

Independent terminal evaluation

NEPAL

Environmentally sound management and disposal of PCBs

UNIDO project no. GF/NEP/10/001 – SAP 104052

GEF ID: 3573



UNITED NATIONS

INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO OFFICE FOR INDEPENDENT EVALUATION

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LIST OF ACRONYMS AND ABBREVIATIONS

BAT	Best available techniques
BEP	Best environmental practices
COP	Conference of Parties
CTA	Chief Technical Advisor
DFTQC	Department of Food Technology and Quality Control
EIA	Environmental Impact Assessment
EPA	Environmental Protection Act
ESM	Environmentally Sound Management
GEF	Global Environment Facility
GTZ	German Agency for Technical Cooperation
IR	Inception Report
MOAC	Ministry of Agriculture and Cooperatives
MOE	Ministry of Environment
MOEner	Ministry of Energy
MOF	Ministry of Finance
MOHP	Ministry of Health and Population
MOIC	Ministry of Information and Communication
MOSTE	Ministry of Science, Technology and Environment
NEA	Nepal Electricity Authority
NGOs	Non-governmental Organizations
NIP	National Implementation Plan
NPM	National Project Manager
NTE	National Technical Expert
PCBs	Polychlorinated biphenyls
PIF	Project Information Form
PIR	Project Implementation Review
PMTC	POPs Management Technical Committee
POPs	Persistent Organic Pollutants
SCISC	Steering Committee for the Implementation of the Stockholm Convention
UNIDO	United Nations Industrial Development Organization

Executive summary

A. Introduction

1. The Global Environment Facility (GEF) medium size project (MSP) “*Environmentally Sound Management and Disposal of PCBs*” was implemented from January 2011 to June 2015 by United Nations Industrial Development Organization (UNIDO) and nationally executed by the Ministry of Science, Technology and Environment (MOSTE) with the following financing sources: GEF: US\$ 880,000; co-financing (in kind): US\$ 880,000; Total: US\$ 1,760,000.

2. The overall objective of the project was to establish environmentally sound management practices for PCBs and gradual the phase-out and disposal of existing old stockpiles PCB-containing equipment and wastes, particularly focusing in the electrical utilities and main users of electricity in Nepal. The immediate objectives of the project were to:

- Strengthen the legal and regulatory framework to ensure the environmentally sound management of POPs and PCBs and their gradual phase-out and elimination before 2025 and 2028 respectively;
- Updating the inventory and labeling of 167 tonnes of PCBs, PCBs containing electrical equipment and waste;
- Strengthening capacity for POPs and PCBs waste management and domestic treatment through implementing BAT and BEP;
- Disposal of at least 167 tonnes of PCBs, PCBs-containing equipment and wastes in an environmentally sound manner;
- Improving occupational safety measures and
- Awareness raising amongst the public

B. Evaluation of findings and conclusions.

3. The main purpose of this terminal evaluation was to assess the performance of the project (in terms of relevance, effectiveness and efficiency), and determine its impacts (actual and potential) including their sustainability and to propose a set of recommendations in a view of ongoing and future activities.

4. This project is highly relevant as Nepal is party to the Stockholm Convention and it holds a significant stockpile of PCBs and wastes (167 tons) identified during NIP development. The project is assisting Nepal to complying with the Stockholm Convention by building its capacity to soundly manage its stocks of PCBs and related wastes.

5. The project is consistent with Strategic Program 1 through a) putting in place regulatory framework for the management of Annex A POPs b) strengthening and improving the sustainability of the Annex A POPs management capacities of the central government and other stakeholders c) improving the enforcement capacity of Annex A POPs related legislations through laboratory strengthening and training, whereby Nepal will have the capacity to meet its Annex A POPs related obligations of the Stockholm Convention.

6. Effectiveness of the project is considered moderately satisfactory. Although the project has been able to successfully dispose of soundly 209 tons of PCB

contaminated equipment and oil, the legislation has not been strengthened and the project failed to raise the awareness of the general public.

7. Execution of the project was done by a NPM (initial 4 months) then by the NTE until the end, in collaboration with MOSTE and adequately supervised and guided by UNIDO. Project implementation was delayed by almost two years due to a number of reasons including late signature of project agreement by MOSTE, long procedures for contracting mobile treatment unit, and non-availability of in service transformers for treatment. However, the project has been somewhat cost-effective as the stock of identified PCB contaminated equipment was successfully treated at a very reasonable cost of US\$2.06 per kg as compared to US\$3 – US\$5 generally charged by international destruction companies.

8. Chances for sustainability of project outcomes are low. Indeed, although institutional framework is adequate and stocks of PCBs have been successfully treated, the legislation has not been strengthened and due to lack of financial resources, BEP and ESM are not being adopted at NEA.

C. Recommendations

9. The project has successfully treated 207 tons of PCB contaminated equipment, however it was not able to completely achieve some of the immediate objectives such as strengthening regulations related to PCBs or awareness raising of the public. In this regard, the following recommendations look ahead to post-project phase for continued relevance and impact of project.

- i. Custom officers have not been involved in the project. It is recommended that the project (MOSTE) should decide on the steps toward the involvement of customs authority in the control of electrical equipment including oil at entry points in the country for the future.
- ii. To prevent cross-contamination, which a major route to increase a country's burden of PCB, it is recommended that MOSTE should ensure that NEA are adopting BEP and ESM during maintenance and repair of transformers.
- iii. Private owners of transformers as well as the distribution transformers outside Kathmandu valley was not covered by the project. Given that Nepal is currently reviewing and updating its NIP, the evaluation recommends that the authorities should seize this opportunity to undertake a complete PCB inventory exercise.
- iv. The evaluation also recommends that the authorities should take advantage of the NIP update to raise the awareness of the general public regarding risks associated to exposure to PCBs and POPs, which was not done during the project.

D. Lessons learned

10. Valuable lessons emerged during the implementation of this project, which include lessons related to overall management of the project as well as to technical aspects:

- i. The project suffered delays due to late signature of agreement by MOSTE. Early signature of project agreement between parties avoids administrative delays during project implementation.
- ii. Mobilization of a mobile unit for treatment of PCB contaminated equipment may be more cost effective than exporting the PCB contaminated equipment to be destroyed at a disposal facility.

I. Evaluation objectives, methodology and process

I.1 Information on the evaluation

11. This terminal evaluation is undertaken in compliance with GEF¹ and the UNIDO² evaluation policies in order to promote accountability for the achievement of the project objectives through the assessment of results, effectiveness, processes and performance of stakeholders involved during project implementation. In particular, it will assess the efficiency and effectiveness of project implementation, and propose a set of recommendations that will allow for adaptive management in order to meet the goals and objectives of the project within the planned schedule.

12. The evaluation was undertaken from September 2015 – November 2015 by an independent consultant, Dr. Nee Sun CHOONG KWET YIVE.

I.2 Scope and objectives of the evaluation

13. The evaluation followed the GEF review criteria³ and assessed the project with emphasis on those components for which GEF funds were required. More specifically, the main objectives of this evaluation, as reported in the Terms of reference (annex 1), is to enable the Government, counterparts, the GEF, UNIDO and other stakeholders and donors to:

(a) Verify prospects for development impact and sustainability, providing an analysis of the attainment of global environmental objectives, project objectives, delivery and completion of project outputs/activities, and outcomes/impacts based on indicators. The assessment includes re-examination of the relevance of the objectives and other elements of project design according to GEF Project Review Criteria:

- Implementation approach
- Country ownership/Driveness
- Stakeholder participation
- Sustainability
- Replication approach
- Financial planning
- Cost-effectiveness
- Monitoring and evaluation

(b) Enhance project relevance, effectiveness, efficiency and sustainability by proposing a set of recommendations with a view to ongoing and future activities. The evaluation will additionally make recommendations for UNIDO and the GEF that may help for improving the selection, enhancing the design and implementation of similar future projects and activities in the country and on a global scale upon project completion.

(c) Draw lessons of wider applicability from experience gained in this project for replication in other projects/countries.

¹ [http://www.thegef.org/gef/sites/thegef.org/files/documents/TE_guidelines7-31.project document](http://www.thegef.org/gef/sites/thegef.org/files/documents/TE_guidelines7-31.project%20document)

² <http://www.unido.org/en/resources/evaluation/evaluation-policy.html>

³ GEF guidelines for Implementing Agencies to Conduct Terminal Evaluations, May 2003

I.3 Information sources and availability of information

14. The availability of information for evaluation purposes was satisfactory. Soft copies of the project documents as well as specific documentation such as progress reports, Project Implementation Review (PIR) reports, consultants' reports, reports of contracted activities and minutes of Project Steering Committee (PSC) meetings and reports of other activities like seminars and inception workshop were made available to the evaluation by the UNIDO project manager and by the National Technical Expert⁴. A list of documents submitted to the evaluation is given in annex 2.

15. On request hard copies of other documents, for which soft copies were not available, (e.g. minutes of meetings between project management team, MOSTE and NEA) were submitted to the evaluation during the field in Kathmandu, 21 – 25 September 2015.

I.4. Methodological remarks, limitations encountered and validity of the findings

16. As stated in the TOR (Annex 1) the evaluation analyzed the documentation submitted by the NTE and UNIDO. It should be highlighted that the minutes of PSC meeting submitted were translated versions as the original minutes were in Nepalese. These minutes contained very basic information like members present, agenda and decisions taken. They did not contain any text relative to comments or queries made by members during of these PSC meetings.

17. The field mission was undertaken in Kathmandu, Nepal from 20 – 25 September 2015. In Nepal, there are six working days and only Saturday is non-working. As Nepal had its new constitution, Sunday 20th and Monday 21st September were declared public holidays. Friday 25th September was also a public holiday. During the planning of the field mission the evaluation was not aware of these facts, otherwise other dates for the mission would have been chosen. Nevertheless, the evaluation was able to interview the major stakeholders / partners of the project including the NTE, the ex-NPM, and representatives of MoSTE, representatives of NEA, the inventory expert and the policy expert. The evaluation was also able to visit the site where PCBs were stored and treated. The schedule of the mission and list of person interviewed are given in Annex 3. Unfortunately it was not possible to present the preliminary findings of the mission to the national stakeholders as Friday 25 September was a public holiday.

18. The interview of the UNIDO Project Manager was carried out by Skype on 16 October 2015.

⁴The National Project Manager (NPM) resigned after 4 months. Upon suggestion of UNIDO, the NTE acted as NPM until the project closure.

II. Country and project background

II.1 Country context

19. The Stockholm Convention on Persistent Organic Pollutants (POPs) recognizes that POPs including a recognized list of pesticides and polychlorinated biphenyls (PCBs) “possess toxic properties, resist degradation, are cumulative, and are transported through air, water and migratory species, across international boundaries. Their deposits, if not managed properly, migrate to far distances, where they accumulate in terrestrial and aquatic ecosystems”.

20. In Nepal the exposure to uncontrolled storages of POPs pesticides and PCBs are major public health concerns, due to their impact upon women and, thereby, upon future generations.

21. Another major concern is the shortage of cultivated land. About 20% of the total land are cultivated and support more than a half of population of Nepal, so the country cannot afford its contamination with POPs pesticides. Water used for drinking could be contaminated with POPs pesticides draining from cultivated fields.

22. Nepal never produced PCBs or dielectric fluids. The possible entry of PCBs in the country may be due to the grant assistance by the donor countries, which have assisted Nepal in developing and installing Hydropower stations, transmission and distributing lines.

23. The Government of Nepal is taking steps towards sustainable development with policies in place regarding environmental management. Most of the legal provisions on environmental management are very new. Some require setting up of environmental standards and others require extended rules and regulations for enforcement and necessary institutional setting. Nepal has ratified the “Basel Convention on Trans-boundary Movement of Hazardous Wastes”, which came into force since 13 January 1997. On 13 October 2006, the Nepalese Parliament ratified the Stockholm Convention on POPs, which was signed on April 5, 2002.

24. At present, Nepal Electricity Authority (NEA) and transformer manufacturing private companies in Nepal import/use PCBs free dielectric fluids, but the dielectric fluid and equipment contaminated and cross-contaminated with PCBs are also present in significant quantity. About 106 kilo litres of PCBs contaminated transformer oil was found during the NIP inventory.

25. The analytical laboratories in the country have some expertise/experience in analyzing organo-chlorine residues in water, soil, sediment and vegetable samples both in private and public laboratories. No laboratory in the country is equipped to analyze PCBs samples.

26. Nepal does not have any comprehensive public information policy and practices directly related to POPs issues. General public and even the authorities of stakeholder organizations were found to be quite unaware of the adverse effects and potential cross-contamination of PCBs.

27. The country has no declaration and reporting systems of the release of POPs. The POPs inventory gives preliminary information on the potential sources of POP chemicals, their amount in stockpiles and release into the environment as well as the

rough estimation of affected populations and contaminated areas. The existing acts and regulations are not enough to address overall chemicals being imported and used in the country except for some chemicals specified in the laws, e.g. Pesticide Act 1991.

28. The process to develop the National Implementation Plan (NIP) began in January 2005 and completed in 2007. It reviewed issues regarding persistent organic pollutant chemicals, their locations, volumes, ownership, relevant regulations, institutional infrastructure, etc. and developed strategies and plans of action, including the priorities of actions and implementation costs.

29. According to the baseline inventory of POPs during 2004-2005, there were 74.5 tonnes of old stock of pesticides, out of which about 10.1 tonnes were identified as POPs pesticides, whereas 23.6 tonnes were found as mixed composite, which after laboratory analysis also confirmed as POPs pesticides. The total amount of POPs pesticides, thus, increased to 33.7 tonnes, which is slightly over 45 per cent of the total obsolete stocks of pesticides.

II.2 Project summary

Overall objective of the project

30. The overall objective of the project was to establish environmentally sound management practices for PCBs and gradual phase-out and disposal of existing old stockpiles PCB-containing equipment and wastes, particularly focusing on the electrical utilities and main users of electricity in Nepal. By strengthening the regulation enforcement practices and implementing management and phase-out plans by the stakeholders, the project would have gradually reduced the releases of POPs and PCBs into the environment. Consequently, the protection of human health would also have been achieved. The project would also demonstrate the disposal 167 tons of PCBs, PCBs containing equipment and wastes.

Immediate objectives of the project

31. The immediate objectives of the project were to:

1. Strengthen the legal and regulatory framework to ensure the environmentally sound management of POPs and PCBs and their gradual phase-out and elimination before 2025 and 2028 respectively;
2. Updating the inventory and labeling of 167 tonnes of PCBs, PCBs containing electrical equipment and waste;
3. Strengthening capacity for POPs and PCBs waste management and domestic treatment through implementing BAT and BEP;
4. Disposal of at least 167 tonnes of PCBs, PCBs-containing equipment and wastes in an environmentally sound manner;
5. Improving occupational safety measures and
6. Awareness raising amongst the public

32. To achieve the project objectives, the following five substantive outcomes were planned to occur:

- **Outcome 1:** Strengthening of institutional capacity building, policy/legal framework and enforcement strategy for POPs and PCBs.

- **Outcome 2:** Establishment of ESM system for POPs and PCBs
- **Outcome 3:** Final disposal mechanism of PCBs
- **Outcome 4:** Public awareness and information
- **Outcome 5:** Establishment of project management structure

33. It is important to highlight that the project has been modified between the Project Identification Form (PIF) phase and Medium Size Project (MSP) phase. Originally, the project was supposed to dispose of 167 tons of PCBs and 33 tons of obsolete POPs pesticides. In 2009, Nepal has been able to secure funds from the German Cooperation, the Deutsche Gesellschaft zur Technischen Zusammenarbeit (GTZ), now GIZ (Deutsche Gesellschaft zur internationalen Zusammenarbeit), to dispose of the 33 tons of POPs pesticides. Upon approval from GEF, this activity (disposal of POPs pesticides), corresponding to Output 3.2, has been removed from the project. The costing of the project was not modified and funds for the disposal of pesticides have been reallocated for disposal of PCBs.

Project duration and costs

34. Table 1 below gives all relevant information on the project namely project costs and co-financing, donors, duration, implementing and executing agencies.

Table 1: Information on project

Project title:		Environmentally sound management and disposal of PCBs in Nepal
Project number: GEFSEC project ID:		3573
Implementing agency: Coordinating / executing agency: Counterpart:		UNIDO Ministry of Science, Technology and Environment Nepal Electricity Authority
Planned project duration:		36 months
Start date Actual start date		November 2010 January 2011
Planned implementation end actual implementation end		December 2013 September 2015
Project costs (US\$)	GEF grant :	
	Project:	880,000
	PPG:	50,000
	Sub-total	930,000
	Co-funding:	
UNIDO (in-kind):	40,000	
Government (cash & in-kind):	340,000	
NEA (cash & in-kind):	500,000	
	Sub-total	880,000
	Total	1,760,000 (excluding PPG)

II.3 Project Implementation arrangement and implementation modalities

35. UNIDO was the GEF Implementing Agency (IA) for the project. A project focal point was established within UNIDO to manage the project. This focal point consisted of dedicated core professional staff, supported by other staff as required by the project needs and supervised by a senior professional engaged in the management and coordination of UNIDO's POPs and chemical management program. UNIDO made these services available as part of its contribution to the project.

36. Project implementation would require involvement of a broad range of national stakeholders. During the project development, discussions were undertaken with the relevant authorities such as the Ministry of Science, Technology and Environment and the Nepal Electricity Authority. These organizations have allocated their experts to assist in the development of the project document. They have also agreed that they would keep the same stakeholder pattern for the MSP implementation which was utilized during the NIP development. This would save project resources since the existing organization, coordination and communication infrastructures would be used for project implementation. The roles of institutions / committees are described below.

Stakeholders / Institutions involved

37. **Ministry of Science, Technology and Environment (MOSTE)** as the project coordinating agency was responsible to: coordinate legislative activities while initiating amendments and additions to relevant legislation and develop regulations and procedures for POPs related activities; facilitate cooperation inter-relations between stakeholders and provide the stakeholders with centralized management; establish a database and an information sharing network; provide individuals, agencies and companies with information; exchange information with international organizations; organize proliferation activities, trainings, workshops and seminars; and monitor and assess the implementation of responsibilities and duties of stakeholders and regularly report to relevant governmental authorities and the Convention Secretariat.

38. **National Steering Committee on Implementation of Stockholm Convention (SCISC)** was formed under MOSTE. An 18-member SCISC was constituted and took the project related decisions. Chaired by the Secretary, MOEST and Stockholm Convention Focal Point (Joint Secretary level) & assisted by the National Project Coordinator (NPC), this Committee had the Joint-Secretary level representations from various ministries including Ministry of Industry, Ministry of Finance (MOF), Ministry of Local Development (MOLD), Ministry of Energy (MOEner), representatives from stakeholder organizations like Nepal Bureau of Standard and Metrology (NBSM), Nepalese Academy of Science and Technology (NAST), Nepal Federation of Environmental Journalists (an NGO) and from academia. .

39. A **Project management technical committee (PMTC)** was constituted under the SCISC, and chaired by National Project Coordinator (NPC) and Pollution Section Chief as Member Secretary, for the day to day execution of the project.

II.4 Positioning of UNIDO

40. UNIDO is committed to assist the developing countries and countries with economies in transition in implementation of the Stockholm Convention on POPs. In particular, UNIDO assisted 50 countries to prepare their National Implementation Plans (NIPs) and currently is involved in the preparation and implementation of post-NIP projects.

41. UNIDO, as a UN specialized agency for industrial development, has a comparative advantage in the industrial sector, including the technologies for PCB management (GEF/C.19/10 dated 17April 2002). The organization has experience in investment promotion, which is a component in many UNIDO projects and is important for the present project as well. This experience will assist to raise the required co-financing and strengthen the local private sector in hazardous waste management.

42. UNIDO during its assistance in the development of the NIPs accumulated in-depth knowledge on the complexity and diversity of the PCB-related problems, established appropriate linkages at different levels of the Government organizations and private enterprises – owners of PCBs. The organization closely cooperating with national organizations and experts in working out the details of the implementation of the PCB-related obligations of the Stockholm Convention.

43. UNIDO would contribute to the project with establishing the project management structure, providing training for the project management staff based on the experience gained in other countries. UNIDO would assist in the establishment of the PCB database within MOSTE and NEA as part of contribution to support and ensure the efficient management of technical information.

III. Project assessment

A. Design

44. The project document contains relevant, precise and concise information the achieve the overall objective of the project, which was to establish environmentally sound management practices for PCBs and to demonstrate the disposal 167 tons of PCBs, PCBs containing equipment and wastes in fulfillment of Nepal's obligations under the Stockholm Convention.

45. The goal is realistic as UNIDO⁵ is already involved in a number of projects to destroy PCBs. Furthermore, local capacity has been built to some extent for the inventory of PCBs during the National Implementation Plan (NIP) development for Nepal in 2005⁶.

46. A participatory approach has been adopted during the preparatory phase of the project involving all the major stakeholders including major ministries like MOSTE or MOF, and NEA owner of the majority of PCB contaminated equipment, and also some leading national institutions like NBSM or NAST.

47. The project logical framework (annex 1 of project document) proposed for the project is clear and coherent. The proposed indicators and means of verification for each of the activities are adequate and the means of verification proposed are also appropriate. Similarly, all the assumptions made are realistic.

48. The timeframe provided in the project document to undertake the planned activities appears to be adequate. The names of institutions responsible for each activity given in Section C6 of the project document are also appropriate for proper implementation.

49. The activities designed for the project and described in Section C6 of the project document are adequate to produce the intended results and the planned outputs. The activities are also likely to drive the indented change by creating awareness at all levels.

50. For project implementation, an organogram⁷ is given in the project document as well as the roles of the key stakeholders / partners / committees including UNIDO and national counterparts and other stakeholders and the Steering Committee on Implementation of the Stockholm Convention (SCISC). For example, the roles of MOSTE and SCISC are clearly spelt out in Section C of the project document.

51. The rating on **project design** is **satisfactory**.

⁵For example, UNIDO is running the programme on Non-combustion technology for PCB decontamination Programme in Philippines and India

⁶Nepal submitted its NIP to the Stockholm Secretariat on 25 September 2007

⁷This organogram has been adapted from the one proposed in the NIP

B. Relevance

Relevance to the country and target groups

52. This project is highly relevant as Nepal is party to the Stockholm Convention and it holds a significant stockpile of PCBs and wastes (167 tons) identified during NIP development. The project is assisting Nepal to complying with the Stockholm Convention by building its capacity to soundly manage its stocks of PCBs and related wastes.

53. The Joint Secretary, MOSTE⁸ confirmed the importance of the project to dispose off Nepal's PCBs. He informed that Nepal is committed to fulfil its obligation with respect to the Stockholm Convention. To confirm this commitment, he indicated that Nepal is in the process of updating its NIP though another GEF funded and UNIDO implemented project.

54. The project is of direct relevance to workers dealing with transformers that may be potentially PCB contaminated. NEA workers confirmed the high relevancy of project that contributed to raise their awareness regarding risk of exposure to PCBs. This has to some extent impacted on their way of working. For example, whenever required they would use personal protective equipment which they did not do before. However, they indicated that due to lack of resources it was difficult to implement all the measures proposed. For example, they indicated that they lack equipment to determine whether a transformer is PCB contaminated or not⁹.

Relevance to GEF

55. As stated in the PIF document¹⁰, the project is consistent with Strategic Program 1 through a) putting in place regulatory framework for the management of Annex A POPs b) strengthening and improving the sustainability of the Annex A POPs management capacities of the central government and other stakeholders c) improving the enforcement capacity of Annex A POPs related legislations through laboratory strengthening and training, whereby Nepal will have the capacity to meet its Annex A POPs related obligations of the Stockholm Convention.

56. The project also addresses Strategic Program by a) phasing out PCB containing electrical equipment from use, b) disposals of PCBs in an environmentally sound manner, c) improving the working conditions of those, who engage in POPs management, d) reducing exposure to Annex A POPs of local communities, whereby the environmental and health related risks resulting from those chemicals will be reduced.

Relevance to UNIDO

57. The project is very relevant with UNIDO's mandate to support developing countries and countries with economy in transition to achieve sustainable industrial development given the project is focusing on technological solutions to environment and health problems within Operational Program 14 . UNIDO has also developed and implemented a large number of GEF funded NIPs and post-NIP projects and contributed to the efforts made in sound management of chemicals. This project will

⁸Interview data

⁹ Interview data with NEA supervisors at transformer workshop

¹⁰ PIF approved in December 2009

integrate both aspects of technology transfer and investment, which are clearly falling in the comparative advantage domain of UNIDO.

C. Effectiveness

58. The project included 10 outputs organized under four components designed to contribute to 4 outcomes as stated in the project document. Implementation of the project started in January 2011. The following paragraphs look at the achievement of outputs and activities during project implementation.

59. Outcome 1: Strengthening of institutional capacity building, policy/legal framework and enforcement strategy for PCBs Outputs/Activities

60. Output 1.1 Policies and laws addressing POPs and PCBs revised.

Policies and laws have not been reviewed as they do not exist for PCBs in Nepal. However, the hazardous substances management regulation is in process of approval. PCBs and more generally POP chemicals will be included in the list of hazardous substances of this regulation¹¹.

61. Instead of legislation, PCBs management Guidelines were developed by NTE and policy expert. This document¹² that proposes options / measures for the sound life cycle management of PCBs from use to disposal does not however cover properly the regulatory aspect of PCBs. The evaluation also considers that the guidelines not highlighting cross-contamination issue, and not proposing measures to prevent / minimize it, is a major weakness of the document. Indeed, as PCBs are no longer being produced and commercialized on a global level, cross-contamination during repair / maintenance is the most likely route to increase the PCB burden of a country

62. Output 1.2: Appropriate technical/analytical capacity in place for enforcement

Although a number of laboratories¹³, that could be strengthened to serve the purpose of the project, were identified during the preparatory phases, this output not achieved. A few laboratories in Nepal has the Gas Chromatography / Electron Capture Detector (GC ECD) equipment suitable for PCB analysis. However these could not be upgraded as the electron emitter of the ECD which typically consists of a metal foil containing the radionuclide ⁶³Ni could not be imported as importation of radioactive materials is prohibited in India, country through which this would have transited¹⁴. The other option, which would consist of purchasing and running of a GC using a mass spectrometer (GC MS) as detector, was considered to be beyond the project budget.

63. Instead of strengthening the capacity of a laboratory for POPs or PCB analysis, the project on the special request and decision of MOSTE purchased an Atomic Absorption Spectrometer (AAS) that was handed over to MOSTE¹⁵. The AAS technique is specific for the analysis of metals and metalloids, and not for POPs. The evaluation considers that although AAS is very useful equipment, this purchase was not relevant to the project. Instead, the funds could have been spent differently and

¹¹Interview data with MOSTE and NTE

¹²Copy of document was submitted to the evaluation.

¹³See Table 3, page 30, of project document

¹⁴Interview data with UNIDO PM

¹⁵Interview data from NTE.

that would have contributed to sustain the project outcomes. For example, PCB test kits and related consumables could have been purchased, and distributed to all transformer workshops of NEA. These would have been useful to check whether a transformer is PCB contaminated or not, before repaired / serviced. This would have definitely contributed to reduce / minimize cross-contamination. To address this one of the two Dexsil Testkits, used by the MSP project will be provided to the NEA. Currently, transformers are being repaired / serviced without any form of chemical analysis for PCB. Assessment for presence of PCBs in transformers is solely based on information found on the transformer plate and physical aspect of the equipment¹⁶.

64. For the purpose of the PCB inventory carried out during the project, only Dexsil test kits were used to identify contaminated equipment. For confirmation purposes, suspected transformer oil samples were sent to accredited laboratories in India and Europe for analysis.

65. Output 1.3: Enforcement of POPs and PCB-related improved regulations. A number of inspections have been carried out by MOSTE and Department of Environment officers at custom points. However, there are no indications that the custom officers have had their capacity built for enforcement or inspection regarding PCBs at entry points in the country. It is recommended that the project (MOSTE) should decide on the steps toward the involvement of customs authority in the control on import of electrical equipment including oil for the future.

66. A training workshop of trainers was organized on 8 September 2011 for NEA personnel to raise awareness regarding risk associated with PCBs and the need to manage them soundly until disposal. This workshop was attended by 28 officers of NEA. Additionally awareness training in different workshops of NEA was organized with the support of an international expert recruited by UNIDO, NTE and inventory coordinator to raise awareness amongst the workers, especially those handling and repairing the transformers and who are the most potentially at risk. Moreover, it appears that there was no Environmental Sound Management (ESM) system implemented within NEA. For example, feedback obtained during the field mission indicated that due to lack of resources protective personal equipment was not systematically used; transformers were not systematically checked for PCBs as means (test kits) not available, no separate line was established for PCB contaminated equipment. During site visit at a transformer workshop where decontamination was undertaken, the evaluation could notice the bad condition under which old transformers were being stored in the open (Figure 1). Signs of transformer oil spills were clearly visible and the old transformers were kept in the open (in very bad storing conditions). The NTE who was present during the site visit was surprised how things deteriorated since the project was over. He indicated that this site was cleared and adequately prepared to accommodate a PCB mobile treatment unit that was used to decontaminate PCB transformers during the project. This deterioration clearly indicates that no ESM system for PCB management is in place at NEA.

¹⁶Interview data with NEA.

Figure 1: Old transformers stored in the open at NEA transformer workshop, Lainchaur



67. Output 1.4: Capacity for ESM of POPs and PCBs strengthened

Training workshops of trainers (TOT) were organized in November 2011 with support of an international expert recruited by UNIDO. Complementary TOT was undertaken by NTE on July 25, 2013. He also ran separate trainings during 4 – 8 June 2012 were organized for NEA personnel to raise awareness regarding risk associated with PCBs and to build their capacity to soundly manage PCBs until disposal. These workshops were attended by 28 officers of NEA. However, there is no indication whether within NEA, workshops were organized to raise awareness amongst the workers, especially those handling and repairing the transformers and who are the most potentially at risk.

68. Moreover, although an Environmental Sound Management (ESM) system was implemented within NEA (see **Outcome 2**), not much effort was done to maintain such a system. For example, feedback obtained during the field mission indicated that due to lack of resources: protective personal equipment was not systematically used; transformers were not systematically checked for PCBs as means (test kits) not available, all transformers repaired / serviced by the same equipment / line. During site visit at a transformer workshop where decontamination was undertaken, the evaluation could notice the bad condition under which old transformers were being stored in the open (Figure 1). Signs of transformer oil spills were clearly visible and the old transformers were kept in the open (in very bad storing conditions). The NTE who was present during the site visit was surprised how things deteriorated since the

project was over. He indicated that this site was cleared and adequately prepared to accommodate a PCB mobile treatment unit that was used to decontaminate PCB transformers during the project. This deterioration clearly indicates that the ESM system for PCB management put in place was not sustained.

69. Outcome 2: Establishment of environmentally sound management (ESM) system for POPs and PCBs

70. Output 2.1: PCBs inventories updated

The inventory exercise was carried out in 2012 and it covered power transformers all over Nepal and distribution transformers for Kathmandu valley only. For this purpose, an inventory form was developed based on the form proposed by UNEP. An inventory expert as well as inventory teams were recruited for this activity, who were trained prior to undertaking the inventory.

71. A total of 393 power transformers (all over Nepal) and 2158 distribution transformers (in Kathmandu region only) were surveyed in this exercise. Oil samples were collected from these transformers and analyzed by Dexsil L2000DX PCB test kit. This exercise revealed a total of 419 tons of PCB contaminated¹⁷ equipment (Oil: 147 tons and metallic part: 272 tons).

72. NEA participated actively in this inventory exercise. They provided the project an exhaustive list of power and transmission transformers, sorted by generating stations, substation and grid to the project. In addition, in each district, NEA released 2 or 3 support persons from its maintenance group to assist in the sampling of oil from in-service transformers. They are the only persons authorized to access such transformers. Logistic supports like ladder, equipment for opening the valves and drain taps and other normal protective gears were also provided by the NEA.

73. There were some limitations of this inventory exercise. For example, although all distribution transformers of all districts of Kathmandu were envisaged to be covered, it was not possible to collect oil samples from all the transformers, especially in Bhaktapur and Kirtipur districts, due to logistic and safety reasons. Also some private owners of transformers of Kathmandu-Mid and Kathmandu-West distribution centers were not included in the inventory.

74. Output 2.2

This output that was related to POPs pesticides was cancelled as the destruction of this stock of POPs pesticides was done with funding from German cooperation (GTZ).

75. Output 2.3: Technical capacity for ESM of PCBs strengthened

As mentioned in paragraph 52, no laboratory was upgraded. Test kits, purchased by the project, were used to identify PCBs. NEA provided laboratory space to analyze the transformer oil samples using these test kits.

76. A number of activities were undertaken to strengthen the capacity of NEA for ESM of PCBs during the decontamination process by a mobile treatment unit and these included:

- Establishment of a separate line for handling and dismantling PCB-containing equipment

¹⁷According to the Stockholm Convention, an equipment is considered contaminated if it contains more than 50 ppm of PCB.

- Provision of sufficient packaging material available
- Provision of PPE including safety gears and appropriate gloves made available to NEA workers
- Installation of emergency response equipment at NEA premises
- Training of 60 NEA workers/personnel for ESM of PCBs¹⁸

77. Output 2.4: Occupational safety working environment improved

A number of activities and initiatives have been undertaken to improve the occupational safety working environment at NEA:

- Occupational Safety issues are extensively covered in the PCBs Guidelines developed
- Training workshops to raise awareness on the need to manage PCBs soundly including safety issues were held at different maintenance facilities of NEA
- NEA designated some occupational safety officers who were also trained during the workshops

78. Outcome 3: Final disposal mechanism of PCBs

79. Output 3.1 An interim storage location for PCB wastes established

One of the NEA transformer maintenance workshops located at Lainchaur, Kathmandu was proposed as interim storage site for PCBs. The UNIDO PM was not in favour of this site as it was located within Kathmandu City in a quite busy area. However, after consultation amongst national stakeholders including MOSTE and NEA, it was finally agreed to select this site as interim storage location. This site was upgraded accordingly for the sound storage of PCB contaminated equipment before their decontamination by a mobile treatment unit. It was at this site that PCB decontamination was then undertaken using a mobile treatment unit (subcontract to SetCar).

80. Output 3.2

This output related to the disposal of POPs pesticides was cancelled (see paragraph 64).

81. Output 3.3: Final disposal of 167 tonnes of PCBs and PCB-containing equipment and wastes implemented

82. The choice for a reliable and environmentally sound disposal method was done through a technical vendor consultation meeting organized by UNIDO/MOSTE in August 2012. Three vendors representing international companies: Sea Marconi, SetCar and Aprochim from Italy, Romania and France respectively presented their disposal methods for PCBs. The contract was ultimately allocated to SetCar of Romania. The technology proposed was dechlorination by a mobile PCB treatment unit that was capable of treating low and high level PCB oils as well as the metallic part of the transformers.

83. Prior to the start of the decontamination process, the site location at an NEA transformer workshop in Lainchaur was cleaned by SetCar with the help of NEA personnel. After shipment of the mobile treatment unit from Romania, the

¹⁸Workshops undertaken at various locations of NEA. Report provided to the evaluation.

decontamination process started in November 2013 at this Lainchaur site. Best environmental practices (BEP) were used to ensure that PCBs and other chemical would not be released during the decontamination process. NEA workers who assisted in the process were given the appropriate training, and it was also ensured that they would wear the appropriate PPE during the handling and transport of PCB contaminated equipment.

84. The decontamination of all available PCB oils and equipment was completed by March 2014. While the inventory revealed a total of 409 tons of PCB contaminated equipment, only a total of 209 tons of PCB equipment (155 tons) and oil (54 tons) was treated by the mobile unit. The other PCB contaminated transformers were not available for decontamination as they were not easily accessible or could not be removed from the grid. To confirm that the decontamination was successful, SetCar sent 99 oil samples to an independent accredited laboratory in Romania for analysis.

85. Outcome 4: Public education, awareness and information

Several training and awareness raising workshops targeting mainly personnel, officers and workers of NEA and MOSTE have been undertaken. In total more than 400 persons have participated to these workshops. However, there is no indication that the general public has been made aware or informed about the project or about the health related aspects of POPs and PCBs.

86. Moreover, electronic version of brochures on PCBs¹⁹ has been developed, but they have not been published yet. In a view to raise awareness amongst the general population, the evaluation recommends that actions are taken to inform the general public about the project and PCBs, and POPs more generally. In particular, given that Nepal is currently reviewing and updating its NIP, the authorities could seize this opportunity to undertake this awareness campaign.

87. Outcome 5: Establishment of project management structure

88. Output 5.1: Project management structure established

As planned, a POPs unit was established within MOSTE and a National Project Manager (NPM) was recruited. MOSTE delegated a project coordinator and supporting staff to the POPs unit. The NPM, a former general manager of NEA, was in position for 4 months only²⁰. After this period, the National Technical expert (NTE), who was already recruited, acted as NPM until the end of the project. It should be pointed out that the NTE was involved in NIP development and in the preparatory phases of the project for which he acted as technical expert. He is considered the living memory of the project as he was involved in all activities, meetings and workshops of the project²¹.

89. As planned the Steering Committee for the Implementation of the Stockholm Convention (SCISC) and the Project Management Technical Committee (PMTTC) were established.

90. A National Technical Expert (NTE), a policy expert and an inventory expert were recruited, but a Chief Technical Advisor was not recruited. However, international experts were recruited to assist in the project. In particular, international experts were

¹⁹An electronic copy of brochure was submitted to the evaluation.

²⁰For personal reasons, the NPM resigned after 4 months.

²¹Interview data with various stakeholders during field mission.

hired to help in developing environmentally sound management (ESM) plan for Nepal and also to undertake training and awareness workshops for NEA personnel.

91. Stakeholder focal points were established and in many cases they were also representative of their organization in the SCISC.

92. Output 5.2: Project monitoring and evaluation designed and implemented

93. The inception workshop was held in March 2011 and was attended by all major stakeholders including representatives of MOSTE, NEA and other relevant ministries and by the UNIDO PM.

94. The work plan was developed according to the project document and approved at the meetings of the SCISC that were held as planned. It should be pointed out however that the copies of minutes of meeting of the SCISC submitted to the evaluation contained the strict minimum: just the agenda, members present and decision taken. The minutes did not contain any element of discussion or comments from members. Moreover, all the minutes of the steering committee meetings were barely two pages long including the list of members present. The original copies of the minutes of the SCISC were taken in Nepalese, which were translated into English. Both versions were submitted to the evaluation and both were of comparable length (barely 2 pages). This would suggest that the discussion part of the meeting were either not minute or there was minimum or no discussion at all during these meetings.

95. Quarterly progress reports as well as PIRs were timely prepared and shared amongst relevant stakeholders. The midterm evaluation was undertaken in June 2013

96. Although the project has been able to successfully dispose of soundly 209 tons of PCB contaminated equipment and oil, the legislation has not been strengthened and the project failed to raise the awareness of the general public. For these reasons, the rating on **effectiveness** is **moderately satisfactory**.

D. Efficiency

97. The CEO endorsement date was 11 November 2010, the project officially started in January 2011 and was supposed to end in December 2013. The actual closure date was June 2015²². The reasons for the delaying closure of the project are discussed in the following paragraphs.

98. A full agency mode of execution was applied with UNIDO managing the GEF funds (US\$ 880,000). A different approach was adopted by UNIDO in 2004/05 for the NIP²³ development of Nepal whereby the GEF funds were transferred by UNIDO to be managed by MOSTE. This different approach was not well accepted by MOSTE level and could be one the reasons why MOSTE did not sign the agreement with UNIDO in 2011²⁴. The agreement was signed in March 2014 three years after the project officially started. As a result of this late signature of agreement, the implementation of project activities was somewhat slowed down due to administrative delays. For example, although MOSTE was supporting the project, it took time for the NPM or the NTE to get approval or official letters from MOSTE to undertake activities such as organizing meetings or convening NEA to technical meetings.

²²Information taken from PIR 2014.

²³See footnote No 6

²⁴Interview data with National Technical Expert

99. Movement of personnel at the level of MOSTE also delayed the implementation process to some extent. During the project period, the Joint Secretary of Environment Management Division of MOSTE, who was also the National Project Director of the project, changed three times. In fact, it was the third Joint Secretary who signed the agreement with UNIDO in March 2014.

100. In the project design, the first option for decontamination was to ship the identified stock of PCB contaminated oil and equipment for treatment in India, which was in the process of establishing a non-combustion facility for treatment of PCBs²⁵. However, as the establishment of this facility was considerably delayed, the project had to opt for a mobile treatment unit as alternative option. The sub-contracting for such a unit was done through an international bidding exercise (see paragraph 72). This exercise took time and delayed the implementation process. Furthermore, the sub-contracted company (SetCar of Romania) had to wait for the monsoon season (June – August) to be over before starting the decontamination process, which added to the delays caused to the project²⁶. The mobile unit was shipped from Romania in August 2013 and decontamination started in November 2013 to be completed in March 2014. The final report was submitted by SetCar in September 2014.

101. Delays also occurred during the PCB decontamination process. Many of the identified PCB contaminated transformers were in service and were not readily available for treatment. Their removal from the grid had to be organized and this took time and delayed the decontamination process. As a result, the mobile unit that could decontaminate 6 to 7 transformers daily was treating only 1 or 2 transformers daily. However, SetCar decontaminated / dechlorinated old oil stocks during such gap periods. The decontamination period was extended by at least two months²⁷.

102. At July 2015 a total of US\$ 859,737(97.6%) out of the US\$ 880,000 GEF funds has been spent. As can be seen in Table 2, the subcontracts represent 65% of total expenditures. Of the total US\$ 557,780 for subcontracts, US\$430,000 were used for the hiring of a mobile unit that was shipped from Romania to Nepal for the treatment of PCB contaminated equipment. Considering that 209 tons of PCB contaminated equipment were treated, this would mean that the treatment cost was US\$ 2.06 per kg²⁸, which can be considered to be very acceptable compared to what is proposed generally by international destruction companies, between 3 to 5 US\$ / kg²⁹.

Table 2: Expenditures as at 31 December 2012 (GEF funds only)

Item	Expenditures (US\$)	% of total Expenditures
International experts	41,330	4.8%
National experts	82,055	9.5%
Project travel	51,500	6.0%

²⁵India is in the process of establishing a treatment facility in the context of the Non-Combustion Programme of UNIDO for PCB treatment

²⁶Interview data with ex-NEA grid manager, and confirmed by NTE.

²⁷Interview data with ex-grid manager of NEA

²⁸\$430,000 divide by 209 tons

²⁹Generally it costs between \$3 and \$5 to destroy 1 kg of PCB contaminated equipment by a hazardous waste treatment facility. This cost includes the packing and shipment of the PCB wastes and the actual destruction cost.

Item	Expenditures (US\$)	% of total Expenditures
Subcontracts	557,780	64.9%
Training / Study tour	18,419	2.1%
Equipment	79,689	9.3%
Sundries	28,955	3.4%
Total	859,728	100%

103. Although the project implementation process was delayed by two years, the stock of identified PCB contaminated oil and equipment was successfully treated at a very reasonable cost of US\$2.06 per kg. For these reasons rating on **efficiency** is **satisfactory**.

E. Sustainability of project outcomes

Financial risks

104. The evaluation considers that financial risk is high for the following reasons. Amongst the immediate objectives, the project was designed for

- Strengthening capacity for PCBs waste management and domestic treatment through implementing BAT and BEP
- Improving occupational safety measures

Given how decommissioned transformers are being stored in bad conditions in the open at an NEA transformer workshop in Lainchur (see paragraph 58), clearly indicates that BEP are not being applied, and potentially contaminated equipment are not being soundly managed. Moreover, due limited to financial resources for purchase of PPE, workers at this workshop do not use PPE while operating / servicing / repairing the transformers³⁰.

Sociopolitical risks

105. Nepal is party to the Stockholm Convention and is fully committed for its implementation (see paragraph 43). As mentioned earlier, Nepal, through MOSTE as executing body is in the process of updating its NIP through another GEF funded and UNIDO implemented project. The Joint Secretary of the Environment Division of MOSTE stated Nepal would comply with the Stockholm Convention whatever the political situation in the country. As example, he said that Nepal just has its new constitution but it is still fully committed to fulfill its obligations towards the convention³¹. For these reasons, sociopolitical risks are considered low.

Institutional framework and governance risks

106. As mentioned earlier, the implementation and monitoring of the project was undertaken through the Steering Committee for Implementation of the Stockholm Convention (SCISC). This body was established during NIP development in 2004. It is this body that is also monitoring the NIP update project being implemented by UNIDO

³⁰Interview data with NEA workers at Lainchaur transformer workshop.

³¹Interview data with Joint Secretary, MOSTE. There were two public holidays in Nepal due to change in constitution at the time the field mission was being undertaken.

and executed by MOSTE. In fact, SCISC is responsible to monitor / coordinate all on-going and future POPs project³².

107. Furthermore, as mentioned earlier (paragraph 50), Nepal is in the process of promulgating the hazardous substances management regulation. PCBs and more generally POP chemicals will be included in the list of hazardous substances of this regulation³³. Within MOSTE, a Department of Environment has been recently created as well as a chemical laboratory established for the monitoring of environmental chemical pollutants. These initiatives clearly indicate Nepal's commitment to enforcement regulations on hazardous chemicals. For these reasons, the evaluation considers that risks related to institutional framework and governance are low.

Environmental risks

108. No environmental risk that can influence or jeopardize the project outcomes and future flow of project benefits has been identified, therefore this risk is considered to be low.

109. Although institutional framework is adequate, however due to lack of financial resources, BEP and ESM are not being adopted at NEA. For these reasons the rating on **sustainability is moderately likely**.

F. Monitoring & Evaluation

Monitoring and evaluation design

110. The monitoring & evaluation (M & E) design followed UNIDO's standard monitoring and evaluation procedure. The proposed plan in the project document is adequate and allows for monitoring progress and impact at output level. Indeed, the project logical framework (annex 1 of the project document) gives appropriate objectively verifiable indicators, their sources of verification and assumptions & risks for the project objectives, outcomes and outputs. The parties responsible for each of the activity of the different outputs are also given in the project document³⁴. The evaluation however considers that the logical framework could have benefited from target at midterm for indicators, which would have certainly helped in the project implementation.

111. The logical framework is complemented by an adequate costed monitoring and evaluation plan (total cost of US\$ 59,100)³⁵ that allows to monitoring progress at project level. This plan includes: inception report, reports on impact indicators, progress and final project reports, PIRs, annual steering committee meetings, annual financial reporting, and audits, mid and terminal evaluations; their timing and the parties responsible for each of these activities.

112. The overall approach to monitoring progress and project evaluation in terms of activities and deliverables (reports) is adequate and clearly linked to project reporting, oversight and governance. For these reasons, rating on Monitoring and Evaluation Design is Highly Satisfactory.

³²Interview data with Joint Secretary, MOSTE

³³Interview data

³⁴Section C.6 of project document.

³⁵Table 6 of project document

Monitoring & evaluation Implementation

113. As planned, SCISC and PMTC were established (see paragraph 79) during the initial phases of the project and a NPM was hired as well as a NTE (paragraph 78). The inception workshop, which was held on 9 March 2011 in Kathmandu, was inaugurated by the Joint Secretary Ministry of Environment and Stockholm Convention National Focal point of Nepal. The workshop was attended by the major stakeholders including relevant ministries like MOSTE and MOA, NEA, national institutions such as Federation of Nepalese Chambers of Commerce and Industry (FNCCI), academia (e.g. Tribhuvan University) and UNIDO. The project, the implementation process, work plan, deadlines for delivery of outputs as well as parties responsible to coordinate activities and monitor progress was discussed and agreed upon at the workshop. These are reflected in the inception report submitted to the evaluation.

114. According to feedback gathered during field mission in Nepal, the NTE, who was also acting as NPM, confirmed that the planned steering group meetings as well as technical meetings were held. However, as mentioned earlier (paragraph 84), the reports of the SCISC submitted to the evaluation contained the strict minimum and did not contain any text relative to discussion or comment on the progress of the project or and how successful the implementation of activities were. The reports just contained the strict minimum: the agenda, list of members present and decisions taken on future activities. No mentions are made about accomplishment of previous activities whether they were successfully completed or not.

115. Quarterly accomplishment reports were timely submitted to UNIDO by the NTE, who was also acting as NPM. Copies of PIRs for 2014 and 2015 were submitted to the evaluation.

116. The rating for **M&E implementation** is **satisfactory**.

Budgeting and funding for M&E activities

117. The project budget included the costs for M&E activities (see paragraph 101). A total of US\$ 59,100, representing 6.7% of total GEF funds, has been allocated for the M&E plan. In general, the budgets planned for the different activities seem adequate³⁶, however the allocation for the midterm evaluation (US\$ 10,000) appear to be on the low side.

107. **Budgeting and funding for M&E activities** is rated **satisfactory**.

118. The overall rating for **monitoring & evaluation** is **satisfactory**.

G. Assessment of processes affecting achievement of project results

Preparation and readiness

119. As discussed in **Section III.A (Design)**, paragraphs 34 to 40), the project document contains relevant, precise and concise information to achieve the objectives of the project. The project has been developed based on the gaps and barriers identified during the preparatory phases. The project objectives are clearly defined and the activities described to achieve the project outputs and outcomes are feasible and adequate.

³⁶Table 6 in Section F of project document.

120. The monitoring & evaluation plan proposed is also adequate to monitor progress (**Section III.F**, paragraphs 100 – 105). All the major stakeholders / partners were fully aware and prepared at the start of the project as they were involved since the preparatory phases (e.g. MOSTE, other relevant ministries, and NEA) and / or participated in NIP development (e.g. MOSTE and NEA). However, as mentioned earlier (paragraph 88), due to late signature of project agreement by MOSTE, the implementation process was slowed down due to administrative delays.

121. The project is benefitting from existing structures for project implementation (paragraph 96). The same Steering Committee, which was coordinating the NIP development, was responsible to monitor project implementation. It is also the group that is monitoring the NIP update project currently being implemented by MOSTE. The project also benefitted from the experience gained by NTE as technical expert in NIP development and who was also involved in the development of the project proposal. He is currently the National Project Coordinator for the NIP update for Nepal.

122. The rating on **preparation and readiness** is **satisfactory**.

Quality at entry

123. Recruitment of international and national experts was done through a transparent selection process³⁷. At both level, the candidates with the most appropriate qualification and experience were recruited. For example, the NTE, holder of a PhD, was logically engaged as he was the PCB expert for NIP development. Similarly, the NPM was recruited mainly thanks to his previous position as General Manager of NEA, and was very efficient in getting the project on the right track by facilitating communication between the project and NEA³⁸. The expert recruited for the inventory of PCBs for the project was associated with NEA and is currently working as environmental specialist for World Bank, Nepal, which gives an indication of the high competency of the expert³⁹.

124. As reported earlier (paragraph 72), the choice for a mobile treatment unit was done through a technical vendor consultation meeting organized by UNIDO/MOSTE in August 2012. After a selection process, SetCar, a Romanian Company engaged in the environmental management business⁴⁰, was retained to provide services for treatment of PCB contaminated equipment identified in the project. To confirm the successful decontamination of PCB oils, samples were sent to an accredited Romanian laboratory recognized at European level⁴¹.

Country ownership

125. Country ownership is high. As mentioned earlier (paragraph 42), this project is highly relevant as Nepal holds a significant stockpile of PCBs and wastes (167 tons). The authorities have indicated their commitment to fulfill their obligations towards the

³⁷Interview data with MOSTE, NTE and UNIDO.

³⁸Interview data with NTE and UNIDO.

³⁹Interview of the inventory expert was undertaken at the World Bank premises in Kathmandu, Nepal.

⁴⁰<http://www.setcar-braila.ro/en/>

⁴¹Information taken from final report submitted by SetCar.

Stockholm Convention and in that context they provided full support to the project⁴². They also mentioned their total support for the on-going NIP update project implemented by UNIDO and executed by MOSTE.

126. Involvement of stakeholders has been satisfactory since the preparatory phases (paragraph 36). The in-depth discussion on relevance to NEA workers (paragraphs 44) further highlights the high ownership of the project. However, the NEA personnel⁴³ involved in the PCB inventory mentioned that their capacity would have further been built had they been involved in the analysis of oil samples, which was not the case. This was done by the NTE helped by two technical assistants recruited by UNIDO.

127. Rating on **country ownership** is **satisfactory**.

Stakeholder involvement

128. As mentioned at many places in this report, the involvement of the major stakeholders has been satisfactory. The stakeholders include MOSTE (national executing agency), relevant ministries, national institutions like FNCCI or NBSM, and academia (members of SCISC or PMTC or participated in workshops), NEA personnel (involved in inventory, involved in the decontamination process or participated in training / awareness workshops), recruited national experts, Nepal Federation of Environmental Journalists (an NGO represented in the SCISC) and UNIDO.

129. Although awareness raising workshops have been undertaken, targeting mainly personnel, officers and workers of NEA and MOSTE (paragraph 75), there is no indication that the general public has been made aware about risks associated with PCBs. Furthermore, private companies, owners of a significant number of electrical equipment, were not invited to participate in the project (paragraph 63). The evaluation recommends that campaigns targeting those private companies owners of electrical equipment and the general public in general should be undertaken in order to raise awareness about PCBs (and POPs in general) and health related problems that they might cause.

130. **Stakeholder involvement** is rated **satisfactory**.

Financial planning

131. A full agency mode of execution was applied for the project, with UNIDO managing all the GEF funds. UNIDO standard procedures were applied for sub-contracting activities, for procurement and for the management of project⁴⁴. For example, for payments of consultants (international and national), reports or progress reports were always requested before disbursements of funds.

132. For services provided by international consultants or international companies, negotiations and payment were done by UNIDO directly with / to these service providers. For payments of contracted services or expenses at national levels two modes of operations were used. Either funds were transferred to the NPM (or NTE) through UNDP Kathmandu, who then did the payment. For example, this mode was

⁴²Interview with Secretary and Joint Secretary, Department of Environment, MOSTE

⁴³Interview data. PCB analysis was done using an L2000DX test kit.

⁴⁴Interview data with UNIDO PM.

used for the recruitment of inventory teams. Or, the NPM or NTE would do the negotiations with local service providers then UNIDO would pay directly the selected local service provider upon submission of quotations. This mode was used for the organization of the inception workshop for example. Delays in payments for locally contracted services were mentioned during the field mission. For example, the technical assistants recruited for the PCB inventory indicated that they were paid with many months delay⁴⁵. This impacted on the inventory exercise as at some stage, the inventory teams were reluctant to continue the work. However, thanks to the good approach taken by the NTE to persuade the inventory team to continue, the inventory exercise could be successfully completed⁴⁶. He informed them they have not been paid due to delays in funds transfer from UNIDO, but eventually they would get paid.

133. Rating on financial planning is satisfactory.

UNIDO supervision and backstopping

134. UNIDO supervision of the project was done through annual progress reports submitted by NPM and NTE, inception workshop, and field visits. The PM could attend only the second steering committee meeting but he attended the inception workshop where he encouraged the active involvement and cooperation of stakeholders for the successful completion of the project. The PM also undertook field missions to Nepal where he met with the project team and held discussions with MOSTE. One of the missions was undertaken at the beginning of decontamination process in 2013 during which he proposed another site for the interim storage location for PCBs (see paragraph 69), but NEA was not willing to provide this space on technical ground.

135. Feedback gathered during country mission, the different stakeholders interviewed (e.g. NTE, NPM, NEA, and MOSTE) highly appreciated the guidance and technical assistance provided by the PM and indicated that his supervision was adequate, timely and helpful.

136. The rating on UNIDO supervision and backstopping is highly satisfactory.

Co-financing and project outcomes and sustainability

137. The co-financing part of the project was exclusively in-kind. Although, a number of officers of MOSTE and NEA personnel were actively involved in project activities, and office and laboratory space & an interim location site were provided by MOSTE and NEA respectively, it is difficult to assess this aspect of the project.

Delays of project outcomes and sustainability

138. As discussed in depth in previous sections, the delays encountered were mainly due to late signature of agreement by MOSTE (paragraph 88), to selection and mobilization of the mobile PCB treatment unit (paragraph 90) and availability of contaminated oil and PCB transformers for treatment (paragraph 91). Despite the two year delays, the project has been successful in soundly treating 209 tons of PCB contaminated equipment by applying best environmental practices.

⁴⁵Interview data with inventory teams

⁴⁶Interview data with NTE

Implementation approach

139. The implementation was undertaken according to the approach originally agreed upon by stakeholders as planned in project document. UNIDO applied a full agency mode of execution and managed all the GEF funds (paragraph 88).

140. The project was nationally executed by MOSTE with the assistance of a NPM, NTE and local experts (inventory expert and policy expert) and making use of structures (SCISC and PMTC) established during NIP development in 2005.

141. By planning a midterm and terminal evaluation, the project design was set to promote accountability for the achievement of the project objectives through the assessment of results, effectiveness, processes and performance of stakeholders involved during project implementation.

142. The approach adopted by directly involving all the major stakeholders since the preparatory phases was set to promote ownership of the project. As mentioned earlier, ownership is very high amongst all the stakeholders, however chances for sustainability of the project are moderate as there are financial risks identified that might jeopardize project outcomes (Sustainability section, paragraphs 94 to 99).

H. Project coordination and management

143. As planned, the project was implemented by UNIDO from which a Project Manager (PM) was nominated in 2011 and supporting staff providing assistance in project execution. In particular, the PM delegated some of his duties to an assistant based in UNIDO regional office in India for the period 2011 - 2013. This did not cause any disruption / problem in project implementation as indicated by stakeholders interviewed during field mission⁴⁷. The PM was not involved in project development but did not have any particular problem in managing the project. He indicated that there were no particular problem except for normal administrative delays for project execution and found that execution at national level was satisfactory. He was particularly pleased with the work done by the NPM and the NTE who greatly contributed to successful completion of the project⁴⁸. He also mentioned that he missed the opportunity to get the agreement signed by MOSTE while he was in Nepal in March 2011 during the inception workshop (see paragraph 88). In general, the various stakeholders appreciated the guidance provided by UNIDO⁴⁹.

144. At national level, the project management team, was set up within MOSTE in 2011 from which a project coordinator (a lady, senior chemist at MOSTE) was nominated and was assisted by subordinates, also officers of MOSTE. Having been involved in the project development process, it was not difficult for the project coordinator to communicate with all the stakeholders of the project to initiate activities like organizing the inception workshop (in March 2011) or recruit the NPM and experts (in 2011)⁵⁰. However, the project coordinator stayed in position only for 7 months as she was transferred to the Ministry of Forests and Soil Conservation, where she is now the Deputy Director General for the Department of Plant Resources. She was replaced by her successor, another MOSTE officer. This turnover did not disrupt project implementation as confirmed by the NPM and the NTE⁵¹.

⁴⁷Interview with NTE, NPM, MOSTE and MEA

⁴⁸Skype interview with PM on 20 October 2015

⁴⁹Interview data with NPM, NTE, MOSTE and NEA.

⁵⁰Interview data with MOSTE project coordinator.

⁵¹Interview data

145. As planned a NPM, who was a former General Manager of NEA, was recruited (in March 2011) and was responsible to coordinate project activities. However, for personal reasons the NPM resigned after 4 months (see paragraph 78). On request from UNIDO, the NTE, who was also recruited in 2011, acted as NPM until the end of the project. Despite his short stay in the project, the NPM indicated that he had very working relationship with NEA, MOSTE and UNIDO. He indicated that there was no particular problem during those initial phases of the project. In particular, he initiated discussion with NEA top management (including the Managing Director and the principal managers) through a meeting that was held in July 2011. According to feedback gathered from various stakeholders, the role of the NTE was crucial in the successful completion of the project (see paragraph 78). He was involved in all activities from organizing meetings, through policy development, through the inventory exercise to the decontamination process.

146. The rating on **project coordination and management** is **highly satisfactory**.

I. Gender mainstreaming

147. The project design did not explicitly make any provisions for consideration of gender. Nonetheless, a mainstreaming gender analysis for Nepal was undertaken and a Guideline for Gender Mainstreaming for the project was developed⁵². However there is no indication whether these guidelines were followed during the project implementation. Otherwise, in general there were no gender inequality both genders were involved in all project activities including supervision and coordination. For example, the inventory expert and three of the inventory assistants were female as well as the first MOSTE project coordinator. The UNIDO officer, based at the regional Office in Delhi, and who assisting the PM was also a female. However, some activities of the project required persons a specific gender for achieving success according to feedback gathered during field mission. For instance, handling and transportation of transformers or heavy equipment transformers required males rather than females⁵³. Still, two of the workers at Lainchaur workshop were females, who supported SetCar.

J. Procurement issues

148. Procurement for the project followed the standard UNIDO procedures. No particular problem or delay due to procurement occurred during project implementation⁵⁴.

K. Overall assessment

149. According to the TOR of this evaluation (annex 1), it is required to assess and rate the different categories of the project, according to the GEF format, from Highly Satisfactory (HS) to Highly Unsatisfactory (HU). Rating for sustainability sub-criteria are as follows: Likely (L), Moderately Likely (ML), Moderately Unlikely (MU) and Unlikely (U). Table 3 below reports the assessment of the different categories based on the documents submitted (see Annex 2) and interviews carried out during the field mission.

⁵² Copy of both reports submitted to the evaluation.

⁵³ Interview data with NEA

⁵⁴ Interview with PM.

Table 3: Summary assessment and ratings

	Evaluator's summary comments	Evaluator's rating
Attainment of project objectives and results (overall rating) Sub criteria (below)	Although stocks of PCB successfully treated, legislation addressing POPs and PCBs not issued and ESM system not in place	S
Design	Project document contain precise, concise and relevant information for successful implementation	S
Effectiveness	Although PCB contaminated equipment successfully treated, legislation not strengthened	MS
Relevance	High relevance significant amount of PCBs identified in Nepal	S
Efficiency	Although project delayed by two years, PCB contaminated equipment successfully treated at a very reasonable cost	S
Sustainability of project outcomes (overall rating) Sub criteria (below)	Due to lack of financial resources, BEP and ESM not adopted at NEA.	ML
Financial risks	BEP and ESM not adopted at NEA due to lack of financial resources	MU
Socio political risks	Nepal fully committed to fulfill its obligation towards the Stockholm Convention	L
Institutional framework and governance risks	Adequate framework in place but legislation not yet strengthened	ML
Ecological risks	No environmental risk identified	L
Monitoring and evaluation (overall rating) Sub criteria (below)		S
M&E Design	Standard UNIDO M&E procedure	S
M&E Plan Implementation (use for adaptive management)	Planned monitoring and evaluation activities undertaken	S
Budgeting and funding for M&E activities	Adequate	S
UNIDO specific ratings		
Quality at entry / Preparation and readiness	High quality experts recruited and state of the art treatment mobile unit contracted	S
Implementation approach	Agreed approach adopted	S
UNIDO supervision and backstopping	Adequate supervision	HS

	Evaluator's summary comments	Evaluator's rating
Overall rating	Most immediate project objectives achieved	S

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

IV. Conclusions, recommendations and lessons learnt

A. Conclusions

150. The overall objective of the project was to establish environmentally sound management practices for PCBs and gradual the phase-out and disposal of existing old stockpiles PCB-containing equipment and wastes, particularly focusing in the electrical utilities and main users of electricity in Nepal.

151. The immediate objectives of the project were to:

- i. Strengthen the legal and regulatory framework to ensure the environmentally sound management of POPs and PCBs and their gradual phase-out and elimination before 2025 and 2028 respectively;
- ii. Updating the inventory and labeling of 167 tonnes of PCBs, PCBs containing electrical equipment and waste;
- iii. Strengthening capacity for POPs and PCBs waste management and domestic treatment through implementing BAT and BEP;
- iv. Disposal of at least 167 tonnes of PCBs, PCBs-containing equipment and wastes in an environmentally sound manner;
- v. Improving occupational safety measures and
- vi. Awareness raising amongst the public

152. The main purpose of this terminal evaluation was to assess the performance of the project (in terms of relevance, effectiveness and efficiency), and determine its impacts (actual and potential) including their sustainability and to propose a set of recommendations in a view of ongoing and future activities.

153. This project is highly relevant as Nepal is party to the Stockholm Convention and it holds a significant stockpile of PCBs and wastes (167 tons) identified during NIP development. The project is assisting Nepal to complying with the Stockholm Convention by building its capacity to soundly manage its stocks of PCBs and related wastes.

154. The project is consistent with Strategic Program 1 through a) putting in place regulatory framework for the management of Annex A POPs b) strengthening and improving the sustainability of the Annex A POPs management capacities of the central government and other stakeholders c) improving the enforcement capacity of Annex A POPs related legislations through laboratory strengthening and training, whereby Nepal will have the capacity to meet its Annex A POPs related obligations of the Stockholm Convention.

155. Effectiveness of the project is considered moderately satisfactory. Although the project has been able to successfully dispose of soundly 209 tons of PCB contaminated equipment and oil, the legislation has not been strengthened and the project failed to raise the awareness of the general public.

156. Execution of the project was done by a NPM (initial 4 months) then by the NTE until the end, in collaboration with MOSTE and adequately supervised and guided by UNIDO. Project implementation was delayed by almost two years due to a number of reasons including late signature of project agreement by MOSTE, long procedures for contracting mobile treatment unit, and non-availability of in service transformers for treatment. However, the project has been somewhat cost-effective as the stock of identified PCB contaminated oil and equipment was successfully treated at a very reasonable cost of US\$2.06 per kg as compared to US\$3 – US\$5 generally charged by international destruction companies.

157. Chances for sustainability of project outcomes are low. Indeed, although institutional framework is adequate and stocks of PCBs have been successfully treated, the legislation has not been strengthened and due to lack of financial resources, BEP and ESM are not being adopted at NEA.

B. Recommendations

158. The project has successfully treated 207 tons of PCB contaminated equipment, however it was not able to completely achieve some of the immediate objectives such as strengthening regulations related to PCBs or awareness raising of the public. In this regard, the following recommendations look ahead to post-project phase for continued relevance and impact of project.

- i. Custom officers have not been involved in the project. It is recommended that the project (MOSTE) should decide on the steps toward the involvement of customs authority in the control of electrical equipment including oil at entry points in the country for the future.

- ii. To prevent cross-contamination, which is a major route to increase a country's burden of PCB, it is recommended that MOSTE should ensure that NEA are adopting BEP and ESM during maintenance and repair of transformers.
- iii. Private owners of transformers as well as the region outside Kathmandu valley, except power transformers, were not covered by the project. Given that Nepal is currently reviewing and updating its NIP, the evaluation recommends that the authorities should seize this opportunity to undertake a complete PCB inventory exercise.
- iv. The evaluation also recommends that the authorities should take advantage of the NIP update to raise the awareness of the general public regarding risks associated to exposure to PCBs and POPs, which was not done during the project.

C. Lessons learned

159. Valuable lessons emerged during the implementation of this project, which include lessons related overall management of the project as well as to technical aspects:

- I. The project suffered delays due to late signature of agreement by MOSTE. Early signature of project agreement between parties would have avoided administrative delays during project implementation.
- ii. Mobilization of a mobile unit for treatment of PCB contaminated equipment may be more cost effective than exporting the PCB contaminated equipment to be destroyed at a disposal facility.

V1. Annexes

Annex 1: TORs of the evaluation



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE

Independent terminal evaluation of UNIDO project:

***Environmentally Sound Management and Disposal of POPs Pesticides
and PCBs***

UNIDO Project numbers: GF/NEP/10/001

UNIDO SAP ID: 104052

GEF Project number: 3573

JULY 2015

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I. Project background and overview

1. Project factsheet

Project title	Environmentally sound management and Disposal of POPs Pesticides and PCBs
GEF ID	3573
UNIDO project No. (SAP ID)	104052
Region	Asia and Pacific
Country	Nepal
GEF Focal area(s) and operational programme	POPs POPs-2; POPs-3
GEF agencies (implementing agency)	UNIDO
Project executing partners	Ministry of Environment Science and Technology, Government of Nepal
Project size (FSP, MSP, EA)	MSP
Project CEO endorsement/Approval date	11 November 2010
Project implementation start date (PAD issuance date)	18 January 2011
Original expected implementation end date (indicated in CEO endorsement/Approval document)	31 December 2013
Revised expected implementation end date	31 March 2015
Actual implementation end date	
GEF Grant (USD)	880,000
GEF PPG (USD)	50,000
UNIDO Co-financing (USD)	40,000 (In-kind)
Total Co-financing (USD) at CEO Endorsement	880,000 (cash+in-kind)
Total project cost (USD) (GEF Grant + Co-financing at CEO Endorsement)	1,810,000
Mid-term review date	May-November 2013
Planned terminal evaluation date	Mid-August to end October 2015

(Source: Project document)⁵⁵

⁵⁵ Project information data throughout these TOR are to be verified during the inception phase.

2. Project summary

Nepal is located in Southern Asia, between China and India. It has a population of around 31 million, with 10% of the population being above 55 years of age. Population growth rate is at 1.82%. Literacy rate of total population is 57.4%. One quarter of the population lives below the poverty line. Unemployment is very high at 46%.

Nepal has a GDP of USD 19.34 billion (official exchange rate, 2013) and a GDP real growth rate of 3.6% (2013). Services constitute the highest contribution to GDP with 48.7%, followed by agriculture at 36.8% and industry with 14.5%. However, 75% of the labour force is engaged in agriculture; 18% in services and 7% in industry. Agricultural products are pulses, rice, corn, wheat, sugarcane, jute, root crops, milk and water buffalo meat. Industries are in the following sectors: tourism, carpets, textiles; small rice, jute, sugar, and oilseed mills; cigarettes, cement and brick production. Growth rate of industrial production is estimated to be at 1.5% (2013). Export commodities are clothing, pulses, carpets, textiles, juice, pashima, jute goods. Main export partners are India (around 94%), Bangladesh (4%) and Italy (0.4%). It imports petroleum products, machinery and equipment, gold, electrical goods, medicine mainly from India, followed by South Korea and China.

Nepal is party to various environmental international agreements, such as Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Endangered Species, Hazardous Wastes, Law of the Sea, Ozone Layer Protection, Tropical Timber 83, Tropical Timber 94, Wetlands. Current environmental issues in Nepal are deforestation (overuse of wood for fuel and lack of alternatives), contaminated water (with human and animal wastes, agricultural runoff, and industrial effluents), wildlife conservation, vehicular emissions.

In Nepal, the exposure to uncontrolled storages of POPs pesticides and PCBs are major public

Health concerns, due to their impact upon women and, thereby, upon future generations. Nepal never produced PCBs or dielectric fluids. At present, Nepal Electricity Authority (NEA) and transformer manufacturing private companies in Nepal import/use PCBs free dielectric fluids, but the dielectric fluid and equipment contaminated and cross contaminated with PCBs are also present in significant quantity. About 106,185.3 litres of PCBs-contaminated transformer oil was found during the National Implementation Plan (NIP) inventory. The Government of Nepal is taking steps towards sustainable development with policies in place regarding environmental management. Most of the legal provisions on environmental management are very new. Some require setting up of environmental standards and others require extended rules and regulations for enforcement and necessary institutional setting.

Nepal ratified the Stockholm Convention in 2007 as well as submitted its NIP. The NIP identified safe disposal of obsolete POPs pesticides and PCBs as top priorities of the

country. The Ministry of Environment, Government of Nepal selected “Environmentally Sound Management and Disposal of POPs pesticides and PCBs” as the first post-NIP project to deal with POPs management. Based on the prioritization of the issues articulated in its NIP, the Government of Nepal is putting major efforts to address the first three priorities, namely, obsolete stocks of POPs pesticides, PCBs and public education/awareness. These issues require immediate attention due to obsolete stocks of pesticides lying badly stored in sensitive and vulnerable areas and PCBs are known to be widely dissipated in an open system in the urban and some rural areas.

The main objective of the project is to enhance national technical/analytical capacity to address POPs problem and establish environmentally sound management system for disposal of POPs pesticides and PCBs.

The project is funded through a GEF grant, amounting to USD 880,000 (and PPG Grant of USD 50,000), a UNIDO contribution of USD 40,000 (In-kind); and the counterparts’ co-financing of USD 840,000 (cash and in kind), which amount to total project budget of USD 1,810,000.

The project implementation started in January 2011 and the initial project end date was in December 2013. The same was revised to June 2015.

Regular Monitoring is foreseen in the project document, as well as a mid-term evaluation (MTE) and a terminal evaluation (TE). Within the frame of the project monitoring and evaluation plan, the MTE was carried out by an independent evaluation consultant between May and November 2013 (MTE report, November 2013), and included a mission to Kathmandu, Nepal.

3. Project objective

The **main objective** of the project is to enhance national technical/analytical capacity to address POPs problem and establish environmentally sound management (ESM) system for disposal of POPs pesticides and PCBs.

The project aims to create institutional capacity to improve legislation on POPs chemicals, dispose of POPs pesticides and eliminate PCBs and PCBs-containing equipment and wastes. It also aims to enhance the technical/analytical capacity of the country to address the POPs problem in a more comprehensive manner. The project aims to update and complete the inventory of POPs pesticides, PCBs and PCBs-containing equipment waste, which were developed during the NIP project. The PCBs problem was to be addressed through technology transfer involving dismantling/ decontamination/ dechlorination process. Through public awareness campaigns, it was expected to disseminate the POPs pesticides and PCBs information, its impact on human health and the environment as well as disposal technologies to larger groups

at national level. The project aimed to dispose of 167 tonnes of PCBs and PCBs-containing equipment and wastes.

The **immediate objectives** of the project are to:

- Strengthen the legal and regulatory framework to ensure the environmentally sound management of POPs pesticides and PCBs and their gradual phase-out and elimination before 2025 and 2028 respectively
- Strengthening capacity for PCBs waste management and domestic treatment through implementing BAT and BEP
- Disposal of at least 167 tonnes of PCBs, PCBs-containing equipment and wastes in an environmentally sound manner
- Improving occupational safety measures and
- Awareness raising amongst the public

Following are the **4 main outcomes** of the project, besides project management:

Outcome 1: Strengthening of institutional capacity building, policy/legal framework and enforcement strategy for POPs pesticides and PCBs

Outcome 2: Establishment of ESM system for POPs pesticides and PCBs

Outcome 3: Final disposal mechanism of PCBs

Outcome 4: Public education, awareness and information

4. Mid-term evaluation (MTE)

The MTE was conducted in line with the UNIDO Evaluation Policy and the project evaluation and monitoring plan. It was carried out by an independent evaluation consultant between May and November 2013 (MTE report, November 2013), and included a mission to Kathmandu, Nepal, from 18-26 May 2013.

The MTE report constitutes an input to this terminal evaluation.

5. Project implementation arrangements

UNIDO: the GEF implementing agency.

National Steering Committee: formed under the Ministry of Environment (MOE) to make project-related decisions.

POPs Management Technical Committee (PMTC): looks after day to day execution of the project.

Project Coordinator (PC): duties undertaken by the POPs focal point, working in close coordination with the PM and Joint Secretary level officials, discussing inter alia project related policy level matters.

The **POPs Unit (PU):** consists of the Project Manager (PM) and supporting administrative staff. The PU is under the supervision of the Project Coordinator and reports through MOE to UNIDO.

The **Project Manager (PM):** an expert in the field of POPs reporting to the Project Coordinator and PMTC. The PM works in close coordination with the experts

appointed by the ministry on recommendation of the Project Coordinator, and provides overall guidance on the management process, monitoring of project execution.

A part-time international **Chief Technical Advisor (CTA)** is available to advise and assist the PU on technical matters.

Private sector stakeholders and other potential project participants are actively integrated into the project.

6. Budget information

The project is funded through a GEF grant, amounting to USD 880,000 (and PPG Grant of USD 50,000), a UNIDO contribution of USD 40,000 (In-kind); and the counterparts' co-financing of USD 840,000 (cash and in kind), which amount to total project budget of USD 1,810,000.

Financing plan summary for the project (US\$)

	Project preparation	Project	Total
GEF financing	50,000	880,000	930,000
Co-financing (cash and in-kind)		880,000	880,000
Total	100,000	1,760,000	1,810,000

Source: CEO endorsement document

Project outcomes	GEF (US\$)	Co-financing (US\$)	Total (US\$)
1. Institutional and regulatory framework for the ESM of POPs pesticides and PCBs	112,400	160,000	272,400
2. Technical assistance for the ESM of POPs pesticides and PCBs	150,400	180,000	330,400
3. Final disposal of PCBs	523,500	440,000	963,500
4. Public education, awareness and information	18,000	40,000	58,000
Project management	75,700	60,000	135,700
Total	880,000	880,000	1,760,000

Source: CEO endorsement document

Co-financing source breakdown is as follows:

Name of co-financier (source)	Classification	Type	Project
Government of Nepal	Government	In-kind	880,000
UNIDO	IA	In-Kind	40,000
Total co-financing			880,000

Source: CEO endorsement document

Annex 1: TORs of the evaluation

UNIDO budget execution:

Item	Disbursement ⁵⁶ in 2011	Disbursement in 2012	Disbursement in 2013	Disbursement in 2014	Disbursement in 2015	Total Disbursement (2011-present)
						(31 Mar.)
Contractual services		426,422.67	109,371.91	19,176.14		554,970.72
Equipment		36,788.80	-82.81		40,784.06	77,490.05
Internat. cons/Staff		32,379.05	2,945.04	6,012.00		41,336.09
Internat. meetings			9.35			9.35
Local travel		51,669.69	-4,496.81	49.93	4,274.04	51,496.85
Nat. consult./Staff		54,765.22	14,286.85	9,603.17	3,216.84	81,872.08
Other direct costs		21,291.66	807.45	1,078.16	4,719.81	27,897.08
Premises						0.00
Staff travel		14,372.30	5,806.24	-259.61		19,918.93
Train/Fellowsh/Study		19,345.92	-1,415.17	508.65	-20.35	18,419.05
Total		657,035.31	127,232.05	36,168.44	52,974.40	873,410.20

⁵⁶ Commitment plus expenditure

Annex 1: TORs of the evaluation

Source: SAP database, 31 March 2015.

II. Scope and purpose of the evaluation

The terminal evaluation (TE) will cover the whole duration of the project from its starting date in July 2011 to the estimated completion date in June 2015. It will assess project performance against the evaluation criteria: relevance, effectiveness, efficiency, sustainability and impact.

The TE has an additional purpose of drawing lessons and developing recommendations for UNIDO and the GEF that may help for improving the selection, enhancing the design and implementation of similar future projects and activities in the country and on a global scale upon project completion. The TE report should include examples of good practices for other projects in a focal area, country, or region.

The TE should provide an analysis of the attainment of the main objective and the corresponding technical components or outputs. Through its assessments, the TE should enable the Government, the national GEF Operational Focal Point (OFP), counterparts, the GEF, UNIDO and other stakeholders and donors to verify prospects for development impact and promoting sustainability, providing an analysis of the attainment of global environmental objectives, project objectives, delivery and completion of project outputs/activities, and outcomes/impacts based on indicators, and management of risks. The assessment includes re-examination of the relevance of the objectives and other elements of project design according to the project evaluation parameters defined in chapter VI.

The key question of the TE is whether the project has achieved or is likely to achieve its main objective of enhancing national technical/analytical capacity to address POPs problem and establishing environmentally sound management (ESM) system for disposal of POPs pesticides and PCBs in Nepal.

III. Evaluation approach and methodology

The TE will be conducted in accordance with the UNIDO Evaluation Policy⁵⁷, the UNIDO Guidelines for the Technical Cooperation Programme and Project Cycle⁵⁸, the GEF Guidelines for GEF Agencies in Conducting Terminal Evaluations⁵⁹, the GEF Monitoring and Evaluation Policy⁶⁰ and the GEF Minimum Fiduciary Standards for GEF Implementing and Executing Agencies⁶¹.

It will be carried out as an independent in-depth evaluation using a participatory approach whereby all key parties associated with the project are kept informed and

⁵⁷ UNIDO. (2015). Director General's Bulletin: Evaluation Policy (UNIDO/DGB/(M).98/Rev.1)

⁵⁸ UNIDO. (2006). Director-General's Administrative Instruction No. 17/Rev.1: Guidelines for the Technical Cooperation Programme and Project Cycle (DGAL.17/Rev.1, 24 August 2006)

⁵⁹ GEF. (2008). Guidelines for GEF Agencies in Conducting Terminal Evaluations (Evaluation Office, Evaluation Document No. 3, 2008)

⁶⁰ GEF. (2010) The GEF Monitoring and Evaluation Policy (Evaluation Office, November 2010)

⁶¹ GEF. (2011). GEF Minimum Fiduciary Standards: Separation of Implementation and Execution Functions in GEF Partner Agencies (GEF/C.41/06/Rev.01, 3 November 2011, prepared by the Trustee)

regularly consulted throughout the evaluation. The evaluation team leader will liaise with the UNIDO Office for Independent Evaluation (ODG/EVA) on the conduct of the evaluation and methodological issues.

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

The evaluation team will develop interview guidelines. Field interviews can take place either in the form of focus-group discussions or one-to-one consultations.

The methodology will be based on the following:

1. A desk review of project documents, including, but not limited to:
 - (a) The original project document, monitoring reports (such as progress and financial reports to UNIDO and UNIDO-GEF annual Project Implementation Reports (PIRs)), mid-term review report, output reports (case studies, action plans, sub-regional strategies, etc.), back-to-office mission report(s), end-of-contract report(s) and relevant correspondence.
 - (b) Notes from the meetings of committees involved in the project (e.g. approval and steering committees).
 - (c) Other project-related material produced by the project.
2. The evaluation team will use available models of (or reconstruct if necessary) theory of change for the different types of intervention (enabling, capacity, investment, demonstration). The validity of the theory of change will be examined through specific questions in interviews and possibly through a survey of stakeholders.
3. Counterfactual information: In those cases where baseline information for relevant indicators is not available, the evaluation team will aim at establishing a proxy-baseline through recall and secondary information.
4. Interviews with project management and technical support including staff and management at UNIDO HQ and in the field and – if necessary - staff associated with the project's financial administration and procurement.
5. Interviews with project partners and stakeholders, including, among others, government counterparts, GEF OFP, project stakeholders, and co-financing partners as shown in the corresponding sections of the project documents.
6. On-site observation of results achieved in demonstration projects, including interviews of actual and potential beneficiaries of improved technologies.
7. Interviews and telephone interviews with intended users for the project outputs and other stakeholders involved with this project. The evaluator shall determine whether to seek additional information and opinions from representatives of any donor agencies or other organisations.

8. Interviews with the head of operations in Nepal, as well as UNIDO Regional Office in India, which covers Nepal, and the project's management members and the various national and sub-regional authorities dealing with project activities as necessary. If deemed necessary, the evaluation team shall also gain broader perspectives from discussions with relevant GEF Secretariat staff.
9. Other interviews, surveys or document reviews as deemed necessary by the evaluation team and/or UNIDO ODG/EVA.
10. The inception report will provide details on the methodology used by the evaluation team and include an evaluation matrix.

IV. Evaluation team composition

The evaluation will be conducted by one international evaluation consultant.

The international evaluation consultant should be able to provide information relevant for follow-up studies, including evaluation verification on request to the GEF partnership up to two years after completion of the evaluation.

The international evaluation consultant will be contracted by UNIDO. The tasks are specified in the job descriptions attached to these terms of reference.

The international evaluation consultant must not have been directly involved in the design and/or implementation of the programme/projects.

The Project Manager at UNIDO and the Project Team in Nepal will support the evaluation team. The UNIDO GEF Coordinator and the GEF OFP will be briefed on the evaluation and equally provide support to its conduct.

V. Time schedule and deliverables

The TE is scheduled to take place in the period from mid-August to end October 2015. The field mission is tentatively planned for the end of August_2015. At the end of the field mission, there will be a presentation of the preliminary findings for all stakeholders involved in this project in Nepal.

After the field mission, the international evaluation consultant will give a debriefing to UNIDO HQ staff, together with a presentation of the preliminary findings of the TE. The draft TE report will be submitted latest 4 weeks after the end of the mission.

The draft TE report is to be shared with the UNIDO PM, ODG/EVA, the UNIDO GEF Coordinator and the GEF OFP and other relevant stakeholders for receipt of comments. The ET leader is expected to revise the draft TE report based on the comments received, edit the language and form and submit the final version of the TE report in accordance with UNIDO ODG/EVA standards.

VI. Project evaluation parameters

The evaluation team will rate the projects. The ***ratings for the parameters described in the following sub-chapters A to J will be presented in the form of a table*** with each of the categories rated separately and with **brief justifications for the rating** based on the findings of the main analysis. An overall rating for the project should also be given.

A. Project design

The evaluation will examine the extent to which:

- the project's design is adequate to address the problems at hand;
- a participatory project identification process was instrumental in selecting problem areas and national counterparts;
- the project has a clear thematically focused development objective, the attainment of which can be determined by a set of verifiable indicators;
- the project was formulated based on the logical framework (project results framework) approach;
- the project was formulated with the participation of national counterparts, stakeholders and/or target beneficiaries through a participatory and broad public consultation approach; and
- relevant country representatives (from government, industries, gender groups and civil society), including the GEF OFP, have been appropriately involved and were participating in the identification of critical problem areas and the development of technical cooperation strategies.

B. Project relevance

The evaluation will examine the extent to which the project is relevant to the:

- National development and environmental priorities and strategies of the Government and population of Nepal, and regional and international agreements. See possible evaluation questions under "Country ownership/driveness" below.
- Target groups: relevance of the project's objectives, outcomes and outputs to the different target groups of the interventions (e.g. companies, civil society, beneficiaries of capacity building and training, etc.).
- GEF's focal areas/operational programme strategies: In retrospect, were the project's outcomes consistent with the GEF focal areas/operational programme strategies. Ascertain the likely nature and significance of the contribution of the project outcomes to the wider portfolio of GEF's Focal area and Operational Program of Climate Change (CC-2).
- UNIDO's thematic priorities: Were they in line with UNIDO's mandate, objectives and outcomes defined in the Programme & Budget and core competencies?
- Does the project remain relevant taking into account the changing environment? Was there a need to reformulate the project design and the project results framework given changes in the country and operational context?

C. Effectiveness: objectives and planned final results at the end of the project

- The evaluation will assess to what extent results at various levels, including outcomes, have been achieved. In detail, the following issues will be assessed: To what extent have the expected outputs, outcomes and long-term objectives been achieved or are likely to be achieved? Has the project generated any results that could lead to changes of the assisted institutions? Have there been any unplanned effects?
- Are the project outcomes commensurate with the original or modified project objectives? If the original or modified expected results are merely outputs/inputs, the evaluators should assess if there were any real outcomes of the project and, if there were, determine whether these are commensurate with realistic expectations from the project.
- How do the stakeholders perceive the quality of outputs? Were the targeted beneficiary groups actually reached?
- What outputs and outcomes has the project achieved so far (both qualitative and quantitative results)? Has the project generated any results that could lead to changes of the assisted institutions? Have there been any unplanned effects?
- Identify actual and/or potential longer-term impacts or at least indicate the steps taken to assess these (see also below “monitoring of long term changes”). Wherever possible, evaluators should indicate how findings on impacts will be reported in future.
- Describe any catalytic or replication effects: the evaluation will describe any catalytic or replication effect both within and outside the project. If no effects are identified, the evaluation will describe the catalytic or replication actions that the project carried out. No ratings are requested for the project’s catalytic role.

D. Efficiency

The extent to which:

- The project cost was effective? Was the project using the least cost options?
- Has the project produced results (outputs and outcomes) within the expected time frame? Was project implementation delayed, and, if it was, did that affect cost effectiveness or results? Wherever possible, the evaluator should also compare the costs incurred and the time taken to achieve outcomes with that for similar projects. Are the project’s activities in line with the schedule of activities as defined by the project team and annual work plans? Are the disbursements and project expenditures in line with budgets?
- Have the inputs from the donor, UNIDO and Government/counterpart been provided as planned, and were they adequate to meet requirements? Was the quality of UNIDO inputs and services as planned and timely?
- Was there coordination with other UNIDO and other donors’ projects, and did possible synergy effects happen?

E. Assessment of sustainability of project outcomes

Sustainability is understood as the likelihood of continued benefits after the GEF project ends. Assessment of sustainability of outcomes will be given special attention but also technical, financial and organization sustainability will be reviewed. This assessment should explain how the risks to project outcomes will affect continuation of benefits after the GEF project ends. It will include both exogenous and endogenous risks. The following four dimensions or aspects of risks to sustainability will be addressed:

- **Financial risks.** Are there any financial risks that may jeopardize sustainability of project outcomes? What is the likelihood of financial and economic resources not being available once GEF assistance ends? (Such resources can be from multiple sources, such as the public and private sectors or income-generating activities; these can also include trends that indicate the likelihood that, in future, there will be adequate financial resources for sustaining project outcomes.) Was the project successful in identifying and leveraging co-financing?
- **Sociopolitical risks.** Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that project benefits continue to flow? Is there sufficient public/stakeholder awareness in support of the project's long-term objectives?
- **Institutional framework and governance risks.** Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize sustainability of project benefits? Are requisite systems for accountability and transparency, and required technical know-how, in place?
- **Environmental risks.** Are there any environmental risks that may jeopardize sustainability of project outcomes? Are there any environmental factors, positive or negative, that can influence the future flow of project benefits? Are there any project outputs or higher level results that are likely to have adverse environmental impacts, which, in turn, might affect sustainability of project benefits? The evaluation should assess whether certain activities will pose a threat to the sustainability of the project outcomes.

F. Assessment of monitoring and evaluation (M&E) systems

- **M&E design.** Did the project have an M&E plan to monitor results and track progress towards achieving project objectives? The Evaluation will assess whether the project met the minimum requirements for the application of the Project M&E plan (see Annex 3).
- **M&E plan implementation.** The evaluation should verify that an M&E system was in place and facilitated timely tracking of progress toward project objectives by collecting information on chosen indicators continually throughout the project implementation period; annual project reports were complete and accurate, with well-justified ratings; the information provided by the M&E system was used during the project to improve performance and to adapt to changing needs; and the project had an M&E system in place with proper training for parties responsible for M&E activities to ensure that data will

continue to be collected and used after project closure. Where monitoring and self-evaluation carried out effectively, based on indicators for outputs, outcomes and impacts? Are there any annual work plans? Was any steering or advisory mechanism put in place? Did reporting and performance reviews take place regularly?

- **Budgeting and funding for M&E activities.** In addition to incorporating information on funding for M&E while assessing M&E design, the evaluators will determine whether M&E was sufficiently budgeted for at the project planning stage and whether M&E was adequately funded and in a timely manner during implementation.

G. Monitoring of long-term changes

The M&E of long-term changes is often incorporated in GEF-supported projects as a separate component and may include determination of environmental baselines; specification of indicators; and provisioning of equipment and capacity building for data gathering, analysis, and use. This section of the evaluation report will describe project actions and accomplishments toward establishing a long-term monitoring system. The review will address the following questions:

- a. Did this project contribute to the establishment of a long-term monitoring system? If it did not, should the project have included such a component?
- b. What were the accomplishments and shortcomings in establishment of this system?
- c. Is the system sustainable—that is, is it embedded in a proper institutional structure and does it have financing? How likely is it that this system continues operating upon project completion?
- d. Is the information generated by this system being used as originally intended?

H. Assessment of processes affecting achievement of project results

Among other factors, when relevant, the evaluation will consider a number of issues affecting project implementation and attainment of project results. The assessment of these issues can be integrated into the analyses of project design, relevance, effectiveness, efficiency, sustainability and management as the evaluators find them fit (it is not necessary, however it is possible to have a separate chapter on these aspects in the evaluation report). The evaluation will consider, but need not be limited to, the following issues that may have affected project implementation and achievement of project results:

- a. **Preparation and readiness / Quality at entry.** Were the project's objectives and components clear, practicable, and feasible within its time frame? Were counterpart resources (funding, staff, and facilities), and adequate project management arrangements in place at project entry? Were the capacities of executing institution and counterparts properly considered when the project was designed? Were lessons from other relevant projects properly incorporated in the project design? Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project approval?
- b. **Country ownership/drivenness.** Was the project concept in line with the sectoral and development priorities and plans of the country—or of participating countries, in the case of multi-country projects? Are project outcomes contributing to national development priorities and plans? Were the relevant country representatives from government and civil society involved in

the project? Was the GEF OFP involved in the project design and implementation? Did the recipient government maintain its financial commitment to the project? Has the government—or governments in the case of multi-country projects—approved policies or regulatory frameworks in line with the project’s objectives?

- c. **Stakeholder involvement and consultation.** Did the project involve the relevant stakeholders through continuous information sharing and consultation? Did the project implement appropriate outreach and public awareness campaigns? Were the relevant vulnerable groups and powerful supporters and opponents of the processes involved in a participatory and consultative manner? Which stakeholders were involved in the project (i.e. NGOs, private sector, other UN Agencies, etc.) and what were their immediate tasks? Did the project consult with and make use of the skills, experience, and knowledge of the appropriate government entities, nongovernmental organizations, community groups, private sector entities, local governments, and academic institutions in the design, implementation, and evaluation of project activities? Were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process taken into account while taking decisions? Were the relevant vulnerable groups and the powerful, the supporters and the opponents, of the processes properly involved?
- d. **Financial planning.** Did the project have appropriate financial controls, including reporting and planning, that allowed management to make informed decisions regarding the budget and allowed for timely flow of funds? Was there due diligence in the management of funds and financial audits? Did promised co-financing materialize? Specifically, the evaluation should also include a breakdown of final actual project costs by activities compared to budget (variances), financial management (including disbursement issues), and co-financing.
- e. **UNIDO’s supervision and backstopping.** Did UNIDO staff identify problems in a timely fashion and accurately estimate their seriousness? Did UNIDO staff provide quality support and advice to the project, approve modifications in time, and restructure the project when needed? Did UNIDO provide the right staffing levels, continuity, skill mix, and frequency of field visits for the project?
- f. **Co-financing and project outcomes and sustainability.** Did the project manage to mobilize the co-financing amount expected at the time of CEO Endorsement? If there was a difference in the level of expected co-financing and the co-financing actually mobilized, what were the reasons for the variance? Did the extent of materialization of co-financing affect project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?
- g. **Delays and project outcomes and sustainability.** If there were delays in project implementation and completion, what were the reasons? Did the delays affect project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?
- h. **Implementation and execution approach.** Is the implementation and execution approach chosen different from other implementation approaches applied by UNIDO and other agencies? Does the approach comply with the principles of the Paris Declaration? Is the implementation and execution approach in line with the GEF Minimum Fiduciary Standards: Separation of Implementation and Execution Functions in GEF Partner Agencies (GEF/C.41/06/Rev.01) and the relevant UNIDO Regulations (DGAI.20 and

Procurement Manual)? Does the approach promote local ownership and capacity building? Does the approach involve significant risks?

- i. **Environmental and Social Safeguards.** Has the project incorporated relevant environmental and social risk considerations into the project design? What impact did these risks have on the achievement of project results?

The evaluation team will rate the project performance as required by the GEF. The ratings will be given to four criteria: Project Results, Sustainability, Monitoring and Evaluation, and UNIDO related issues as specified in Annex 2. The ratings will be presented in a table with each of the categories rated separately and with brief justifications for the rating based on the findings of the main analysis. An overall rating for the project should also be given. The rating system to be applied is specified in the same annex. As per the GEF's requirements, the report should also provide information on project identification, time frame, actual expenditures, and co-financing in the format in Annex 5, which is modeled after the GEF's project identification form (PIF).

I. Project coordination and management

The extent to which:

- The national management and overall coordination mechanisms have been efficient and effective? Did each partner have assigned roles and responsibilities from the beginning? Did each partner fulfil its role and responsibilities (e.g. providing strategic support, monitoring and reviewing performance, allocating funds, providing technical support, following up agreed/corrective actions)?
- The UNIDO HQ-based management, coordination, monitoring, quality control and technical inputs have been efficient, timely and effective (problems identified timely and accurately; quality support provided timely and effectively; right staffing levels, continuity, skill mix and frequency of field visits)?

J. Assessment of gender mainstreaming

The evaluation will consider, but need not be limited to, the following issues that may have affected gender mainstreaming in the project:

- To what extent were socioeconomic benefits delivered by the project at the national and local levels, including consideration of gender dimensions?
- Did the project/programme design adequately consider the gender dimensions in its interventions? If so, how?
- How gender-balanced was the composition of the project management team, the Steering Committee, experts and consultants and the beneficiaries?

K. Procurement issues

The following evaluation questions that will feed in the Thematic Evaluation on Procurement have been developed and would be included as applicable in all projects (for reference, please see Annex 9 of the ToR: UNIDO Procurement Process):

- To what extent does the process provide adequate treatment to different types of procurement (e.g. by value, by category, by exception...)
- Was the procurement timely? How long does the procurement process take (e.g. by value, by category, by exception...)
- Did the good/item(s) arrive as planned or scheduled? If not, how long were the delays? If delay, what was the reason(s)?
- Were the procured good(s) acquired at a reasonable price?
- To what extent were the procured goods of the expected/needed quality and quantity?
- Were the transportation costs reasonable and within budget. If no, please elaborate.
- Was the freight forwarding timely and within budget? If no, please elaborate.
- Who was responsible for the customs clearance? UNIDO? UNDP? Government? Other?
- Was the customs clearance handled professionally and in a timely manner? How many days did it take?
- How long time did it take to get approval from the government on import duty exemption?
- Which were the main bottlenecks / issues in the procurement process?
- Which good practices have been identified?
- To what extent roles and responsibilities of the different stakeholders in the different procurement stages are established, adequate and clear?
- To what extent there is an adequate segregation of duties across the procurement process and between the different roles and stakeholders?

VII. Reporting

Inception report

This Terms of Reference (ToR) provides some information on the evaluation methodology but this should not be regarded as exhaustive. After reviewing the project documentation and initial interviews with the project manager, the International Evaluation Consultant will prepare, in collaboration with the national consultant, a short inception report that will operationalize the ToR relating to the evaluation questions and provide information on what type of and how the evidence will be collected (methodology). It will be discussed with and approved by the responsible UNIDO Evaluation Officer. The Inception Report will focus on the following elements: preliminary project theory model(s); elaboration of evaluation methodology including quantitative and qualitative approaches through an evaluation framework (“evaluation matrix”); division of work between the International Evaluation Consultant and National

Consultant; mission plan, including places to be visited, people to be interviewed and possible surveys to be conducted and a debriefing and reporting timetable⁶².

Evaluation report format and review procedures

The draft report will be delivered to UNIDO Office for Independent Evaluation–ODG/EVA (the suggested report outline is in Annex 1) and circulated to UNIDO staff, the GEF OFP and national stakeholders associated with the project for factual validation and comments. Any comments or responses, or feedback on any errors of fact to the draft report provided by the stakeholders will be sent to UNIDO ODG/EVA for collation and onward transmission to the project evaluation team who will be advised of any necessary revisions. On the basis of this feedback, and taking into consideration the comments received, the evaluation team will prepare the final version of the terminal evaluation report.

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

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

Findings, conclusions and recommendations should be presented in a complete, logical and balanced manner. The evaluation report shall be written in English and follow the outline given in Annex 1.

Evaluation work plan

The “Evaluation Work Plan” includes the following main products:

1. Desk review, briefing by project manager and development of methodology: Following the receipt of all relevant documents, and consultation with the Project Manager about the documentation, including reaching an agreement on the Methodology, the desk review could be completed.
2. Inception report: At the time for departure to the field mission, the complete gamete of received materials have been reviewed and consolidated into the Inception report.
3. Field mission: The principal responsibility for managing this evaluation lies with UNIDO. It will be responsible for liaising with the project team to set up the stakeholder interviews, arrange the field missions, coordinate with the Government. At the end of the field mission, there will be a presentation of

⁶² The evaluator will be provided with a Guide on how to prepare an evaluation inception report prepared by the UNIDO Office for Independent Evaluation.

preliminary findings to the key stakeholders in the country where the project was implemented.

4. Preliminary findings from the field mission: Following the field mission, the main findings, conclusions and recommendations would be prepared and presented in the field and at UNIDO Headquarters.
5. A draft terminal evaluation report will be forwarded electronically to the UNIDO Office for Independent Evaluation and circulated to main stakeholders.
6. Final terminal evaluation report will incorporate comments received.

Evaluation phases	Deliverables
Desk review	Development of methodology approach and evaluation tools
Briefing with UNIDO Office for Independent Evaluation, project managers and other key stakeholder at HQ	Interview notes, detailed evaluation schedule and list of stakeholders to interview during field mission
Data analysis	Inception evaluation report
Conduct of field mission. Present preliminary findings and recommendations to key stakeholders in the field	Presentation of main findings to key stakeholders in the field.
Present preliminary findings and recommendations to the stakeholders at UNIDO HQ	Presentation slides
Analysis of the data collected	Draft terminal evaluation report
Circulation of the draft report to UNIDO/relevant stakeholders and revision	Final terminal evaluation report

VIII. Quality assurance

All UNIDO evaluations are subject to quality assessments by the UNIDO Office for Independent Evaluation. Quality assurance and control is exercised in different ways throughout the evaluation process (briefing of consultants on methodology and process of UNIDO's Office for Independent Evaluation, providing inputs regarding findings, lessons learned and recommendations from other UNIDO evaluations, review of inception report and evaluation report by the Office for Independent Evaluation). The quality of the evaluation report will be assessed and rated against the criteria set forth in the Checklist on evaluation report quality, attached as Annex 4. The applied evaluation quality assessment criteria are used as a tool to provide structured feedback. UNIDO's Office for Independent Evaluation should ensure that the evaluation report is useful for UNIDO in terms of organizational learning (recommendations and lessons

learned) and is compliant with UNIDO's evaluation policy and these terms of reference. The draft and final evaluation report are reviewed by UNIDO Office for Independent Evaluation, which will submit the final report to the GEF Evaluation Office and circulate it within UNIDO together with a management response sheet.

Annex 1 - Outline of an in-depth project evaluation report

Executive summary

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

I. Evaluation objectives, methodology and process

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

II. Countries and project background

- Brief countries context: an overview of the economy, the environment, institutional development, demographic and other data of relevance to the project
- Sector-specific issues of concern to the project⁶³ and important developments during the project implementation period
- Project summary:
 - Fact sheet of the project: including project objectives and structure, donors and counterparts, project timing and duration, project costs and co-financing
 - Brief description including history and previous cooperation
 - Project implementation arrangements and implementation modalities, institutions involved, major changes to project implementation
 - Positioning of the UNIDO project (other initiatives of government, other donors, private sector, etc.)
 - Counterpart organization(s)

III. Project assessment

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

- A. Design
- B. Relevance (Report on the relevance of project towards countries and beneficiaries)
- C. Effectiveness (The extent to which the development intervention's objectives and deliverables were achieved, or are expected to be achieved, taking into account their relative importance)
- D. Efficiency (Report on the overall cost-benefit of the project and partner Countries contribution to the achievement of project objectives)
- E. Sustainability of Project Outcomes (Report on the risks and vulnerability of the project, considering the likely effects of sociopolitical and institutional changes in partner countries, and its impact on continuation of benefits after the GEF project ends, specifically the financial, sociopolitical, institutional framework and governance, and environmental risks)

⁶³ Explicit and implicit assumptions in the logical framework of the project can provide insights into key-issues of concern (e.g. relevant legislation, enforcement capacities, government initiatives, etc.)

- F. Assessment of monitoring and evaluation systems (Report on M&E design, M&E plan implementation, and Budgeting and funding for M&E activities)
- G. Monitoring of long-term changes
- H. Assessment of processes affecting achievement of project results (Report on preparation and readiness / quality at entry, country ownership, stakeholder involvement, financial planning, UNIDO support, co-financing and project outcomes and sustainability, delays of project outcomes and sustainability, and implementation approach)
- I. Project coordination and management (Report project management conditions and achievements, and partner countries commitment)
- J. Gender mainstreaming
- K. Procurement issues

At the end of this chapter, an overall project achievement rating should be developed as required in Annex 2. The overall rating table required by the GEF should be presented here.

IV. Conclusions, recommendations and lessons learned

This chapter can be divided into three sections:

A. Conclusions

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

B. Recommendations

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

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

Recommendations should be structured by addressees:

- UNIDO
- Government and/or Counterpart Organizations
- Donor

C. Lessons learned

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

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

Annex 2 - Overall ratings table

Criterion	Evaluator's summary comments	Evaluator's rating
Attainment of project objectives and results (overall rating), sub criteria (below)		
Design		
Effectiveness		
Relevance		
Efficiency		
Sustainability of project outcomes (overall rating) Sub criteria (below)		
Financial risks		
Sociopolitical risks		
Institutional framework and governance risks		
Environmental risks		
Monitoring and evaluation (overall rating) Sub criteria (below)		
M&E Design		
M&E Plan Implementation (use for adaptive management)		
Budgeting and Funding for M&E activities		
Project management		
UNIDO specific ratings		
Quality at entry / Preparation and readiness		
Implementation approach		
UNIDO Supervision and backstopping		
Overall rating		

RATING OF PROJECT OBJECTIVES AND RESULTS

- Highly Satisfactory (HS): The project had no shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Satisfactory (S): The project had minor shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Moderately Satisfactory (MS): The project had moderate shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Moderately Unsatisfactory (MU): The project had significant shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Unsatisfactory (U) The project had major shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Highly Unsatisfactory (HU): The project had severe shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Please note: Relevance and effectiveness will be considered as critical criteria. The overall rating of the project for achievement of objectives and results **may not be**

higher than the lowest rating on either of these two criteria. Thus, to have an overall satisfactory rating for outcomes a project must have at least satisfactory ratings on both relevance and effectiveness.

RATINGS ON SUSTAINABILITY

Sustainability will be understood as the probability of continued long-term outcomes and impacts after the GEF project funding ends. The evaluation will identify and assess the key conditions or factors that are likely to contribute or undermine the persistence of benefits beyond project completion. Some of these factors might be outcomes of the project, i.e. stronger institutional capacities, legal frameworks, socio-economic incentives /or public awareness. Other factors will include contextual circumstances or developments that are not outcomes of the project but that are relevant to the sustainability of outcomes.

Rating system for sustainability sub-criteria

On each of the dimensions of sustainability of the project outcomes will be rated as follows.

- Likely (L): There are no risks affecting this dimension of sustainability.
- Moderately Likely (ML). There are moderate risks that affect this dimension of sustainability.
- Moderately Unlikely (MU): There are significant risks that affect this dimension of sustainability.
- Unlikely (U): There are severe risks that affect this dimension of sustainability.

All the risk dimensions of sustainability are critical. Therefore, overall rating for sustainability will not be higher than the rating of the dimension with lowest ratings. For example, if a project has an Unlikely rating in either of the dimensions then its overall rating cannot be higher than Unlikely, regardless of whether higher ratings in other dimensions of sustainability produce a higher average.

RATINGS OF PROJECT M&E

Monitoring is a continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing project with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds. Evaluation is the systematic and objective assessment of an on-going or completed project, its design, implementation and results. Project evaluation may involve the definition of appropriate standards, the examination of performance against those standards, and an assessment of actual and expected results.

The Project M&E system will be rated on 'M&E Design', 'M&E Plan Implementation' and 'Budgeting and Funding for M&E activities' as follows:

- Highly Satisfactory (HS): There were no shortcomings in the project M&E system.
- Satisfactory(S): There were minor shortcomings in the project M&E system.
- Moderately Satisfactory (MS): There were moderate shortcomings in the project M&E system.
- Moderately Unsatisfactory (MU): There were significant shortcomings in the project M&E system.

- Unsatisfactory (U): There were major shortcomings in the project M&E system.
- Highly Unsatisfactory (HU): The Project had no M&E system.

“M&E plan implementation” will be considered a critical parameter for the overall assessment of the M&E system. The overall rating for the M&E systems will not be higher than the rating on “M&E plan implementation.”

All other ratings will be on the GEF six point scale:

HS	= Highly Satisfactory	Excellent
S	= Satisfactory	Well above average
MS	= Moderately Satisfactory	Average
MU	= Moderately Unsatisfactory	Below average
U	= Unsatisfactory	Poor
HU	= Highly Unsatisfactory	Very poor (Appalling)

Annex 3 - GEF Minimum requirements for M&E⁶⁴

Minimum requirement 1: Project design of M&E

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

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

⁶⁴ http://www.thegef.org/gef/sites/thegef.org/files/documents/ME_Policy_2010.pdf

Minimum requirement 2: Application of project M&E

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

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

Annex 4 - Checklist on evaluation report quality**Independent terminal evaluation of UNIDO-GEF project:****PROJECT TITLE:****PROJECT NUMBER:****CHECKLIST ON EVALUATION REPORT QUALITY**

Report quality criteria	UNIDO Office for Independent Evaluation Assessment notes	Rating
A. The terminal evaluation report presented an assessment of all relevant outcomes and achievement of project objectives in the context of the focal area program indicators if applicable.		
B. The terminal evaluation report was consistent, the evidence presented was complete and convincing, and the ratings were well substantiated.		
C. The terminal evaluation report presented a sound assessment of sustainability of outcomes.		
D. The lessons and recommendations listed in the terminal evaluation report are supported by the evidence presented and are relevant to the GEF portfolio and future projects.		
E. The terminal evaluation report included the actual project costs (totals, per activity, and per source) and actual co-financing used.		
F. The terminal evaluation report included an assessment of the quality of the M&E plan at entry, the operation of the M&E system used during implementation, and the extent M&E was sufficiently budgeted for during preparation		

Report quality criteria	UNIDO Office for Independent Evaluation Assessment notes	Rating
and properly funded during implementation.		

Rating system for quality of evaluation reports

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

Annex 5 – Required project identification and financial data

The evaluation report should provide information on project identification, time frame, actual expenditures, and co-financing in the following format, which is modeled after the project identification form (PIF).

I. Project general information:

Project title	
GEF ID No.	
UNIDO project No. (SAP ID)	
Region	
Country(ies)	
GEF Focal area and operational programme:	
Co-implementing agency(ies)	
GEF Agencies (implementing agency)	
Project executing partners	
Project size (FSP, MSP, EA)	
Project CEO endorsement/approval date	
Project implementation start date (PAD issuance date)	
Original expected Implementation end date (indicated in CEO endorsement/approval document)	
Revised expected implementation end date (if any)	
Project duration (months)	
GEF grant (USD)	
GEF PPG (USD) (if any)	-
Co-financing (USD) at CEO endorsement	
Total project cost (USD)	

(GEF grant + Co-financing at CEO endorsement)	
Agency fee (USD)	

II. Dates

Milestone	Expected date	Actual date
Project CEO endorsement/approval date		
Project implementation start date (PAD issuance date)		
Original expected implementation end date (indicated in CEO endorsement/approval document)		
Revised expected implementation end date (if any)		
Terminal evaluation completion		
Planned tracking tool date		

III. Project Framework

Project component	Outcome	GEF financing (in USD)		Co-financing (in USD)	
		Approved	Actual	Promised	Actual
1.					
2.					
3.					
4.					
5.					
6. Project management					
Total					

Activity types are:

- a) Experts, researches hired
- b) technical assistance, workshop, meetings or experts consultation
scientific and technical analysis, experts researches hired
- c) Promised co-financing refers to the amount indicated on endorsement/approval.

IV. Co-financing

			Project preparation – CEO Endorsement/ Approval stage		Project implementation stage		Total	
			Expected	Actual	Expected	Actual	Expected	Actual
Source of Co-financing (name specific co-financiers)	Type of co-financier (e.g. government, GEF Agency(ies), Bilateral and aid agency (ies), multilateral agency(ies), private sector, NGO/CSOs, other, etc.	Type of co-financing	Expected	Actual	Expected	Actual	Expected	Actual
	Total co-financing							

Expected amounts are those submitted by the GEF Agencies in the original project appraisal document. Co-financing types are grant, soft loan, hard loan, guarantee, in kind, or cash.

Annex 6 – Job descriptions**UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION****TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)**

Title:	International evaluation consultant
Main Duty Station and Location:	Home based
Missions:	Missions to Kathmandu, Nepal
Start of Contract (EOD):	Mid-August 2015
End of Contract (COB):	End October, 2015
Number of Working Days:	26 working days

1. ORGANIZATIONAL CONTEXT

The Office for Independent Evaluation is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides factual information about result and practices that feed into the programmatic and strategic decision-making processes. Evaluation is an assessment, as systematic and impartial as possible, of a programme, a project or a theme. Independent evaluations provide evidence-based information that is credible, reliable and useful, enabling the timely incorporation of findings, recommendations and lessons learned into the decision-making processes at organization-wide, programme and project level. The Office for Independent Evaluation is guided by the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

2. PROJECT CONTEXT

In Nepal, the exposure to uncontrolled storages of POPs pesticides and PCBs are major public

Health concerns, due to their impact upon women and, thereby, upon future generations. Nepal never produced PCBs or dielectric fluids. At present, Nepal Electricity Authority (NEA) and transformer manufacturing private companies in Nepal

import/use PCBs free dielectric fluids, but the dielectric fluid and equipment contaminated and cross contaminated with PCBs are also present in significant quantity. About 106,185.3 litres of PCBs-contaminated transformer oil was found during the National Implementation Plan (NIP) inventory. The Government of Nepal is taking steps towards sustainable development with policies in place regarding environmental management. Most of the legal provisions on environmental management are very new. Some require setting up of environmental standards and others require extended rules and regulations for enforcement and necessary institutional setting.

Nepal ratified the Stockholm Convention in 2007 as well as submitted its NIP. The NIP identified safe disposal of obsolete POPs pesticides and PCBs as top priorities of the country. The Ministry of Environment, Government of Nepal selected “Environmentally Sound Management and Disposal of POPs pesticides and PCBs” as the first post-NIP project to deal with POPs management. Based on the prioritization of the issues articulated in its NIP, the Government of Nepal is putting major efforts to address the first three priorities, namely, obsolete stocks of POPs pesticides, PCBs and public education/awareness. These issues require immediate attention due to obsolete stocks of pesticides lying badly stored in sensitive and vulnerable areas and PCBs are known to be widely dissipated in an open system in the urban and some rural areas.

The main objective of the project is to enhance national technical/analytical capacity to address POPs problem and establish environmentally sound management system for disposal of PCBs.

Detailed background information of the project can be found the Terms of Reference (TORs) for the terminal evaluation.

3. DUTIES AND RESPONSIBILITIES

Main duties	Concrete/ Measurable outputs to be achieved	Working days	Location
<p>1. Review project documentation and relevant country background information (national policies and strategies); determine key data to collect in the field and adjust the key data collection instrument of 3A accordingly (if needed);</p> <p>Assess the adequacy of legislative and regulatory framework relevant to the project’s activities and analyze other background info.</p> <p>Preparation of the Inception Report</p> <p>Briefing with the UNIDO Office for Independent Evaluation, project managers and other key</p>	<ul style="list-style-type: none"> • Adjust table of evaluation questions, depending on country specific context; • Draft list of stakeholders to interview during the field missions; • Brief assessment of the adequacy of the country’s legislative and regulatory framework. • Inception report • Detailed evaluation schedule with tentative mission agenda (incl. list of stakeholders to interview and site visits); 	6 days	Home based

Main duties	Concrete/ Measurable outputs to be achieved	Working days	Location
stakeholders at UNIDO HQ over the phone/Skype	mission planning;		
2. Conduct field mission to Nepal, tentatively in September 2015 ⁶⁵ .	<ul style="list-style-type: none"> • Conduct meetings with relevant project stakeholders, beneficiaries, the GEF Operational Focal Point (OFP), etc. for the collection of data and clarifications; • Agreement with the national consultant on the structure and content of the evaluation report and the distribution of writing tasks; • Presentation of the evaluation's initial findings, draft conclusions and recommendations to stakeholders in the country, including the GEF OFP at the end of the missions. 	7 days	Nepal
3. Prepare the evaluation report according to the TOR; Coordinate the inputs from the National counterpart and combine with her/his own inputs into the draft evaluation report. Share the evaluation report with UNIDO HQ and national stakeholders for feedback and comments by presenting all findings and recommendations to the stakeholders at UNIDO HQ over the phone/Skype	<ul style="list-style-type: none"> • Draft evaluation report. • After field mission(s): Presentation slides, feedback from stakeholders obtained and discussed 	8 days	Home based
4. Revise the draft project evaluation reports based on comments from UNIDO Office for Independent Evaluation and stakeholders and edit the language and form of the final version according to UNIDO standards.	<ul style="list-style-type: none"> • Final evaluation report. 	5 days	Home based

⁶⁵ The exact mission dates will be decided in agreement with the Consultant, UNIDO HQ, and the country counterparts.

Main duties	Concrete/ Measurable outputs to be achieved	Working days	Location
	TOTAL	26 days	

MINIMUM ORGANIZATIONAL REQUIREMENTS

Education:

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

Technical and functional experience:

- Minimum 10 years' experience in environmental/energy projects
- Knowledge about multilateral technical cooperation and the UN, international development priorities and frameworks.
- Knowledge of and experience in environmental projects management and/or evaluation (of development projects)
- Working experience in developing countries
- Experience in evaluation of GEF energy projects and knowledge of UNIDO activities an asset

Languages:

Fluency in written and spoken English is required.

Reporting and deliverables

- 1) At the beginning of the assignment the Consultant will submit a concise Inception Report that will outline the general methodology and presents a concept Table of Contents;
- 2) The country assignment will have the following deliverables:
 - Presentation of initial findings of the mission to key national stakeholders;
 - Draft report;
 - Final report, comprising of executive summary, findings regarding design, implementation and results, conclusions and recommendations.
- 3) Debriefing at UNIDO HQ:
 - Presentation and discussion of findings;
 - Concise summary and comparative analysis of the main results of the evaluation report.

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

Absence of conflict of interest:

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

Annex 7 – Project results framework

Interventions	Objectively verifiable indicators	Sources of verification	Assumptions and risks
<p align="center">Project goal</p>	<p>To reduce or eliminate the use and releases of PCBs to the environment by implementing environmentally sound management practices for PCBs and disposal of 167 tons of PCBs and PCBs-containing equipment and wastes.</p>	<p>Progress reports, activity implementation reports, copies of disposal records, copies of guidelines or regulations developed</p>	<p>Project inputs will be inadequate to accomplish stated objectives; project activities will be inadequate to allow identified barriers to be overcome.</p>
<p align="center">Outcome 1: Strengthening of institutional capacity building, policy/legal framework and enforcement strategy for POPs and PCBs</p>			
<p align="center">Output 1.1: Policies and laws addressing POPs and PCBs revised</p>			
<p>Activity 1.1.1: Evaluate the gaps between the obligations of the SC and the current legislations</p> <p>Activity 1.1.2: Recommend revisions of existing national legislation addressing PCBs</p> <p>Activity 1.1.3: Issue new / revised legislations addressing PCBs</p> <p>Activity 1.1.4: Harmonize sector legislations</p> <p>Activity 1.1.5: Establish a dedicated administrative unit for POPs management</p>	<ul style="list-style-type: none"> ➤ Gaps between Stockholm Convention requirements and current legal/regulatory framework identified ➤ Existing national legislation on POPs and PCBs reviewed and updated ➤ Number of new/revised legislation/regulations addressing POPs and PCBs adopted ➤ Sector legislations harmonized ➤ Dedicated administrative unit for POPs management established 	<ul style="list-style-type: none"> ➤ Analysis and evaluation reports on current legal/regulatory framework and SC requirements ➤ Copies/summaries of new/revised legislations ➤ Copies/summaries of harmonized sector legislations 	<ul style="list-style-type: none"> ➤ Law making and regulatory bodies will not be positively responsive, which will result in delays in adoption of new/revised legislations ➤ Delays in development and adoption of proposed laws and regulations

Annex 1: TORs of the evaluation

Interventions	Objectively verifiable indicators	Sources of verification	Assumptions and risks
Output 1.2: Appropriate technical/analytical capacity in place for enforcement			
Activity 1.2.1: Upgrade the Governmental reference laboratory for POPs and PCB analyses	<ul style="list-style-type: none"> ➤ Governmental reference laboratory upgraded 	<ul style="list-style-type: none"> ➤ Activity and progress reports on upgraded laboratories 	<ul style="list-style-type: none"> ➤ Laboratory facility remains inefficient to meet accreditation requirements.
<p>Activity 1.2.2: Establish official methods and limit values for POPs and PCBs</p> <p>Activity 1.2.3: Preparing an electronic PCB database for MoSTE & Incorporating PCB inventory information into the NEA's current transformer database</p>	<ul style="list-style-type: none"> ➤ Custom laboratory for POPs pesticides and PCBs analysis upgraded ➤ Official methods and limit value listed ➤ Governmental recommendation on reference laboratory accreditation such as ISO17025 ➤ Electronic PCB database ➤ established and operational 	<ul style="list-style-type: none"> ➤ Copies of the methods ➤ Operational database 	<p>The Government will not have the necessary resources to maintain the laboratory standards.</p>
Output 1.3: Enforcement of POPs and PCB related legislations improved			

Annex 1: TORs of the evaluation

Interventions	Objectively verifiable indicators	Sources of verification	Assumptions and risks
<p>Activity 1.3.1: Strengthen MOE POPs Unit for enforcement</p> <p>Activity 1.3.2: Regular customs inspections through certification documents given by manufacturers</p> <p>Activity 1.3.3: Regular environmental monitoring at NEA maintenance facilities</p> <p>Activity 1.3.4: Develop practical measures to prevent using PCB containing transformer oils in welding workshops</p>	<ul style="list-style-type: none"> ➤ Improved human resources and capacity for enforcement ➤ Numbers of customs inspections ➤ Number of environmental inspections at transformer maintenance locations ➤ Measures taken to prevent using PCB containing transformer oils in welding workshops 	<ul style="list-style-type: none"> ➤ Activity report on regular inspections ➤ Monitoring reports ➤ Copy of report on measures undertaken to prevent reuse of PCB oils 	<ul style="list-style-type: none"> ➤ Government will not have the necessary capacity to maintain the effective enforcement of the POPs-related legislations after project completion.
Output 1.4: Capacity for ESM of POPs and PCBs established			
<p>Activity 1.4.1: Evaluate the current practices for management of PCBs</p>	<ul style="list-style-type: none"> ➤ Existing practices for management of PCBs evaluated ➤ 	<ul style="list-style-type: none"> ➤ Evaluation reports on existing practices of management of POPs and PCBs 	<ul style="list-style-type: none"> ➤ Lack of participation and interest of the stakeholders towards ESM of POPs and PCBs

Annex 1: TORs of the evaluation

Interventions	Objectively verifiable indicators	Sources of verification	Assumptions and risks
<p>Activity 1.4.2: Develop guidelines for environmentally sound management of PCBs</p> <p>Activity 1.4.3: Train manpower for the regular maintenance of the PCBs databases</p>	<ul style="list-style-type: none"> ➤ Guidelines developed and published ➤ Guidelines developed and published ➤ Number of trained staff 	<ul style="list-style-type: none"> ➤ Copy of guidelines ➤ Training activity report 	
Outcome 2: Establishment of ESM system for POPs and PCBs			
Output 2.1: PCBs inventories updated			
<p>Activity 2.1.1: Inventorize and label 2500 oil-containing electrical equipment under the ownership of NEA</p> <p>Activity 2.1.2: Inventorize all oil stocks of NEA in Kathmandu</p>	<ul style="list-style-type: none"> ➤ Number of electrical equipment tested ➤ Quantity of oil stock tested ➤ Number of packaging material and PPE available ➤ Training workshops held and number of individual trained ➤ Number of secured storage areas and transportation facilities ➤ Relevant documentation available 	<ul style="list-style-type: none"> ➤ Inventory report on electrical equipment tested ➤ Inventory report on oil stocks tested ➤ Activity implementation report ➤ Training activity report ➤ Copies of documents 	<ul style="list-style-type: none"> ➤ The allocated time for inventory is too short to complete the inventory of PCB-containing equipment ➤ Resistance of stakeholders to label and report equipment containing PCBs ➤ Project technical staff might be exposed to POPs
Output 2.3: Technical capacity for ESM of PCBs strengthened			

Annex 1: TORs of the evaluation

Interventions	Objectively verifiable indicators	Sources of verification	Assumptions and risks
<p>Activity 2.3.1: Strengthen NEA laboratory of PCB analysis</p> <p>Activity 2.3.2: Develop a separate line for handling and dismantling PCB-containing equipment</p> <p>Activity 2.3.3: Provide adequate packaging materials for PCB-containing and/or contaminated wastes</p> <p>Activity 2.3.4: Provide adequate safety gears for NEA personnel</p> <p>Activity 2.3.5: Provide emergency response equipment for NEA interim storage facility</p> <p>Activity 2.3.6: Train 30-40 people for handling, clean-up, packaging and transportation of PCB containing equipment</p>	<ul style="list-style-type: none"> ➤ Laboratory upgraded and operational ➤ A separate line for handling and dismantling PCB-containing equipment developed ➤ Sufficient packaging material available. ➤ Safety gears made available ➤ Emergency response equipment ➤ Training workshops held and number of individual trained 	<ul style="list-style-type: none"> ➤ Activity reports and implementation report on PCB analysis ➤ Training activity report 	<ul style="list-style-type: none"> ➤ Non-acceptance of new safety gears by workers ➤ Low participation of technical staff at the training workshops
Output 2.4: Occupational safety working environment improved			
<p>Activity 2.4.1: Develop occupational safety procedures for NEA</p>	<ul style="list-style-type: none"> ➤ Occupational safety procedure developed ➤ Guidelines developed and published ➤ Inspection programmes for enforcement in place 	<ul style="list-style-type: none"> ➤ Copies of safety procedures ➤ Copies of guidelines ➤ Training activity report ➤ Activity report 	

Annex 1: TORs of the evaluation

Interventions	Objectively verifiable indicators	Sources of verification	Assumptions and risks
<p>Activity 2.4.2: Inspection programmes for enforcement of occupational safety measures</p> <p>Activity 2.4.3: Conduct training workshops for implementation of the occupational safety guidelines and the use of Personal Protective Equipment</p> <p>Activity 2.4.4: Strengthen Environment and Social Department of NEA to supervise occupational safety matters</p>	<ul style="list-style-type: none"> ➤ Training workshops held ➤ Occupational Safety officers are appointed at NEA 		
<p>Outcome 3: Final disposal mechanism of PCBs</p>			
<p>Output 3.1 An interim storage location for PCB wastes established</p>			
<p>Activity 3.1.1: Upgrade one storage location for environmentally sound dismantling of PCB-containing equipment</p> <p>Activity 3.1.2: Transfer of technologies for safe handling and separation of PCB containing wastes</p> <p>Activity 3.1.3: Introduce BEP at the interim storage facility for local separation of PCB wastes</p>	<ul style="list-style-type: none"> ➤ Identified storage location upgraded ➤ Selected technologies transferred ➤ Selected BEP introduced ➤ Number of staff trained 	<ul style="list-style-type: none"> ➤ Copy of report on upgrading of identified storage sites ➤ Activity implementation report on selected technologies and BEP ➤ Training activity report 	<ul style="list-style-type: none"> ➤ NEA will select the transformer maintenance location at project start-up and planning for the upgrade can expeditiously be initiated. ➤ Resources and capacities that are currently developed in the region such as PCB disposal facility in India will be utilized. Alternatively, a facility disassembling PCB-contaminated equipment will be established in the country.

Annex 1: TORs of the evaluation

Interventions	Objectively verifiable indicators	Sources of verification	Assumptions and risks
Activity 3.1.4: Train 10-15 staff on safe operation of interim storage facility			

Annex 8 – UNIDO procurement process

UNIDO procurement process

Generic approach and assessment framework

1. Introduction

This document outlines an approach and encompasses a framework for the assessment of UNIDO procurement processes, to be included as part of country evaluations as well as in technical cooperation (TC) projects/programmes evaluations.

The procurement process assessment will review in a systematic manner the various aspects and stages of the procurement process being a key aspect of the technical cooperation (TC) delivery. These reviews aim to diagnose and identify areas of strength as well as where there is a need for improvement and lessons.

The framework will also serve as the basis for the “thematic evaluation of the procurement process efficiency” to be conducted in 2015 as part of the ODG/EVA work programme for 2014-15.

2. Background

Procurement is defined as the overall process of acquiring goods, works, and services, and includes all related functions such as planning, forecasting, supply chain management, identification of needs, sourcing and solicitation of offers, preparation and award of contract, as well as contract administration until the final discharge of all obligations as defined in the relevant contract(s). The procurement process covers activities necessary for the purchase, rental, lease or sale of goods, services, and other requirements such as works and property.

Past project and country evaluations commissioned by ODG/EVA raised several issues related to procurement and often efficiency related issues. It also became obvious that there is a shared responsibility in the different stages of the procurement process which includes UNIDO staff, such as project managers, and staff of the procurement unit, government counterparts, suppliers, local partner agencies (i.e. UNDP), customs and transport agencies etc..

In July 2013, a new “UNIDO Procurement Manual” was introduced. This Procurement Manual provides principles, guidance and procedures for the Organization to attain specified standards in the procurement process. The Procurement Manual also establishes that “The principles of fairness, transparency, integrity, economy, efficiency and effectiveness must be applied for all procurement transactions, to be

delivered with a high level of professionalism thus justifying UNIDO's involvement in and adding value to the implementation process".

To reduce the risk of error, waste or wrongful acts and the risk of not detecting such problems, no single individual or team controls shall control all key stages of a transaction. Duties and responsibilities shall be assigned systemically to a number of individuals to ensure that effective checks and balances are in place.

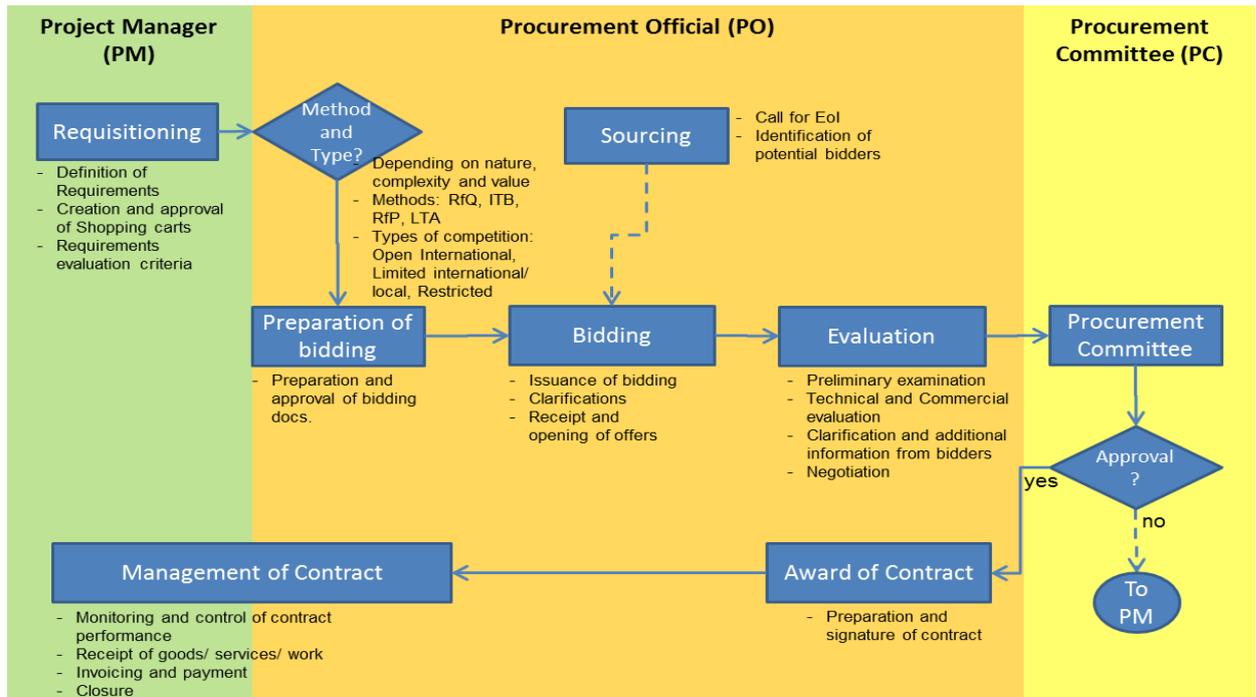
In UNIDO, authorities, responsibilities and duties are segregated where incompatible. Related duties shall be subject to regular review and monitoring. Discrepancies, deviations and exceptions are properly regulated in the Financial Regulations and Rules and the Staff Regulations and Rules. Clear segregation of duties is maintained between programme/project management, procurement and supply chain management, risk management, financial management and accounting as well as auditing and internal oversight. Therefore, segregation of duties is an important basic principle of internal control and must be observed throughout the procurement process.

The different stages of the procurement process should be carried out, to the extent possible, by separate officials with the relevant competencies. As a minimum, two officials shall be involved in carrying out the procurement process. The functions are segregated among the officials belonging to the following functions:

- Procurement Services: For carrying out centralized procurement, including review of technical specifications, terms of reference, and scope of works, market research/surveys, sourcing/solicitation, commercial evaluation of offers, contract award, contract management;
- Substantive Office: For initiating procurement requests on the basis of well formulated technical specifications, terms of reference, scope of works, ensuring availability of funds, technical evaluation of offers; award recommendation; receipt of goods/services; supplier performance evaluation. In respect of decentralized procurement, the segregation of roles occur between the Project Manager/Allotment Holder and his/her respective Line Manager. For Fast Track procurement, the segregate on occurs between the Project Manager/Allotment Holder and Financial Services;
- Financial Services: For processing payments.

Figure 1 presents a preliminary "Procurement Process Map", showing the main stages, stakeholders and their respective roles and responsibilities. During 2014/2015, in preparation for the thematic evaluation of the procurement process in 2015, this process map/ workflow will be further refined and reviewed.

Figure 1: UNIDO procurement process map



3. Purpose

The purpose of the procurement process assessments is to diagnose and identify areas for possible improvement and to increase UNIDO’s learning about strengths and weaknesses in the procurement process. It will also include an assessment of the adequacy of the ‘Procurement Manual’ as a guiding document.

The review is intended to be useful to managers and staff at UNIDO headquarters and in the field offices (project managers, procurement officers), who are the direct involved in procurement and to UNIDO management.

4. Scope and focus

Procurement process assessments will focus on the efficiency aspects of the procurement process, and hence it will mainly fall under the efficiency evaluation criterion. However, other criteria such as effectiveness will also be considered as needed.

These assessments are expected to be mainstreamed in all UNIDO country and project evaluations to the extent of its applicability in terms of inclusion of relevant procurement related budgets and activities.

A generic evaluation matrix has been developed and is found in Annex B. However questions should be customized for individual projects when needed.

5. Key issues and evaluation questions

Past evaluations and preliminary consultations have highlighted the following aspects or identified the following issues:

- Timeliness. Delays in the delivery of items to end-users.
- Bottlenecks. Points in the process where the process stops or considerably slows down.
- Procurement manual introduced, but still missing subsidiary templates and tools for its proper implementation and full use.
- Heavy workload of the procurement unit and limited resources and increasing “procurement demand”
- Lack of resources for initiating improvement and innovative approaches to procurement (such as Value for Money instead of lowest price only, Sustainable product lifecycle, environmental friendly procurement, etc.)
- The absence of efficiency parameters (procurement KPIs)

On this basis, the following evaluation questions have been developed and would be included as applicable in all project and country evaluations in 2014-2015:

- To what extent does the process provide adequate treatment to different types of procurement (e.g. by value, by category, by exception...)
- Was the procurement timely? How long the procurement process takes (e.g. by value, by category, by exception...)
- Did the good/item(s) arrive as planned or scheduled? If no, how long were the times gained or delays. If delay, what was the reason(s)?
- Were the procured good(s) acquired at a reasonable price?

- To what extent were the procured goods of the expected/needed quality and quantity?
- Were the transportation costs reasonable and within budget. If no, please elaborate.
- Was the freight forwarding timely and within budget?. If no, please elaborate.
- Who was responsible for the customs clearance? UNIDO FO? UNDP? Government? Other?
- Was the customs clearance handled professionally and in a timely manner? How many days did it take?
- How long time did it take to get approval from the government on import duty exemption?
- Which were the main bottlenecks / issues in the procurement process?
- Which good practices have been identified?
- To what extent roles and responsibilities of the different stakeholders in the different procurement stages are established, adequate and clear?
- To what extent there is an adequate segregation of duties across the procurement process and between the different roles and stakeholders?

6. Evaluation method and tools

These assessments will be based on a participatory approach, involving all relevant stakeholders (e.g. process owners, process users and clients).

The evaluation tools to be considered for use during the reviews are:

- **Desk Review:** Policy, Manuals and procedures related to the procurement process. Identification of new approaches being implemented in other UN or international organizations. Findings, recommendations and lessons from UNIDO Evaluation reports.
- **Interviews:** to analyze and discuss specific issues/topics with key process stakeholders
- **Survey to stakeholders:** To measure the satisfaction level and collect expectations, issues from process owners, user and clients
- **Process and Stakeholders Mapping:** To understand and identify the main phases the procurement process and sub-processes; and to identify the perspectives and expectations from the different stakeholders, as well as their respective roles and responsibilities
- **Historical Data analysis from IT procurement systems:** To collect empirical data and identify and measure to the extent possible different performance dimensions of the process, such as timeliness, re-works, complaints, ..)

An evaluation matrix is presented in Annex A, presenting the main questions and data sources to be used in the project and country evaluations, as well as the preliminary questions and data sources for the forthcoming thematic evaluation on Procurement in 2015.

ANNEX A: Evaluation matrix for the procurement process

Area	Evaluation question	Indicators ⁶⁶	Data source(s) for country / project evaluations	Additional data source(s) for thematic evaluation of procurement process in 2015
Timeliness	- Was the procurement timely? How long the procurement process takes (e.g. by value, by category, by exception...)	(Overall) Time to Procure (TTP)	<ul style="list-style-type: none"> Interviews with PMs, Government counterparts and beneficiaries 	<ul style="list-style-type: none"> Procurement related documents review SAP/Infobase (queries related to procurement volumes, categories, timing, issues) Evaluation Reports Survey to PMs, procurement officers, beneficiaries, field local partners. Interviews with Procurement officers
	- Did the good/item(s) arrive as planned or scheduled? If no, how long were the times gained or delays. If delay, what was the reason(s)?	Time to Delivery (TTD)	<ul style="list-style-type: none"> Interviews with PM, procurement officers and Beneficiaries 	
	- Was the freight forwarding timely and within budget? If no, please elaborate.			
	- Was the		<ul style="list-style-type: none"> Interviews with PMs, 	

⁶⁶ These indicators are preliminary proposed here. They will be further defined and piloted during the Thematic Evaluation of UNIDO procurement process planned for 2015.

Area	Evaluation question	Indicators ⁶⁶	Data source(s) for country / project evaluations	Additional data source(s) for thematic evaluation of procurement process in 2015
	customs clearance timely? How many days did it take?		Government counterparts and beneficiaries	
	- How long time did it take to get approval from the government on import duty exemption	Time to Government Clearance (TTGC)	<ul style="list-style-type: none"> • Interviews with beneficiaries 	
Roles and responsibilities	- To what extent roles and responsibilities of the different stakeholders in the different procurement stages are established, adequate and clear?	Level of clarity of roles and responsibilities	<ul style="list-style-type: none"> • Procurement Manual • Interview with PMs 	<ul style="list-style-type: none"> • Procurement related documents review • Evaluation Reports • Survey to PMs, procurement officers, beneficiaries, field local partners.
	- To what extent there is an adequate segregation of duties across the procurement process and between the different roles and stakeholders?		<ul style="list-style-type: none"> • Procurement Manual • Interview with PMs 	<ul style="list-style-type: none"> • Interviews with Procurement officers
	- How was		<ul style="list-style-type: none"> • Procurement Manual 	

Area	Evaluation question	Indicators ⁶⁶	Data source(s) for country / project evaluations	Additional data source(s) for thematic evaluation of procurement process in 2015
	responsibility for the customs clearance arranged? UNIDO FO? UNDP? Government? Other?		<ul style="list-style-type: none"> • Interview to PMs • Interviews with local partners 	
	- To what extent were suppliers delivering products/ services as required?	Level of satisfaction with Suppliers	<ul style="list-style-type: none"> • Interviews with PMs 	
Costs	- Were the transportation costs reasonable and within budget. If no, please elaborate.		<ul style="list-style-type: none"> • Interviews with PMs 	<ul style="list-style-type: none"> • Evaluation Reports • Survey to PMs, procurement officers, beneficiaries, field local partners. • Interviews with Procurement officers
	- Were the procured goods/services within the expected/planned costs? If no, please elaborate	Costs vs budget	<ul style="list-style-type: none"> • Interview with PMs 	
Quality of products	- To what extent the process provides adequate treatment to different types of		<ul style="list-style-type: none"> • Interview with PMs 	<ul style="list-style-type: none"> • Evaluation Reports • Survey to PMs, procurement officers,

Area	Evaluation question	Indicators ⁶⁶	Data source(s) for country / project evaluations	Additional data source(s) for thematic evaluation of procurement process in 2015
	procurement (e.g. by value, by category, by exception...)			beneficiaries, field local partners.
	- To what extent were the procured goods of the expected/needed quality and quantity?.	Level of satisfaction with products/services	<ul style="list-style-type: none"> • Survey to PMs and beneficiaries • Observation in project site 	<ul style="list-style-type: none"> • Interviews with Procurement officers
Process / workflow	- To what extent the procurement process is fit for purpose?	Level of satisfaction with the procurement process	<ul style="list-style-type: none"> • Interviews with PMs, Government counterparts and beneficiaries 	<ul style="list-style-type: none"> • Procurement related documents review • Evaluation Reports • Survey to PMs, procurement officers, beneficiaries, field local partners. • Procurement related documents review • Evaluation Reports • Survey to PMs, procurement officers, beneficiaries, field local partners.

Area	Evaluation question	Indicators ⁶⁶	Data source(s) for country / project evaluations	Additional data source(s) for thematic evaluation of procurement process in 2015
				<ul style="list-style-type: none"> • Interviews with Procurement officers

Annex 2: List of documents consulted

1. Project document
2. Progress reports
3. Project Implementation review reports
4. Reports of national and international consultants
5. Inventory report
6. Reports of contractors (e.g. SetCar)
7. PCB guidelines
8. Advocacy on PCB
9. Inception report
10. Report of workshops (awareness raising, training of trainers)
11. Disposal plan using mobile unit
12. Brochure of ESM of PCBs
13. Minutes of steering committees
14. Minutes of technical meetings.
15. Financial report
16. Mid-term evaluation report

Annex 3: Schedule of meetings and list of persons interviewed

1. Schedule of mission: 20 – 25 September 2015, Kathmandu, Nepal

Date	Time	Venue	Name	Position
20 September 2015	Arrival in Kathmandu			
21 September 2015	Public holiday due to change in Constitution of Nepal			
22 September 2015	10H15 – 11H30	MOSTE	Dr. Bhupendra Devkota	Technical Expert
	11.30 – 12.30	MOSTE	Mr. Mahendra K Thapa	Joint Secretary & Chief, Administration, Planning Division and NPD of MSP, MOSTE
	13H45 – 14H30	MOSTE	Mr. Shankar Prasad Paudel	Senior Divisional Chemist, DoEnv & Former POPs Desk Officer, MOSTE
	15H15 – 16H00		Mr. Vikram Basyal	Former Policy expert consultant
23 September 2015	12H15 – 13H30*	NEA at Kharipati, Bhaktapur	Mr. Rajan Rishi Kadel; Mr. Birendra Bikram Malla; Mr. Prakash Gaudel	Joint Director, NEA Environmental expert, Manager, NEA Environmentalist, NEA
	14.00 – 14H30	NEA, Lainchaur, Kathmandu	Mrs. Kanta Sharma Mr. Bikash Shrestha Mr. Rajendra BK	Officer / supervisors, NEA transformer workshop
	16h00 – 16H30	World Bank, Kathmandu	Mrs. Annu Rajbhandari	Former Inventory coordinator MSP
24 September 2015	10H50 – 11H50	Kathmandu	Mr. Dipak Upadhyay	Former PM of MS project
	12H30 – 13H30	Kathmandu	Mr. Hari Ram Shrestha	Former Grid Director NEA
	13H45 – 14H15	MOSTE	Mr. Mahendra Man Gurung	Joint Secretary & Chief, Environment Management Division, MOSTE, also SC focal point
	14H15 – 14H45	MOSTE	Mr. Jagadish Nhakta Shrestha	DG Dept of Environment, MOSTE
	16H00 –	Ministry of	Mrs.	Ex Senior Divisional

Annex 3: Schedule of meetings and list of persons interviewed

Date	Time	Venue	Name	Position
	16H30	Forests and Soil conservation, Kathmandu	SushmaUpadhyay	Chemist – MOSTE; now Deputy Director General, Ministry of Forests and Soil conservation, Dept. of Plant Resources
25 September 2015	Public holiday – Department from Kathmandu			

*It took 2 hours to drive to the venue of the interview at NEA

2. Interview with UNIDO PM by Skype on 20 October 2015: 12H00 to 13H00