ comment location	Comment/Feedback on the draft TE report	TE evaluator response and actions taken
MS	37	Section 4.3, Lessons Learned	Not only – feeding mechanism modifications, air pollution systems, lab checks, tests burns, social perceptions – makes this too complicated before it can be put to work.	OK, noted.
MS	38	Section 4.3, Lessons Learned	Usually only DSAs and travel if coming from other regions. Not sure what this is.	Some type of modest honorarium for participating in the meetings.
SU	6	Annexes	In addition to the annexes already included, the following annexes should be added: <ul style="list-style-type: none"> • Report Clearance Form: signed by the RTA and CO and included in the final report, CO/RTA's responsibility (see attached) • ANNEXED IN A SEPARATE FILE: TE audit trail, where the evaluator addresses all the comments received on the draft report (see template attached) 	The audit trail annex has been completed and included here.
LA: Lina Alnsour; MS: Maksin Surkov; SU: Stephanie Ullrich				

Annex 12: Terms of Reference (excluding annexes)



INDIVIDUAL CONSULTANT PROCUREMENT NOTICE

Country: Jordan

Description of the assignment:

International Consultant to Conduct a Terminal Evaluation

Post Title:	International Consultant to Conduct a Terminal Evaluation
Starting Date:	April , 2015
Duration:	20 working days during April 2015, out of which 7 working days in Jordan
Location:	Jordan – Amman, and home based
Project:	Implementation of Phase I of a comprehensive Poly Chlorinated Biphenyls (PCBs) management system in the Hashemite Kingdom of Jordan

INTRODUCTION

In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP support GEF financed projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference (TOR) sets out the expectations for a Terminal Evaluation (TE) of **Implementation of Phase I of a comprehensive Poly Chlorinated Biphenyls (PCBs) management system in the Hashemite Kingdom of Jordan** The essentials of the project to be evaluated are as follows:

PROJECT SUMMARY TABLE 4002

Project Title:	Implementation of Phase I of a comprehensive Poly Chlorinated Biphenyls (PCBs) management system in the Hashemite Kingdom of Jordan			
GEF Project ID:	4095		<i>at endorsement (Million US\$)</i>	<i>at completion (Million US\$)</i>
UNDP Project ID:	00077155 00061055	GEF financing:	950,000 US\$	950,000 US\$
Country:	Jordan	IA/EA own:	100,000 US\$	100,000 US\$
Region:	RBAS	Government:	50,000	50,000

Focal Area:	POPs	Other:		
FA Objectives, (OP/SP):		Total co-financing:	1,100,000 USD	
Executing Agency:	MoEnv	Total Project Cost:	3,410,000	
Other Partners involved:	utility sectors national oil refinery company,	ProDoc Signature (date project began):		8 Nov 2011
		(Operational) Closing Date:	Proposed: Dec. 2010	Actual: June 2015

BACKGROUND & CONTEXT

The world community had initiated global efforts to regulate and control POPs, and in 2001 the Stockholm Convention on Persistent Organic Pollutants was adopted which then entered into force in 2004. PCBs were listed in the initial register of twelve (12) POPs and have been since then controlled by the Convention. All parties which acceded or ratified the Convention assumed specific obligations to ensure safe POPs management.

The Hashemite Kingdom of Jordan signed the Convention in 2002 and ratified it in 2004. By becoming a party, the Government had taken on the mandatory obligations to implement the Convention and the control measures identified in its guidance text.

The first step towards meeting the obligations was the development and formulation of the National Implementation Plan (NIP) for Stockholm Convention. The NIP was prepared and transmitted to the Stockholm Convention Secretariat in December 2006.

The requirement to deal with PCBs has been identified in the NIP of Jordan. It was reported that no PCBs were ever produced in the country or re-exported, and that some of the old electrical equipment could contain PCBs. The PCB equipment was in fact an imported product originating from other countries. The two main chemical which were suspected to be in the equipment were limited to Askarel and Sovtol. The survey which was carried out at that time was focused on transformer type of equipment due to time limitations, and thus no study over the other types of equipment was performed – capacitors and circuit breakers were not covered by the survey. Resulting from the initial study, the NIP had reported that PCB materials have been found to be in power electrical equipment such as transformers and in oil reserve.

The primary locations for transformers were the Al-Husain Power Plant (5 pieces of equipment amounting to around 11 tons of PCB oil and 1.5 tons of PCB oil stored at the facility) and the Irbid Electricity Distribution Company (4 pieces of transformers showed PCB contamination with 1.5 tons of PCB containing oil estimated). The former site accounted for 90% of PCB materials available in the country.

During the NIP stage, the lessons learned from the field surveys were that it was rather difficult to obtain required information on electrical equipment in the utility and industrial sectors since no accurate documentation on the PCB equipment was available, specifically for the equipment procured and installed prior to 1980. The NIP further proposed urgent actions on a comprehensive and detailed survey of the oil electric equipment across the electricity distribution companies to create a better picture on the PCB material inventory available in the country. The NIP also listed regulatory measures which were in place in 2005 to initiate the

control over the PCB management. There have been no regulations which would control the handling of PCBs and their safe disposal; however, a ban on import of import and use of oil with PCB content of above 0.005% PCB by weight was introduced by the Ministry of Health in 2005. It was also concluded, after the NIP initial studies were completed, that the lack of laboratory capacity to identify PCBs was one of the main barriers for completing the PCB inventory, and no designated storage places for PCB materials which would meet internationally established standards were identified in Jordan. The low level awareness among a significant number of stakeholders was detected during the NIP formulation, and all these aspects were summarized in the NIP Action Plan which was adopted in June 2006. To date, the NIP has received limited follow-up implementation due to the need for international technical assistance.

In 2010, however, the GEF, through UNDP, had provided project formulation assistance in order to revisit the NIP data on the PCB issue, perform additional industry contacts and inventory cross-checks in order to a technical assistance package to install internationally recognized and viable system for safe PCB management in Jordan.

The Project Preparation Grant (PPG) phase has allowed contacting and visiting several major owners (users) of power equipment in the country. Among them are:

- (-) All entities of the utility sector (IDECO, EDCO, NEPCO, JEPCO, CEGCO) – though not all locations;
- (-) The national oil refinery company,
- (-) Two mines of the phosphate industries,
- (-) The potash mining company at the Dead Sea area,
- (-) The international Queen Alia Airport at the city of Amman, and
- (-) The LaFarge subsidiary at Fuheis.

PROJECT GOAL, OBJECTIVES, OUTCOMES and OUTPUTS:

The developed GEF project scenario provides necessary tools and increase technical capacity of the country to meet the requirements with respect to the Stockholm Convention with the overall objective of safeguarding the environment and health from PCB impacts at the national and global levels. A comprehensive system for environmentally sound management and disposal of PCB materials have been put in place, including up-to-date and functional PCB regulatory standards aligned with internationally recommended benchmarks. The system allows the required capacity building at the national level with a demonstration element targeting PCB material disposal abroad. The demo disposal component envisaged in the project will further re-enforce the awareness raising effect to ensure that industrial sector is fully aware of the Government requirements and approaches for safe PCB management through its ultimate disposal.

The project was formulated to address the identified principal barriers as outlined in the previous section.

The following paragraphs list the main project components included in the Project Framework:

Component 1: Regulatory and administrative strengthening for PCB management. The component aims at the formulation of relevant laws and regulatory measures for effective control of PCB handling in the country: hazardous waste classification, equipment registration, labeling and status reporting of PCBs.

Through quality training and information dissemination workshops, the component will achieve better awareness level on the regulatory system and its requirements.

Component 2: Improving PCB inventory and technical capacity for Environmentally Sound Management (ESM) of PCB equipment and materials. Importantly, this component will address the barriers associated with the incomplete knowledge on the PCB inventory in the country through stimulating expanded sampling and testing of equipment oil. It will be aligned with removing limitations identified in the PCB analytical capacity sector, and specifically in the field, at the electric equipment owners. The component will further help in establishing a functional PCB equipment database. Further, it will develop ESM system for the direct application by enterprises with specialized trainings in the proper handling of PCB equipment. The in-house capacity of the private/public sector companies will be improved to prepare them to manage PCB equipment safely and minimize PCB releases, human exposure and equipment cross-contamination. Finally, it will address the highly recommended need for infrastructure upgrade to have proper interim storages which will serve the project needs within its timeframe and beyond prior to final PCB disposal abroad.

Component 3: Demonstration projects for testing ESM system and disposal of PCB containing equipment.

This element has been designed to test the feasibility and reliability of all the previously described project components performing together in a holistic PCB management system for meeting practical suitability of the project's approach.

Component 4: Monitoring, learning, adaptive feedback, outreach and evaluation

This component is expected to ensure that the project delivers sustained results for the country and for the replication of the experience elsewhere where it is appropriate and according to dominant circumstances.

SCOPE OF WORK

Within the context outlined above, UNDP seeks the recruitment of an international consultant to support the achievement of the following project terminal evaluation objectives:

Conduct a terminal evaluation of project in line with internal procedures of UNDP and GEF guidelines. The scope of Objective One should cover the following:

The scope of the evaluation will cover all activities undertaken in the framework of the project. The evaluators will compare planned outputs of the project to actual outputs and assess the actual results to determine their contribution to the attainment of the project objectives. It will also attempt to evaluate the efficiency of project management, including the delivery of outputs and activities in terms of quality, quantity, timeliness and cost efficiency as well as features related to the process involved in achieving those outputs and the impacts of the project. The evaluation will also address the underlying causes and issues contribution to targets not adequately achieved.

The key product expected from the terminal evaluation is a comprehensive analytical report in English that should, at least, follow requirements as indicated in Annex E.

The terminal evaluation report will be a stand-alone document that substantiates its recommendations and conclusions. The report will have to provide convincing evidence to support its findings/ratings.

The report together with its annexes shall be presented in electronic form in MS Word format.

The consultant is expected to follow a participatory and consultative approach ensuring engagement with the project team, project partners and key stakeholders.

The consultant is expected to use interviews as a means of collecting data on the performance and success of the project. Questionnaires prepared by the consultant can be distributed to national project partners, facilitated by participating implementing agencies

METHODOLOGY

An overall approach and method¹ for conducting project terminal evaluations of UNDP supported and GEF financed projects has developed over time. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact**, as defined and explained in the UNDP Guidance for Conducting Evaluations of UNDP-supported, GEF-financed Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR (Annex C). The evaluator is expected to amend, complete and shall include it as an annex to the final report.

The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the Ministry of Environment and other stakeholder agencies, GEF OFPs, UNDP Country Offices, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The evaluator is expected to conduct a field mission to Aqaba. Interviews will be held with the following organizations and individuals at a minimum: (-) All entities of the utility sector (IDECO, EDCO, NEPCO, JEPSCO, CEGCO) – though not all locations;
(-) The national oil refinery company,
(-) Two mines of the phosphate industries,
(-) The potash mining company at the Dead Sea area,
(-) The international Queen Alia Airport at the city of Amman, and
(-) The LaFarge subsidiary at Fuheis.

The evaluator will review all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, mid-term review, progress reports, GEF focal area tracking tools, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents that the project team will provide to the evaluator for review is included in Annex B of this Terms of Reference.

¹ For additional information on methods, see the [Handbook on Planning, Monitoring and Evaluating for Development Results](#), Chapter 7, pg. 163

Evaluation criteria and ratings

An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework (see Annex A), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of: **relevance, effectiveness, efficiency, sustainability and impact**. Ratings must be provided on the following performance criteria. The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in Annex D.

Evaluation Ratings:			
1. Monitoring and Evaluation	rating	2. IA& EA Execution	rating
M&E design at entry		Quality of UNDP Implementation	
M&E Plan Implementation		Quality of Execution - Executing Agency	
Overall quality of M&E		Overall quality of Implementation / Execution	
3. Assessment of Outcomes	rating	4. Sustainability	rating
Relevance		Financial resources:	
Effectiveness		Socio-political:	
Efficiency		Institutional framework and governance:	
Overall Project Outcome Rating		Environmental :	
		Overall likelihood of sustainability:	

Project finance / co-finance

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the Country Office (CO) and Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

Co-financing (type/source)	UNDP own financing (mill. US\$)		Government (mill. US\$)		Partner Agency (mill. US\$)		Total (mill. US\$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants								
Loans/Concessions								

• In-kind support								
• Other								
Totals								

Mainstreaming

UNDP supported GEF financed projects are key components in UNDP country programming, as well as regional and global programmes. The evaluation will assess the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

Impact

The evaluators will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.²

Conclusions, recommendations and lessons

The evaluation report must include a chapter providing a set of **conclusions, recommendations and lessons**.

Implementation arrangements

The principal responsibility for managing this evaluation resides with the UNDP Jordan CO. UNDP Jordan will issue and manage the contract. The Project Team and Country Offices involved will be responsible for liaising with the Evaluators team to set up stakeholder interviews, coordinate with the Government etc.

Although the Consultant should feel free to discuss with the authorities concerned, all matters relevant to its assignment, it is not authorized to make any commitment or statement on behalf of UNDP or GEF or the project management.

Evaluator ethics

Evaluation consultant will be held to the highest ethical standards and are required to sign a Code of Conduct (Annex E) upon acceptance of the assignment. UNDP evaluations are conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluations'

DELIVERABLES

The evaluation team is expected to deliver the following:

² A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROtI) method developed by the GEF Evaluation Office: [ROTI Handbook 2009](#)

Deliverable	Content	Timing	Responsibilities
Inception Report	Evaluator provides clarifications on timing and method	week before the mission	Evaluator submits to UNDP CO
Presentation	Initial Findings	End of evaluation mission:	To project management, UNDP CO
Draft Final Report	Full report, (per annexed template) with annexes	Within 3 weeks of the evaluation mission	Sent to CO, reviewed by RTA, PCU, GEF OFPs
Final Report*	Revised report	Within 1 week of receiving UNDP comments on draft	Sent to CO for uploading to UNDP ERC.

*When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the final evaluation report.

- **PAYMENT MODALITIES AND SPECIFICATIONS**

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%	Milestone
20%	Following submission and approval of the inception report
40%	Following submission and approval of the 1ST draft terminal evaluation report
40%	Following submission and approval (UNDP-CO and UNDP RTA) of the final terminal evaluation report