TERMINAL EVALUATION REPORT

Evaluation: October 2015

Report: October 2015

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GOBIERNO DE LA REPÚBLICA DE HONDURAS
SECRETARÍA DE ENERGÍA, RECURSOS NATURALES, AMBIENTE Y MINAS

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ACRONYMS

APR	Annual Project Report

AWP	Annual Work Plan
BAT	Best Available Technology
BEP	Best Environmental Practice
C.A	Central America
CESCCO	Center for the Control and Study of Pollutants
CNG	National Commission for the Environmentally Rational Management of Chemical Products
CNP+LH	Centro Nacional de Producción más Limpia de Honduras
COHEP	Consejo Hondureño de la Empresa Privada
DECOAS/SE	Department of Communications and Environmental Education
ENEE	Empresa Nacional de Energía Eléctrica
ERM	Environmentally Rational Management
ESM	Environmentally Sound Management System
ESSD	Environmentally and Socially Sustainable Development
FM	Financial Management
FMR	Financial Monitoring Report
FSP	Full size project
GEF	Global Environment Facility
GEF OFP	Global Environment Facility Operation Focal Point
GC	Gas chromatography
ISWM	Integrated Solid Waste Management
ITT	Instituto Tecnológico de Tesla
MAC	Maximum Allowable Concentration
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
MIAMBIENTE	Secretary or Energy, Natural Resources, Environment and Mines (former SERNA)
MTE	Mid-Term Evaluation
NGO	Non-governmental organization
NIP	National Implementation Plan
NPM	National Project Manager
OECD	Organization for Economic Co-operation and Development
PA	Project Assistant
ProDoc	Project Document
Project POP 2	Name given to the multi-POPS project in Honduras
PAC	Project Advisory Committee
PCB	Polychlorinated Biphenyls
PCDD	Polychlorinated Di-Benzo Dioxins
PCDF	Polychlorinated Di-Benzo Furans
PIR	Project Implementation Report
POPs	Persistent Organic Pollutants
PPM	Parts per million
PROMEF/BM	Eficiency Improvement Program/World Bank
PRTR	Pollutant Release and Transfer Register
QPR	Quarterly Project Review
SAG	Secretary of Agriculture and Livestock
SAICM	Strategic Approach to International Chemicals Management
SE	Secretary of Education
SERNA	Secretary of Natural Resources and Environment (now MIAMBIENTE)
SIDA	Swedish International Development Cooperation Agency
SP	Strategic Priority
SS	Secretary of Health
STSS	Secretary of Labor and Social Security
TE	Terminal Evaluation
TOR	Terms of reference
PCU	Project Coordination Unit
U-ESNACIFOR	Universidad Escuela Nacional de Ciencias Forestales
UNAH	Univesidad Nacional Autónoma de Honduras (UNAH)

UNDAF	United Nations Development Assistance Framework
UNDP CO	United Nations Development Program Country Office
UNITEC	Universidad Tecnológica Centroamericana
USAID	United States Agency for International Development
USD	United States Dollar
UPOP	Unintentional Persistant Organic Pollutant
WB	World Bank

1. EXECUTIVE SUMMARY

The essentials of the project to be evaluated are as follow:

Table # 1. Project Summary Table

Project title: Strengthening National Management Capacities and Reducing of Releases of POPs in Honduras.			
Country	Honduras	**Start date**	July 2011
GEF Project ID	00075733	**End date**	March 2016
UNDP Project ID	00060221		
Executing Agency	SERNA- Min Ambiente		
Total project resources	**In kind (USD$)**	**Cash (USD$)**	**Total (USD$)**
GEF financing		USD$ 2.650.000.00	USD$ 2.650.000.00
Ministry of Environment			
Private sector	USD$ 12.583.580.00		USD$ 12.583.580.00
Total (USD$)			USD$ 15.233.580.00

Source: UNDP CO- Honduras

1.1 PROJECT DESCRIPTION

1. The project, “Strengthening National Management Capacities and Reducing Releases of POPs in Honduras (Project POP 2Project POP 2)”, is a Global Environment Facility (GEF) funded full-size project (FSP). The funding for this project comes from GEF funds (USD$ 2,650,000), and co-financing from private sector (USD$ 12,583,580) for a total budget of USD$ 15,233,580. The project, is executed under the United Nations Development Program (UNDP) in Honduras with the Ministry of Environment (MIAMBIENTE) as the national executing agency. The project was originally planned for 4 years, starting in September 2011 to September 2015; project outputs and outcomes were fulfilled in this period, however, due to the implementation of its sustainability strategy, project will be completed by March 2016.

2. The project objective is the reduction of health and environmental risks from POPs through the application of principles of sound environmental management within the context of the National Implementation Plan for the Stockholm Convention.

3. The project objective will be achieved through the following outcomes:

Outcome 1. Institutional capacities developed, regulatory, policy framework strengthened for the management and elimination of POPs and the reduction of their impacts.

Outcome 2. Awareness increased regarding the nature, impacts, management of hazardous chemicals and waste.

Outcome 3. Sound environmental management and elimination of intentionally produced POPs.

Outcome 4. Releases of unintentionally produced POPs from current waste management practices are reduced.

1.2 Evaluation Rating Table

4. The following evaluation rating table best summarizes the evaluation results as follows:

Table # 2. Evaluation Rating Table

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

HS- Highly satisfactory (no shortcomings) , S- satisfactory (minor shortcomings), MS- moderately satisfactory, R- Relevant, L-likely, ML- moderately likely (moderate risks), MU-moderately unlikely (significant risks) **Source:** Author's elaboration according to GEF/UNDP Evaluation Guidelines.

1.3 Conclusions, Recommendations and Lessons Learned

Conclusions

5. **Conclusion 1.** The project design was efficiently elaborated and the proposed objective, outcomes and outputs are in line with the National Implementation Plan, national sectoral and development priorities as well as UNDP and GEF objectives. The main issues of proper chemical

management, reduction dioxin and furan emissions, elimination of POP stockpiles (PCB and Pesticides) and the improvement of healthier environments were addressed.

6. **Conclusion 2.**The Project Coordination Unit has done an efficient and effective job by fullfiling all the UNDP project guidelines and the utilization of the monitoring and evaluation instruments. It is concluded that the project management has been highly satisfactory; all of the expected outcomes and outputs have been completed in a cost-effective manner. The topic of PRTR pilot was not originally included in the project, but it was integrated and is presently under initial implementation.

7. **Conclusion 3.** The project was complex, because of all of the different types of outcomes expected that were related to POPs management. The conformation of the Project Coordination Unit with one technical expert for each of the 4 components was an effective decision; each one of these people coordinated all of the activities within their component. The component leaders provided an integrated support to activities besides their own. This form of working has been efficient for the planned outcomes and outputs.

8. **Conclusion 4.** This evaluator has rated the overall project management as satisfactory, because there was not an institutional capacity created within CESCCO/SERNA. Most of the achievements obtained did not have the direct involvement of CESCCO/SERNA representatives in a systematic way. The PCU has worked efficiently as an independent entity with the normal involvement of UNDP as the executing agency. The result of this situation has been that within many of the stakeholders, the entities that are projected as promoters of the positive results are the POPs 2 Project and UNDP, not including CESCCO/SERNA. The project end strategy developed during the second half of the last project year tried to correct this short coming, but there were some interpersonal issues that made it difficult.

9. **Conclusion 5.** The reasons behind the issues regarding information and coordination flow between entities: PCU, UNDP and CESCCO is really the result of administrative and political elements, such as changes in directors, program officials, to mention a few, that are really external to the project, but that end up having implications in the work being done. The new director, appointed this year in CESCCO, has taken important actions to take ownership of the project outputs and include elements in the next POPs 4 project that will strengthen the sustainability required of POPs 2 results. The MTE should have been done earlier in the project period so that the need for CESCCO-PCU-UNDP working relations to be improved was effectively addressed sooner and corrective action implemented.

10. **Conclusion 6.** The Minister of Mi Ambiente has created a project coordination unit that reports directly to him. This coordinating unit includes representation of the projects that the ministry is presently executing and works towards taking advantage of synergies that are produced. This action is a positive effective effort towards the promotion of a more productive coordination among projects.

11. **Conclusion 7.** The five pilot project municipalities involved in the implementing of their Master Plans for the Integral Management of their Solid Waste worked well and created institutional capacity to address the issues of environmentally sound waste management which it is translated in the reduction of the impact in human health. These are excellent examples for the replicability of these environmentally sound practices in other municipalities

12. **Conclusion 8.** The elimination process of the 60 tons of POPs pesticides and the 102 tons of PCB contaminated equipment, oil and wastes were important learning experiences in all of the phases of this type of action. The identification of existing inventories, the tender process to find the most cost-effective and environmentally sound technology were effective and opportunity to learn from the field services activities that the international waste management companies implemented are all elements for the creation of capacity building in hazardous waste management that this project proposed.

RECOMMENDATIONS

This TE has a total of 8 recommendations, for the purpose of this executive summary, the five most important once will be addressed. A complete list is detailed in the document.

13. **Recommendation 1.** The first and probably most important recommendation is to continue the implementation of the sustainability strategy developed by the PCU and CESCCO in the remaining period of the project timeline (March 2016).

14. **Recommendation 2.** The project closure and sustainability strategy, developed by the PCU in coordination with CESCCO, has many important actions that involve the transmitting of data, training and relations with stakeholders that will be strengthen SERNA/CESCCO in its efforts to continue with the COPs2 Project momentum and results. Mi Ambiente, SERNA and CESCCO will need to include an allocation for human and economic resources into the institutional annual work plan in order to complement and institutionalize the actions that the sustainability strategy is promoting.

15. **Recommendation 3**. The Director of CESCCO (recently appointed this year), the UNDP program officer and the PCU should meet and agree on the project work plan that needs to be

completed before the project ends; with the objective of strengthening the sustainability of project results. The actions that will be taken should be socialized with the Minister´s Project Coordination Office in order that all stakeholders are in agreement.

16.. **Recommendation 4**. CESSCO/MI AMBIENTE should make efforts to work in the future with the remaining municipalities that have not been involved in the pilot project in order to make them aware of the health and environmental impacts that result from the burning of their solid waste.

17. **Recommendation 5.** The implementation of PRTR among the industrial and agricultural sector needs to be strengthened and systematically monitored so that this important instrument produces useful results.

LESSONS LEARNED18. **Lesson 1**. It is important to incorporate in the planning stage and development of POPs inventories of key decision makers to insure compliance in a timely manner. The coordinated work with decision makers allowed commitment of resources (human, financial and logistical) for the timely completion of the elimination objective.

19. **Lesson 2**. In the future, the implementing institution, Mi Ambiente, through its project director, CESCCO, needs to make sure that at early stages of the project, the technical knowhow that is generated by the activities and results obtained is passed on to their technical teams that will be responsible for the monitoring and controlling of these results. This is translated into capacity building and sustainability efforts. A suggestion is that a Technical Coordination Team be created with members of the PCU and the institution.

20. **Lesson 3**. It is important that the PCU have passion for what is to be done and has the commitment to succeed. In this specific project, the PCU played an important role in obtaining positive results through their efficient work and planning.

21. **Lesson 4**. The project provided awareness raising materials (printed guidelines, shirts, leaflets, etc.) to stakeholders that had institutional budget restraints. The strategy to help the institutions with budget restraints, ensured that the information was disseminated among a larger group of people.

21**. Lesson 5.** The International tender processes led by UNDP and international permit procedures for transboundary movements of hazardous waste (within obligations of the Basel Convention and national competent authorities consent) took more time than what was expected. For future projects, it is important for these process that take time and sometimes have delays,

should be starter with more lead time. In this project the delay was interpreted by stakeholders as a non-credibility of the institutions involved.

22. **Lesson 6.** When preparing the future project budget for the elimination of intentionally produced POPs (pesticides), it is important to include final disposal costs, as well as, packing, field services, and transportation costs. In this project, only the final disposal costs were included.

23. **Lesson 7.** The initial awareness raising activities with stakeholders regarding proper chemical and solid waste management and the health and environment impacts that these contaminants can produce was very helpful when the entities were involved in project activities.

24. **Lesson 8.** The project coordinator assigned a specialist with experience in the topic as a component leader. This work strategy had positive results in terms of directed work efforts and fulfillment of outcomes expected.

25. **Lesson 9.** The project contracted international experts for the elimination of intentional POPs (pesticides and PCBs). These experienced team did the field service activities and also did some training activities with the companies and public institutions that had waste. This training created a degree of hazardous waste management capacity.

26. **Lesson 10.** The promoting of environmentally sound management practices for chemicals in higher education provided an updated thematic curriculum in an international and national context. The initial formation of resources with particular orientation generated a national capacity to respond to the country's challenges in this area.

27. **Lesson 11**. The Ministry's formalization of the education material for environmentally sound management of chemicals for teachers of primary and secondary education provided access to a group of target teachers and will facilitate its future implementation in the classroom.

28. **Lesson 12.** The development of regulations, legal instruments, evaluations, studies, manuals and guidelines through a participatory process resulted in an enhanced participation among the different stakeholders.

29. **Lesson 13.** The project created synergies with smaller projects generating a new implementation model in the region. This facilitated the optimization of financial and technical resources that led to the harmonization and consistency of actions and results, as well as the consolidation of human resources with the expertise needed for its development and implementation.

2. INTRODUCTION: EVALUATION SCOPE AND METHODOLOGY

2.1 PURPOSE OF THE EVALUATION

30.. According to GEF and UNDP evaluation policies, a terminal evaluation (TE) is required for GEF funded FSPs, and in fulfillment of this requirement a TE was a planned activity of the monitoring and evaluation plan for Project POPs 2

31.. The Monitoring and Evaluation (M&E) policy at the project level in UNDP/GEF has four objectives:

a) to monitor and evaluate outcomes and impacts;
b) to provide basis for decision making on necessary changes and improvements;
c) to promote accountability for resource use;
d) to document, provide feedback and disseminate the lessons learned.

2.2 SCOPE OF THE EVALUATION AND METHODOLOGY

32. The scope of the terminal evaluation includes the reviewing of the project outputs and outcomes as initially planned and any adjustments recommended to project actives and outputs, based on standard evaluation criterias such as relevance, efficiency, effectiveness, results and sustainability defined as follows in the "Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Finance Projects", produced by the UNDP Evaluation Office, 2012 :

a. relevance – is defined as how the project relates or is associated to the objectives of the GEF focal area, to the environment and the development priorities that the country has defined at the local, regional and national levels. Was the project and its results in agreement with what the country and GEF have set out to achieve?

b. efficiency- is a measurement of how the economic resources (funds, technical support, staff, time etc.) were implemented in obtaining the actual results. Did the resources invested produce tangible benefits or results for the project in the most cost-effective manner?

c. effectiveness: - to what extent the proposed outcomes and objectives of the project were completed with respect to the expected results. Did the outcomes clearly fulfill the objectives of the project?

d. results – this includes the evaluation of the project outputs, outcomes and whether they will result in an impact on long term global and national environmental benefits.

e. sustainability- measures whether or not the conditions have been created to guarantee that the benefits obtained during the project implementation will continue once the GEF assistance has ended and the funded activities have come to an end. Where the necessary institutional, regulatory, technical capacities, to mention a few, created to guarantee the continuity of the results obtained?

33. The above referenced guidance document was used as an integral part of this TE. The "Evaluation Purpose" of this document, indicates that the evaluation exercise should evaluate the impact and sustainability of project outcomes, including the contribution to capacity development and achievement of global environmental benefits/goals. The evaluation identifies relevant lessons for other similar foreseen projects in Honduras and in other parts of the world.

34. The evaluation, in addition to assessing the main GEF evaluation criteria, provides the required ratings of key elements of project design and implementation. Further, the evaluation will, when relevant, assess the project in the context of the key GEF operational principles such as country-driveness, and stakeholder ownership.

35. The evaluation methodology was based on a participatory mixed-methods approach, which included three primary elements:

a) Desk review of project documentation and other relevant information which included reports of consultations, correspondence between UNDP, CESCCO/Mi Ambiente (project director), and the Project Coordination, reports of activities that were implemented as well as other documents (manuals, awareness raising campaigns, etc.) that were produced during the project. In particular the sustainability strategy that was developed towards the end of the project,

b) During the evaluation mission to Honduras interviews and visits to several project sites such as the municipalities, academic institutions, among others, were held with the purpose of interviewing and obtaining information of the project. The key project participants and stakeholders, as well as the consultants that were contracted for each of the main project components and participants of activities that were developed, including representatives of the: municipalities, electrical companies, Ministry of Agriculture, Ministry of Health, UNDP, Academic institutions, provided information regarding their project expectations, and the final results obtained; as well as the process implemented with them.

c) The project monitoring and evaluation reports used in the UNDP reporting system (PIR, APR, QR) were reviewed separately from the project documentation indicated in item a.

36. The questions asked during the interviews and the project documents generated, were used as inputs in the answering of the questions posed in Annex C of the Terms of Reference of this TE as reflective elements to evaluate the relevance, efficiency, effectiveness, results and sustainability of this project.

37. The evaluation is based on evidence from the start of the project implementation, July 2011 to March 2016 and includes an assessment of issues prior to approval, such as the project development process, overall design, risk assessment and monitoring and evaluation planning. The desk review was begun in October 2015, and the evaluation mission was carried out from October 12 to October 16, 2015. The list of stakeholders interviewed is included as Annex 2 to this evaluation report.

3. Project Description and Development Context

3.1 Project Description and objective

38. This project was ready to be started in July 2011; however the project officially began execution when the Project Manager was contracted in October 2011. The project will have duration of 4 years and 7 months having March 2016 as the project termination date.

39. The project was designed to develop institutional capacitates in the Ministry of Environment (SERNA/CESCCO), Secretary of Agriculture and Livestock, Secretary of Education, and Municipal Governments to address POPs related issues such as: policy and regulatory framework needs, monitoring and control capacities, integral solid waste management and proper chemical management awareness.

40. A second important element of this project in the identification and elimination of existing POPs stocks, in particular pesticides and PCBs.

41. According to the project document the objective is the reduction of health and environmental risks of POPs through the application of principals of sound environmental management within the context of the National Implementation Plan for Stockholm Convention.

42. The project objective is planned to be accomplished through the implementation of these four components:

1. Development of institutional capacities and strengthening of the regulatory and policy framework for the management and elimination of POPs and the reduction of their impacts.
2. Increase of awareness regarding the nature, impacts and management of hazardous chemicals and wastes.
3. Sound environmental management and elimination of intentionally produced POPs.
4. Minimizing of releases of unintentionally produced POPs from current waste management practices.

3.2 PROBLEMS THAT THE PROJECT SOUGHT TO ADDRESS

43. The emissions of dioxins and furans, as indicated in the National Implementation Plan for the Stockholm Convention (NIP), were identified as one of the main problems regarding POPs in Honduras. The main sources of these emissions were identified to be domestic waste burning and landfill fires.

44. The 298 municipalities of Honduras did not have a system for the final disposal of municipal waste, hospital waste and industrial waste. The percentage of population that had solid waste collection services within the main cities was very low.

45. The practice of burning of domestic waste resulted in large-scale emissions of dioxins and furans. Very few, if any of the municipalities have some type of infrastructure for the final disposal of their solid wastes, resulting in the use of open-cast dump areas. Industrial waste is burned on site and sent to the municipal dump where it is mixed with common waste.

46. Large amounts of remnant stocks of POP and non-POP pesticides were stored in seriously inadequate conditions close to communities resulting in potential risks to human health and the environment.

47. A total of 18 sites were identified to be potentially contaminated with POPs. The sites were classified according to potential risk associated to human health and environment from no-action required to midterm action and finally to long term action. The sites require to have soil analysis done to determine the degree of contamination.

48. Through the preparation of the NIP (2008) a total of 1,459 pieces of electrical equipment were evaluated; 60% resulted in being contaminated with more than 50 ppm of PCB. The estimated amount corresponding to this inventory was 196.2 tons.

49. There are sites contaminated with PCB which present a risk to human health and the environment in the area of influence of the substations, warehouses and within the works of ENEE employees.

3.3 BASELINE INDICATORS

50. The country did not have a National Policy for Chemicals Management with the corresponding regulatory framework to enhance inter-agency coordination and guidelines for checmials management that include site remediation and hazardous waste management.

51. A total of 18 tons of pesticides have been inventoried. These are 3.6 tons of POPs pesticides and 14.4 tons of contaminated pesticides.

52. A first inventory identified 58 tons of out of use equipment contaminated with PCB and 138 tons of contaminated equipment still in use. A total of 119 sites have been inventoried for PCB stocks.

53. There are 18 potentially contaminated sites with POPs pesticides, 5 confirmed contaminated sites with PCBs and 18 potentially contaminated sites with PCB.

54. There are inadequate storage sites for POPs pesticides that include among other inventories 3.5 tons of DDT. The storage of these pesticides is in basically 5 to 6 storage houses.

55. An initial inventory of dioxins and furans reported 400g of I-TEQ/yr for the sub category of solid waste burning and fires in municipal dumps.

56. CESCO does not have the necessary financial and personnel resource sustainability to implement an integrated chemical management in the country.

57. The national education curriculum does not include the topic of POPs and the risks of inadequate chemical waste management.

58. All of the municipalities have weaknesses in their management of solid waste. Final disposal includes open burning and as a result of limitations in the collection service backyard waste burning is practiced.

59. Approximately 80% of rural solid wastes and 1% of urban solid wastes are burnt, accounting for close to 250,000 tons.

60. Local governments do not have integrated solid waste management plans or comprehensive awareness raising initiatives within their constituyents.

3.4 Project Stakeholders: Main Stakeholders

A. Public Sector

Number	Name	Stakeholder Role
1	Ministry of Natural Resources and Environment (SERNA/CESCCO)	This institution is the project director and Stockholm Convention competent authority. The Center for Study and Control of Pollutants (CESCCO) is the entity of this ministry directly involved in the project implementation and is from where the in-kind contribution is accounted for. CESCCO is institutionally responsible for the implementing of the National Chemical Waste Management Policy and Regulations. This Ministry is the leader of the National Commission for the Sound Management of Chemicals.
2	Ministry of Health	Is the governing body regulator of the health sector and is envolve in the management assessment of POPs. As in-kind contributions the staff in the Pesticide Warehouse played an important role in the coordinating of the elimination process with the project staff. This ministry is as well part of the National Commission for the Sound Management of Chemicals. For this evaluation, personnel involved were interviewed.
3	Ministry of Agriculture and Livestock (SAG)	Personnel from this Ministry were closely involved in the elimination process for obsolete stockpiles that where in their custody. As well, this Ministry is part of the National Commission for the Sound Management of Chemicals. For this evaluation, members were interviewed.
4	Ministry of Labor and Social Security	The representatives of this Ministry were very much involved in the working with the Municipalities in the formulating of their Municipal Plan for the Integrated Solid Waste Management.

5	Municipalities (Comayagua, Tegucigalpa, Potrerillos, Siguatepegue and COLOSUCA Municipal Association)	This Municipalities involved in the Project contributed individually with their Majors' commitment and his staff to this initiative. The in-kind contribution was done with the participation of staff members, community leaders and organizations within the Municipalities; as well as awareness raising activities within the people in their individual jurisdictions.
6	National Electric Power Company (ENEE)	This companies were involved in the initial PCB inventory and the development of PCB Management System within the company. Staff members were involved in the coordination of packing and logistic for the elimination process that was undertaking within the framework of this project. They will play an important role in continuing with the PCB inventory process.
7	Ministry of Education	This Ministry contributed with the organizing of workshop to train approximately 350 teachers that distributed awareness raising material and include in their educational curriculum the proper solid waste management principals. The in-kind contribution accredited to this Ministry is through the involvement of teachers, regional infrastructure and the general leadership of the activities undertaken.

B. Private Sector

Number	Name	Stakeholder Role
1	Consejo Hondureño de la Empresa Privada (COHEP)	Companies were invited through this organization´s platform to participate in the pilot trials for the PRTR, consultation, validation, and socialization of the corresponding regulation for this register. COHEP is an active participant of the National Chemical Substance Commission.

2	Asociación Nacional de Industrias de Honduras (ANDI)	The members participated in the PRTR pilot and also in the PCB inventory. They also played a role in the socialization of the PRTR and PCBs regulations.
3	Asociación Hondureña de Maquiladores	The members participated in the PRTR pilot and also in the PCB inventory. They also played a role in the socialization of the PRTR and PCBs regulations.
4	National Centre for Cleaner Production in Honduras (CNP+LH)	This center was strategic participant in the administration of the Industrial Solid Waste Exchange Broker for C.A. It was the broker for the offering revaluable waste among companies.
5	United States Agency for International Development project for the Integrated Management of Environmental Resources USAID MIRA	This agency has worked closely with the communities in the implementation of the Regulation for the Integrated Management of Solid Waste and the Regulations for the Control of Emissions from Stationary Sources.
6	World Bank (WB)	The World Bank presently has issued a loan to the ENEE for the substitution of electrical transformers and the elimination of equipment contaminated with PCBs.

3.5 EXPECTED RESULTS

61. The project was expected to establish the necessary laboratory and regulatory conditions so that CESCCO could meet its budgetary requirements in 100% by offering chemical analysis services in its laboratory.

62. The elaboration of 10 regulatory instruments and approval of 2 instruments (in the official Gazette) to strengthen the regulatory framework on: Management of Solid Waste, Implementation of PRTR, Contaminated Sites Management, PCBs, and Soil standard values.

63. The Secretary of Education has included in its basic and middle schools, in the natural science curriculum the topic of chemicals management for protection of human health and environmental impacts.

64. One postgraduate program (high education) has included the environmentally sound management of chemicals in its program.

65. Key regulating institutions, Ministry of Environment, Secretary of Agriculture and Livestock, Ministry of Health, ENEE, Fire Department, Municipal Governments are aware of the impact of incorrect chemicals management and have the knowledge to implement corrective measures.66. POPs pesticides (60 tons) and PCB contaminated equipment, oils and waste (100 tons) that have been identified through inventories are eliminated in an environmentally sound manner in Europe.

67. Five municipal pilot projects have been executed and they have developed their Master Plans for the Integrated Management of Solid Wastes within their jurisdictions. The implementation of these plans, calls for the cultural change of burning of wastes and the building of environmentally sound landfills or controlled dump sites.

4. FINDINGS

4.1 PROJECT DESIGN/FORMULATION

4.1.1. PROJECT CONCEPT/DESIGN, RELEVANCE AND STRATEGY

68. The project design integrates different types of areas of interest. It is not a project that is directed to one main topic, such as PCB or POP pesticides. It in turn covers different types of POPs such as PCB, pesticides, dioxins and furans, as well as solid waste management issues. An additional topic, although not exclusive to POPs but very important in general chemical management is the Pollutant Release and Transfer Register (PRTR) presently under initial implementation phase and that is a part of this project. The PRTR was not originally included in the project design, but it was included during the project.

69. The most important part of the project was to develop sustainable national capacities with the corresponding policy and regulatory framework needed for the different POPs-related issues.

70. A strategic consideration included in the project design was the institutionalization and sustainability of inter-institutional coordination and support to cover the multi-sector nature of the POPs issues and the efforts being implemented in different sectors and institutions.

71. The project design also included investments that would result in the elimination POPs pesticides and PCB contaminated equipment and oils, as well the reduction of emissions from solid waste burning.

72. The project is the result of the action plans outlined in the National Implementation Plan (NIP) regarding the issues of chemicals management, solid waste management and its implications in the releases/emissions of dioxins and furans, regulatory requirements and institutional capacity building and other environmental initiatives such as SAICM and PRTR.

73. The analysis of the Project Results Framework concludes the following:

Project objective

a. The project main objective was correctly formulated in response to Honduras' National Implementation Plan that identified needs and challenges regarding chemical management, solid waste management and POPs elimination.

b. The baseline information and indicators are well formulated and complete in regard to the project.

Component 1: Development of institutional capacities and strengthening of the regulatory and policy framework for the management and elimination of POPs and the reduction of their impacts.

a. The strengthening of the regulatory and policy framework was completed above and beyond the original project expected results with all of the regulations, policies, manuals and technical guidelines developed and approved. The awareness raising and training with respect to these regulatory instruments was done in a systematic manner.

b. There are still some regulations developed but pending approval by the Ministry of Environment. These have been underlined as priorities within the sustainable strategy presently being implemented as part of the project end activities.

c. Although, all of the regulatory documentation and technical guidelines were formulated and most of them have already been approved, it is this evaluator's concern that once the project ends there is a high risk of the institutions involved not being able to sustain monitoring and control that would provide the expected results these instruments were set out to produce. The Director of CESCCO needs to address the issue of the additional financial and personnel resources that this department will need to assure compliance of the regulatory instruments that have been approved.

d. The CESCCO Director expressed concern regarding the Project Coordination Unit having formulated regulatory instruments without their coordination. They, CESCCO, will need to request from the Minister the necessary financial and personnel resources that they will need to enforce compliance.

e. The sustainability strategy presently under implementation seeks to mend this institutional separation and the creating of the necessary conditions to strengthen CESCCO and MIAMBIENTE capacities to implement specifically the PRTR and PCBs regulations.

f. It is for this reason that in the overall results, Component 1 was rated as satisfactory, although the expected results were all completed, but there is a need to strengthen CESCCO-Ministry of Environment relationship as indicated previously.

Component 2: Increase of awareness raising regarding the nature, impacts and management of hazardous chemicals and wastes.

a. This component results in several positive outputs in the educational materials produced on the topic of chemicals management.

b. During the evaluation mission and in interviewing the Secretary of Education Representative, it was very clear that the project had a decisive impact on the increasing of the institutions capacity to educate on the proper chemicals management practices for household, industrial and agricultural activities.

c. The future generations of young adults will be well aware of the environmentally correct practices regarding chemicals management resulting in the reduction or minimization of the impacts to human health and the environment, one of the project's principal objectives.

d. The teachers received training and the necessary materials were prepared and distributed systematically. This result was verified during the mission to Honduras.

Component 3: Sound environmental management and elimination of intentionally produced POPs.

a. The elimination of 60 tons of POPs pesticides and 102 tons of PCB contaminated equipment, oil and waste in an environmentally sound manner by two competent international waste management companies are significantly positive results achieved.

b. One of the expected results was the awareness raising and training regarding the health and the reduction of environmental impacts associated with these POPs and their proper management. In the interview process of these stakeholders, both electrical company and Secretary of Agriculture and Livestock representatives made it clear that this experience with professional hazardous waste managers had left important learning experiences that will be used in future hazardous management practices in these areas.

c. Additional regulations were developed under this component, such as a National Regulation for the Environmentally Sound Management of PCBs (published in the National Gazette) and a National Manual with the Best Environmental Practices for the management of PCBs equipment and its wastes.

d. A storage facility for PCBs with its national permits (operational and environmental) was constructed in Tegucigalpa with WB funding.

Component 4: Minimizing of releases of unintentionally produced POPs from current waste management practices.

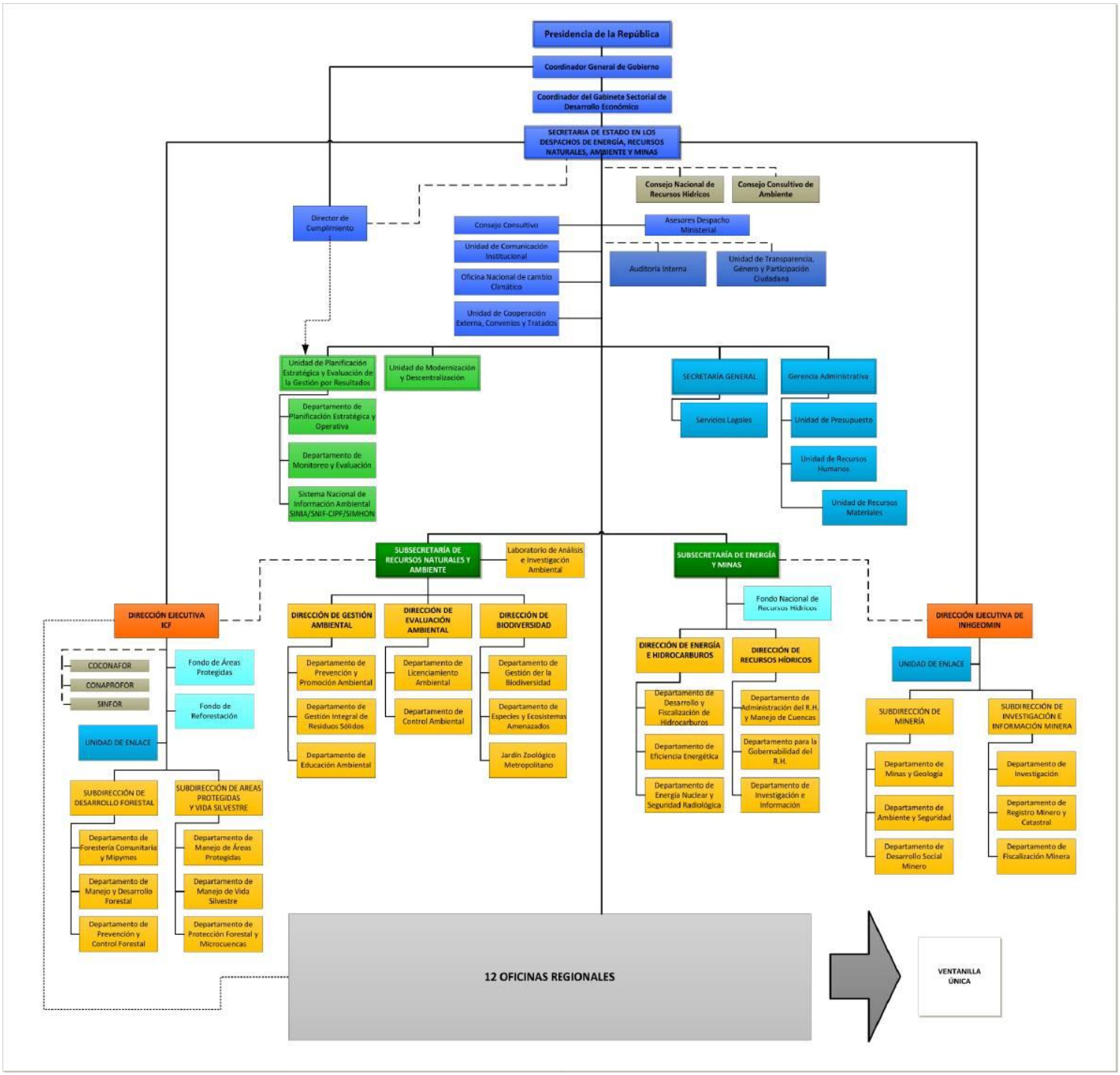
a. During the mission interviews with several of the municipal representatives, it was clear how Project POPs 2 enhanced the local government capacities in regard to their integrated solid waste management needs and challenges.

b. All of the municipalities within the project's influence have developed and are implementing their Master Plans for the Integrated Management of Solid Wastes, which results in reduction of solid waste that was burned in the past.

c. All of these results are positive and the municipal solid waste management efforts will most likely continue once the project has ended, but, one of this evaluator's concern is that the entities that were projected in this process were UNDP and Project POPs 2, not MIAMBIENTE/CESCCO. The reason for this is that the Project POPs 2 worked as an independent entity from the Mi Ambiente/SERNA/CESCCO for quite some time for the reasons that were indicated previously. During the implementation of the sustainability strategy in these last months of the project, important efforts need to be made by all parties (SERNA/CESCCO/Mi Ambiente, Project POPs 2 and UNDP) to remediate this and enhance the institutional coordination.

4.1.2 STAKEHOLDER PARTICIPATION

Figure.1 Organizational Chart of Secretary of State for Energy, Natural Resources, Enviorment and Mining



Source: UNDP – CO Honduras

73. The Secretary of State for Energy, Natural Resources, Environment and Mining has as one of its dependencies the, Secretariat of Natural Resources, Environment and Mining, recently

named Mi Ambiente. This secretariat has six dependencies of which the Center for Studies and Control of Contaminants (CESCCO) is one of them. So the organizational hierarchy is that CESCCO reports to SERNA and this direction reports directly to the Minister.

74. The Secretary of Education and the Secretary of Agriculture and Livestock were involved in the component work that involved chemical management awareness raising and pesticide elimination efforts. It is perceived through the interviews that there was a good inter action with the Project Coordination Unit and this resulted in responsive participation on the behalf of these institutions.

75. The participation of the Mi Ambiente/SERNA/CESCCO entities in the formulation and approval of the regulatory framework that has been approved and those that are to be approved was not as effective as it should have been. It seems that this is the result of changes in the CESCCO direction, the Project Coordination Unit working at times under two project leaderships (CESCCO and the Minister of Mi Ambiente) when these are entities within the same institution. This needs to be cleared so that the many favorable project results will be sustainable in the future.

76. The Municipal Governments were very receptive and this resulted in the positive and sustainable results obtained in solid waste management.

77. The creation of the National Commission for the Environmentally Rational Management of Chemical Products (CNG) as a result of the NIP project and the approval of the regulation for its establishment has been an important positive result for the involvement of the direct and indirect stakeholders.

78. During the interview, the President of the Board of Directors of the CNG, expressed concern regarding the sustainability of the CNG operation, although it has been created by decree, when there is not a project to provide funding for meetings and training.

4.1.3. REPLICATION APPROACH

79. The project outcomes and outputs are in line with UNDP and GEF objectives and the success that it has obtained, with the important systematic work done by the Project Coordination Unit, are an example that can be replicated in many of the countries in the region with similar POPs challenges.

80. The implementation of Master Plans for Integral Solid Waste Management in the municipalities and the way that the project has created the capacity within these institutions is a very good example of how this can be replicated in the remaining Municipal Governments.

4.1.4 UNDP COMPARATIVE ADVANTAGE

81. UNDP has implemented many PCB management and disposal projects in other parts of Latin America. The experience gained and lessons learned, in these projects concerning risks, successes and failures, as well as unforeseen consequences has been very valuable in the executing of similar initiatives.

4.1.5 COST EFFECTIVENESS

82. The environmental and development objectives that this project proposed were achieved, along with the expected project outputs in an efficient time and investment work frame. The total project financing and co-financing committed for this project was USD$ 12.528.067,25 and the actual expenditures were USD$ 11.873.833,72 resulting in 94.8% execution, leaving a remnant of USD$ 654.233,53 that was used to complete additional complementary activities within the project framework and in line with its objectives.

83. The inclusion of the PRTR reporting as one of the project outputs was in line with the application of the incremental cost concept that GEF projects should achieve.

4.1.7 MANAGEMENT ARRANGEMENTS

84. The project management arrangements were as planned in the project document. Meetings with the UNDP officer, the Project Director and National Coordinator, indicate that there have been times within the implementation period that CESCCO/SERNA/Mi Ambiente had not assumed its institutional lead role.

85. The Mid Term Evaluation (MTE) was conducted in June – July of 2014. It is this evaluator's opinion that the MTE should have been done earlier in the project time frame. Possibly, some of the institutional – Project Coordination Team coordination issues, could have been addressed in a more efficient and effective manner leading to more productive results sustainability efforts.

4.2 PROJECT IMPLEMENTATION

4.2.1. ADAPTIVE MANAGEMENT

86. When evaluating the project's adaptive management, the following considerations were made: the project design, objectives, outcomes and outputs were well prepared and completed. The

annual reporting (PIRs and QOPs) did not reflect any needs for adapted management; except in one or two intiatives in two municipalities that were not able to participated in the solid waste management component of this project. This particular were replaced with other municipalities that had more possibilities to participate. There were no important changes in the environmental and development objectives during the project implementation.

87. The Mid Term Evaluation (MTE) was done in the last year of the project implementation, 2014. This should have been done earlier, at least in 2013, so that the significant changes could have been implemented or addressed before reaching the project end. The MTE most important recommendations were as follows:

- The country needs politically commit to the project and its results to guarantee their sustainability. This will require that CESCCO be assigned more human and economic resources.
- There is a need to improve coordination relations between Min Ambiente (CESCCO/SERNA), the PCU and UNDP. This was significant at the MTE and in the TE.
- The MTE evaluator identified a need to develop a strategy for the project end; which would consider a working committee, a guideline for integration and the transfering of the project, a work plan, and considerations for logistic and administrative closure.
- Due to projects delays, the PCU and UNDP need to enhance and control the contractual process for the selection of the company that will eliminate the PCBs within the remaining year of the project.
- The evaluator suggested that CESCCO establish an agreement with the Universities that have worked within the project in POP studies and investigations, to promote the continuity of this work.
- The project needs to consolidate at the local level. This should happen through socialization of the successful solid waste management practices and through the creation of alliances with the local organizations and community representatives.
- Since the project is in its final phase, the PCU, needs to plan and define a critical route for each of the activities of the work plan.

The project addressed these recommendations in the following manner:

- The necessary political commitment that includes human resources and budget allocations for CESSCO to assume the continuity and sustainability of this project was not totally established at the time of the TE. MiAmbiente made some changes in their

organization, including this project, in a general project coordination committee, but had not defined concrete actions to provide this needs to CESCCO. The Director of CESCCO did take some action with the Minister and the PCU regarding the need to have the project physically integrated into the CESCCO offices again.

- An End of Project was developed and actions were taken within the different components. At the moment of the TE, the PCU was implementing the strategy with the different stakeholders of each component (Municipalities, Ministry of Education, Ministry of Agriculture, Electrical Companies, and CNG.
- The PCB contaminated equipment and oil where eliminated through an export process completed with the Spanish company BEFESA, a European waste management company.
- Educational and promotional materials for the chemical waste management and solid waste management resulting from the work done with the diferent stakeholders where produced and distributed among the communities. There is no written agreement, but the end of project strategy proposes to continue through CESCCO working with this stakeholders.
- At least 90% of the activities proposed in the work plan have been completed at the time of the TE, but the end of project strategy was still in its initial implementation phase.

4.2.2. PARTNERSHIP ARRANGEMENTS

88. From the reviewing of the project documentation and the interview process with relevant stakeholders, it is apparent that the implementing partner, MiAmbiente, did not always appropriate itself of the project director lead. There are many reasons for this, changes in administration (CESCCO/SERNA), in the MiAmbiente organizational policies, among others, but the result was a Project Coordination Unit working practically on its own. Above and beyond this project inadequacies, the proposed outcomes and outputs where completed, this happened because the PCU was composed of responsible and dedicated professionals.

89. It is this evaluator's opinion that the UNDP CO has a share of responsibility in not being more effective in its role as executing agency and making efforts to reduce the above indicated situation.

4.2.3. MONITORING AND EVALUATION

90. THE M&E PROCESS INCLUDED QUARTERLY PROGRESS REPORT (QPR) FOR EACH YEAR FROM 2011 TO 2015. APR WERE COMPLETED FOR THE YEARS 2012, 2013 AND 2015. THE 2014 WAS NOT PROVIDED. THE GEF TRACKING TOOL WAS NOT A DOCUMENT PROVIDED TO THIS TE EVALUATOR. AFTER HAVING REVIEWED THE CORRESPONDING PIR, APR, AND RISK MANAGEMENT DOCUMENTATION, IT CAN BE CONCLUDED THAT THE PROJECT HAS HAD AN ACTIVE PARTICIPATION OF THE NATIONAL COORDINATOR, TECHNICAL CONSULTANTS AND THE PROJECT UNDP COUNTERPART IN COMPLETING THE MONITORING AND EVALUATION ACTIVITIES. THE RESULTS OF THE INFORMATION IN THESE MONITORING TOOLS COINCIDE WITH THIS EVALUATION'S FINDINGS OF OUTCOMES AND OUTPUTS FULFILLED IN A COST EFFICIENT MANNER.4.2.4 FINANCIAL MANAGEMENT

91. The financial management is done through the Project Coordination Unit (PCU) with the approval of the Project Director (CESCCO) and under UNDP budgetary controls. The disbursement vs. budget, as provided by the UNDP CO indicates that a total of 100% of the budget was executed. This result is very good and is in line with the efficiency in which the project was executed.

Table # 3. Project Budget vs Expenditures

	2011 (USD)	%	2012 (USD)	%	2013 (USD)	%	2014 (USD)	%	2015 (USD)	%	2016 (USD)	%	TOTAL
Component 1	15,645.63	3.9	129,278.21	32.0	97,322.95	24.1	95,133.37	23.6	63,753.78	15.8	2,384.06	0.6	**403,518.00**
Component 2	1,561.47	0.6	62,495.29	24.1	92,113.06	35.4	43,301.44	16.7	36,078.01	13.8	24,294.73	9.4	**259,844.00**
Component 3	7,820.38	0.8	90,160.66	9.1	110,976.17	11.2	301,896.82	30.4	408,868.00	41	74,167.97	7.5	**993,890.00**

Component 4	2,140.73	0.4	141,280.15	19.4	195,048.05	26.8	184,968.12	25.4	179,959.62	24.7	24,351.33	3.3	**727,748.00**
Component 5	21,299.08	8.0	59,033.86	22.3	54,119.20	20.4	52,363.08	19.8	78,115.15	29.5	69.63	0.03	**265,000.00**
Total Project	**48,467.29**	**1.9**	**482,248.17**	**18.2**	**549,579.43**	**20.7**	**677,662.83**	**25.6**	**766,774.56**	**28.9**	**125,267.72**	**4.7**	**2,650,000.00**

Source: UNDP CO- Honduras

92. The co-financing control of commitment against the project document planned is also controlled by the Project Coordinating Unit and the UNDP counterpart. The co-financing planned amount taken from the project document indicates that it was originally US$

12.583.580.00. Three stakeholders did not participate in the project. These are Municipality of Tela, Municipality of La Ceiba and the Grupo Terra, but these were replaced with the inclusion of the Potrerillos Municipality and the Municipal Association of Colosuca. This situation was reported to GEF in the first PIR. In addition the PRTR project contributed to the co-financing with USD $ 65.000.00. In Table 4 the planned co-financing total was adjusted to USD$ 9.878.067.25 and of this a total of USD$ 9.790.567.25 has been invested. The percentage of the actual co-financing completed with respect to project adjusted planned amount is approximately 99%. This high score in co-financing invested is the result of their commitment to the project.

93. The private sector has been very responsive and their co-financing reported is very good and surpasses the originally planned by this sector. The government has not yet accounted for its in-kind co-financing to the date of this TE. It is expected that with the completion of the demonstration projects the co-financing from both government and private sector will increase significantly.

Table 4. Project financing and co-financing committed vs actual results at project end.

Co-financing (Type/Source)	UNDP		Government		GEF		Stakeholders		Total	
	Planned USD$	Actual USD$	Planned USD$	Actual USD$	Planned USD$	Actual USD$	Planned USD$	Actual USD$	Planned USD$	Actual USD$
Grants	0,00	0,00	0,00	0,00	2.650.000,00	2.439.933.72	0,00	0,00	2.650.000,00	2.439.933.70
In-kind	50.000,00	50.000,00	1.400.000,00	1.312.500.00	0,00	0,00	0,00	0,00	1.450.000,00	1.362.500.00
Cash	0,00	0.00	0,00	0,00	0,00	0,00	8.428.067.25	8.428.067.25	8.428.067.25	8.071.400.00
Total	**50.000,00**	**50.000,00**	**1.400.000,00**	**1.312.500.00**	**2.650.000,00**	**2.439.933.72**	**8.428.067.25**	**8.428.067.25**	**12.528.067.25**	**11.873.833.72**

Source: Project Coordination Unit- Strengthening National Management Capacities and Reducing of Releases of POPs in Honduras.- UNDP CO- Honduras

4.2.5. MANAGEMENT AND COORDINATION

94. The UNDP selection of the Project Coordination Unit professionals was a very important part of the success achieved by this project. The PCU is integrated by responsible and very professional individuals who are aware of their countries needs and challenges in POPs management terms.

95. The project management has been diligent in the use of the monitoring tools and the information that has been given was shown to be in line with the project development. During the project progress, there was evidence that the stakeholders were involved, and the project development in most of the components was very favorable.

96. There was a change in administration in CESCCO early on in the project and this caused some coordination problems that in the last year have been solved with the appointment of a new Director who has assumed ownership of the project.

97. The Minister of Environment has established a project coordination office for all initiatives that are being implemented within the institution. This is a positive effort that enhances the ministry´s integration of all project efforts in its development strategy.

4.3 PROJECT RESULTS

4.3.1. OVERALL RESULTS

98. The overall results with regard to the attainment of the planned objectives are presented in the following table that evaluates all of the components by outcomes.

Table # 5. Status of objective delivery as per measurable indicators

Objective	Measurable Indicators From Project Logframe	End of Project Target	Status of Delivery	Rating
Reduction in health and environmental risks of POPs through the application of principles of sound environmental management within the context of the National Implementation Plan for the Stockholm Convention	1. Degree of incorporation by key institutions of National Policy on sound management of hazardous chemicals and wastes, including POPs, in their activities.	1. Actions related to sound chemical management included in operational plans of target institutions (SAG, Ministry of Health, Ministry of Labour, SERNA)	1. Decree PCM.029-2013-Environmental Sound Management of Chemicals Policy was established in 2013. 2. The National Commission for the Sound Management of Chemicals (CNG) was created by Decree 035-2013. 3. The National Environmental Policy was updated with the inclusion of chemicals management guidelines. 4. General Assembly of National Commission for Sound Management of Chemicals in Feb. 2015, Board of Directors was established as well as standing committees. 5. October 2015 second Assembly meeting for the CNG held for review of 2015 work plan and new plan for 2016.	Satisfactory

Objective	Measurable Indicators From Project Logframe	End of Project Target	Status of Delivery	Rating
Reduction in health and environmental risks of POPs through the application of principles of sound environmental management within the context of the National Implementation Plan for the Stockholm Convention	2. Quantity of POPs and pesticides contaminated with POPs in existence.	2. No POPs pesticides or pesticides contaminated with POPs (0 t) are reported.	1. POPs inventory updated with a result of 60 t of pesticides for disposal. 2. 60 t of POPs pesticides where disposed of through field services and disposal contract with Veolia Field Services Ltd. Certificate of disposal verified. 3. Capacity building with experience obtained during the field services undertaken to prepare POPs pesticides for disposal.	Highly satisfactory
	3. Total of mas of PCB contaminated equipment (unused electrical transformers with PCB), that have been replaced and safely disposed of.	3.100% (58t) of disused equipment found in first inventory and (42t) of disused equipment currently found held by ENEE are eliminated having a grand total of 100 t to be disposed. The transformers currently in use will continue to be used with supervision, subject to eventual elimination after project end, additional amount of still in use transformers destroyed with WB funds.	1. National regulation for sound management of PCB by Decree 1071-2013 approved. 2. Inventory for public sector and ENEE completed with total of 211 tons. 3. PCB contaminated equipment, oils and waste disposed of From four sites. 4. A total of 102.1 tons of PCB were disposed of at Befesa Waste management in Spain. Certificate of disposal verified. 5. World Bank project PROMEF provides funds for transformer replacement.	Highly satisfactory

Objective	Measurable Indicators From Project Logframe	End of Project Target	Status of Delivery	Rating
Reduction in health and environmental risks of POPs through the application of principles of sound environmental management within the context of the National Implementation Plan for the Stockholm Convention	4. Number of contaminated sites subject to remediation measures.	4. Remediation measures adopted in 6 pilot sites contaminated with PCB and 6 pilot sites contaminated with POPs pesticides (5 storehouses and a containment area of a fruit company)	1. The six original pilot sites contaminated with POPs pesticides were declared as not contaminated. 2. Measures were implemented to prevent and reduce risk with the sealing of 3 storehouses and implementing of Management Plan for contaminated sites with local Authorities. 3. 9 sites potentially contaminated with PCBs were evaluated with non-contamination reported.	Highly Satisfactory
	5. Reduction in the emission of unintentionally produced POPs from burning of solid waste and landfill fires.	5. 80 g I-TEQ/year reduction in UPOPs emitted from burning of solid waste and landfill fires (20% reduction over currently estimated baseline level). This target will be reassessed at the outset of the project implementation.	1. A total of 5 Master Plans for Integral Waste Management established and operating in municipalities of Comayagua, Siguatepeque, Potrerillos, Tegucigalpa, and Colosuca Municipal Association. All of these municipalities were During the mission to Honduras and the implementation of the Master Plans was verified. 2. Total of 95552 tons of solid waste managed properly Reducing emissions from burning in 89 g/TEQ.	Highly satisfactory

			3. Some of the municipalities have their landfills in operation while others are in the process of finding funding. In the mean time their controlled dump sites are properly monitored.	

Table # 6. Status of component delivery as per measurable indicators

Component	Measurable Indicators From Project Logoframe	End of Project Target	Status of Delivery	Rating
Component 1: Existence of adequate institutional capacities and regulatory and policy framework for the management and elimination of POPs and the reduction of their impacts.	1. Percentage of budget requirements of lead authority (CESCCO) satisfied for analysis and regulatory roles.	1. 100% of budget requirements of lead authority (CESCCO) satisfied for analysis and regulatory roles.	1. CESCCO received funding for operation with the approval National Policy for Chemical Products and the National Commission for the Regulation of PCB Management. 2. The CESCCO laboratory received funding to develop two methods of PCB analysis by chromatography and by semi qualitative procedures, as well as with testing for pesticides. 3. Regulation for sound management of PCB adopted in 2014. 4. CESCCO with the above regulation offers services in PCB analysis for compliance to existing norm.	Satisfactory
	2. Frequency of meetings of National Management Committee (without GEF financial support).	2. Medium Term Work Plan elaborated and 4 meetings held per year. Integration of sound management of chemicals in 4 key institutions.	1. Not all of the 4 meetings yearly were met, but the 10 Standing committees of the CNG have met regularly. 2. Areas of standing committee work are chemical Emergencies, monitoring and evaluation and pesticides Management.	Satisfactory

Component	Measurable Indicators From Project Logoframe	End of Project Target	Status of Delivery	Rating
Component 1: Existence of adequate institutional capacities and regulatory and policy framework for the management and elimination of POPs and the reduction of their impacts.	3. Existence and implementation of appropriate regulatory instruments and guidelines regarding solid waste management and chemicals management.	3. Regulatory instruments generated on: - Management of solid waste - Implementation of PRTR, Management of Contaminated Sites - Technical Guides and standards on transport of Dangerous Goods, Storage of Industrial Chemicals, temporary storage of Hazardous Waste - Environmental quality remediation criteria for contaminated sites - Sound management of PCB - Solid waste management	1. Total of 13 regulatory instruments have been generated. 2. 7 regulatory instruments approved, 3. 8 regulatory instruments socialized. 4. 5 regulatory instruments officially published and Implemented. 5. There are 3 remaining that will be completed during the Project exit period and as part of the sustainability strategy. 6. Regulations: - Public Policy on Chemicals (Decree PCM-029-2013) - National Commission of Chemical Management (Decree 035-2013) - Regulation for equipment and waste containing PCB (Decree 1071-2013) - Manual for BEP for PCB Management (Decree 1071-2013) - PRTR regulation (Decree 1070-2014) - Manual for the Department of Chemicals Management (CESCCO) - Functions Manual for the Department of Solid Waste Management. - Procedures Manual for PRTR regulation. - Regulation for Contaminated sites (developed only)	Satisfactory

			- Procedures Manual for the Regulation for the Management of Contaminated sites (developed) -Technical standard for Soil Quality (in process) -BAT/BEP Industrial Waste Technical Guide (under review)	
	4. Adequacy of procedures for monitoring effectiveness of management of POPs and other chemicals.	4. System of indicators related to POPs and hazardous wastes is operating in CESCCO.	1. System for PRTR reporting updated and second pilot test completed. 2. Reporting of emissions has been done during the last 3 years. 3. Information of annual emissions on line for public consultation. 4. PRTR regulation approved and officially published. Reporting must becompleted by 2017. PCB inventories will be a part of this report.	Highly Satisfactory
	5. Percentage of laboratory analyses required to monitor the implementation of national policy on hazardous chemicals and wastes being carried on a cost recovery basis.	5. 80% of laboratory analyses are being carried on a cost recovery basis (derived from the implementation of the National Policy)	1. CESCCO has an automate system for laboratory services delivered. 2. Revenue earned by environmental analysis of PCB services. 3. Strategic documents were generated to improve percentage of income from CESCCO improved laboratory services.	Satisfactory
	1. 1. Number of high schools nationwide that include issues of hazardous chemicals and wastes, risks and legislation in primary and secondary education.	1. 350 secondary schools (70% of all official state secondary schools) have inserted in the subject of natural science, the theme of chemicals management.	1. Methodological guide for chemical management produced and validated with 120 teachers. 2. Ministry of Education and project implemented basic training for teachers on use of the Methodological guide. Total of 374 teachers from 236	High satisfactory

			schools, 54 municipalities of 9 departments. 3. Materials approved by decree from the Ministry of Education. 4. Total of 1000 copies of methodological guide provided to public schools.	
Component 2: Increased awareness regarding the nature, impacts and management of hazardous chemicals and wastes.	2. Number of postgraduate programmes that include aspects of risk management of hazardous chemicals in their curricula.	2. 1 graduate program of the Autonomous University of Honduras has inserted chemicals management in their curricula and is studies by representatives of the sector.	1. Diploma course for Environmental Management and Chemical Control at UNITEC with 24 graduated. 2. Master's degree in Environmental Structures of the National University of Forestry (ESNACIFOR). 3. Curriculum of Master's Program at the Faculty of Medical Sciences – National Autonomous University of Honduras (UNAH) approved. 4. Technical curriculum in control and environmental monitoring at the Technological Institute of Tela (ITT/UNAH)	Highly satisfactory
	3.Proportion of project beneficiaries in pilot sites who have increased awareness on the environmentally sound management of chemicals and pesticides with emphasis on the practice of not burning of wastes.	170,000 people are aware of the environmentally sound management of chemicals and pesticides with emphasis on the practice of not burning of wastes (criteria to be determined at project start).	1. Awareness campaign directed towards preventing use of chemicals and not burning garbage reaching 1,445,000 people in 3 departments (Comayagua, Cortes and Choluteca). 2. Media campaign with radio, national media, printed media, knowledge fairs, highway billboards.	Satisfactory

Component	Measurable Indicators From Project Logoframe	End of Project Target	Status of Delivery	Rating
Component 2: Increased awareness regarding the nature, impacts and management of hazardous chemicals and wastes.	4. Number of staff members of key institutions with knowledge of chemicals management issues such as life cycle management of chemicals, occupational safety, and first aid for poisoning, management of contaminated sites.	4. Staff of institutions including Ministry of Agriculture and Livestock, Ministry of Health, Ministry of Industry and Trade, Ministry of Finance, ENEE, Fire Department, COHEP, ANDI, Municipalities of Tegucigalpa, Choloma, San Pedro Sula, Comayagua and Choluteca and farmer networks have knowledge of chemicals management issues (targets to be developed precisely at project start)	1. Workshops for occupational health with regard to chemical safety implemented, total of 400 people. 2. CNG members received training on chemicals management (ecotoxicology, chemical response, emergency situations, strategic planning, management of pesticides and inventory of pesticides. 3. Training events with CESCCO completed. 4. Induction workshop for soil standard committee. 5. Technical training given on municipal solid waste management, recycling of materials. 6. Knowledge Fair Environmentally Sound Management of Chemicals for students In elementary and middle education completed.	Satisfactory

Component	Measurable Indicators From Project Logoframe	End of Project Target	Status of Delivery	Rating
Component 3: Sound environmental management and elimination of intentionally produced POPs.	1 Number of sites subjected to detailed inventories of PCB stocks.	1. Additional sites to be inventoried: -Private sector 70 - ENEE 20 - Other public Facilities 10 Total 100	1. Public sector inventory completed for 150 sites and 32 ENEE facilities with total of 211 tons of PCB identified. 2. Total of 102.1 tons of PCB contaminated equipment and waste exported for treatment to Befesa in Spain. 3. 99 tons pending elimination because still in use.	Highly satisfactory
	2. Total mass of PCB equipment to which the private sector has made a commitment for replacement and disposal.	2. Commitments exist to eliminate 30 t of PCB equipment (subject to results of inventory)	1. Private sector companies with PCBs and mining company (Nyrstar) developed withthe project comprehensive plan to develop inventory. 2. CESCCO and project provide technical assistance to companies for compliance to regulation.	Satisfactory

Component	Measurable Indicators From Project Logoframe	End of Project Target	Status of Delivery	Rating
Component 3: Sound environmental management and elimination of intentionally produced POPs.	3. Number of storage sites containing or intended for POPs pesticides and PCBs in the country that have adequate conditions for safe temporary storage.	3. 2 sites for centralization of equipment contaminated with PCB to be financed by ENEE and 1 site for POPs contaminated pesticides to be financed by the Ministry of Health, with adequate storage conditions, containing chemicals currently stored.	1. World Bank funding has provided for storage facility for PCB contaminated equipment, oil and wastes. 2.POPs pesticides from storage facility at Secretariat of Agriculture and Live-stock were eliminated.	Highly satisfactory
	4. Number of members of staff of ENEE and private sector with knowledge of safe PCB management.	4. Target to be defined at project start up.	1. Total of 200 employees of ENEE and electrical companies trained on Management of PCB wastes.	Highly Satisfactory
Component 4. Minimized releases of unintentionally produced POPs from current Waste Management practices	1. Number of municipalities implementing Integral Waste Management of Solid Waste	1. 5 municipal pilot projects developing Master Plans for integral management of solid waste.	1. 5 Master plans for the integrated solid waste management, approved, socialized and implemented in municipalities. 2. Instruments for monitoring and evaluation of solid waste master plans completed and in use.	Satisfactory

Component	Measurable Indicators From Project Logoframe	End of Project Target	Status of Delivery	Rating
Component 4. Minimized releases of unintentionally produced POPs from current Waste Management practices	2. Reduction in the amount of solid wastes that are burnt.	2. Total amount of solid waste burnt is reduced by 50,000 t.	1. Project result is that service coverage for waste collection in the pilot municipalities has increased. 2. Total of 95.552 tons of solid waste properly managed. 3. Estimation of reducción of UPOPs is 89.00 g-TEQ.	Highly satisfactory
	3. Number of municipal waste disposal sites with adequate management practices (non-burn).	3. 5 municipal pilot projects implementing integral management of solid wastes including non-burning practices of wastes in domestic and landfill area.	1. 9 pilot municipalities implementing environmentally sound disposal of waste instead of burning practices. 2. Tegucigalpa, Comayagua and Potrerillos landfills operating. 3. Siguatepeque and Colosuca Association monitoring and regulated dump sites. 4. Awarene|ss raising campaigns implemented in 9 municipalities.	Highly satisfactory

Source: Author's Elaboration based on GEF/UNDP Evaluation Guidelines

4.3.2. RELEVANCE ANALYSIS

99. The project outcomes and expected outputs are well designed and allow for the stakeholders to achieve the capacity building Honduras needs to fulfill the objective of environmentally sound management and the reduction of POPs emissions. Achieving one of the principals UNDP Development Assistance Framework (UNDAF). In particular, with regard to the high levels of dioxin and furan emissions resulting from solid waste burning practices and the positive results obtained in the reduction of these contaminants is due to the project's high level of relevance. As well, it addresses Honduras' commitment to the Millennium Development Goals (MDGs).

100. The project is in line with the present GEF objectives and strategic priorities for chemicals management, such as: Strategic Priority 1 (SP1) of the POPs local area, since it developed institutional capacities, awareness raising, an regulations for solid waste and chemical management; Strategic Priority 2 (SP2) was addressed through the elimination of PCBs and POPs Pesticides as well as a reduction in the unintentional POPs emissions through proper solid waste management practices.

4.3.3. EFFECTIVENESS AND EFFICIENCY ANALYSIS

101. The project expected outcomes and outputs have been fulfilled as the result of the efficient work undertaken by the PCU and their ability to promote project ownership among a large number of stakeholders, in particular in the Secretary of Education and the municipal governments of the project pilots. The evaluation of the efficiency would be **highly satisfactory.**

102. The project was designed to reduce the health and environmental risks associated to the existence of POPs (unintentional and intentionally produced) through the implementation of the environmentally sound management of these contaminants and the institutional capacity building to monitor and control them. The results are very good and the fulfillment of the expected outputs and outcomes should be rated as **highly satisfactory** as far as effectiveness is concerned. There is although a concern on the part of this evaluator that due to the challenges experienced in the coordination of the PCU work with the Min Ambiente the regulating institution will have to work more within the sustainability strategy to strengthen and provide continuity to the achievements obtained to date. This is the reason why the evaluation of the effectiveness should be rated as **satisfactory.**

4.3.4. COUNTRY OWNERSHIP

103. The outcomes from the component 4 of the project, integral management of solid waste, have been incorporated in the Municipal Government planning in the 5 pilot project municipalities.

104. Many regulations, policies and technical guidelines have been approved by the Ministry of Environment as a result of the country's commitment to the project and its objectives.

4.3.5. MAINSTREAMING

105. The project objective and outcomes is aligned with UNDP country programs, MANUD, GEF strategic priorities SP1 and SP2, as well as international efforts in chemical management, such as Stockholm, Basel and Rotterdam Conventions. As indicated in section 4.3.2, the project collaborates with the international commitment for the compliance of United Nations' Millennium Development Goals, through the awareness raising among communities in the need to properly manage their solid waste, in way that reduces environmental and human health impacts.

106. In regard to national development and environmental priorities the project is aligned with the Environmental Policy (2005), National Objectives Plan to 2038, the existing regulatory framework for chemical management, and the National Country Plan.

4.3.6. SUSTAINABILITY

107. The sustainability of this project once the GEF funding has ended will depend on the following aspects that have been evaluated:

a) **Financial risks**. The Honduras national budget, as is the case in many of the Central American countries, is very limited and it may be the case, that other national priorities over environmental ones can reduce, but not eliminate totally, the funds needed to continue with the sustainability activities once the project ends. Evaluation: **Moderately Likely**

b) **Socio-economic risks**. The impulse that the project budget has had with institutions that have limited budgets, like the Secretary of Education, Secretary of Agriculture and Livestock and even the CNG once the project ends, will need to be socially and economically reinforced to continue with the positive results obtained once the GEF funding is completed. This does not mean that the awareness among these institutional stakeholders will be less, but they may be challenged to find the socio-economic backing they need. Evaluation: **Moderately Likely**

c) **Institutional framework and governance risks**. The project has produced many regulations that have increased the institutional capacity as far as their regulatory framework. The regulatory institutions, MiAmbiente, Secretary of Education and Secretary

of Agriculture and Livestock, and most importantly the Municipal Governments will need to include in their yearly programs and planning the controlling and monitoring of the compliance of these regulations, policies and technical guidelines produced. Evaluation: **Likely.**

d) **Environmental risks**. There are no environmental risks found that could be a threat to the sustainability of the project outcomes. Evaluation: **Likely**

108. A sustainability strategy has been developed by the PCU and validated by CESCCO/SERNA and is presently under implementation during these last few months of the project up to March 2016. This proposed strategy covers many of the elements of concern that this evaluation has identified.

4.3.7. PROJECT IMPACT

109. The reduction of burning of solid waste as a cultural practice in rural and in some urban areas is a direct result of this projects impact. The emissions of dioxins and furans was reduced as the result of a proper management of 95.552 tons of solid waste properly managed, and an estimated reduction of unintentionally produced POPs by 89.00 g-TEQ. These results can be directly related to a reduction of chemical contamination in soil and water, as well as an effort to reduce global warming through proper solid waste management practices in the country.

110. The awareness raising campaign for proper chemical management in schools and communities has a very positive impact on the reduction of the health and environmental risks that these substances can have on the population, resulting in a healthier and safer environment for the national population development. This is a result of the fulfillment of component 2 outcomes for this project.

111. The activities developed for the elimination of the 100 tons of PCB contaminated equipment, oils and wastes, along with the disposal of the 60 tons of POP pesticides has had an important learning impact on the improvement of management practices that the Secretary of Agriculture and Livestock and the public electrical companies, such as ENEE, resulting in a reduction of a potential risk of environmental contamination and health impacts from this substances.

5. CONCLUSIONS, RECOMMENDATIONS AND LESSONS LEARNED

5.1. CONCLUSIONS

112. **Conclusion 1.** The project design was efficiently elaborated and the proposed objective, outcomes and outputs are in line with the National Implementation Plan, national sectoral and development priorities as well as UNDP and GEF objectives. The main issues of proper chemical management, reduction dioxin and furan emissions, elimination of POP stockpiles (PCB and Pesticides) and the improvement of healthier environments were addressed.

113. **Conclusion 2.** The Project Coordination Unit has done an efficient and effective job by fullfiling all the UNDP project guidelines and the utilization of the monitoring and evaluation instruments. It is concluded that the project management has been highly satisfactory; all of the expected outcomes and outputs have been completed in a cost-effective manner. The topic of PRTR pilot was not originally included in the project, but it was integrated and is presently under initial implementation.

114. **Conclusion 3.** The project was complex, because of all of the different types of outcomes expected that were related to POPs management. The conformation of the Project Coordination Unit with one technical expert for each of the 4 components was an effective decision; each one of these people coordinated all of the activities within their component. The component leaders provided an integrated support to activities besides their own. This form of working has been efficient for the planned outcomes and outputs.

115. **Conclusion 4.** This evaluator has rated the overall project management as satisfactory, because there was not an institutional capacity created within CESCCO/SERNA. Most of the achievements obtained did not have the direct involvement of CESCCO/SERNA representatives in a systematic way. The PCU has worked efficiently as an independent entity with the normal involvement of UNDP as the executing agency. The result of this situation has been that within many of the stakeholders, the entities that are projected as promoters of the positive results are the POPs 2 Project and UNDP, not including CESCCO/SERNA. The project end strategy developed during the second half of the last project year tried to correct this short coming, but there were some interpersonal issues that made it difficult.

116. **Conclusion 5.** The reasons behind the issues regarding information and coordination flow between entities: PCU, UNDP and CESCCO is really the result of administrative and political elements, such as changes in directors, program officials, to mention a few, that are really external

to the project, but that end up having implications in the work being done. The new director, appointed this year in CESCCO, has taken important actions to take ownership of the project outputs and include elements in the next POPs 4 project that will strengthen the sustainability required of POPs 2 results. The MTE should have been done earlier in the project period so that the need for CESCCO-PCU-UNDP working relations to be improved was effectively addressed sooner and corrective action implemented.

117. **Conclusion 6.** The Minister of Mi Ambiente has created a project coordination unit that reports directly to him. This coordinating unit includes representation of the projects that the ministry is presently executing and works towards taking advantage of synergies that are produced. This action is a positive effective effort towards the promotion of a more productive coordination among projects.

118. **Conclusion 7.** The five pilot project municipalities involved in the implementing of their Master Plans for the Integral Management of their Solid Waste worked well and created institutional capacity to address the issues of environmentally sound waste management which it is translated in the reduction of the impact in human health. These are excellent examples for the replicability of these environmentally sound practices in other municipalities

119. **Conclusion 8.** The elimination process of the 60 tons of POPs pesticides and the 102 tons of PCB contaminated equipment, oil and wastes were important learning experiences in all of the phases of this type of action. The identification of existing inventories, the tender process to find the most cost-effective and environmentally sound technology were effective and opportunity to learn from the field services activities that the international waste management companies implemented are all elements for the creation of capacity building in hazardous waste management that this project proposed.

5.2. RECOMMENDATIONS

After having reviewed all of the documents, completed individual and collective interviews during the mission to Honduras the following recommendations are formulated:

120. **Recommendation 1**. The first and probably most important recommendation is to continue the implementation of the sustainability strategy developed by the PCU and CESCCO in the remaining period of the project timeline (March 2016).

121. **Recommendation 2.** The project closure and sustainability strategy, developed by the PCU in coordination with CESCCO, has many important actions that involve the transmitting of data, training and relations with stakeholders that will be strengthen SERNA/CESCCO in its efforts to

continue with the Project POPs 2 momentum and results. There is although a complementary action that should be completed through the coordination between the Minister of Mi Ambiente, SERNA and CESCCO that involves the inclusion of human and economic resources into the institutional annual work plan in order to complement and institutionalize the actions that the sustainability strategy is promoting.

122. **Recommendation 3.** The Director of CESCCO (recently appointed this year), the UNDP program officer and the PCU should meet and agree on the project work plan that needs to be completed before the project ends; with the objective of strengthening the sustainability of project results. The actions that will be taken should be socialized with the Minister´s Project Coordination Office in order that all stakeholders are in agreement.

123. **Recommendation 4.** The project should be reviewed to evaluate the possibility of moving some unused funds to fulfill possible existing CESCCO laboratory needs such as the purchase of materials or equipment.

124. **Recommendation 5.** This evaluator recommends that intensive training should be given to CESCCO/SERNA and Mi Ambiente personnel in general with regard to the approved regulations, policies and technical guidelines. Although this may have been done at some point in time, it is important that these concepts be refreshed and action plans for their monitoring and control be validated to guarantee institutional ownership.

125. **Recommendation 6.** The work done with the five pilot project municipalities has been very successful, but these administrations need to have an institutional referent, such as CESCCO/SERNA where they can request guidance when needed. This action is another activity that will strengthen the environmentally sound management of solid waste sustainability in the future.

126. **Recommendation 7.** CESCCO/SERNA should make efforts to work in the future with the remaining municipalities that have not been involved in the pilot project in order to make them aware of the health and environmental impacts that result from the burning of their solid waste. These actions are in line with the solid waste management work that SERNA will most likely implement according to the recent regulation approved for this topic and that was a result of this project.

127. **Recommendation 8.** The PRTR regulation has been approved and socialized among the stakeholders, but its implementation is still in the process of completion. The implementation of

PRTR among the industrial sector, in the future once the project ends, needs to be strengthened and systematically monitored so that this important instrument produces useful results.

5.3. LESSONS LEARNED

128**. Lesson 1**. It is important to incorporate in the planning stage and development of POPs inventories of key decision makers to insure compliance in a timely manner. The coordinated work with decision makers allowed commitment of resources (human, financial and logistical) for the timely completion of the elimination objective.

129. **Lesson 2**. In the future, the implementing institution, Mi Ambiente, through its project director, CESCCO, needs to make sure that at early stages of the project, the technical knowhow that is generated by the activities and results obtained is passed on to their technical teams that will be responsible for the monitoring and controlling of these results. This is translated into capacity building and sustainability efforts. A suggestion is that a Technical Coordination Team be created with members of the PCU and the institution.

130. **Lesson 3**. It is important that the PCU have passion for what is to be done and has the commitment to succeed. In this specific project, the PCU played an important role in obtaining positive results through their efficient work and planning.

131. **Lesson 4**. The project provided awareness raising materials (printed guidelines, shirts, leaflets, etc.) to stakeholders that had institutional budget restraints. The strategy to help the institutions with budget restraints, ensured that the information was disseminated among a larger group of people.

132. **Lesson 5.** The International tender processes led by UNDP and international permit procedures for transboundary movements of hazardous waste (within obligations of the Basel Convention and national competent authorities consent) took more time than what was expected. For future projects, it is important for these process that take time and sometimes have delays, should be starter with more lead time. In this project the delay was interpreted by stakeholders as a non-credibility of the institutions involved.

133. **Lesson 6.** When preparing the future project budget for the elimination of intentionally produced POPs (pesticides), it is important to include final disposal costs, as well as, packing, field services, and transportation costs. In this project, only the final disposal costs were included.

134. **Lesson 7.** The initial awareness raising activities with stakeholders regarding proper chemical and solid waste management and the health and environment impacts that these contaminants can produce was very helpful when the entities were involved in project activities.

135. **Lesson 8.** The project coordinator assigned a specialist with experience in the topic as a component leader. This work strategy had positive results in terms of directed work efforts and fulfillment of outcomes expected.

136. **Lesson 9.** The project contracted international experts for the elimination of intentional POPs (pesticides and PCBs). These experienced team did the field service activities and also did some training activities with the companies and public institutions that had waste. This training created a degree of hazardous waste management capacity.

137. **Lesson 10.** The promoting of environmentally sound management practices for chemicals in higher education provided an updated thematic curriculum in an international and national context. The initial formation of resources with particular orientation generated a national capacity to respond to the country's challenges in this area.

138. **Lesson 11**. The Ministry's formalization of the education material for environmentally sound management of chemicals for teachers of primary and secondary education provided access to a group of target teachers and will facilitate its future implementation in the classroom.

139 **Lesson 12.** The development of regulations, legal instruments, evaluations, studies, manuals and guidelines through a participatory process resulted in an enhanced participation among the different stakeholders.

140. **Lesson 13.** The project created synergies with smaller projects generating a new implementation model in the region. This facilitated the optimization of financial and technical resources that led to the harmonization and consistency of actions and results, as well as the consolidation of human resources with the expertise needed for its development and implementation.

6. ANNEXES