----United Nations Development Programme
Country: **Honduras**

PROJECT DOCUMENT[1]

Project Title: Strengthening National Management Capacities and reducing releases of POPs in Honduras

Expected CP Outcome(s): Towards 2008, an integrated national environmental policy promoting equal access as well as the sustainable use and conservation of natural resources.

Expected CPAP Output (s)
Those that will result from the project and extracted from the CPAP)

Executing Entity/Implementing Partner: The Ministry of Natural Resources and the Environment (SERNA)

Implementing Entity/Responsible Partners:

The objective of this project is the 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. It will be achieved through the implementation of the following 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 releases of unintentionally produced POPs from current Waste Management practices

Programme Period:	
__2010-2014_____	
Atlas Award ID:_57452_____	
Project ID:	_00074944_____
PIMS #	4229
Start date:	April 2011
End Date	August 2014

Total resources required	2,650,000 US$
Total allocated resources:	2,650,000 US$
Regular	_____
Other:	
GEF	____2,650,000 US$
Government	_____
In-kind	_____
Co-Finance	_ 12,583,580 US$

Agreed by (Government):
Date/Month/Year
Agreed by (Executing Entity/Implementing Partner):

Date/Month/Year
Agreed by (UNDP):
Date/Month/Year

[1] For UNDP supported GEF funded projects as this includes GEF-specific requirements

Table of contents

List of acronyms

ANC:	Competent National Authority
ANDI:	National Association of Industries of Honduras
AHM:	Honduran Manufacturers Association
BANADESA:	National Bank for Agricultural Development
BANPAIS:	Country's Bank (Private Bank Corporation, former property of Honduras Army)
BAT	Best Available Techniques
BEP:	Best Environmental Practices
CAP:	Petroleum Administrative Commission
CESCCO:	Centre for the Study and Control of Pollutants
COHEP:	Honduran Council of Private Enterprise
COPECO:	Permanent Commission of Contingencies
CNG:	National Commission for the Sound Management of Chemicals
CNP+LH:	National Centre for Cleaner Production in Honduras
DEFOMIN:	Executive Direction of Promotion of Mining
DEI:	Executive Direction of Income
EAP:	Pan-American Agricultural School
ENEE:	National Electrical Energy Company
GDP:	Gross Domestic Product
HDR:	Human Development Reports
INE:	National Statistics Institute
PCBs:	Polychlorinated Biphenyls
POPs:	Persistent Organic Pollutants
PROMEF:	Improving the Efficiency of the Energy Sector (ENEE-World Bank Project)
SAG:	Ministry of Agriculture and Livestock
SANAA:	Independent Service of Aqueducts and Sewage System
SENASA:	National Service for the Agribusiness Sanitation of the Ministry of Agriculture and Livestock
SERNA:	Ministry of Natural Resources and Environment
SIC:	Ministry of Industry and Trade
SIDA:	Swedish International Development Cooperation Agency
SOPTRAVI:	Ministry of Public Works, Transport and Dwelling
SS:	Ministry of Health
STSS:	Ministry of Work and Social Security
UNA:	National Agriculture University
USAID MIRA:	United States Agency for International Development project for the Integrated Management of Environmental Resources
USEPA:	United States Environmental Protection Agency
WB:	World Bank
WHO:	World Health Organization

I. SITUATION ANALYSIS

Context and global significance: Environmental, policy and institutional

Geographic and demographic overview

1. Honduras is located in Central America and is bordered to the west by Guatemala, to the southwest by El Salvador, to the southeast by Nicaragua, to the south by the Pacific Ocean at the Gulf of Fonseca, and to the north by the Gulf of Honduras, a large inlet of the Caribbean Sea (see Map 1).

Map 1. Location of the Republic of Honduras in the Central America region.

2. Honduras has an area of 112,492 km^2 and it is divided administratively into 18 departments and 298 municipalities. In 2007, it had an estimated total population of 7,537,000 inhabitants, with a density of 55 inhabitants per km^2; the annual growth rate was 2.8%; 44% of the population was urban and 49.6% were women. Forty-three percent were under 15 years old and 6% were 60 years and over. Indigenous groups represented 12% of the total population.

Economy

3. Economic growth in the last few years has averaged 7% per year, one of the highest rates in Latin America. Despite this, around 50% of the population (approximately 3.7 million people) still remains below the poverty line.

4. The economy (Table 1) is characterized by a GDP that depends on exports of goods and services, with low development of domestic consumption. The GDP composition by sector is as follows: Agriculture 13.1%, Industry 30.0% and Services 56.9%. In 2009, total GDP was US$14,077 million.

Table 1. Honduras GDP Data, 2009

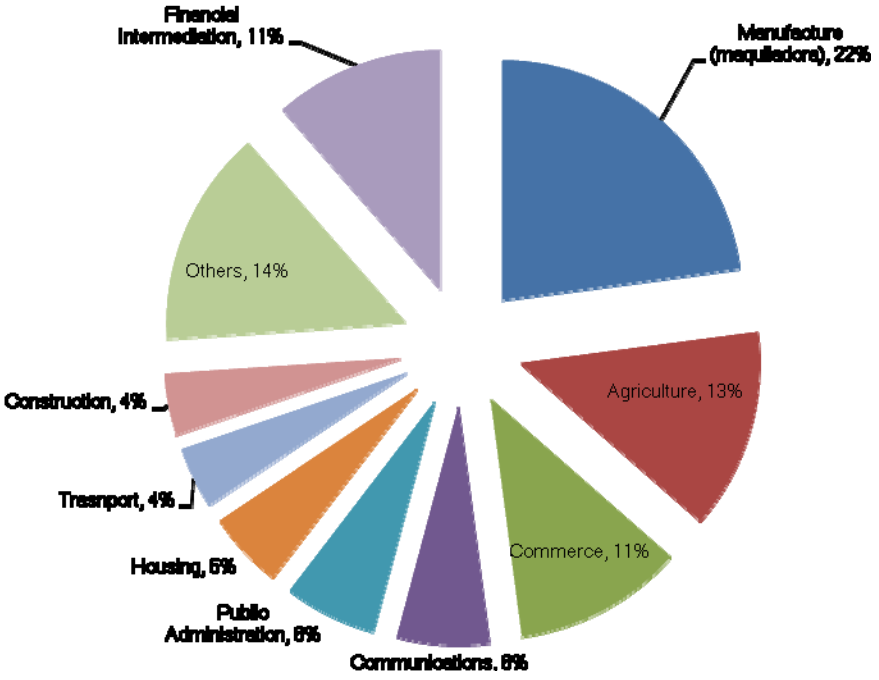
Year	2001	2002	2003	2004	2005	2006	2007	2008
Real GDP growth	2.7%	3.8%	4.5%	6.2%	6.1%	6.7%	6.3%	4.0%

CIA World Factbook

5. Honduras agriculture is leaded by the export of coffee ($340 million), and accounts for 22% of total Honduran export revenues. Bananas, formerly the country's second-largest export until being virtually wiped out by Hurricane Mitch in 1988, recovered in 2000 to 57% of pre-Mitch levels. Cultivated shrimp are another important export sector. Honduran industry, in particular the *maquiladora* (industrial duty-free zones) sector, the third-largest in the world, continued its strong performance in 2000, providing employment to over 120,000 people and generating more than $528 million in foreign exchange for the country.

6. Figure 1 shows that in 2007 the *maquiladora* sector was the main contributor to GDP, followed by agriculture.

Figure 1. Gross Domestic Product in Honduras, by Economic Activity



Education

7. Schools in Honduras fall in four categories: pre-primary, primary, lower secondary and upper secondary. The Secretary of Education is the chief administrator of the education sector. This Ministry supervises the writing and publication of textbooks and is in charge of distributing them throughout the country. The curriculum is the same for the whole country and, following the spirit of the country's constitution, education inspectors make regular visits to insure that syllabi and textbooks are used and implemented properly. The inspectors also visit private schools.

8. According to the UN Human Development Report (2009), the net primary enrolment rate in education was 94 % in 2004, while in 2007 the primary school completion rate was reported to be 40%. 16.4% of the national population is illiterate (16.3% of men and 16.6% of women respectively). The level of illiteracy is higher in rural areas (24.1% of the rural population) than urban areas.

9. There has been an increase in environmental awareness in specific sectors due to the contribution of SERNA with the collaboration of the Ministry of Education, consequently developing education plans and environmental education materials. In 2009 the Environmental Education and Communication Law was enacted, with the main objective of raising environmental awareness and promoting responsibility and respect for nature, as well as a culture of risk management among society.

Environmental Context

10. Honduras has developed a number of institutions and organizations to manage natural resources and protect the environment, including the 1993 General Law for the Environment. The legal and regulatory frameworks have been strengthened to address, among other issues, water, protected areas and forestry management, land use planning, pollution prevention, environmental health, and rural development. The government has issued national policies on a wide variety of subjects, including:

- Honduras Environmental Policy (2005)
- Agriculture and Rural Environment (2004), containing sections on Forestry and Productive Development, Forestry and Community Development, as well as Forestry and Biodiversity
- Action Plan for a Sustainable Energy Policy (2005)
- Environmental Education Mainstreaming (2005)
- Simplification and Decentralization of Environmental Management –licensing- (2002)

11. But despite these and other institutional efforts, Honduras still faces significant environmental challenges, including the following:

- **Deforestation:** The country has the highest annual rate of deforestation in Latin America (2.5 percent, compared with the Latin America and the Caribbean Region and world averages of 0.4 percent and 0.1 percent, respectively, during 1990–2005).

- **Poor water quality:** Inadequate access to water and sanitation and a lack of hygiene cause over 4 million diarrhoea episodes and more than 1,500 deaths per year among children under 5 years of age (diarrhoea being the main cause of disease and the second cause of death among children under age 5). Twelve percent of the total population lacks access to clean water and around 25 percent do not have access to sanitation. Most industrial water effluents receive no treatment at all (for example, in Tegucigalpa, the effluents of 9 out of 10 industries are directly released into the sewer system or into the Choluteca River). More than 50 percent of rural water is contaminated with faeces.

- **Indoor air pollution:** Acute respiratory infections affect mainly women and children in rural areas, where 9 out of 10 households burn fuelwood in inefficient stoves in poorly ventilated areas. More than 2.5 million people in rural areas are exposed to high levels of indoor air pollution.

- **Urban air pollution:** Average annual concentrations of particulate matter less than 10 micros in size (PM10) in Tegucigalpa (the only city in the country where air quality is monitored) in 2001 were three times the recommended limit set by the WHO. Air pollution causes more than 500 premature deaths per year. In addition, air pollution (both ambient and indoor) contributes to making acute respiratory infections the most frequent form of illness in the country.

- **Vulnerability to natural disasters:** Because of its geographic location, Honduras is highly vulnerable to natural disasters such as flooding, volcanic eruptions, hurricanes, and earthquakes; these events provoke human suffering and high economic costs, like Hurricane Mitch (1998), which caused close to 7,000 deaths and whose damage was estimated at 79.23 percent of GDP.

12. These problems compromise Honduras's long-term economic growth as well as poverty reduction, and impose significant socioeconomic costs (particularly for vulnerable groups such as poor children and women).

Institutional framework

13. The principal organizations within the environmental sector that have a regulatory role include the following:

1. Ministry of Natural Resources and Environment (SERNA)
2. Ministry of Agriculture and Livestock (SAG)
3. Ministry of Public Health
4. Ministry of Labor and Social Security
5. Ministry of Education
6. Ministry of Governance and Justice
7. Ministry of Tourism
8. Ministry of Industry and Trade

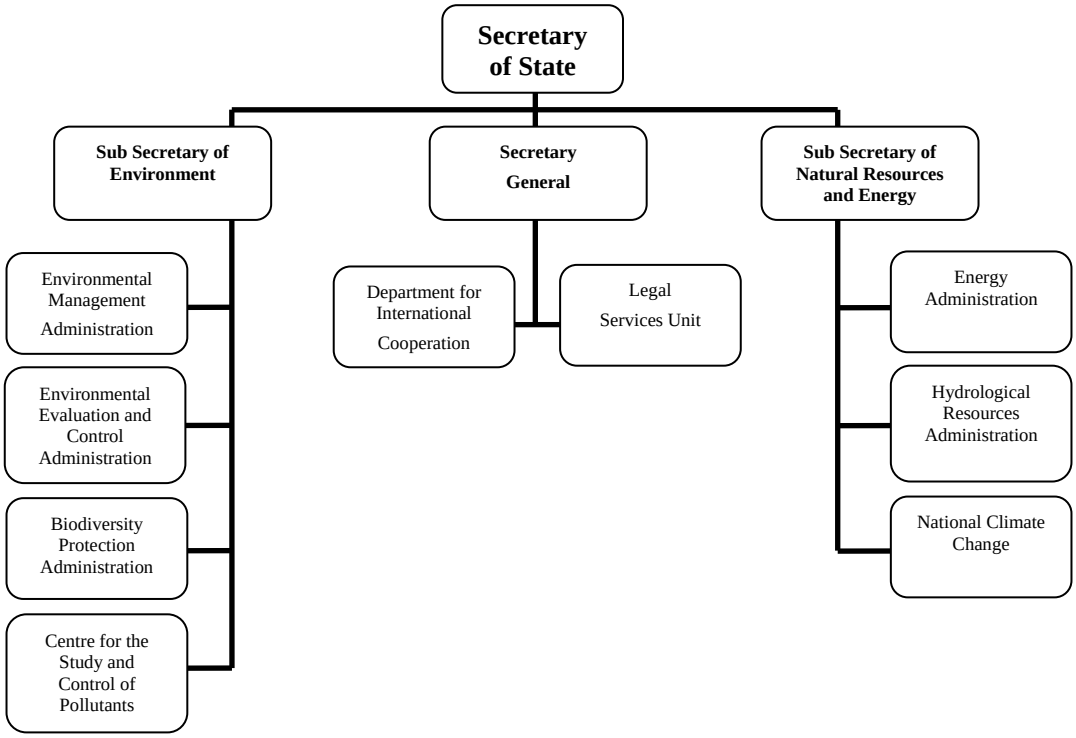
9. Institute of Forest Conservation and Development (ICF)
10. Municipalities

14. The environment sector head is the Ministry of Natural Resources and Environment (SERNA), which was created by in 1996[2] and is responsible for "the development, coordination, implementation, and evaluation of policies regarding the protection and use of water resources, new and renewable sources of energy, the generation and transmission of hydroelectric energy, mining activities, and the exploration and exploitation of hydrocarbons; the coordination and assessment of policies related to the environment, ecosystems, the national system of protected areas and national parks, and the protection of flora and fauna, as well as services supporting the investigation and control of pollution in all its forms." Although SERNA's mandated functions are oriented toward the formulation of policies, SERNA's actions in practice have been centred on the review and processing of Environmental Impact Assessments (EIAs).

[2] Decree No. 218-1996 of 17 December 1996

15. To fulfil its mandate, SERNA is structured in two sub secretaries and six general directions with specific competencies:

Figure 2. Organization of the Ministry of Natural Resources and Environment (SERNA)



16. The lead institution in relation to POPs is the Centre for the Study and Control of Pollutants (CESCCO), a dependency of the Ministry of Environment and Natural Resources which has executed the GEF enabling activity "Assisting the Government of Honduras in complying with its obligations under the Stockholm Convention".

17. Table 2 lists the main governmental institutions that take part in the management of chemicals and describes the responsibilities of each, in relation to the different stages of their life cycle. It allows having a general vision of the present cover, extension and transposition of the areas identified in the national institutional infrastructure.

Table 2. Responsibilities of the different Secretariats, Independent Organizations in the management of chemical substances in Honduras

Ministry	Life Cycle stages						
	Import	**Production**	**Storage**	**Transport**	**Distribution**	**Use**	**Disposal**
SERNA [1]	x					x	x
▪ DEFOMIN						x	x
Ministry of Health[2]	x	x	x	x	x	x	x
• IHSS						x	x
SANAA						x	
SAG[3]	x	x	x	x	x	x	x

STSS			x	x	x	x	x
SIC ▪ CAP[4]	x		x		x		
Ministry of Economy							
• DEI/ Customs General Direction [5]	x		x				
SOPTRAVI				x			
ENP			x				
Secretary of Interior and Justice ▪ Municipalities			x	x	x	x	x
▪ Fire Department			x	x		x	x
COPECO			x	x		x	x

Category of imported Chemical Substances:
1 Depleting Ozone Layer Substances (Methyl Bromide)
2 Controlled Substances (Health sector)
3 Pesticides, Fertilizers, Veterinary Products
4 Petroleum Derivatives
5 Registry of Import of certain chemical substances

18. In order to promote effective inter-institutional collaboration at all levels in relation to the sound management of POPs (which is a multi-sector issue), a National Committee for the Management of Chemicals and Hazardous Wastes (NMC) was established during the process of formulating the NIP, and has to date been effective as a channel for expressing the concerns and priorities of the diverse institutions within interests in POPs. Its approximately 40 members, from the private, governmental, municipal, academic, civil and non governmental sectors, include SERNA, SAG and the Ministries of Health, Work and Social Security, Education, Economy, Technical Cooperation, Industry and Trade, External Affairs, Public Works, Transport and Housing, the General Directorate of Income, the Permanent Commission for Contingencies, the Counsel for the Honduran Private Sector, the Honduran Institute for Social Security, the National Port Company, the National Electrical Energy Company (ENEE), the National Directorate of Marine Shipping, the, Crop Life of Honduras, the National Autonomous University, the Catholic University, the Pedagogic University, the Municipal Government of the Central District, the Latin American Pesticides Producers Network, the Pan American Health Organization and the United Nations Development Program

19. Given its importance, an analysis has been carried out of the structure and sustainability of the NMC, with the aim of converting it into a commission, with greater reach of decision and an operative budget. At present the NMC is actively supporting the execution of the NIP, within the framework of the Stockholm Convention; and its connecting activities, as well as the process of implementation of the Strategic Approach to International Chemicals Management (SAICM).

Power Sector

20. The private sector generates around half of the country's electricity, 70% of which is thermal. In contrast, electricity distribution nationwide, through the National Interconnection System, is entirely managed by the State-owned National Electrical Energy Company (ENEE), with the exception of some small off-grid systems on outlying islands. The ENEE is heavily subsidized because of chronic financial problems.

21. The power sector in Honduras does not have sufficient capacity to meet rising demand. Following a severe financial crisis in the electricity sector in the early 1990s, the hydro-dominated generation system was converted to a thermal-dominated system through a series of market reforms in the sector. As a result, Honduras now depends on imported fuels for about 70 percent of its power generation (World Bank 2007). With expected growth in demand, the National Electricity Company (ENEE) projects a rising demand supply gap and the risk of another energy crisis. To reduce the gap in the longer term, ENEE plans to install 1,479 megawatts (MW) of additional generation capacity, mainly from new hydro (570 MW) and coal (600 MW) power plants, during 2007–15. If this ambitious plan is realized, the current level of hydropower generation would more than double.

Table 3. Consumption of Petroleum Derivatives (period 2003-2006) (Thousands of barrels)

Type of Fuel	2003	2004	2005	2006
Extra Gasoline	2551,8	2691,7	2567,0	2312,0
Regular Gasoline	195,2	184,0	192,6	604,2
Diesel	6568,0	6441,3	5258,0	4927,4
Kerosene	269,1	265,8	249,1	253,7
AV Jet	201,3	200,8	209,5	265,1
Fuel Oil	3619,8	5085,8	5322,7	4885,3
AV Gas	3,4	2,9	1,3	11,5
GLP	646,3	686,9	784,7	770,9
Asfalt	43,8	51,0	52,8	106,2
TOTAL	**14098,8**	**15610,0**	**14637,7**	**14136,4**

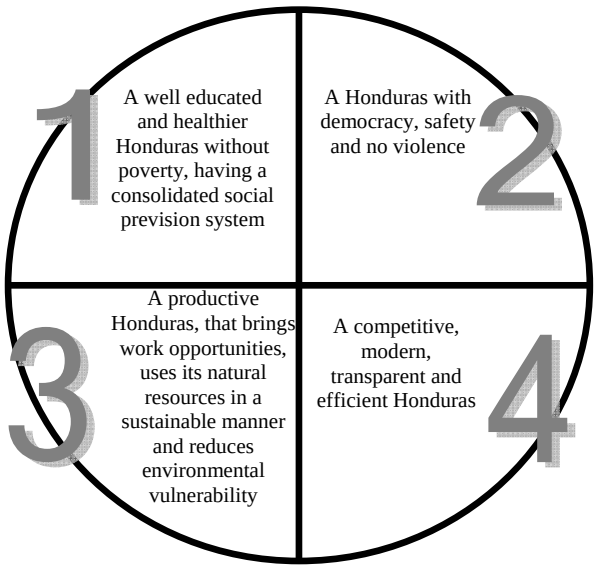
CAP/SIC, 2007

National Development Plan

22. The development vision of the country was laid out in its Poverty Reduction Strategy (PRS) in 2001. This is structured around six pillars: (a) accelerating economic growth, (b) reducing rural poverty, (c) reducing urban poverty, (d) investing in human capital, (e) strengthening social protection for needy groups, and (f) ensuring the sustainability of the strategy.

23. Three overarching themes cut across these six pillars: gender equity, environmental sustainability, and decentralization. The PRS was updated in 2009 to give greater attention to education, employment generation, environmental protection, and public transparency, and to a stronger results orientation across the public sector. Figure 3 summarizes the 4 axes of the National Vision for 2010-2038 proposed by the current Government.

Figure 3. National Objectives of the Country´s Vision for 2038 (National Vision 2010-2038, Planning Horizon for 7 Government Periods (2010)



Environmental Policies

24. To support the country's sustainable development, the government approved the Honduran Environmental Policy in 2005. This policy was established with the goal "that the country shall have institutional leadership capable of governing and administering policies for the management of the environment and natural resources, in order to ensure and improve the quality of life of the people of Honduras, as well as future generations."

25. Although this policy contains general objectives that provide an important dimension to the country's management of the environment, none rely on a solid analytical foundation or information system that would permit the country to identify its environmental priorities and orient the policy toward these priorities. The policy also does not define specific goals and targets, nor does it identify individual interventions or priority tasks.

26. Thus, while the policy provides a guideline toward an environmentally responsible institutional approach, it lacks a framework from which the State could systematically undertake interventions to achieve its general objectives.

Regulatory framework for chemicals management

27. General legislation in the management of chemicals are included as follows (other legislation also exists to regulate specific aspects related to very precise problems, in particular regarding the management of some chemical substances such as pesticides). So it is the case of the majority of resolutions emitted by the Ministry of Agriculture and Livestock through SENASA.

Table 4. Legal instruments related to the management of chemical substances in Honduras

Legal Instrument	Ministry Involved	Chemical Substance in control
Constitution	All Ministries created by law	All kind of chemicals
Health Code	Ministry of Health	Pesticides in general, corrosive, explosive, radioactive, flammable substances among others.
Work Code	STSS	Toxics, corrosives, flammables or explosives
General Law of Environment	SERNA	All kind of chemicals used on agriculture, industry, etc.
Law Fitozoosanitaria	SENASA-SAG	Pesticides in general
General law of Mining	DEFOMIN	Chemical substances used in the benefit process
Hydrocarbons Law	SERNA	Hydrocarbons
Law of Control of Firearms, the Ammunition, Explosives and other similar	Ministry of National Safety	Powder, Picric Acid; Trinitrotoluene; Nitrostarches; Nitroglycerin; Nitrocellulose; Dynamites and amatols; Chlorates; Percloratos; Metallic sodium; Dust magnesium; Phosphorus. Generally, all substance mixes or compound with explosive properties.
Law of customs	DEI	Chemicals generally
Law of Terrestrial Transport.	SOPTRAVI	Dangerous merchandize
General regulation of the General Law of Environment	SERNA	Agro-chemical and toxic products used in agriculture, cattle ranch, industry and other activities.
General Regulation of Environmental Health	Ministry of Health	Dangerous substances like pesticides, insecticides, weed killer, explosives, corrosive, radioactive, inflammable substances and others.
Regulation on the registry, use and control of pesticides	SENASA-SAG	Agrochemicals
Farming regulation of quarantine	SENASA-SAG	Farming consumptions
General regulation on Use of Ozone Layer Depleting Substances; Import, Sale and Use.	Technical unit of Ozone, SERNA	Ozone Layer Depleting Substances (Annex 1 Montreal Protocol)
Regulation of Preventive measures of Professional Disease and Industrial accidents	STSS	Diverse chemical substances.

Regulation for the Sanitary Control of Products, Services and Establishments of Sanitary Interest	Ministry of Health	Products of sanitary interest: Foods, drinks, medicines, biological, cosmetic, hygienic products, dangerous substances, devices and equipment of medical use, natural, reactive products of laboratory.
Solid Waste Regulation	SERNA, Ministry of Health and Municipalities	Solid waste
Regulation for the management of the Dangerous wastes generated in Health facilities	Ministry of Health	Chemical residues (corrosive, reactive, toxic, explosive, cytotoxic, genotóxicos, inflammable)
General regulation of the Law of Terrestrial Transport.	SOPTRAVI	Dangerous merchandize
Agreement No. 103-02	SAG	Residues of food pesticides.
Agreement No. 798-03	SENASA-SAG	Nitrofuranos, Furazolidonas, Furaltadona, Cloranfenicol, Lead, Cadmium
Resolution CPNSV-014-88	SENASA	Endosulfan
Resolution No. 09-91	SENASA-SAG	1) Aldrin; 2) Amitrole; 3) b.h.c.; 4) Mercury based compounds; 5) Mercury based and of Lead; 6) 2, 4, 5-t; 7) Dieldrin; 8) Dinozeb; 9) Etyl parathion; 10) Heptacloro; 11) Lindano; 12) Mirex; 13) Toxafeno y 14) Terbutilazina Pentaclorofenol
Resolution No. 0008-93	SENASA-SAG	Parathion Etilic y Parathion Metilic
Resolution No. 0002-94	SENASA-SAG	Endosulfan
Resolution No. 004-98	SENASA-SAG	Terbutilazina
Resolution No. 013-99	SENASA-SAG	Methil Parathion
Resolution No. 014-99	SENASA-SAG	Captafol, Dicofol y Chlordane
Resolution No. 044-99	SENASA-SAG	Pesticides with the active ingredient Acefate

Environmental problems related to POPs and their causes

Dioxins and furans

28. The National Implementation Plan for the Stockholm Convention (NIP) identifies the principal problem with Persistent Organic Pollutants (POPs) in the country as the emission of dioxins and furans. It is estimated that 368.86 g I-TEQ/a of dioxins and furans originate from domestic waste burning and 28 g I-TEQ/a from landfill fires. Additional sources, which have yet to be quantified with precision, include the burning of tyres and electrical equipment to recover metals, the burning of agricultural residue, forest fires, and the use of biomass for domestic and industrial energy.

29. Responsibility for solid waste management lies with the country's 298 municipal Governments. By the end of the 90s, 70% of the collection services for solid waste in the main cities of Honduras were functioning. In 1999 in Tegucigalpa, only 60% of the citizens could access solid waste collection services

(source: SIDA). Neither Tegucigalpa nor any other city in the country relies on a pertinent system for the final disposal of municipal waste, nor is there an adequate system for the management of hazardous waste, hospital waste (though some hospitals have acquired their own autoclaves in recent years), or industrial waste.

30. Domestic wastes are routinely burned, both at household level and in municipal rubbish tips, resulting in large-scale emissions of dioxins and furans. The management of solid wastes is considered deficient in the majority of the municipalities. The disposal, appears as the critical phase in the management of solid wastes, barely 3,7% (11) of the 298 municipalities of the country, have some type of infrastructure for the adapted final disposal of solid wastes. The final disposal sites of the country, in their majority are open-cast dumping areas. Only 20% (60) of the 298 municipalities of the country have collection service. The recovery of solid wastes, for its later reuse or recycling, is scattered in all the country and is an activity realized preponderantly by people operating in the informal sector of the economy.

31. According to data of the Pan-American Health Organization (PAHO), the amount of domestic solid wastes generated in Latin America varies from 0.3 to 0.8 kg/person/day, nevertheless, when other residues are also taken into account (e.g. commerce, markets, institutions, small industry, sweeping and others), this figure rises to between 0.5 to 1.2 kg per inhabitant (the average for Central America as a whole is 0.92kg).

32. Most factories burn their waste close to their property and subsequently send the burnt waste to the municipal dump site where it is mixed with common waste. Littering in streets is due to several reasons: insufficient control by the municipality, lack of civic consciousness, and insufficient and irregular collection services.

Table 5. Dioxins and Furans Liberation Estimates, by main Emission Sub Categories (2005) (source: National Implementation Plan for the Stockholm Convention, 2008)

Category y Sub Category	Quantity (g I-TEQ/a)	Sub Total by Category (g I-TEQ/a)	Total (%)
Open Burning Processes			
Uncontrolled domestic waste burning	368.86	430.59*	97
Landfill fires	28		
Burning of agricultural residues, including those contaminated with POPs	12.65*		
Forest fires	21.08*		
Heat and Power Generation			
Biomass power plants (wood, straw, other biomass)	5.2	9.218	2.4
Household heating and cooking with biomass (wood, other biomass)	4.02		
Others	2.482	2.499	0.6
Total	**442.31***		**100**

*It is probable that these figures are significantly underestimated due to the limited availability of reliable information on emissions from the burning of agricultural residues and forest fires.

POPs pesticides

33. The existence of remnant stocks of unmixed POPs pesticides poses a limited management challenge. A survey carried out during the preparation of the NIP found only two sites (a banana company and a Government storehouse) containing a total of 3.6 metric tons, and both of these had adequate storage conditions. More significant is the existence of large remnant stocks of other pesticides, estimated at 38.5 metric tons, of which it is likely that at least 14 tons are contaminated with POPs pesticides (subject to confirmation by analysis, which has not been carried out to date due to limited analytical capacities).

34. Much of these probably contaminated pesticides (which require to be handled as if they were POPs), are stored under seriously inadequate conditions, leading to serious risks to human health and the environment: they typically have seriously deteriorated containers and are typically widely dispersed throughout the storage facilities, which in many cases are located within the limits of where they are kept. Most of this storage houses have inadequate infrastructure and are located within the communities' perimeter leading to serious risks to human health and the environment. Based on the storage conditions found during the inventory, the entire 3.6 tons of POPs pesticides urgently require disposal, as do 14 tons of pesticides probably contaminated with POPs, making a total of approximately 17.6 tonnes.

Table 6. Sites containing remnants of POPs pesticides or sites and pesticides probably contaminated with POPs

Site Name	Location	Site Classification	Priority	Remnants of Pesticides
1. Coyoles "Cemetery" Central (Standard Fruit Company)	Olanchito, Yoro	Site potentially contaminated with POPs pesticides Site containing remnants of POPs	Long Term action	Pesticides POPs: - 3.5 tons of DDT with Fenitrothion - (0.2 tons of Lindane[3] diluted)
2. SENASA storehouse, Tegucigalpa	Distrito Central, Francisco Morazán	Site potentially contaminated with POPs pesticides Site containing remnants of POPs	Mid Term action	Pesticides POPs: - 0.135 tons of Chlordane y Aldrin
3. El Ocotillo, storehouse of the Ministry of Health	San Pedro Sula, Cortés	Site potentially contaminated with POPs pesticides	Mid Term action	Probably contaminated with POPs (DDT): - 2.3 tons of Vectolex
4. Santa María del Real, storehouse of the Ministry of Health	Catacamas, Olancho	Site potentially contaminated with POPs pesticides	Short Term action	Probably contaminated with POPs (DDT): - 0.24 tons of Vectolex - 0.035 tons of Malathion - 0.75 tons of Temephos
5. La Pradera, storehouse of BANADESA	Distrito Central, Francisco Morazán	Site potentially contaminated with POPs pesticides	Mid Term action	Probably contaminated with POPs (DDT, Chlordane, BHC): - 9 tons of Dipterex mixed with a Fertilizing product
6. Alto Verde, storehouse of the Ministry of Health	San Lorenzo,	Site potentially contaminated with	Short Term	Probably contaminated with POPs (DDT): - 1.6 tons of Fenitrothion

[3] According to the owner{s register, one of the five (5) vaults contains a barrel of diluted Lindane (200 kg approximately). This product has been recently added to the list of products of the Stockholm Convention, according to the COP-4 decision taken in May 2009. Nevertheless, this pesticide was not included in the original twelve product list of the Stockholm Convention during the preparation period of the Honduran NIP, but it was identified in the country's First National Inventory of POPs Pesticides. Additionally, the first five vaults contain different types of chemical products; some of them are not identified and are mixed with soil. Therefore it was impossible to locate and withdraw the barrel of Lindane without taking into account the treatment and disposal of the other chemicals present, activity that was out of the scope of the inventory. For this reason, the disposal of the 200 kg of diluted Lindane is not considered in this assessment.

	Valle	POPs pesticides	action	
TOTAL POPs Pesticides: **3.6 tons**				
TOTAL Pesticides probably contaminated with POPs: **14.0 tons**				

35. The survey also identified 18 sites (including those reported in Table 6) as potentially contaminated with POPs (as shown in -ANNEX VI). These sites were re-classified according to the risk associated to human health and environment: one requires no action; five (5) require short term actions (within a 6 months period); nine (9) require midterm actions (two year period) and three (3) long term actions (five year period).

36. In addition, soil analysis is required on each of these sites in order to recommend types of interventions, which may vary from area delimitation, access restriction or containment, or even partial or total decontamination.

Polychlorinated biphenyls (PCBs)

37. The results of the national inventory of PCBs (SERNA, 2008) showed that the public and private electrical sub-sector is one of the main users and possessors of equipment and residues likely to contain PCBs. This includes equipment originally designed to hold PCBs and other equipment that has becomes contaminated with PCBs during maintenance operations; the former typically contains much higher concentrations of PCBs than the latter. The total amount of such equipment (including transformers and capacitors) existing at national level is not known, neither are the relative proportions of equipment containing pure PCBs (that which was originally designed to contain PCBs) and containing other dielectric oils that have been accidentally contaminated with PCBs) . Of the total of 1,459 pieces of electrical equipment that were evaluated, 63 presented a content of PCBs superior to 50 ppm according to the rapid tests that were carried out using the semi quantitative method Clor-N-Oil 50 (see Table 7).

38. The mass of PCBs estimated in the inventory was 196.2 metric tons (83.8 tons in distribution equipment and 112.3 tons in transformers). This amount is undoubtedly an underestimate as it was only calculated for the 38 pieces of equipment out of the 63 (60%) that bore information plates presenting the data on the weight of dielectric oil and weight of the equipment required to enable the calculation to be made.

39. 8 of the 63 pieces of equipment with PCBs (either pure PCBs or other oils contaminated with PCBs) presented leaks (six dismantled distribution transformers and two power transformers that were in use). All of the 63 pieces of equipment identified require immediate intervention: 54 of them are outdoors and only 9 are located in closed enclosures (see Table 7).

Table 7. Sites containing contaminated transformers with PCBs

Name	Sector	Type	Filtration	Quantity	In use	Total Weight
1. ENEE storehouse Ceiba Oeste	Public	Distribution	Yes	7	0	-[4]
2. Substation Vieja La Ceiba	Public	Distribution	No	1	0	-

[4] In some places it was not possible to accurately determine the weight of the equipment contaminated because there´re no labels or complementary information, thus these amounts in the inventory were not reported. However, they are small transformers whose weight is not significant with respect to the inventoried total amount.

Name	Sector	Type	Filtration	Quantity	In use	Total Weight
3. Substation Comayagua	Public	Distribution	-	1	0	-
4. Substation Siguatepeque	Public	Distribution	-	1	0	-
5. La Puerta store, SPS	Public	3 Distribution 1 reclosed	No	4	0	25 Kg
6. El Cajón hydroelectric station	Public	Power	No	2	2	1,785 Kg
7. Río Lindo hydroelectric station	Public	Power	No	1	0	11,400 Kg
8. Cañaveral hydroelectric project	Public	Distribution	No	2	0	
9. Alsthom substation, SPS	Public	Power	No	1	1	44,000 Kg
10. Substation Lima	Public	Power	No	3	0	20,925 Kg
11. Tela Railroad Company, La Lima	Public	Power	No	6	0	20,934 Kg
12. Danli Distribution Office	Public	Distribution	-	2	0	827 Kg
13. Miraflores Substation, Tegucigalpa	Public	-	Yes	0	0	-
14. Suyapa Substation	Public	Distribution	Yes	1	0	-
15. Electrom Workshop. ENEE, Tegucigalpa	Public	-	No	0	0	-
16. Las Flores Substation, Lempira	Public	Power	Yes	4	4	24,663 Kg
17. San Lorenzo Substation	Public	Distribution	Yes	1	0	-
18. Training Hospital, Tegucigalpa	Public	Power	No	3	3	3,285 Kg
19. Yojoa Sugar Company, Río Lindo	Private	Power	No	1	1	10,665 Kg
20. CENOSA, Choloma	Private	Power	No	1	1	35,500 Kg
21. San Ramón Mill, Villa Nueva	Private	Power	No	1	1	1,768 Kg
22. El Mochito Mine, Las Vegas	Private	Power	No	3	3	16,269 Kg
23. Standard Fruit C., Coyoles Central	Private	Distribution	No	2	2	-
24. "Cemetery" Substation La Cañada[5]	Public	Distribution	No	15	0	3,918 Kg
TOTAL				**63**	**18**	**196,196 Kg**

CESCCO, 2009

40. The main problem related to PCBs is the existence of sites contaminated with these compounds, which present risks to the human health and environment in the area of influence of substations and storehouses. There is also a risk that employees of ENEE may be affected, especially when working on the maintenance of electrical equipment (transformers). During maintenance and transport, it is common for "clean" equipment to be contaminated with PCBs by workers who are unaware of the risks associated with PCBs and consequently simply transfer contaminated oils from one transformer to another.

Long-term solution

[5] A new site that was not inventoried in the first national inventory (CESCCO/SERNA, 2009): Approximately 2,000 transformers in disuse and other equipment transferred mainly from the Miraflores Substation and the Electromechanical Factory of the ENEE are located 100 meters from La Cañada Substation directly on the ground outdoors, without no type of mitigation measures. Some leaking equipment and oil filtrations are evident, as well as oil spill in several areas of the installation, contaminating the ground. This area was conceived for temporary storage (expected to be around one year).

Institutional Strengthening and Mainstreaming of Chemical Management

41. This is considered as a starting point for ensuring the sound management of chemicals, including POPs (through each of their action plans under NIP), the main activities for the early establishment and consolidation (legal, budgetary, technical) of Chemicals management institutionalization, as a mechanism to be composed of a National Competent Authority (ANC) and all the authorities with competence in the management of one or more phases of the lifecycle of chemicals, which includes the government sector, private, academia and NGOs, articulated in a body known as CNG.

42. On the other hand, it also proposes the extension of functions of CNG to raise the level of Commission, whose main role will include monitoring the implementation of the Policy for the Management of Chemicals, National Plan for the Stockholm Convention and planning and dissemination activities arising from the international chemical agenda, domestic regulation and other non-binding instruments such as SAICM.

43. Mainstreaming of Sound Management of chemicals into development plans and processes initiative is initiated concurrently in Honduras, this process will further integrate chemicals management closer to government policies through advocating/communicating the economic advantages of sound chemicals management for priority concerns.

Dioxins and furans

44. Given that the main source of dioxin and furan emissions is the burning of solid wastes in back yards and in municipal dumps, as well as the burning of tyres and electrical equipment to recover metals, an effective strategy for achieving reductions in such emissions must address the overall process whereby such wastes are handled and disposed of, including the following stages:

- Generation
- Collection and transport
- Treatment
- Final Disposal

45. It is essential to apply an integrated approach to waste handling and disposal, complementing other activities that under the baseline situation would focus only on the final disposal stage and would therefore not address the problem of backyard burning of waste and the burning of items such as tyres and electrical equipment. Such an integrated approach would address all of the stages listed above, leading to increased coverage of collection as well as reduced burning,

46. Honduras has not obtained great advances in the stages of the integral management of solid wastes; important efforts must be done to incorporate within the municipal system a culture of solid waste management, as well as the implementation of some basic and fundamental guidelines in order to fulfil intermediate treatment, mainly recycling and the reusability to a lesser extent.

47. Through the implementation of municipal plans or programmes for the integral management of solid wastes that considers the obtaining and sustainable canalization of economic resources to create and to fortify the technical and operative personnel in the stages involved in the solid waste management can guarantee to extend and only to improve the cover of the collection service of solid wastes, which would entail to a considerable diminution of burning practice at domestic level.

48. In order to satisfactorily execute a municipal plan for the integral management of solid waste, which is essential in order to ensure that the problem of dioxin and furan burning is adequately addressed (both in backyards and in final dumping sites) it is necessary to count on an operative municipal unit with technical capabilities that supervise and realize adjustments if being necessary where faults in the stages of the integral management of municipal solid wastes exist, including in final disposal sites where it is common to demonstrate open-cast burning of solid waste, with the consequent liberations of dioxins and furans into the environment.

49. As important is to obtain the people's participation within the municipalities. The people at all levels must be sensitized or aware of the importance of the integral management of solid wastes that is implemented in the municipality, also of the impacts to health and the environment associated to the liberation of dioxins and furans, derived from waste burning practice.

50. In Honduras exemplary municipalities in the integral management of solid wastes do not exist, reason why having (in practice of) viable techniques is urgent and suitable practice that demonstrate this scenario, with the aim of being replicated back at national level.

POPs pesticides

51. According to the results of the survey (inventory), an important problem in Honduras is the pesticides in disuse, thus is recommended that the competent authority (SAG), uses a coordination platform (Secretariat of Health, SERNA, SENASA/SAG) in order to develop a sound management of these chemical substances, which includes the final disposal of obsolete products and empty contaminated containers.

52. The implementation of a strategy to increase awareness directed in the first place to decision makers of the competent authorities is carried out, derived from a national policy for the sound management of chemical substances.

53. The Strategic Approach for International Chemical Management (SAICM) and of the NIP at national level is implemented in order to reduce risks to human health associated to chemicals.

54. In that sense the execution of a plan to strengthen national capacities of the governmental authorities such as SAG and Secretary of Health could be guaranteed, in order to implement a national action plan to obtain adequate storage conditions of obsolete pesticides remnants, POPs and remediation of sites contaminated by these.

55. Strengthening the national legal framework specifically associated with hazardous wastes represent an important strategy to guarantee POPs pesticides management and remediation of contaminated sites as well.

56. These responsibilities derived from a national action plan are assumed by the competent authorities (SAG and Secretary of Health) as main possessors of these remnants, in that sense the best environmental practices are adopted in facilities were obsolete pesticides are temporarily stored. All stocks regarding obsolete pesticides including remnants of POPs are registered in a centralized database by SERNA.

57. A program to increase awareness among key groups of the agriculture sector is developed; this program includes risks assessment as well as adequate pesticides management with the aim of decreasing pesticides accumulation that further become obsolete products.

Polychlorinated biphenyls (PCBs)

58. For the management of PCBs, it is appropriate for the CNG to be used as a mechanism for advocacy and coordination among sectors involved in chemicals management.

59. According to the first national inventory of PCBs, the sub-national electricity sector is the main holder of sealed equipment with PCBs. In the process of the implementation of the SAICM project and the NIP enabling project, Honduras has defined actions to be undertaken with the public and private sector to update the national inventory and to bring about the destruction of obsolete equipment, the design of temporary storage facilities, the application of proper storage equipment and final disposal.

60. The long term solution would also require the workforce and the private sector to be aware of the risks associated with PCBs, and a technical training program to be developed for users and operators to adopt best management practices of equipment with PCBs in the context of environmentally sound management of chemicals, including the recognition and separate management of equipment containing PCBs.

61. Strengthening the national legal framework specifically associated with hazardous wastes also represents an important strategy to guarantee PCBs management, based on the polluter pays principle.

62. In addition to the management of POPs pesticides, it is important to monitor and evaluate the management of PCBs, agreed between sectors, and to this end SERNA should have a centralized register of PCB equipments and evaluate the risk to the population most susceptible to these compounds as well as tracking them after being retired from use.

63. It is likewise important to monitor and evaluate the management of PCBs, under agreement between sectors, with SERNA maintaining a centralized record of equipment with PCBs and assessing risks to vulnerable sectors of the population.

Barriers to achieving the solution

64. A number of barriers exist at present to achieving the NIP goals of reducing emissions of dioxins and furans, eliminating remaining stocks of POPs pesticides and PCBs in a safe and effective manner, and ensuring the application of principles of sound environmental management to POPs in the long term.

65. These barriers are discussed below separately for POPs management (understood to include intentionally produced POPs such as pesticides and PCBs) and solid waste management (the main source of dioxins and furans), given that the issues involved in the two cases are very different.

Barrier 1: Limited institutional capacities for applying sound environmental management of POPs.

POPs Management

66. To date, the NMC has functioned well as a forum for the coordination of initiatives related to chemicals management in Honduras (such as the development of the NIP for the Stockholm Convention, the Basel Convention and the validation and socialization of the SAICM implementation plan) and for raising awareness regarding national initiatives related to this issue. In the period from 2006 to 2010 alone, the NMC has met approximately 30 times. Also their members have benefited from training in this area (more than 130 institutional representatives have been trained to date). As yet, however, the members of the NMC have not formalized their participation internally, and the NMC does not posses a legal basis: as a result, the risk exists that the body will cease to function without the levels of regular support and motivation that have been provided by CESCCO to date.

67. A number of institutions, such as the Ministry of Health, SAG and SERNA, have jurisdiction over different stages in the life cycles of chemical substances. They do not have specialized technical units, however, and as a result have limited ability to address issues related to the management of POPs and other hazardous chemicals, resulting in ineffective compliance with their responsibilities for regulation and control. An obstacle to the development of the capacities of these institutions is the limited clarity that exists regarding the numbers of technical staff and financial resources currently assigned to activities related to chemicals management, which is due in part to the fact that specific budgetary lines are not dedicated to this issue.

68. In addition, despite the existence of the NMC, there is no competent authority that assumes overall coordination, which, combined with the absence of specialized units within each institution, means that there is weak coordination between institutions and a corresponding failure to plan activities in a coherent manner. The lack of a central coordinating authority also hinders the regulation, coordination and monitoring of solid and liquid waste management by municipal governments, in compliance with the provisions of current regulations.

69. There is insufficient awareness among high level personnel in Ministries (Ministry of Health, SAG, SERNA, and Ministry of Labour) with responsibilities related to POPs, regarding the consequences for the health and the environment of the inadequate handling of chemical agents. Therefore, sound management of chemicals has not been considered within the framework of the national priorities.

70. The diverse institutions involved in the sector (including SERNA, SAG and the Ministry of Health) each manage information on an individual basis, with no formal mechanisms for coordination and sharing of information. As a result, information systems present information in diverse manners and obtain data from different sources, making the breakdown, comparison and statistical processing of the data difficult, which presents a barrier to the coherent and effective formulation of policies, plans and programs, the prioritization of activities, the allocation of resources and the development of action plans in order to achieve sound management of chemicals and the reduction of impacts and risks related to POPs.

Solid Waste Management

71. Similar problems affect the management of solid wastes. Although different institutions are working in solid waste management (such as Ministry of Health, SERNA, AMHON), the solid waste sector is not yet adequately organized and consolidated, and there is correspondingly no institution at central level that can ensure the application of a national policy on the subject and transmit suitable information and advice on solid waste management to municipal authorities. Likewise, there is no centralized mechanism in any of the relevant institutions (such as SERNA or the Ministry of Health) that could guide the process at municipal level and permit the definition of the location and magnitude that POPs emissions are causing on human health and the environment, or centralized programmes for

monitoring the environmental impacts associated with the collection, transport and final disposal of solid wastes.

72. Again, at local levels, municipalities have direct responsibility for ownership and management of sanitation services, but there is no mechanism that would allow them to coordination their actions with the governing organizations of the sector such as the Ministry of Health and SERNA. This situation also limits their access to appropriate technologies: a range of alternative practices exist that could be used at municipal levels, for the management of solid wastes and the temporary storage of hazardous wastes, (such as labelling, inventorying and centralized containment) and for the transport and disposal of all kind of solid wastes (such as manually managed landfills and joint-operated landfills), however, there is no central source of information and advice on such practices, available to municipal authorities.

73. Most municipal authorities have Municipal Environment Units, but these in general have limited technical and financial capacities for the identification and characterization of the environmental impacts associated with the disposal practices that predominate at present, particularly burning of wastes. Neither do policies exist at municipal level regarding the integral management of solid wastes, based on sustainability and protection of human health and the environment.

74. Finally, burning of solid wastes results from deficiencies in the collection service in both urban and rural areas, lack of control over the disposal methods applied by those who generate wastes and citizen awareness, as well as the fact that the collection services are not provided in many rural and marginal areas. The quality and the efficiency of the service cannot easily be measured, due to the lack of standardized criteria. In addition, the municipal solid residues that are collected are not subjected to treatment.

Barrier 2: Poorly developed regulatory and policy framework for the management of POPs and Solid Waste.

POPs Management

75. The country has taken significant steps with regard to participation in regional and international fora related to chemicals management, such as the Intergovernmental Forum on Chemical Safety (IFCS) and the Strategic Approach to International Chemicals Management (SAICM). Despite this, the implementation of effective actions to address risks associated with POPs and hazardous chemicals in general is impeded by the absence of national policy on their management, with a systematic, strategic and integrated perspective.

76. Regarding the specific issue of POPs, while there is clarity regarding Honduras' commitments associated with the Stockholm, Basel and Rotterdam Conventions, there is as yet limited legal clarity regarding the respective roles and responsibilities of different institutions of the Government (e.g. Ministry of Finance, SOPTRAVI, Ministry of Labour, Ministry of Health, SAG, SERNA and others). The existence of an articulated and effective institutional legal framework is an indispensable requisite in the sound management of the chemical substances, including substances addressed under international agreements. Under that consideration, the adoption of inter-sectorial and life cycle approaches that allow the development of a suitable legislation and of measures does not exist that contribute to avoid or reduce to the minimum the human exposure and risks of these substances into the environment.

77. While hazardous chemicals are referred to in a wide range of laws and regulations, the level of emphasis accorded to different issues does not necessarily correspond to the level of importance of each

in terms of risks to human health and the environment. Legislative instruments on agricultural chemicals are far more developed than those on chemicals for domestic or industrial use, for example.

78. The regulation of industrial chemicals is enunciated superficially in general laws (such as the General Law of Environment and the Health Code) which do not detail specialized entities that comply with the regulatory function. There are, however, no legal instruments that appoint a competent authority and set special regulations to control the various stages of the life cycle of chemicals. The legislation is particularly weak in relation to an effective inter-institutional coordination mechanism, the production, marketing and final disposal of hazardous chemicals and wastes. The current legal framework regarding chemicals management is also highly dispersed in different laws and regulations, which, combined with the absence of a formally defined institutional framework specifically related to chemicals management, hinders the coherent development of strategies and plans of action to impel an integral approach to chemicals management.

79. Although basic legal instruments exist in relation to chemicals management, as described above, sufficient national practical standards for the management of chemicals have yet to be developed, which impedes the application of the laws and regulations that do exist. Also detailed technical guidelines covering handling, transport and storage of hazardous chemicals are absent, specifically related to hazardous chemicals (industrial) and hazardous wastes such as PCBs and POPs Pesticides.

Unintended POPs releases from Solid Waste Management

80. In relation to solid wastes, a coherent policy framework is lacking for the integral management of solid waste, covering, among others aspects, reuse, reduction and recycling, regulation and technical norms, and the corresponding review, promulgation and emission of the required legal dispositions related to this issue; this has particular implications in terms of the emissions of UPOPs, as it means that issues such as the backyard burning of solid wastes (currently a significant source of dioxin and furan emissions) and the burning of tires and electrical equipment to recover metals are not addressed. There is no coherent national program aimed at providing technical assistance at a municipal level in order to implement Integrated Solid Waste Management Plans.

81. The legal framework related to solid wastes is again dispersed in diverse instruments: the main responsibility falls on municipal governments, while the responsibilities of national institutions are poorly defined. The framework fails to define a normative role for governmental entities at central level, or to define clearly the responsibilities of different institutions, resulting in an overlap of functions between, for example, SERNA and the Ministry of Health. The instruments that do exist, such as the Regulation for the Solid Waste Management, present serious deficiencies and technical weakness. In addition, instruments such as the Regulation for Solid Waste Management have not yet been socialized to any significant extent, with the result that its application has to date been limited.

82. International guidelines exist that allow local governments to adopt master plans for the integral management of solid waste, which could be based in part on those developed to date by PAHO/WHO. Integrated solid waste management plans have not yet been developed at municipal levels, however, leading to limitations in the coverage of collection services within rural and urban areas and corresponding high levels of ‘backyard’ burning of solid wastes occur that lead to emissions of dioxins and furans.

83. Sufficient national practical standards for the handling of the solid wastes do not exist, reason why the application of the laws, regulations, becomes difficult, complex and confused in the different related

scopes. Also, deficiencies in the existing mechanisms of monitoring and control for the application of the instruments related to the handling of the solid waste are identified.

Barrier 3: Inadequate awareness of the nature, impacts and management of POPs and Solid Waste.

POPs Management

84. Two of the most important factors that exacerbate the risks associated with the contamination of sites where POPs pesticides (and other pesticides contaminated with POPs) are stored, are limited knowledge among the users of the pesticides regarding suitable practices for their handling, and limited knowledge among the competent authorities in the branches of health and agriculture regarding the impacts that these compounds have for health and the environment. Ignorance of the identity of POPs, the risks that they pose and the options available for the reduction of these risks is widespread at all levels, but is of particular relevance to those sectors of the population who are at particular risk, such as those who live near to storage sites of hazardous chemicals and employees of ENEE who handle electrical equipment containing PCBs.

85. This situation is in turn due to the fact that the subject of POPs is relatively new in the country. The Stockholm Convention and the Enabling Project to elaborate the NIP allowed the subject to be known at only a reduced level (at governmental level and the private sector in particular), but there is limited knowledge among the Honduran population in general regarding the impacts associated with the inadequate handling of obsolete stocks of POPs pesticides and equipment with PCBs. The absence of a centralized authority with overall responsibility for issues related to chemicals management, with an integrated “cradle to grave” approach, is one of the main factors that impedes the generation of widespread awareness among the population in general regarding the risks of POPs.

86. The GEF enabling activity project that supported the preparation of the NIP funded a training program on management of chemicals (industrial and agricultural chemicals), allowing government agencies, private, academic and non-governmental organizations) to expand their knowledge on the subject. There are in addition a few nongovernmental organizations such as CROPLIFE-Honduras and RAPAL (Latin American Farmer´s Network), which contribute in the increase of awareness and enabling of the civil society on the management of chemicals and the associate risks, focused specifically on the safe handling of pesticides. Apart from this, however, little has been done to date to address this situation through formal or informal programmes of education and awareness raising on this issue among those potentially exposed to POPs, such as ENEE staff involved in maintenance of equipment containing PCBs and staff of the Ministries of Agriculture, Health and Environment who may be required to handle hazardous pesticides; to date, this has not been considered a priority. No official permanent and systematic programmes exist to provide information to workers and the public in general on the possible risks associated with the use of chemicals. Such programmes that do exist, as well as being limited in scale and scope, present conceptual weaknesses, for example through the omission of the life cycle approach.

Unintentional POPs emissions from burning of Solid Waste

87. Awareness regarding the implications of inadequate management and disposal of solid wastes, in terms of emissions of dioxins and furans, is similarly limited, a situation which hinders effective citizen participation in this area and perpetuates the application of inappropriate practices such as backyard waste burning.

88. Public awareness is also lacking regarding the regulatory and institutional framework related to solid waste management.

Barrier 4: Insufficient investment in the elimination of intentionally produced POPs and the reduction of emissions of un-intentionally produced POPs

POPs Management

89. A number of POPs issues require one-off investments to achieve permanent elimination, as in the case of PCBs and POPs pesticides, as well as permanent reductions in the emissions of un-intentionally produced POPs. The import of intentionally produced POPs has now been banned, but a clean up of the problems from the past is still needed. The potential long term benefits from the above mentioned investments have not been quantified.

90. Investments to date include correspond to regional projects such as the DDT/GEF/PAHO Regional Project that contemplated the identification of alternatives to DDT and the elimination of remnant stocks of these pesticides; the elimination, with World Bank funding, of 100 tons of DDT in the 1990s, and the present World Bank funded project, consisting of a loan to the ENEE for the substitution of electrical transformers and the elimination of equipment contaminated with PCBs. All of these investments are related to international initiatives and not coming from national policies for the management of dangerous waste or chemicals.

91. The levels of investment from the public and private sectors in the elimination of stocks of hazardous chemicals, their safe temporary storage and the cleanup of contaminated sites, are very low at present, due in part to the absence of an effective legal instrument (see Barrier 2 above) that requires such investments to be carried out under the 'polluter pays' principle. The few investments that have been identified to date have been carried out in order to qualify for international environmental quality certification procedures or in compliance with their corporate social responsibility programmes.

92. A further contributing factor is the existence of limited capacities in Government to develop and apply policies and regulations for carrying out national inventories of contaminated sites, the development and implementation of plans for management and cleanup coordinated with the owners of chemicals and sites, and a related national action plan.

UPOPs resulting from Solid Waste Management

93. The funds for the provision of solid waste management services by municipalities come from several sources. Fees for waste collection are levied as part of municipal property taxes, calculated as a percentage of the ratable value of the property for residential users or, in the case of commercial and industrial operators, as a proportion of their sales volume. These resources are used to cover operating and maintenance costs and cost recovery of investments in the service. Municipal governments also receive transfers from central Government, equivalent to 5% of national income. These transfers are applied exclusively for the operation of the service since most of the municipalities subsidize the service due to poor collection of taxes or fees. Honduras has developed the Municipal Development Index[6] which is intended to estimate the efficient management of a municipality. According to AMHON, out of a total of

[6] The services concerned are water, sewerage, market, solid waste, fire, cemetery, health services, education, culture, art, sports, development and environmental protection.

298 municipalities, 132 have not made any progress, 112 little progress, 30 intermediate progress and 24 advanced progress in this regard.

94. In general the main barrier at central level is that the sector is not clearly defined and there are no development plans at municipal level to achieve the management of solid waste, collection services therefore, transport, scavenging and disposals have weaknesses in their operation, effectiveness and sustainability, resulting in high incidence of practices that lead to emissions of UPOPs, namely the burning of wastes in backyards or in municipal dumps, and the burning of tires and electrical equipment. Furthermore, the scale of investment and the efficiency of the investments that are made are limited by the fact that most municipalities operate individually, and fail to take advantage of opportunities for cost-sharing through the establishment of linkages with neighboring municipalities (*mancomunidades*).

Stakeholder analysis

95. Are accorded as representatives of the current National Commission for the Sound Management of Chemicals as the ideal platform to ensure the participation of the stakeholders involved in the implementation of the NIP and the present project. As part of the proposed Executive Decree to formalize the CNG identify permanent working committees, including those related to the management of POPs that include:

1. Ministry of Natural Resources and Environment
2. Ministry of Health
3. Ministry of Agriculture and Livestock

96. However, the standing committee can integrate other members required under the scope interests of the sectors responsible for or involved, thus recognizing the following:

- Ministry of Labor and Social Security
- National Electric Power Company
- Local Municipalities
- Private sector

97. The **Ministry of Natural Resources and Environment (SERNA)** is responsible for carrying out and enforcing environmental law in Honduras, formulation and overall coordination of national policies on the environment, ensure that compliance with these policies, and public and private institutional coordination in environmental matters. SERNA strategically coordinates the Stockholm Convention NIP also is focal point of the Basel Convention and SAICM among other international environmental conventions. Represents the authority proposed to be responsible for coordinating the chemicals sector to comply with the proposed Policy for Environmentally Sound Management of Chemicals to serve as the executive secretary of the CNG.

98. The **Ministry of Health** is the governing body and regulator of the health sector, responsible for defining national policy, the standardization, planning and coordination of all public and private activities in the field of health. The Ministry represents an indispensable authority on the management assessment of POPs (intentional and unintentional) also owns the warehouses where stocks of pesticides currently are probably contaminated with POPs, therefore becomes a key player.

99. The **Ministry of Agriculture and Livestock (SAG)** is responsible for promoting and developing the country's agricultural activity, therefore responsible for planning, standardization and coordination of

all activities at the national, regional, departmental and local levels relating to plant health and animal health. The SAG is the authority that regulates pesticides. It has a Department of Control of these compounds and keeps under custody (under appropriate conditions) obsolete stockpiles of pesticides. Has the function to ensure that stocks of POPs pesticides are handled and disposed responsibly along lines of international conventions and national decisions on the matter.

100. The **Ministry of Labor and Social Security (STSS)** is responsible for enforcing the Labor Code, to regulate relations between capital and labor, placing them on a basis of social justice in order to guarantee workers the necessary conditions for a normal life and a capital fair compensation for their investment. The STSS is an important ally to ensure appropriate practices are carried out stock management of POPs with emphasis on the adoption of personal protective measures to reduce the risk of exposure to these compounds.

101. **Municipalities** (participants in pilot projects and candidates for replication) are local government bodies, which are responsible for environmental protection of ecology, the environment and promotion of reforestation and the promotion and regulation of trade, industrial, and other services. To achieve its objective can issue ordinances or establish policy aspects in the plan means, which is the legal instrument, adopted by the Municipal Corporation, established by the Municipalities Law, where charges are set, rules and procedures relating to municipal tax system. To fulfil this responsibility among others, most corporations have Municipal Environmental Units. The municipalities are transformed into situations where they may develop planning models for achieving integrated waste management, local capacity building, awareness, successful management of final disposal sites for solid waste replicated to other municipalities.

102. The **National Electric Power Company (ENEE)** is an autonomous body responsible for the production, marketing, transmission and distribution of electricity in Honduras. In the beginning of ENEE, building the first large hydroelectric dam, Canaveral, and the construction of transmission lines and substations for electric power lead to the consumption centers. Over time the electrical system, known as National Grid, has expanded and today the transmission network covering the main regions of the country. The ENEE is regarded as the principal holder of equipment likely to contain PCBs. A strategic partner will take steps to replace equipment in use with PCBs, environmental management practices (use or nonuse) and validation of technical tools for environmentally sound management of PCBs

103. The **Private Sector** is represented by a number of entities such as COHEP, ANDI, AHM and others. These organizations are crucial for obtaining sector participation to update national inventories of POPs and adoption of pilot projects mainly PCBs management, as well as the adoption of best available techniques to reduce unintentional releases of dioxins and furans. Actions have been identified that the sector makes to environmental education and consent to participate in strategic partnerships with SERNA to demonstrate best practices in the management of POPs and solid waste. The National Centre for Cleaner Production in Honduras (CNP+LH) allows a platform to influence the planning of joint activities with the private sector alike.

Baseline analysis

104. Paragraphs 28-40 describe the main environmental problems associated with POPs in Honduras, in terms of the types and levels of emissions and the processes from which they arise. This section examines the measures that have been taken to date to remove the barriers to the effective combating of these POPs-related environmental problems, and the corresponding baseline conditions that will be encountered by the present project.

NIP Enabling Project

105. The Stockholm Convention on POPs is a legally binding international instrument signed in Stockholm, Sweden on May 23, 2001, entered into force on May 17, 2004, committing each of the Parties to the implementation of measures to eliminate or restrict production and use of intentionally produced POPs, eliminate environmentally sound manner the supply of these compounds that are not in use, damaged, outdated or banned, and minimize the unintentional generation of them, taking action prevention on best available techniques and best environmental practices. The Stockholm Convention was signed by Honduras on May 17, 2002 and ratified by **Decree 24-2004**, effective upon its publication in the official Gazette on 23 April 2005. With the ratification of the Stockholm Convention in 2004, Honduras made a commitment to develop a National Plan (NIP) to meet their obligations under that agreement and the transfer of this plan to the Conference of the Parties within a period of two years after its entry into force (Article 7). It is for this reason that the Government of Honduras in September 2006, began the process of developing the NIP with the project **"Assisting the Government of Honduras to fulfill their obligations under the Stockholm Convention on Persistent Organic Pollutants (POPs)"** funded by the Global Environment Facility (GEF by its acronym in English) and administered by the United Nations Programme for Development (UNDP) and executed by the Ministry of Natural Resources and Environment (SERNA), as a focal point itself, through the Centre for Studies and Control of Pollutants (CESCCO).

106. This project met with two specific objectives:

- Prepared National Implementation Plan (NIP) for the fulfilment of the obligations undertaken by Honduras in the Stockholm Convention on Persistent Organic Pollutants (POPs).
- Contribution to strengthening national capacities to manage chemicals and hazardous waste in Honduras.

107. To reach Objective 1, it was developed a methodology and participatory process, ensuring compliance with the general principles and obligations under the Stockholm Convention. A first step was the establishment of the Project Coordinating Unit (PCU), maintaining close collaboration with the National Project Directorate (NPD) represented by the Directorate of CESCCO as the focal point of the Stockholm Convention in Honduras. Were then formed the National Committee for the Management of Chemicals and Hazardous Wastes (CNG), based on the multi-sectorial nature of chemicals management, with representation from the governmental, private, academia, municipal, professional associations and civil society, making the representation of at least 30 institutions and participation of over 130 members throughout the process of developing the NIP.

108. Baseline was established on the stocks of POPs in Honduras. In parallel, it was necessary to carry out an assessment of national capacity through the National Profile for Chemicals Management with emphasis on POPs and the development of a process of prioritizing actions to be contextualized in six strategic objectives that result in equal number of action plans that together form an important segment of the NIP.

109. According to Objective 2, this project helped to strengthen national capacities in two major approaches:

- Strengthening national capacities in the order of human resource training and
- Strengthening the regulatory framework to ensure the Sound Management of chemicals in Honduras.

110. During the life of the project, it was developed nine training days provided by national and international experts, which were strategically aimed at both technical staff and representatives of SERNA and CNG and target groups. Also, the process of strengthening national capacities had a very significant extent to provide proposals for binding instruments to ensure the management of chemicals through the formulation of a **Policy proposal for the Environmentally Sound Management of Chemicals** and the definition of an **executive decree that provides a structure and sustainability of the National Committee for Environmentally Sound Management of Chemicals (CNG)**. POPs NIP Project achieved significant synergies with national and international initiatives to achieve the management of chemicals, which contribute significantly to create the foundations for a national system for management of chemicals, not limited exclusively to POPs, including the following:

1. Rotterdam Convention Secretariat: Promotion and socialization of this important agreement with relevant sectors and initiate a process of ratification.
2. UNITAR-SAICM: Project "Strengthening National Governance for SAICM implementation. This project was implemented as an additional activity POPs NIP Project.
3. MIRA-USAID Program: Formulation of a draft Regulation for the Environmentally Sound Management of Hazardous Chemicals in Honduras.

111. As a result of the national SAICM project, the national profile for the management of chemical products was updated and an evaluation of capacities for the implementation of SAICM was carried out, together with a proposal for the SAICM Implementation Plan (SIP). The SIP has twelve strategic guidelines that will fulfill the National Policy for the Sound Management of Chemicals in Honduras, which is currently being proposed.

POPs Pesticides

112. Several studies have been carried out to date, which have detected the presence of various POPs in the environment in Honduras, these obsolete substances were not inventoried until 1999 when the State of Honduras and the Food and Agriculture Organization of the United Nations Organization (FAO) conducted an inventory of hazardous substances (FAO, F. Lopez, 1999). The total amount found in different storerooms in the public sector at national level (Ministry of Health, National Bank for Agricultural Development - BANADESA and National School of Agriculture - ENA) was approximately 170 tons of toxic substances, of which **100 tons of the most dangerous were sent to Holland for disposal in 2000** (World Bank, Resident Mission Honduras, 2000). These 100 tons are to:

- 53 tons of organochlorines (DDT, chlordane, HCB)
- 47 tonnes of organophosphates (malathion, fenitrothion, methyl/ethyl-parathion)

113. According to a study in 2002 (UNEP Chemicals, 2002), stocks of POPs pesticides in Honduras were 19.900 kg of Chlordane and 18.900 kg of DDT. In a recent report titled "Update inventories of stockpiles of DDT and other persistent pesticides in Mexico and Central America (PAHO/WHO-IRET/ UNA, 2005), identifies the existing quantities of POPs pesticides in 2005 in the order of:

- 3.500 liters of DDT on the Atlantic coast
- 12.500 liters of chlordane in the hold of BANADESA in Tegucigalpa

114. With the same project (PAHO/WHO-IRET /UNA, 2005) there is currently an opportunity to manage the process of eliminating these quantities found, but so far has not materialized this purpose.

115. The First National Inventory of POPs Pesticides and Other Pesticides Banned in disuse in Honduras was developed during the NIP preparation, which included the nine pesticide POPs listed in the Stockholm Convention and complementary obsolete pesticides banned by the national decisions No. 09-91 and No. 014-99 and pesticides allowed in disuse. In 2 of the 42 sites were detected POPs products, representing 5% of the total. Also was found no POPs obsolete pesticides at 20 sites (48%) and 22 sites (52%) had no obsolete pesticides. In respect of other banned pesticides into disuse in Honduras, was found 200 kg of lindane and only in 3 places (7%) were unidentified products. The total amount of obsolete pesticides in Honduras estimated in this inventory is approximately 35.850 kg and 2.650 liters.

Figure 4. Distribution of Inventoried pesticides (NIP, 2008).

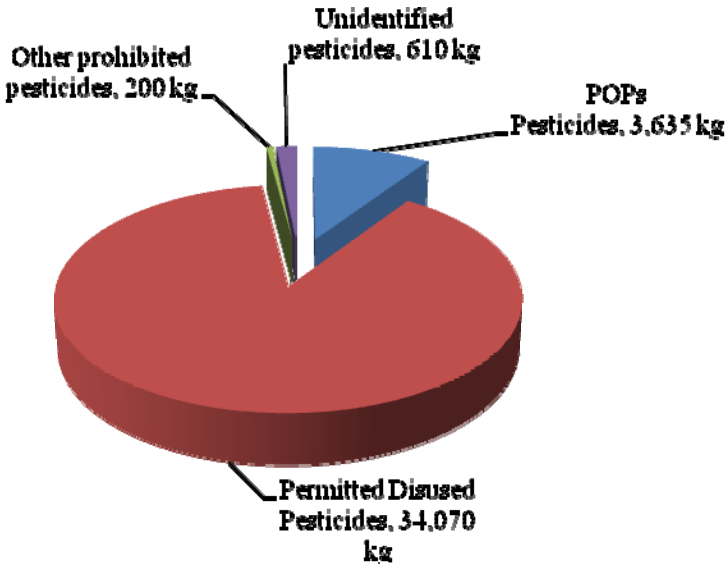


Table 8. Disused pesticides inventoried in kilograms by sectors

Disuse Pesticide	Public Sector (Kg)	Private Sector	Total (Kg)
POPs pesticide	135	3,500	3,635
Disuse Permitted pesticide	31,787	2,283	34,070
Prohibited Pesticides	Not found	200	200
Non identified pesticide	610	Not found	610
Total	**32,532**	**5,983**	**38,515**

NIP, 2008

116. The first place where POPs pesticides were found is a vault called "Landfill" one of the major banana companies in the north sector of the country, containing about **3,500 kg of DDT residues mixed with fenitrothion and other contaminated materials.** In another vault of the same company, there is also a barrel of diluted Lindane. The second is the hold of control of SENASA in Mateo, Distrito Central, Francisco Morazán, **135 Kg of a product containing Chlordane and Aldrin.** The vault 9 which contains 3.5 tons of DDT was built with better conditions compared to the previous and the latest developments with a capacity of 80 m^3 each have a vent pipe, double floors of concrete and concrete covers to facilitate inspection. The site is guarded 24 hours and is considered adequate for temporary storage of products.

117. The collection confiscated by SENASA / SAG national has good storage conditions, the site is secure and the infrastructure of the warehouse is in good condition. Here, about 300 different pesticides are stored, including the agrochemical containing Chlordane and Aldrin.

118. Overall two sites were identified, with approximately **3.6 tonnes of POPs family pesticides** (as shown in -ANNEX VI) and **four sites containing 14 tonnes of pesticides probably contaminated with POPs** (Table 6). With regard to the latter, only through laboratory analysis of these pesticides can tell for sure whether there is contamination with POPs. The conditions of storage of stocks of pesticides identified, in particular those probably contaminated with POPs, are critical, since containers are, in general, damaged and much of the product (solid) spilled on the floor. Together with the identification of stocks of pesticides mentioned, also provided classified **18 sites listed as potentially contaminated with pesticide POPs**, which also includes the sites listed in Table 6 (see -ANNEX VI).

PCBs

119. The National Inventory of PCBs, was developed under a methodological scheme in two stages, which allowed comply with the obligations under the Basel and Stockholm Conventions. A preliminary inventory was conducted in the period 2004 to December 2006, by CESCCO with the support of ENEE, in coordination with the United Nations Environment Programme (UNEP) and the Secretariat of the Basel Convention, under the project **"Preparation of Inventories and National Plans for the Environmentally Sound Management of PCBs and equipment containing PCBs in Central America."** An update of the inventory was developed under the POPs NIP project and included in the first place, the facilities belonging to the national electricity subsector in the stages of generation, transmission and energy distribution, shown as the main users and possessors of equipment likely contain PCBs in the country, also included industrial, commercial and public sector and private services.

120. The national inventory of PCBs, included 119 sites located in 13 of the 18 departments of the country, 60% of public sector and 40% of the private sector. 47% of the sites correspond to the national electricity subsector, 35% to industry and 18% utility sector. A total of 1.459 questionnaires were used to inventory the equipment in use and disuse. The power and distribution transformers, represented 93.8% of the equipment tested, the remaining percentage corresponds to other equipments.

121. It was analyzed by CLOR-N-OIL 50 ® a semiquantitative colorimetric rapid test, a sample of 418 electrical equipment in use and disuse, equivalent to 28.64% of 1.459 equipment assessed. In the tests, **63 equipments** (15%) were on the reference level allowed by Environmental Protection Agency United States (USEPA) of 50 ppm of PCBs, which corresponds to 4.32 % of total equipment assessed and analyzed. Of the 63 equipments with PCBs, 78% (49) correspond to the public sector and 22% (14) to the private. About 87% (55) were of distribution transformers, 11% (7) power transformers and 2% to one reclosed equipment.

122. Of the total identified (as shown in -ANNEX VIII), **18 transformers remain in use, 21 in the process of maintenance or repair and 24 dismantled.** The total weight of the equipment was estimated based on the specifications printed on the plate. The total mass of PCBs is estimated from the sum of the dielectric oil weight in kg dry weight of the transformer (Kg). Only 38 (60%) of the 63 equipments with PCBs are able to calculate the total mass contaminated that was **196.196 Kg.** This value is underestimated, since for the 25 (40%) remaining equipments the contaminated equipment could not be estimated by not having weight information available on the plate. For the total mass of contaminated quantified distribution equipments is **83.846 kg** and **112.350 kg for power transformers.**

123. It should be noted that **8 of the 63 pieces of equipment contaminated with PCBs** had leaks (there are no reliable indications of the proportions of this equipment that contains pure PCBs and that

which contains other dielectric oils contaminated with PCBs. These corresponded to **six distribution transformers dismantled and two power transformers in use**. These equipments require immediate action, like the rest of transformers with PCBs since 54 of them are outdoors and only 9 pieces of equipment are in enclosed areas (see -ANNEX VIII). Regarding environmental pollution, it is noteworthy that the 5 properties where the 8 equipments are will be classified as contaminated sites by PCBs, and the remaining 18 sites with equipment with PCBs without oil leaks found, as sites potentially contaminated with PCBs. These sites require special treatment (remediation), which can range from blocking access to land to partial or complete decontamination of them.

124. It is important to emphasize that the public electric sub sector is the largest stockholder of equipment with PCBs (in use or disuse). In this regard, ENEE under increasing efficiency and competitiveness has managed with the World Bank on a project called **"Improving the Efficiency of the Energy Sector (PROMEF)"** The project has three components 1. Improvement of Commercial Management, 2. Rehabilitation of Distribution Networks and 3. Institutional Capacity Building and Corporate Governance of ENEE. In component 2. "Rehabilitation of Distribution Networks", provides for the replacement of distribution transformers contaminated with PCBs in three cities (Danlí, Tegucigalpa and San Lorenzo) and their Disposal. ENEE with the collaboration of CESCCO, has started preliminary work on the implementation of the inventory of trasnformers in use potentially contaminated with PCBs. Has advanced as far as possible because the political situation the World Bank said on "pause."

Dioxins and furans emissions

125. In relation to unintentional releases of POPs such as dioxins and furans, is important to note that the **First National Inventory** (SERNA, 2008) was developed based on the UNEP Instrumental Tool Kit Estimation of Dioxins and Furans, using Honduras 2005 as base year. The results reported an estimated total of **442.31 g TEQ / year**, corresponding to these five compartments: waste, air, soil, and water.

Table 9. Estimated dioxins and furans emissions to five compartments. (CESCCO / SERNA, 2009)

Compartment	Emissions	Percentage
Residues	256.42 g TEQ/year	57.97%
Air	173.28 g TEQ/year	39.18%
Soil	12.53 g TEQ/year	2.83%
Products	0.059 TEQ/year	0.0133%
Water	0.016 g TEQ/year	0.0036%
TOTAL	**442.31 g TEQ/year**	**100 %**

126. The inventory found that the main source of dioxins and furans in the country is the practice of **uncontrolled burning of domestic waste (83.39%) with 368.86 g TEQ / year** (245.91 g TEQ / year of residues and emissions to 122.95 g TEQ / year for air emissions), followed by **fires in dumping sites (6.3%)** by issuing 28.00 g TEQ / year (17.50 g TEQ / year for air and 10.50 g TEQ/year for waste emissions). This reinforces the need to implement policies to integrated waste management, appropriate to reduce impacts on human health and the environment. Therefore, this project focuses on the issue of uncontrolled solid waste burning as an important source of UPOPs.

127. The Government of the Republic of Honduras with the support of international cooperation agencies such as PAHO/WHO, has initiated specific actions aimed at strengthening governance in the solid waste sector with medium and long term institutional legal and technical impacts, that will contribute indirectly in the reduction of unintentional releases of dioxins and furans.

128. It was published a Solid Waste Sectorial Analysis of Honduras (PAHO/WHO, 2010), which presents the country´s current state in this field ranging from the institutional, legal, financial, technical, environmental, health and socio-cultural, indicating the critical points of policy measures, strategies and actions that must be implemented to develop the sector.

129. In broad terms, the document shows that solid waste generation has increased throughout the country, particularly in urban areas as a result of the population consumption habits and the concentration of productive activities, which imposes a strong pressure in sanitation services, whose primary responsibility falls directly on the municipalities, whether or not they have departments responsible for providing the collection service, transportation and disposal of solid waste. In terms of generation, general indicators of the country on solid waste show that in 2007 the total generation was about **3,792 tons per day of domestic solid waste**, estimated from the projected population of 7,585,155 inhabitants and a per capita generation factor of 0.50 kg/person/ day. Of this amount, 54% would be produced in six major cities, namely: Tegucigalpa, San Pedro Sula, La Ceiba, Choloma, Choluteca and El Progreso.

130. The coverage collection indicators and transport of solid waste, show that only **20% of municipalities have this type of service**. In this regard, data from the National Statistics Institute (INE), published in Population and Housing Census 2001, show figures relevant to the practices of solid waste management of the population. Of a total of 1,184,324 private households surveyed with people present, a high percentage reported **that burning or burying of solid waste (51%) or eliminated to the streets throwing, river, lake or sea (10%).** A low percentage (31%) indicated that they had pickup service. **The common practice of burning solid waste, could be associated, at least empirically, the high rate of production of dioxins and furans in the country.**

131. Should be noted that most of the solid waste generated in the country, are arranged in open air dumps, where they usually are burned in an uncontrolled manner, which highlights the limited technical and operational capabilities of the entities responsible for ensuring disposal in conditions that do not endanger the welfare of the population. Official reports of the country, indicate that only **11 (3.7%) of the 298 municipalities in the country have some form of basic infrastructure and facilities with some level of fitness for solid waste disposal.** These figures say it is necessary to bring claims arising in increasing the country's basic infrastructure to ensure the proper disposal of solid waste, thereby seeking to eliminate and reduce unintentional releases of POPs into the environment.

132. The Regional Environmental Support Programme in Central America (PREMACA), supported by Danish Development Assistance (DANIDA), is working proactively in the field of Integrated Solid Waste Management, primarily in the two municipalities Comayagua and La Ceiba. PREMACA includes four components, one being support for decentralized environmental management in Honduras. The development objective of this component is as follows: "The decentralized environmental management in Honduras has been strengthened at both national and local levels and has reduced poverty, improved quality of life of the population and the environment of selected municipalities." The immediate objectives of the component are as follows:

- Local environmental technical assistance: the capacities of selected municipalities have been strengthened for participatory implementation of proper environmental management in the execution of their powers.
- Local Environmental Investment: The quality of life of the beneficiary population has improved through participatory environmental investment projects including integrated systems of water management systems in slums and solid waste management.
- National policy: The central government (SGJ and SERNA) has been strengthened in its role as policymaker and regulator and for the implementation of decentralized environmental

management, including the design and implementation of a Comprehensive Strategy for Decentralization of the Environment prepared by the SGJ in close coordination with SERNA

- Local-national relations: The entities responsible at regional, national and local have systematized experiences with environmental management as inputs for the design of policies, rules and regulations.

133. The municipalities of Comayagua and La Ceiba are doing different activities in this framework. One of the three key thematic areas of intervention of municipal management within the guidelines of Component 3b is Integrated Solid Waste Management (MIRS) and final disposal in an environmentally sound manner. In this context, a site selection study has been done for the construction of the landfill of Comayagua, and the elimination of one of the illegal dumps by the recovery of the Lomas del Rio green area, and also other activities in relation to Integrated Solid Waste Management are planned for 2010 POA of the two municipalities.

POPs and Chemicals National Regulation

134. As to the current regulations on the issue of POPs, in a more hierarchical instrument to regulate it is the Stockholm Convention itself, followed the General Environmental Law (in relation to protecting the country's population of harmful substances) as well as Health Code of the Ministry of Health. In the order of POPs pesticides in 1991 and 1999, two resolutions were issued prohibiting the registration and marketing of highly toxic pesticides through Resolutions No. 09-91 and No. 014-99 which include some of the pesticides of the Stockholm Convention.

135. There is no specific regulation on the restriction on the **import and use of PCBs** besides the Stockholm Convention. In relation to unintentional POPs such as dioxins and furans, the country has two major regulatory **proposals** for their regulation such as the **Regulation for the Integrated Management of Solid Waste and the Regulations for the Control of Emissions from Stationary Sources** both financed by USAID MIRA, the latter provides minimum permissible values for emissions of these compounds, mainly attributed to the cement industry (oven emissions). However, it is important to mention that the burning of solid waste represents the activity associated with increased releases of dioxins and furans as the Prime Source Inventory and Estimates of Dioxin and Furan in Honduras in 2007.

136. Under the POPs NIP project through its second goal of strengthening national capacities for managing chemicals have developed several initiatives to promote implementation of the Convention, however, the scope of the project and NIP has a broader conceptual framework for the management of POPs, aimed at establishing national vision to ensure the environmentally sound management of chemicals (including hazardous waste).

137. Key initiatives undertaken include:

- **Policy Proposal for Environmentally Sound Management of Chemicals:** With this policy, is pretended to create the basis for developing a coordinated system of environmentally sound management of chemicals that will reduce or minimize risks and prevent additional risks in the future. This instrument is the guiding framework for the development and implementation of other binding instruments to be used in the management sector such as: international conventions, both general and specific laws, institutional or sectorial strategies, rules and regulations, action plans, etc. The overall objective of the policy is to **guide the sound management of chemicals and hazardous wastes throughout their life cycle to reduce risks to human health and the environment**. These specific objectives

will be implemented through eight (8) guidelines with their respective strategic lines of intervention. This important guiding instrument must be driven by the head of the Ministry of Natural Resources and Environment to be approved by the President of the Republic and the Council of Ministers.

- **Proposed Executive Order creating the National Commission for Environmentally Sound Management of Chemicals (CNG/NMC):** The responsibility for the management of chemicals is shared, it must be maintained to a multisectorial and interdisciplinary approach, for such cause, represents a goal to be met within the PNI and Policy for Environmentally Sound Management of Chemicals , formalization, and operation of the CNG constituted by the government sector, private-industrial, academic, local governments, professional associations, civil sector and NGOs. The executive decree referred to should be driven by the head of the Ministry of Natural Resources and Environment to be approved by the President of the Republic and the Council of Ministers.
- **Geographic Information System (GIS POPs):** under a structure designed to allow access and exchange of information between the various institutions of public and private sector. In this sense, it is determined that the GIS Unit should have the capabilities for information collection, integration, data storage and analysis, mainly of territorial nature of the decision tool in the management of POPs and other priority chemicals nationwide. It was carried out a process of technical training to CESCCO personnel in the management and operation of the system.

Chemicals Management Institutional Framework

138. As read before, CESCCO-SERNA since 2006 has developed and strengthened its capabilities in managing chemicals and hazardous waste at the strategic level. In this context, it has been the **focal point of the Basel and Stockholm conventions**, coordinating national procedures of administrative and regulatory framework for transboundary movements of hazardous waste in the first case and in the case of the latter, making an approach multisectorial and participatory National Implementation Plan (NIP) on Persistent Organic Pollutants (POPs). Whereas the skills gained by SERNA in the management of chemicals, it corresponds having the name of Competent National Authority (ANC) to respond to the needs of integrated management of chemicals (including POPs and hazardous waste). It recognizes the dynamism of the Project Coordinating Unit of the POPs NIP enabling project (attached to the Directorate of CESCCO) has had in the last three years, coordinating the CNG in a participatory manner to develop each of the stages of processing NIP, together with the implementation of a training plan for their representatives. Whereas the UCP will not provide permanent support (by virtue of his facilitating short-term unit), it is essential that the functions now carried out, be institutionalized, framing them in the comprehensive management of chemicals and hazardous wastes (including POPs).

139. Therefore during the NIP execution it was consider the creation within the ANC, a Technical Department for Chemicals Management, in line as defined by the **Regulation for Environmentally Sound Management of Hazardous Chemicals (now level proposed by the SERNA** and financed by USAID MIRA). As a result from the NIP project, currently this Department operates in CESCCO however still needs an articulate mandate from a legal instrument to receive technical and financial support. In the other hand, it also proposes the extension of functions of CNG to raise its level to Commission, whose main role will include monitoring the implementation of the Policy for the Management of Chemicals, National Plan for the Stockholm Convention and planning and dissemination activities arising from the international chemical agenda, domestic regulation and other non-binding instruments such as the SAICM.

II. STRATEGY

Project rationale

140. In the absence of the GEF project, the policy framework and regulation for environmentally sound management of chemicals that has been developed to date in the process of the formulation of the NIP of the Stockholm Convention and the SAICM initiative would fail to be consolidated and promoted.

141. There are existing mechanisms for institutional coordination but these do not operate under a legal basis and are not very effective, since they do not comply with a chemicals life cycle approach and risk management of chemicals.

142. Without the project, the storage, management and disposal of hazardous chemicals would continue to be characterized by inadequate and dangerous practices due to inadequate technical capacities in public and private sectors, poorly applied regulation, limited awareness of risks, inadequate financial investment and inadequate inter-institutional coordination.

143. POPs pesticides stockpiles would be left unattended with a significant risk of health and environmental impacts occurring, due to the highly inadequate conditions in which other POPs contaminated Pesticides and other chemicals are kept in storage facilities.

144. Improvements would be carried out to the efficiency of the electricity sector, but transformers and capacitors contaminated with PCBs, especially in the private sector would not be eliminated and would continue to pose environmental and human health risks.

145. Under the baseline scenario, solid wastes will continue to be inappropriately disposed, resulting in the continued emission of high levels of dioxins and furans from combustion processes.

146. GEF involvement would focus on the application of principles of sound environmental management in all aspects of POPs in the country, and would leave a lasting enabling environment for the sustained application of these principles in the long term. Most GEF-funded activities would be highly incremental in nature, such as capacity building and the promotion of improved policies, regulations and awareness. In concrete terms, under the GEF scenario practices for the management of solid wastes would be replicated nationwide, resulting in sustained reductions in the levels of emissions of dioxins and furans; practices for reducing dioxin and furan emissions would also be mainstreamed widely throughout the private sector; and remaining stocks of POPs pesticides and PCBs would be eliminated in a safe and effective manner.

Country ownership: country eligibility and country drivenness

Correspondence with national priorities

147. The project is consistent with the following instruments:

- National Plan objectives with vision to 2038, having as reference the Millennium Development Goals (MDG).

- Strategic lines and principles with Honduras Environmental Policy adopted in 2005 on the basis of the Strategy for Poverty Reduction and results of the sectorial tables of environment and risk management.

148. It is also compatible with the General Environmental Law and its Regulations, Plant and Animal Health Act, Code of Health, Labor Code and the additional regulatory framework for the management of chemicals in Honduras.

149. The project will enable the implementation of priority elements of the National Implementation Plan (NIP) for the Stockholm Convention, defined through an extensive multi-stakeholder process coordinated by the Ministry of Environment and Natural Resources (SERNA). The process of developing the NIP has involved representatives from all key sector institutions (including agriculture and energy sector heads) and private sector representatives, in order to ensure compatibility with the priorities of each.

Coincidence with UNDP Development Assistance Framework

150. Likewise, the project is compatible with the CCF (UNDAF), which is based on the following principles: i) the human rights approach; ii) the development of sustainable national capacities, and iii) the orientation of cooperation towards the MDGs, given that the project linked with UNDP Honduras will integrate sound management of chemicals into development plans such as Poverty Reduction Strategy Papers and strategies to meet the Millennium Development Goals (MDGs), involves establishing the links between poverty and sound chemical management such as improved human and environmental health, and increasing economic security and income opportunities for the poor and then identifying the policies and programmes needed to bring about pro-poor chemical management. It also involves looking at potential chemical risks arising from implementing sections of the development plans, and trying to mitigate such risks at the planning stage.

151. Similarly, the project will correspond to two priority areas of cooperation identified in the UNDAF: iii) democratic governance and v) environment and risk management, since it will invest in national governance by strengthening the regulatory framework for the management of chemicals also will allow for measures to be taken for job security and protection of the Honduran population from risks that cause the chemicals to human health and environment. It will contribute to insert into national plans (which already consider the MDGs allowing a more effective work with decision makers) Sound Management of Chemicals.

Coincidence with GEF priorities

152. The project will contribute to Strategic Priority 1 (SP1) of the POPs focal area as it will develop an enabling environment of institutional capacities, awareness and regulations for the implementation of the country's NIP (submitted to the Stockholm Convention Secretariat in January 13th 2010). In accordance with GEF guidance, this process will confer benefits in relation not only to POPs but also to chemicals more generally. Honduras corresponds to SP1 eligibility criteria, and has limited capacities for its implementation.

153. The project will also contribute to Strategic Priority 2 (SP2) as, under Components 3 and 4, it will result in concrete reductions in the quantities, tons of PCBs and POPs pesticides, and annual releases of unintentional POPs in the country, through investments in elimination and improved practices carried out in association with the Government, other international agencies and the private sector. The country will develop the necessary enabling environment for the effectiveness and sustainability of these emission reducing outcomes through regulatory, guidance and training components of the project corresponding to SP1.

Design principles and strategic considerations

154. The project will combine diverse types of interventions at different levels. Its main focus will be on developing permanent national capacities for addressing POPs-related issues, supported by the necessary policy and regulatory framework. A central strategic consideration inherent in project design is the promotion and institutionalization of mechanisms for inter-institutional coordination and collaboration, which is essential given the multi-sector nature of POPs issues and the current dispersion of efforts between sectors and institutions.

155. A second important aspect of project design is the inclusion of investments that will result in the permanent elimination of POPs stocks and emissions during the project lifetime, thereby guaranteeing the delivery of concrete environmental benefits.

Project objective, outcomes and outputs/activities

156. The **objective** of the project is the 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.

157. There are **four project outcomes**. They are listed below, together with corresponding areas of action and indicative activities.

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

Strengthening of Institutional Capacities of the National Competent Authority (ANC) to implement the Sound Management of Chemical (SMC) in Honduras.

158. As mentioned in the preliminary sections, there is currently no central authority related to chemicals management, but under the NIP development process drew up proposals for legal instruments that significantly strengthen the sector through the formulation of a National Policy for Sound Management of Chemicals and the Regulation for Sound Management of Hazardous Chemicals having SERNA as designating competent authority.

159. In this sense the project will initially conduct information and awareness tasks to win approval of the proposed instruments in the context of chemicals management with government authorities, including the National Policy, the Regulation for the Sound Management of Hazardous Chemicals and the NMC Executive Decree. Also the project will support in the awareness raising and dissemination processes of these instruments with key stakeholders in the target sector (public and private stakeholders).

160. To meet the challenges arising from the proposed instruments, CESCCO is proposed as the technical body responsible, requiring the formation of a Technical Department for Chemicals Management. The project will contribute to this aim through the design of the institutional framework of CESCCO to assume the goals of the management of chemicals through the conceptualization of an **Institutional Strategic Plan** to define performance goals based on the national policy and development of an **operational manual for the Department of Chemicals Management** in order to identify the multidisciplinary team needed to effectively fulfil its objectives.

161. In accordance to the institutional strategic plan derived from the national policy and regulation for the management of hazardous chemicals, the GEF project also will contribute to strengthening CESCCO through more precise definition of the laboratory prices from services performed at this institution based on a cost analysis of the services, to be generated by the project.

162. Once the Department of Chemicals Management in CESCCO is established, the project will also strengthen the technical capabilities of department staff and other institutional staff by training workshops throughout the project life in the areas of: management risks of chemicals, labelling of dangerous goods, remediation of contaminated sites, national inventories of hazardous waste, Pollutants Release and Transfer Register (PRTR), Chemical Emergency Response, environmental monitoring of dioxins and furans emissions and integral management of solid waste. Project staff will coordinate with the direction of CESCCO to ensure the allocation of technical staff for training and contribute to increasing the technical capacity of the institution in chemicals management. In that way, at the central level there will be national capacities to advise other institutions and stakeholders in the management of chemicals and solid wastes.

163. All the improvements in the management of stocks of POPs pesticides and PCBs and the reductions in emissions of dioxins and furans, that will result from actions proposed under components 3 and 4, shall be registered centrally with input from the target sectors (Health, SAG, ENEE, private sector, etc.) in a database that allows CESCCO to carry out continuous assessment of the sound management goals agreed between the actors. In this sense the project will support the development and implementation of a system of environmental indicators related to the management of POPs, to evaluate progress towards the goals established with the holders of POPs pesticide stocks (the Ministry of Health and Standard Fruit Co.) as well as PCBs (ENEE and private sector) and contaminated sites. The project will contribute to the development of the system`s operational manual and a centralized software that allows relevant information to be captured.

164. Considering the national limitations for analytical determination of POPs, the project will strengthen the capabilities of CESCCO through the development and implementation of 3 methods for laboratory analysis of these compounds with the advice of international experts. This will strengthen the portfolio of laboratory parameters that CESCCO offers and the cost recovery strategy that the project will promote for institutional sustainability in the management of POPs. To complement the strengthening of analytical capacities, the project will help in the provision of basic laboratory supplies necessary for the determination of POPs (POPs pesticides and PCBs) such as chromatography columns, and other reference material.

<u>Strengthening of Capacities of the National Commission for the Sound Management of Chemicals as a Coordination Mechanism for Multi-Sector Participation in the Management of POPs.</u>

165. A wide range of institutions are involved in POPs issues at a range of levels, however the project will avoid excessive dispersion of effort by focusing on objectively identified institutions with key roles in relation to priority issues, and by promoting mechanisms for coordination and synergy between institutions. The key structure in this regard will be the National Management Committee (NMC) which was established during the process of formulation of the NIP.

166. The NMC currently has no legal basis; however, the project will start by supporting the socialization with the current authorities of the executive decree prepared in the NIP formulation process with the changes requested during the PPG phase (to include in the decree the budget for the operation of

the Department of Chemicals Management and the incorporation of other key institutions such as COPECO in the commission).

167. During the first year of the operation of NMC, the project will support follow-up meetings aimed at defining a work plan to meet the obligations of national policy and NIP. However, the approval of the executive decree will enable further meetings between CESCCO and the NMC (four per year) to be funded by the commission itself from a budget established for that purpose by the Ministry of Finance.

168. The project will also provide advice (training will be addressed under component 2) to the diverse institutional members of the NMC on the development of mechanisms such as cooperation agreements (included in the executive decree) and regulations to ensure the continuity of their participation in the NMC in the long term.

169. The project also aims to contribute to the SAICM Mainstreaming Project by strengthening the regulatory framework (as proposed in subsequent detailed activities under component 1) and the NMC which will be a favorable scenario to insert activities in the operational plans of key government institutions as: Ministry of Health, SAG, Ministry of Labour and the Ministry of Education.

<u>Strengthening of the legal framework for the Sound Management of Chemicals (SMC), aimed at POPs.</u>

170. The capacity building to be supported by the project will also focus on developing capacities in regulatory entities, especially SERNA. These initiatives will be carried out within the framework of the National Policy for Sound Management of Chemicals: project resources will be used to facilitate the application of this policy, and its mainstreaming throughout the plans and strategies of institutions related to POPs issues.

171. The project will support the strengthening of the regulatory framework in order **to harmonize the current legal framework through the proposal of a General Chemicals Law** according to the National Policy. It also seeks to complement legal gaps that were identified during the preparatory phase and significantly will strengthen the management of POPs, chemicals, hazardous waste, solid waste and sites contaminated by chemicals.

172. During the preparatory phase **nine proposals for regulatory instruments** were identified**,** the preparation of which should be supported by the project: i) Regulation for the Management of Solid Waste, ii) Regulation for the implementation of Pollutants Release and Transfer Register, iii) Regulation for the Management of Contaminated Sites, iv) Technical Guide for the transport of Dangerous Goods, v) Technical Guide for Storage of Industrial Chemicals, vi) Technical Guide for the temporary storage of Hazardous Waste, vii) Technical Standards for environmental quality and remediation criteria for contaminated sites by hazardous chemicals, viii) Technical Guide for the sound management of PCBs[7] and ix) Municipal Technical Guide for Solid Waste Management[8].

173. Specifically, the project will ensure (in coordination between representatives of SERNA and other institutions such as the Ministry of Health and municipal governments) that three of these instruments are adopted and implemented, namely the Regulation for Solid Waste Management, Regulation for the Management of Contaminated Sites and the Technical standards for environmental quality and remediation criteria for contaminated sites by hazardous chemicals, as well as associated technical

[7] To be generated under component 3

[8] To be generated under component 4

guidelines for the management of chemicals in order to ensure compliance with the "polluter pays" principle; and the simultaneous development of pilot sites under the components 3 and 4 that demonstrate the best environmental practices in chemicals management and solid waste.

174. In addition to strengthening the regulations themselves, the project will support the development of capacities for the application of the regulations in practice. One of the main strategies to this end will be the raising of awareness regarding the significance of the implications of POPs issues for the environment and for human health (under Outcome 2), and regarding the provisions of environmental legislation. This will provide those affected with increased motivation to initiate legal procedures, and increased abilities to do so, starting with the reporting of apparent infractions of environmental law to the relevant authorities (specifically, the Environmental Prosecutor). The project will also promote collaboration between relevant institutions (such as SERNA, the Environmental Prosecutor and Municipalities) in the investigation and processing of notifications of environmental infractions, allowing legal procedures to be followed through efficiently and effectively.

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

Communication and information campaign on the Sound Management of chemicals and the practice of not burning waste

175. The project will contribute to the design and production of a campaign to raise awareness of chemicals and POPs with emphasis on the practice of not burning wastes. This will define an outreach strategy that includes the thematic content and media with an emphasis in 3 departments: Comayagua, Choluteca and Cortes.

176. Comayagua, Choluteca and Cortés represent poles of agricultural and industrial development with the highest rates of use of agrochemicals, and is necessary to raise awareness among the exposed population on the rational use of agrochemicals and prevent accumulation of obsolete stocks. According to the First Inventory of Dioxin and Furans (Table 5), the open air burning of wastes accounts for 97% of the emissions of these compounds into the atmosphere.

177. The awareness raising activities mentioned above, in addition to fulfilling the NIP, are in accordance with the proposal of the SAICM National Implementation Plan (SIP-Honduras), which establishes priority areas of industrial and agricultural influence, for actions of awareness raising, especially aimed at people exposed to hazardous chemicals.

178. The project will work in 12 municipalities of three departments: Comayagua (Comayagua, Ajuterique, Lejamaní), Choluteca (Choluteca, Apacilagua, Concepción de María, El Corpus, El Triunfo, San Marcos de Colón), Cortes (Choloma, La Lima, Villanueva). 170,000 people are considered as beneficiaries (which correspond to 40% of the total population of the departments of Comayagua, Choluteca and Cortes) who will be sensitized on the environmentally sound management of chemicals and pesticides with emphasis on the practice of not burning of wastes. Project staff and CESCCO representatives will visit these municipalities where the campaign is developed in order to evaluate the desired behavior change to which the awareness program will contribute.

Development and implementation of a training plan for the National Management Commission

179. Under component 1, the project will support the formalization of the NMC, the mainstreaming of chemicals management in relevant government institutions (with SAICM project support) and the development of a work plan of this coordination mechanism. Under this component, it will implement a training plan of government authorities, local governments, private business representatives, chambers of commerce, farmers' association, professional associations and NGOs specializing in management of chemicals with emphasis on chemical safety (industrial and agricultural). At least 2 training workshops will be developed per year starting from the first year.

180. Based on the results of workshops and meetings held during the formulation of NIP and in the PPG phase with actors working in relation to chemical substances, high priority will be accorded by the project to training employees and representatives in lifecycle management of chemicals, occupational safety, first aid for poisoning, management of contaminated sites, in addition to other themes that will be defined during project execution.

181. The following key institutions will be targeted by this training plan: i) Ministry of Agriculture and Livestock, ii) Ministry of Health, iii) Ministry of Industry and Trade, iv) Ministry of Finance, v) ENEE, vi) Fire Department, vii) COHEP, viii) ANDI, ix) Municipalities of Tegucigalpa, Choloma, San Pedro Sula, Comayagua and Choluteca x) farmer networks and others.

182. The project, and CESCCO as executive secretary of the NMC, will ensure that human resources are dedicated to staff training and ensuring the sustainability of the management of chemicals.

Development and implementation of a training program on Sound Management of Chemicals in secondary schools at the formal education system

183. The project will contribute to the definition of a strategy for a formal education on the issue of chemicals management in the secondary level (seventh, eighth and ninth grade). This will be coordinated with the Ministry of Education, regarding how to insert into the strategy into the national curriculum, specifically into the content of natural science courses.

184. During the preparatory phase it was agreed with the Pedagogical Services Directorate (Ministry of Education) that once the strategy is defined during the project execution a technical review of the proposed educational content (to be generated by the Project) will be made by the Curriculum Design Section and the Department of Environmental and Health Education and Communication (DECOAS) for formal incorporation into the national educational curriculum.

185. Once the thematic content is ready, the project in coordination with the Ministry of Education will work in the training of **350 school teachers** representing **70% of schools nationwide** approximately. It will also seek to train personnel of the Ministry of Education (18 departmental directors, 6 members of teachers' colleges and 6 DECOAS technical staff) in order to achieve long term sustainability and wide scale replication.

186. Once the teachers are trained, these will apply the knowledge gained to approximately 244,330[9] students, distributed in 18 departments of the country. This will be accompanied by evaluation of this teaching by the project staff and the Ministry of Education. This one off training of teachers with project

[9] Corresponds to an estimated 70% of students enrolled in secondary school in 2009 at national level

support will allow this knowledge to be transmitted to successive generations of students into the foreseeable future, resulting a large and growing cumulative impact.

Creation and implementation of a Postgraduate program in Risk Management of Chemicals

187. Currently the Autonomous University of Honduras is developing a master called "Risk and Disaster Management"; therefore we can say that there is a viable mechanism to develop and implement a educational program that integrates risk management of chemicals in the graduate program.

188. Once running the project will proceed to identify the thematic content and institutional capacities for the incorporation of risk management module of chemicals in the mentioned graduate. The subject content will be defined in a workshop with the project technical resource, SERNA, CESCCO, SAG, Ministry of Health, Fire Department, UNAH including SIC, with the aim of identifying institutional capacities to support the implementation of postgraduate.

189. Also the project will support with assistance from a professor or an international expert in risk management for chemicals to help with the implementation of the module within the UNAH postgraduate

190. Different professionals from government institutions and others directly involved with the life cycle of chemicals and hazardous wastes will be pursuing graduate studies in the medium term (within the first two years of the project).

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

Management and disposal of stocks of POPs Pesticides

191. The project will support the development of a plan for safe storage and disposal of 18 tons of POPs pesticides identified in the first national inventory. Studies carried out during the preparatory phase by the National Clean Production Center identified no further stocks of these products in the private sector.

192. Also the project will support training workshops to owners and staff associated with the management of POPs pesticides, as well as the NMC in terms of sound management of these products and personal protection. Investment in the NMC will help to ensure that there will be national capacities to continue training activities on a permanent basis after the project ends.

193. The project also will provide technical advice to the Ministry of Health to take action to improve a secure temporary storage center of stockpiles of POPs pesticides before they are eliminated in Europe through the incineration method, in compliance with national export procedures for hazardous waste and the guidelines of the Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal.

Strengthening of National and Local Capacities for the Management of sites contaminated with POPs Pesticides.

194. The project will collaborate with the development and implementation of a **plan of containment and remediation of contaminated sites by POPs pesticides**; during the preparatory phase 6 sites were selected as priorities. Strategic alliances will be developed with the Ministry of Health and BANADESA during the project execution for the development of pilot sites to comply with proposed measures in the plan of containment and remediation.

195. The project will contribute to the implementation of a **training program targeted at owners, workers and local authorities (municipalities)**, involving four annual workshops for the effective strengthening and compliance of the plan of containment and remediation of sites contaminated by POPs pesticides.

196. In order to reduce risk to the population in the area of influence of the storage sites, the project aims to support the development of an annual awareness raising workshop for five pilot sites (excluding the Standard Fruit Co.) to inform and evaluate jointly with the population the effectiveness of the ongoing management of the contaminated sites.

197. The inventory of these sites contaminated with POPs, and of the management actions arising from the containment and remediation plan, will be registered in the system of environmental indicators generated under component 2 of the project. This information will allow CESCCO, as focal point of the Stockholm Convention, to inform the Convention Secretariat on compliance with the NIP.

Management and disposal of equipment containing PCBs

198. As in the case of POPs pesticides, the project will collaborate in the development of a Plan for the removal, safe storage and disposal of equipment with PCBs. One of the first activities to be carried out by the project will be a detailed inventory of equipment with PCBs, complementing the First National Inventory and the results of the PROMEF project. This inventory will make a clear distinction between equipment that contains pure PCBs and that which contains oils which have been contaminated with PCBs during maintenance operations. **100 tons** of equipment with PCBs or with oils contaminated with PCBs will be handled and disposed rationally with project funds, while a number of transformers in use to be determined during project implementation will be handled and disposed of with World Bank funds under the responsibility of ENEE and technical advice from CESCCO.

199. In complement to the PROMEF project, the project will provide **technical assistance for the construction and preparation of storage centers for the safe holding of stocks of disused equipment with PCBs.** According to assessment done during the preparatory phase, 2 storage centers will be needed (their precise location will be determined during project execution): these will be provided by ENEE and upgrading works will be co financed by the World Bank.

200. The project will contribute to the removal and disposal of stockpiles of PCBs, which will be performed by a specialized company and disposed through the method of high temperature incineration in Europe.

Development of capacities for remediation of potentially contaminated sites

201. As the project will promote regulatory instruments considered as priorities for strengthening the management of hazardous waste and the remediation of contaminated sites (activities of component 1), it will collaborate with the development of a Strategy and a plan for containment and remediation of contaminated sites with PCBs, based on the "polluter pays" principle.

202. During the preparatory phase, in coordination with ENEE six potentially contaminated priority sites were identified that require attention, based on the presence of contaminated equipment and exposure of the population. The precise actions required for remediation will be determined through the containment and remediation plan once the project begins: these may vary from simply blocking land access to partial or complete site decontamination, and sampling will be conducted at sites to determine the extent of present contamination. The project will develop capacities among the owners of

contaminated sites (public and private) to define appropriate strategies for site remediation tailored to individual circumstances.

203. Strategic alliances with ENEE and private sector also will be promoted by the project to support the implementation of the action plan of the six pilot sites prioritized for containment and remediation. The project will collaborate with training on the management of contaminated sites by PCBs addressed to NMC (which includes all sectors including the private sector) and promotion of guidelines to be adopted in the pilot sites.

204. The project will promote the raising of awareness about the risks of PCBs and contaminated sites among the exposed population that lives nearby the area of the 6 pilot sites.

Sensitization to and implementation of Best Environmental Practices for the Management of PCBs

205. The project will support the design of technical guidelines such as the **Technical Guide for the sound management of PCBs** and the development of training workshops for owners of PCBs in the public and private sector and workers in five strategic cities of the country on an annual basis. This technical guide will complement the regulatory instruments required for the management of hazardous waste and management of contaminated sites according to the analysis done during the preparatory phase. Training will be provided to staff of the ENEE in safe practices for handling and maintaining equipment containing PCBs, given that at present this responsibility is assumed by the ENEE rather than other institutions or contractors. Training activities and simultaneous actions in the pilot sites will allow demonstrating the successful implementation of the above technical guidance for replication in other sites where equipment with PCBs are managed and inventoried. ENEE and CESCCO will monitor and evaluate the implementation of this guide; the PROMEF project also represents an important opportunity for the implementation and validation of this guide.

Sound environmental management of PCBs stocks in the private sector

206. During the project, 2 pilot projects will be developed with private sector industries to implement practical measures for the management of PCBs, representing an opportunity to socialize the success of these experiences previous to the development of the strategy with the private sector as mentioned above. This support will include the provision of training to private sector actors for the safe handling and maintenance of any equipment containing or contaminated with PCBs that they may hold.

Component 4. Releases of unintentionally produced POPs from current Waste Management practices are reduced.

Strengthening of Local Capacities for Integral Management of Solid Wastes.

207. The alternatives proposed in relation to reducing releases of dioxins and furans are intended to be applied jointly by donors and municipalities that invest in solid waste management, in line with the goals and objectives of the NIP. It is therefore intended to work with 5 municipalities considered as pilots (see - ANNEX I): pilot sites proposed for reducing releases of dioxins and furans). The project will contribute in the development and socialization of four master plans for integrated municipal solid waste management, based on an assessment of the local situation in four municipalities of the country (Comayagua, Tela, La Ceiba and the Central District of Tegucigalpa and Comayaguela). PAHO will work on joint investments to finance the development of the Master Plan of the Municipality of Santa Rosa de Copan. GEF incremental support will focus especially on addressing the aspects of the waste management chain that are most crucial for achieving reductions in emissions of dioxins and furans, for example by ensuring that sound management of waste in the final disposal sites is complemented with adequate

coverage of collection services (in order to address the phenomenon of backyard burning) and that the relevant local entities have the technical capacities to put this into practice and to monitor the corresponding impacts.

208. At present, a large proportion of household wastes are burnt in local people's backyards due to a combination of inadequate coverage of collection services and limited awareness of the negative health impacts that this generates, associated with the dioxin and furan emissions that result. Likewise, the project will strengthen local capacities in Integrated Solid Waste Management through the development of an annual training workshop for local people, in order to raise awareness of, for example, the health impacts of backyard burning. The project will support the implementation of the Municipal Master Plans in the development and implementation of an Environmental Oversight Plan aimed at not burning household waste in the 5 pilot municipalities. Monitoring and evaluation of the Environmental Oversight Plan will be carried out in conjunction with local municipal authorities and civil organizations in the municipalities.

209. The preparation and publication of a Technical Guide for Municipal Solid Waste Management will be supported by the project and will contribute to the effective implementation of the Master Plans.

Awareness raising on Non-burning of solid wastes in local communities

210. The project will assist in implementing an Awareness Plan, aimed at the not-burning of solid waste in the five pilot municipalities identified as proposed above (this is specific to the five pilot municipalities, as opposed to the general communication and information campaign proposed in paragraph 175). Six specific campaigns are planned for each of the municipalities per year; aimed at supporting municipal authorities in the context of solid waste management.

Systematization of pilot sites on solid waste management for replication in other municipalities

211. The systematization of successful experiences on the management of solid waste will be undertaken by the project with emphasis on best practices and management techniques in the stage of final disposal of solid waste, as well as successful management practices to reduce burning of household waste. In the same vein, the project will develop a plan for replication of successful experiences in selected municipalities with government authorities.

Adoption of best available techniques and best environmental practice in the private sector to reduce dioxin and furan emissions

212. The project will support the development, validation, socialization and implementation of a plan to strengthen private companies for the adoption of BAT/BEP for the management of industrial solid waste and subsequent reduction of dioxins and furans by uncontrolled burning of waste.

213. The implementation of these practices will be carried out through the execution of a plan to promote practices of reduction, reuse, recycling and trading of industrial solid waste in Honduras through the Industrial Waste Exchange of Central America and the Caribbean called **BORSICCA** (http://www.borsicca.com). At least three workshops per year (subject to confirmation) will be carried out by the project on alternatives for the management and/or proper disposal of solid waste, including BORSICCA addressed to the private sector.

214. With strategic alliances that will be refined during project implementation, proper management of about **36 metric tons** industrial solid wastes will be managed through BORSICCA.

215. BORSICCA is an electronic marketing system that enables the use of industrial waste or return to the different production chains that are developed in the region, therefore, the projects will ensure the companionship of technical directions of SERNA in order to register the management actions responsible for these industrial waste, ensuring guidelines are met especially given from the international chemical agenda under the Basel Convention specifically.

Key indicators

216. As summarized in Table 10, the project Results Framework includes key indicators in the following areas, that reflect those proposed in GEF guidance on the POPs focal area:

Table 10. Summary of key indicators

Issue	Indicator	Target
Capacity development for NIP implementation	Degree of incorporation by key institutions of National Policy on sound management of hazardous chemicals and wastes, including POPs, in their activities.	Actions related to sound chemical management included in operational plans of target institutions (SAG, Ministry of Health, Ministry of Labour, SERNA)
Sustainably reduced POPs production, use and releases, through phase-out, destruction in an environmentally sound manner, and use of substitute products and alternative processes, that lead to reduced environmental and health risks resulting from POPs	Quantity of POPs and pesticides contaminated with POPs in existence	-18t (3.6t POPs pesticides and 14.4t of contaminated pesticides) eliminated (100% of amount currently inventoried)
	Total mass of PCBs contaminated equipment (unused electrical transformers and capacitors contaminated with PCBs), that have been replaced and safely disposed of (196t currently identified plus those to be replaced by the WB, which remain to be quantified by the ENEE).	100% (100t) of disused equipment found in first inventory eliminated 96t 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.
	Number of contaminated sites subject to remediation measures	Remediation measures (for example signposting, fencing or cleanup) adopted in 6 pilot sites contaminated with PCBs and 6 pilot sites contaminated with POPs pesticides (5 storehouses and a containment area of a fruit company)
	Reduction in the emission of unintentionally produced POPs from the burning of solid waste decreased by 80 g I-TEQ/year (20 % of the current estimate of), to be reassessed at the outset of project implementation.	320 g I-TEQ/year emitted from burning of solid waste and landfill fires (20% reduction over baseline level)

Risks and assumptions

Table 11. Summary of external risks that may affect the project

Risk	Level	Mitigation strategy
Limited Government commitment	Low	Awareness raising, focusing on health and environmental risks under baseline scenario
Limited private sector commitment	Medium	Awareness raising through pilots, focusing on commercial and efficiency benefits.
Human exposure or	Low	Possible accidental human exposure of environmental

environmental contamination		contamination would not have direct repercussions for the execution of the project: however in any case the project would generate guidelines, capacities and awareness that would minimize the risk of any such eventualities.
Climate change leading to increased frequency of fires and emissions of dioxins and furans	Low	Forest fires are of limited significance relative to solid waste disposal as sources of dioxins and furans. Relevance of improved solid waste disposal strategies will not be affected.

Financial modality

217. The project will be funded through a grant, which will result in the one-off strengthening of capacities.

Cost-effectiveness

218. The strategy of the project of addressing multiple POPs problems will generate cost-effectiveness benefits given that a number of issues, such as regulation, education, awareness building, capacity development and inter-institutional cooperation are cross-cutting between different types of POPs, rather than targeting one group of contaminants or sectors in separate project. This will decrease project overheads, such as management costs as compared with several smaller interventions. For the same reason, the project will go further than this and will also address the management of non-POPs hazardous chemicals and wastes, with little additional cost.

219. The project approach is aiming at complementing ongoing efforts and initiatives in non-POPs areas where POPs considerations can be introduced with a small incremental effort. This is particularly the case for project component 4.

220. International bidding will be used for the disposal activities and it is therefore expected that highly competitive prices will assure that cost-effectiveness will be achieved.

221. Estimates of the costs of disposal of pesticides and PCBs are presented in -ANNEX II: these estimates include all stages in the process, including labeling, packaging, transport to the final disposal site in Europe, and incineration.

Sustainability

222. The project will focus principally on strengthening institutional capacities as they key to long term sustainability. A key figure in this regard will be the National Management Committee, which will serve to channel and coordinate institutional activities and thereby maintain the momentum of national actions related to hazardous chemicals and solid wastes: the project will therefore pay particular attention to formalizing and consolidating this committee.

223. Another key strategy of the project to ensure sustainability will be its attention, under component 3, to promoting awareness of POPs-related issues among diverse sectors of the population. In addition to direct one-off awareness raising, sustainability will be furthered by introducing POPs-related issues into the syllabi of educational institutions at secondary and postgraduate levels, allowing awareness-raising to become a continuous process into the foreseeable future.

224. Thirdly, the project will ensure that a legal framework exists which will convert policies on POPs-related issues into binding commitments and will formalize the responsibilities of the different institutions involved.

225. Finally, sustainability will be ensured by assisting relevant actors, in particular municipal governments, to identify and apply best available practices that combine effectiveness with practicality, tailored to the magnitude and nature of their technical and financial resources.

Replicability

226. The project will achieve nationwide impacts through two strategies: firstly, enhancement of the policy, regulatory and institutional framework at national level, which will have implications for how hazardous chemicals and solid wastes are handled throughout the country; and secondly, the establishment of pilots of solid waste management in sites distributed throughout the country under diverse conditions. These pilots (see -ANNEX I) have been selected according to two criteria: the potential to generate direct impact there in terms of reductions of dioxin and furan emissions, and the potential to generate replicable lessons. The following replication sites have been identified for the pilots described in -ANNEX I:

Table 12. Proposed targets for replication of pilot experiences

Pilot	Proposed replication area
1. Comayagua (Comayagua Department)	- Siguatepeque (Comayagua Department)
2. El Danto community, La Ceiba (Atlantida Department)	- Other districts in the municipality of La Ceiba - Choloma (Cortés Department)
3. Tegucigalpa (Francisco Morazán Department)	- San Pedro Sula (Cortés Department)
4. Tela (Atlántida Department)	- Choluteca (Choluteca Department)
5. Santa Rosa de Copán (Copán Department)	- Danlí (El Paraíso Department)

III. PROJECT RESULTS FRAMEWORK:

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: 5.1. Towards 2008, an integrated national environmental policy promoting equal access as well as the sustainable use and conservation of natural resources.
Country Programme Outcome Indicators: 5.1.3 The principal pilot cities and municipalities fortify their capacities for the elaboration and implementation of management plans for solid wastes.
Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one): 1. Mainstreaming environment and energy
Applicable GEF Strategic Objective and Program: Persistent Organic Pollutants – POP
Applicable GEF Expected Outcomes: POPS SP1 and SP2
Applicable GEF Outcome Indicators: I – 1 Legislative and regulatory framework in place for the management of POPs, and chemicals more generally in Honduras. I -2 Strengthened and sustainable administrative capacity, including chemicals management administration within Central Government in Honduras. I – 3 Strengthened and sustainable capacity for enforcement in supported countries. • II – 1 Reduced risk of exposure to POPs of the local communities living close to contaminated sites and depending on fish from e.g. Pilot sites

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
Project Objective[10] **(equivalent to output in ATLAS)** 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	Degree of incorporation by key institutions of National Policy on sound management of hazardous chemicals and wastes, including POPs, in their activities.	Key institutions do not have an effective coordination mechanism and the current one is not officially formalized. There is not an approved National Policy on chemicals to provide of specific goals on Chemicals Management in Honduras, everyone works separately.	Actions related to sound chemical management included in operational plans of target institutions (SAG, Ministry of Health, Ministry of Labour, SERNA)	SAICM Mainstreaming Strategy NMC executive decree NMC Work plan Key Institutions Operational Plans	There is an interest of the executive power, as well of all institutions of the NMC to develop a work plan and approve it Funds are included for operational plans. The site owners and other public and private actors involved are not committed to the environmentally sound management of POPs pesticides. Suitable sites for temporary storage are not prepared
	Quantity of POPs and pesticides contaminated with POPs in existence	18t (3.6t POPs pesticides and 14.4t of contaminated pesticides) are currently inventoried	No POPs pesticides or pesticides contaminated with POPs (0t) are reported.	Final reports of the elimination of pesticides POPs.	
	Total mass of PCBs contaminated	First inventory found 58t of	100% (58t) of disused	Final reports of the	

[10] *Objective (Atlas output) monitored quarterly ERBM and annually in APR/PIR*

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
	equipment (unused electrical transformers and capacitors contaminated with PCBs), that have been replaced and safely disposed of	disused equipment with PCBs and 138t still in use. Currently an estimated of 45t of equipment with PCBs are kept by ENEE, of which 42t (13t identified in first inventory without label information and 29t currently found) are disused and 3t are still in use. Additional amount still in use, remaining to be quantified by ENEE under WB project (PROMEF).	equipment found in first inventory and (42t) of disused equipment currently found held by ENEE are eliminated having a grand total of 100t 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.	elimination of PCBs done by GEF project. Final reports of the elimination of PCBs done by PROMEF project.	Disposal projects are not a priority for the ENEE authorities There is no willingness of the authorities of the Secretary of Health and ENEE to proceed with implementing the plan of containment and remediation of contaminated sites. The generators are not conscious and are willing to invest to implement BAT and BEP. Those involved in the experience, are not interested in transmitting. - No municipalities interested in replicating these experiences.
	Number of contaminated sites subject to remediation measures	18 potentially contaminated sites with pesticides POPs exist (1st Inventory). 5 contaminated sites with PCBs and 18 sites are considered as potentially contaminated with PCBs (1st Inventory); an additional site was found to date.	Remediation measures adopted in 6 pilot sites contaminated with PCBs and 6 pilot sites contaminated with POPs pesticides (5 storehouses and a containment area of a fruit company)	Technical reports on remediation of sites contaminated by POPs pesticides and PCBs. National Inventory of contaminated sites.	
	Reduction in the emission of unintentionally produced POPs from the burning of solid waste and landfill fires	The first inventory of dioxins and furans reported 400 g I-TEQ/year, only for the sub category of solid waste burning and fires in municipal dumps. Baseline figure to be confirmed	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.**	Updated Inventory of Dioxins and Furans estimated emissions.	

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
Outcome 1[11] Existence of adequate Institutional capacities and regulatory and policy framework for the management and elimination of POPs and the reduction of their impacts	Percentage of budget requirements of lead authority (CESCCO) satisfied for analysis and regulatory roles	CESCCO currently do not have self-sustaining financial resources or personnel resources to address the management of chemicals in Honduras.	100% of budget requirements of lead authority (CESCCO) satisfied for analysis and regulatory roles	Strategic Institutional plan Yearly Financial Status Report	There is interest from the central government and SERNA to allocate national funds for implementation of SMC. There is an interest of the sectors that involves the NMC to execute a work plan: private, governmental, academic, local governments, NGO, and civil associations. The key actors, (NCA and NMC) support the development, approval and implementation of these instruments. The instruments clearly define responsibilities for implementation and identify funding sources for its financing. Political will of key institutions in the operation of the indicator system is not permanently. Clear defined responsibilities of CESCCO according to new instruments to be adopted within the framework of the SMC and is designated CESCCO as the technical directorate responsible. There is a clear accounting and there are no transfers according to the proportion of institutional needs of
	Frequency of meetings of National Management Committee (without GEF financial support)	Meetings only held with external project support, for design of NIP enabling project and SAICM implementation plan having no specific national budget lines to be sustainable.	Medium Term Work Plan elaborated and 4 meetings held per year. Integration of sound management of chemicals in 4 key institutions.	NMC Work plan Inter institutional Cooperation Agreements Meeting Acts	
	Existence and implementation of appropriate regulatory instruments and guidelines regarding solid waste management and chemicals management	Regulatory Framework has gaps that prevent inter-agency coordination and clear guidelines on how to conduct a comprehensive management approach based in life cycle of chemicals. Lack of specific regulations for site remediation and hazardous waste management, as well as technical and practical guidelines for municipalities on solid waste management.	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 and remediation criteria for contaminated sites, sound management of PCBs and Solid Waste Management.	National Gazette reflecting regulation's publication Technical Guides published	
	Adequacy of procedures for monitoring effectiveness of management of POPs and other chemicals	Currently does not operate a system of effective information exchange between possessors of POPs (and UPOPs	System of indicators related to POPs and hazardous wastes is operating in CESCCO.	System operational Manual Centralized database	

[11] *All outcomes monitored annually in the APR/PIR. It is highly recommended not to have more than 4 outcomes.*

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
		releasers) and regulatory institutions. Conditions are unknown for hazardous waste and their holders.		in CESCCO	CESCCO.
	Percentage of laboratory analyses required to monitor the implementation of national policy on hazardous chemicals and wastes being carried on a cost recovery basis	CESCCO currently is not sustainable, only 10% are being carried on a cost recovery basis	80% of laboratory analyses are being carried on a cost recovery basis (derived from the implementation of the National Policy).	Strategic Institutional Plan of CESCCO with chemicals management goals. CESCCO´s yearly financial status report	
Outcome 2 Increased awareness regarding the nature, impacts and management of hazardous chemicals and wastes	Number of high schools nationwide that include issues of hazardous chemicals and wastes, risks and legislation in primary and secondary education.	Environment has been mainstreamed into the national educational curriculum, however there is no reference to the issue of teaching COPs, the chemical approach is contained only in pesticides.	350 secondary schools (70% of all official state secondary schools) have inserted in the subject of natural science, the theme of chemicals management.	Teacher training plans. - Aide Memoire, attendance at training workshops, technical meetings, technical reports during the training process (teachers-students).	Little interest by the Secretary of State for Education, Departmental Directors and Teachers to incorporate SMC especially POPs in institutional activities. No additional budget allocation for the sustainability of the training program. No approval in a timely manner of the programs created and updated.
	Number of postgraduate programmes that include aspects of risk management of hazardous chemicals in their pensum.	No graduate program now considers the risk management for chemicals, there is only the risk management approach for natural phenomena.	1 graduate program of the Autonomous University of Honduras has inserted chemicals management in their curricula and is studied by representatives of the sector.	Letter of understanding with the UNAH. Documentary evidence of the approved module. Certificates of enrolment and graduation of postgraduates	
	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	Awareness of chemical and waste issues is virtually inexistent (baseline to be defined precisely at project start)	170,000 people are awareness on 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)	Household questionnaire (to be developed at project start)	

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
	Numbers of staff members of key institutions with knowledge of chemicals management issues such as lifecycle management of chemicals, occupational safety, first aid for poisoning, management of contaminated sites	Baseline to be developed at project startup	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).	Institutional surveys	
Outcome 3 Sound environmental management and elimination of intentionally produced POPs	Number of sites subjected to detailed inventories of PCB stocks.	Sites inventoried to date Private sector: 48 ENEE: 70 Other public facilities: 1 Total: 119	Additional sites to be inventoried Private sector: 70 ENEE: 20 Other public facilities: 10 Total: 100	Second National Inventory of PCBs with emphasis on the private sector.	The site owners and other public and private actors involved are not committed to the environmentally sound management of PCB. The remediation of sites contaminated with PCBs is not a priority for the different actors involved. The private sector maintains its commitment to implement the strategy and reports regularly to the competent authority its fulfilment. There is no willingness on behalf of the authorities of the Ministry of Health on the suitability of the site. There is no availability of a proper site property of ENEE
	Total mass of PCB equipment to which the private sector has made a commitment for replacement and disposal	Current mass to be determined through inventories (5t found to date)	Commitments exist to eliminate 30t of PCBs equipment (subject to results of inventory)	Strategy for the removal, replacement, proper management and disposal of PCBs equipment with the private sector.	
	Number of storage sites containing or intended for POPs pesticides and PCBs in the country that have adequate conditions for safe temporary storage.	One store house with regular conditions for the containment of pesticides POPs, one vault of the private sector that contains 3.5 tons of DDT. Four store houses with inadequate containment conditions of contaminated pesticides with POPs.	2 sites for centralization of equipment contaminated with PCBs to be financed by ENEE and 1 site for POPs contaminated pesticides to be financed by Ministry of Health, with adequate storage conditions, containing chemicals currently stored	Construction and operational report of the collection centres of PCBs equipment by ENEE Upgrading and operational report of the collection centre of pesticides POPs stocks	

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
		15 sites disused equipment containing PCBs.	in other sites (POPs pesticides and the ones contaminated with POPs held in 4 storehouses.	by Ministry of Health. Chemicals tracking database ????	with strategic location and suitable for safe storage. Environmental authorizations for new temporary storage facilities takes longer than foreseen.
	Number of members of staff of ENEE and private sector with knowledge of safe PCB management	To be determined through staff surveys to be carried out at project start up	Target to be defined at project start up	Staff surveys	
Outcome 4 Minimized releases of unintentionally produced POPs from current Waste Management practices.	Number of municipalities implementing Integral Management of Solid Waste.	Currently all municipalities show weakness in the management of solid waste, it prevail open burning of wastes at the stage of final disposal and limitations on the collection service, with backyard waste burning practices. Local governments do not have a comprehensive perspective on solid waste management.	5 municipal pilot projects developing Master Plans for integral management of solid wastes.	City Master Plan in each of the pilot municipalities. - Plan training and workshop reports. - Materials (guides) - Final Document of the Environmental Monitoring Plan - Progress Reports of the Monitoring Plan prepared by the municipal authorities - Reports of monitoring and evaluation of Environmental Monitoring Plan.	Local authorities are not willing to participate in the formulation of master plans for solid waste management because its implementation affects generators. Environmental permit extends the landfill execution. The municipal technical personnel capable of maintaining monitoring and control to avoid burning of solid waste in landfills.
	Reduction in the amount of solid wastes that are burnt	Approximately 80% of solid wastes in rural areas and 1% of solid wastes in urban areas are burnt (a total of around 250,000t, although baseline figures will be confirmed at startup)	Total amount of solid waste burnt is reduced by 50,000t	Inspections of a sample of waste disposal sites	
	Number of municipal waste disposal sites with adequate management practices (non-burn)	Usually in the country the burning of solid waste at the disposal stage is a voluntary practice, and occasionally happens accidentally.	5 municipal pilot projects implementing integral management of solid wastes including non-burning practices of wastes in domestic and	Final Document of the Environmental Monitoring Plan - Progress Reports of the Monitoring Plan prepared by the	

	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
			landfill area.	municipal authorities - Reports of monitoring and evaluation of Environmental Monitoring Plan.	

IV. TOTAL BUDGET AND WORKPLAN

Overview of total budget and co-finance

Project Outcomes and Components	GEF	Co Finance	TOTAL	Cescco / SERNA	Presidential Commission	Municipal Government of Comayagua	Municipal government of La Ceiba	Municipal District of the Central District	Norther Cement	National Council for Cleaner Production	Grupo Terra	Honduran Institute of Tourism	UNEP/UNDP SAICM Project
Outcome 1: Institutional capacities developed and regulatory and policy framework strengthened for the management and elimination of POPs and the reduction of their impacts	403,518	1,204,000	1,607,518										
Component 1.1 .Strengthening of Institutional Capacities (SERNA)	167,150	1,054,000	1,267,150	879,000	25,000								150,000
Component 1.2 Strengthening of Capacities of the National Commission.	92,368	125,000	217,368		25,000								100,000
Component 1.3 Strengthening of the legal framework.	144,000	25,000	169,000	25,000									
Outcome 2. Awareness increased (hazardous chemicals and wastes)	259,844	1,180,410	1,440,254										
Component 2.1 Communication and information campaign	46,702	389,410	436,112								389,410		
Component 2.2 Development and implementation of a training plan	144,620	281,000	425,620								281,000		
Component 2.3 Development and implementation of a training program (secondary schools)	47,622	500,000	547,622								500,000		
Component 2.4 Creation and implementation of a Postgraduate program.	20,900	10,000	30,900	10,000									

Outcome 3: Sound environmental management and elimination of intentionally produced POPs	993,890	4,067,673	5,061,563										
Component 3.1 Management and disposal of stocks of POPs Pesticides	89,684	36,000	125,684	36,000									
Component 3.2 Strengthening of National and Local Capacities (contaminated sites with POPs Pesticides).	77,473	50,000	1,077,473	50,000									
Component 3.3 Management and disposal of equipment containing PCBs	612,083	2,950,000	2,612,083		2,950,000								
Component 3.4 Development of capacities for remediation of potentially contaminated sites	77,483	700,000	777,483		700,000								
Component 3.5 Sensitizationand implementation of Best Environmental Practices for the Management of PCBs	82,583	300,000	382,583		300,000								
Component 3.6 Sound environmental management of PCBs stocks in the private sector	54,583	31,673	86,256						31,673				
Outcome 4: Releases of unintentionally produced POPs from current Waste Management practices are reduced.	727,748	5,731,497	6,459,245										
Component 4.1 Strengthening of Local Capacities for Integral Management of Solid Wastes.	212,237	4,012,181	4,224,418			1,000,000	52,750	1,459,431				1,500,000	
Component 4.2 Awareness raising on Non-burning of solid wastes in local communities	196,937	1,589,643	1,740,580			696,727	20,000	525,569				347,347	
Component 4.3 Systematization of pilot sites on solid waste management for replication in other municipalities	161,937	58,000	219,937			15,000	15,000	15,000				13,000	
Component 4.4 Adoption of best available techniques and best environmental practice in the private sector to reduce dioxin and furan emissions	156,637	71,673	228,310			4,673				40,000		27,000	
Outcome 5. Project Management	265,000	400,000	665,000	400,000									
TOTAL	**2,650,000**	**12,583,580**	**15,233,580**	**1,400,000**	**4,000,000**	**1,716,400**	**87,750**	**2,000,000**	**31,673**	**40,000**	**1,170,410**	**1,887,347**	**250,000**

The overview of total budget and co-finance table gives an comprehensive overview of how different co-finance sources will contribute to project objectives, outcomes and project components. Co-finance numbers have been assigned in the best possible way to reflect how they will contribute to project success and impact. The actual co-finance contribution will be closely monitored during project implementation and will be reported to the GEF SEC annually and during mid-term and final evaluations of the project. Each of the activities funded by co-finance will contribute towards the sound management and chemicals and reducing the risk of exposure to POPs to the people and the environment.

Total Budget GEF funds

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD:
5.1. Towards 2008, an integrated national environmental policy promoting equal access as well as the sustainable use and conservation of natural resources.
Country Programme Outcome Indicators:
5.1.3 The principal pilot cities and municipalities fortify their capacities for the elaboration and implementation of management plans for solid wastes.
Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one): 1. Mainstreaming environment and energy
Award ID: 00050742 Project ID: 00074944 PIMS: 4229 Business Unit: HON
AWARD Title: PIMS 4229 HON FSP Strengthening National Management Capacities and reducing releases of POPs in Honduras
Implementing Partner (Executing Agency): CESCCO / SERNA Honduras

GEF Outcome/Atlas Activity	Responsible party	Source of funds	Atlas Budgetary Account Code	ERP/ATLAS Budget Description/ Input	Year 1	Year 2	Year 3	Year 4	Total	
					US$	US$	US$	US$	US$	
1		GEF	International Consultants	71200	-	3,600	3,600	3,600	10,800	1
			Local Consultants	71300	57,000	24,000	24,000	-	105,000	2
			Contractual Services - Individ	71400	29,842	29,842	29,842	29,842	119,368	3
			Travel	71600	-	7,000	7,000	7,000	21,000	4
			Contractual Services-Companies	72100	30,000	6,000	4,000	2,500	42,500	5
			Equipment and Furniture	72200	-	-	-	4,000	4,000	6
			Materials and Goods	72300	20,250	-	-	-	20,250	7
			Information Technology Equipmt	72800	3,000	-	-	-	3,000	8
			Audio Visual&Print Prod Costs	74200	-	-	-	36,000	36,000	9
			Training	75700	10,400	10,400	10,400	10,400	41,600	10
	Total Outcome Cost				150,492	80,842	78,842	93,342	403,518	
2		GEF	Local Consultants	71300	17,600	2,000	2,000	2,000	23,600	11

			Contractual Services - Individ	71400	29,842	29,842	29,842	29,842	119,368	12
			Travel	71600	1,800	1,900	1,900	1,900	7,500	13
			Contractual Services-Companies	72100	10,770	6,770	6,770	6,770	31,080	14
			Materials and Goods	72300	246	-	-	-	246	15
			Training	75700	11,150	46,100	10,400	10,400	78,050	16
	Total Outcome Cost				71,408	86,612	50,912	50,912	259,844	
3		GEF	Local Consultants	71300	64,000	16,000	7,000	4,000	91,000	17
			Contractual Services - Individ	71400	3,850	3,850	3,850	3,850	15,400	18
			Travel	71600	6,300	3,100	3,900	1,500	14,800	19
			Contractual Services-Companies	72100	26,490	87,500	604,000	2,500	720,490	20
			Audio Visual&Print Prod Costs	74200	9,600	-	-	-	9,600	21
			Training	75700	29,950	45,150	37,550	29,950	142,600	22
	Total				140,190	155,600	656,300	41,800	993,890	
4		GEF	International Consultants	71200	22,500	22,500	-	-	45,000	23
			Local Consultants	71300	24,600	22,000	7,000	69,000	122,600	24
			Contractual Services - Individ	71400	29,842	29,842	29,842	29,842	119,368	25
			Travel	71600	3,800	6,000	1,500	7,000	18,300	26
			Contractual Services-Companies	72100	3,000	58,500	46,500	45,000	153,000	27
			Equipment and Furniture	72200	30,000	-	-	-	30,000	28
			Supplies	72500	-	35,000	-	-	35,000	29
			Information Technology Equipmt	72800	-	10,000	-	-	10,000	30
			Rental & Maint of Info Tech Eq	73300	8,635	8,635	8,635	8,635	34,540	31
			Audio Visual&Print Prod Costs	74200	22,000	29,000	29,000	17,000	97,000	32
			Miscellaneous Expenses	74500	535	535	535	535	2,140	33
			Training	75700	21,900	15,900	11,500	11,500	60,800	34
	Total				166,812	237,912	134,512	188,512	727,748	
5 Project Management		GEF	International Consultants	71200	-	15,000	-	15,000	30,000	35
			Local Consultants	71300	-	6,000	-	6,000	12,000	36
			Contractual Services - Individ	71400	37,400	37,400	37,400	37,400	149,600	37
			Travel	71600	-	6,500	-	6,500	13,000	38
			Contractual Services-Companies	72100	6,000	3,000	3,000	3,000	15,000	39
			Equipment and Furniture	72200	2,000	-	-	-	2,000	40

			Information Technology Equipmt	72800	5,000	-	-	-	5,000	41
			Rental & Maintenance-Premises	73100	9,600	9,600	9,600	9,600	38,400	42
	Total				60,000	77,500	50,000	77,500	265,000	
	Totals by financing source	GEF			588,902	638,466	970,566	452,066	2,650,000	
					3,520,762	7,438,587	1,007,263	616,968	12,583,580	
Totals					4,109,664	8,077,053	1,977,829	1,069,034	15,233,580	

Source of funds

GEF	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	Total
CESCCO/SERNA	350,000.00	350,000.00	350,000.00	350,000.00	1,400,000.00
Presidental Commission for the Modernization of the State (World Bank Loan for ENEE)	1,000,000.00	3,000,000.00	0.00	0.00	4,000,000.00
Municipal Government of Comayagua (DANIDA Regional Environment Programme PROMECA)	566,412.00	1,149,988.00	0.00	0.00	1,716,400.00
Municipal Government of La Ceiba (DANIDA Regional Environment Programme PROMECA)	87,750.00	0.00	0.00	0.00	87,750.00
Municipal Government of the Central District (Honduras-Spain Debt Reconversion administered by CABIE)	500,000.00	1,000,000.00	250,000.00	250,000.00	2,000,000.00
Northern Cement (Cementos del Norte)	7,126.38	10,452.02	7,126.38	6,968.02	31,672.80
National Council for Cleaner Production	10,000.00	10,000.00	10,000.00	10,000.00	40,000.00
Grupo Terra	390,136.75	390,136.75	390,136.75	0.00	1,170,410.25
Honduran Institute of Tourism (Honduras-Spain Debt Reconversion administered by CABIE)	471,836.81	1,415,510.44	0.00	0.00	1,887,347.25
UNDP/UNEP SAICM project	137,500.00	112,500.00	0.00	0.00	250,000.00

Budget notes

	Budgetary account	Atlas code	4 year total ($)	Item amount ($)	Budget notes
Outcome 1 (total $403,518)					

1	International Consultants	71200	10,800	10,800	24 days for development of methodologies for POPs analysis in CESCCO
2	Local Consultants	71300	105,000	3,000	15 days for consultation on instruments proposed for sound chemicals management
				8,000	40 days for development of system of indicators
				6,000	30 days to develop database and operational manuals
				4,000	20 days to develop pricing structure for CESCCO analyses
				12,000	60 days for supporting institutional design of CESCCO
				72,000	360 days for development of legal instruments for sound chemicals management
3	Contractual Services - Individ	71400	119,368	15,400	10.7% of salary of project coordinator
				103,968	48 months salary of component coordinator
4	Travel	71600	21,000	21,000	Travel and DSA for consultant supporting development of methodologies for POPs analysis in CESCCO
5	Contractual Services-Companies	72100	42,500	2,500	Workshops for consultation on instruments proposed for sound chemicals management
				1,500	Workshops for socialization of instruments proposed for sound chemicals management
				3,000	Workshop on environmental indicators
				3,000	Workshops on environmental design of CESCCO
				1,000	Workshop on strategies for increasing budgetary allocation of CESCCO
				1,500	Workshop on development of methodologies for POPs analysis by CESCCO
				13,000	Workshops for development of institutional strategies for incorporation of sound chemicals management
				8,000	Workshops to develop medium term strategic plan for NMC
				9,000	Workshops for development of legal instruments for sound chemicals management
6	Equipment and Furniture	72200	4,000	4,000	Office equipment for Chemicals Department in SERNA
7	Materials and Goods	72300	20,250	20,250	Laboratory supplies for CESCCO
8	Information Technology Equipment	72800		3,000	Software for management of environmental indicators
9	Audio Visual&Print Prod Costs	74200	36,000	6,000	Publications on results of first inventory of POPs
				15,000	Publications on laboratory analysis
				15,000	Publications on instruments for sound chemicals management
10	Training	75700	41,600	28,800	64 days of international consultant for training of laboratory analysis of POPs
				12,000	Workshops for training on laboratory analysis of POPs
				800	Production of training materials on POPs analysis
Outcome 2					
11	Local Consultants	71300	23,600	8,000	40 days for development and implementation of awareness raising strategy
				10,000	50 days for development and implementation of programme for incorporating chemicals awareness into secondary education
				5,600	28 days for incorporation of chemicals management issues into Masters course
12	Contractual Services - Individ	71400	119,368	15,400	10.7% of salary of project coordinator

				103,968	48 months salary of component coordinator
13	Travel	71600	7,500	2,000	Travel of consultant supporting awareness raising on chemicals issues
				5,500	Travel of environmental monitoring team
14	Contractual Services-Companies	72100	31,080	6,000	Workshops for defining content of environmental awareness raising programme
				21,080	Preparation and presentation of radio slots on hazardous chemicals issues
				3,000	Workshop to define content of educational programme for secondary schools on hazardous chemicals
				1,000	Workshop to define content of Masters programme including hazardous chemicals issues
15	Materials and Goods	72300	246	246	Materials for definition of awareness raising strategy
16	Training	75700	57,050	35,700	Training of secondary school teachers in incorporation of hazardous chemicals issues (workshops, travel, publications)
				42,350	Training of public and private sector actors in sound chemical management
Outcome 3					
17	Local Consultants	71300	85,000	3,000	15 days for design and elaboration of a training plan for the private sector regarding hazardous chemicals
				6,000	30 days for production of a plan for the safe storage and elimination of POPs pesticides
				18,000	90 days for production of a plan for the confinement and cleanup of sites contaminated with POPs pesticides
				8,000	40 days for updating of the inventory of POPs stocks in the private sector
				8,000	40 days for development and implementation of a plan for raising awareness of POPs pesticides among exposed population
				6,000	30 days for development of a plan for the removal, storage and elimination of PCB equipment
				6,000	30 days for development and execution of a strategy with the private sector for POPs management
				18,000	90 days for development of a plan for the confinement and cleanup of sites contaminated with PCBs
				8,000	40 days for development and implementation of a plan for raising awareness of PCBs among exposed population
				4,000	20 days for design of materials on sound environmental management
				6,000	30 days for design of pilot activities with the private sector for POPs management
18	Contractual Services - Individ	71400	15,400	15400	10.7% of salary of project coordinator
19	Travel	71600	14,800	6,000	DSA for consultant for awareness raising among at risk population around sites contaminated with POPs pesticides and PCBs
				4,000	DSA for consultant involved in development of inventory of POPs held by private sector
				800	DSA for workshop for socialization of results of POPs inventory
				3,200	DSA for consultant supporting POPs management in the private sector
				800	DSA for consultant involved in socializing POPs pilot activities
20	Contractual Services-	72100	695,990	2,000	Workshop to develop plan for safe storage and elimination of POPs pesticides

	Companies			2,000	Workshop to validate and socialize plan for training of private sector actors
				10,000	Upgrading of a storage centre for the temporary storage of POPs pesticides
				63,000	Safe storage and elimination of POPs pesticide stocks through high temperature incineration overseas (Europe)
				2,000	Workshop to develop plan for confinement and cleanup of sites contaminated with POPs pesticides
				9,990	Soil analysis of sites contaminated with POPs pesticides
				3,000	Workshop for socialization of results of first POPs inventory
				5,000	Food for participants in workshop to raise awareness among at risk population regarding POPs pesticides
				2,000	Workshop to develop plan for the removal, safe storage and disposal of equipment with PCBs
				3,000	Design of storage areas for equipment with PCBs
				400,000	Removal and gradual disposal of PCBs stocks by high temperatura incineration, overseas, by a specialized company
				200,000	Setting up / upgrade safety procedures to protect workers safety, training to avoid cross contamination of PCBs in transformers maintenance, etc.
				1,500	Workshop to socialize results of pilot activities on POPs management
				2,000	Workship to develop plan for confinement and cleanup of sites contaminated with PCBs
				10,000	Soil analysis for sites contaminated with PCBs
				5,000	Food for participants in workshop to raise awareness among at risk population regarding PCBs
21	Audio Visual&Print Prod Costs	74200	9,600	9,600	Production of publications regarding sound environmental management of PCBs
22	Training	75700	142,600	7,600	Training of owners and labour force regarding sound environmental management of POPs pesticides
				15,200	Training of private sector representatives on sound environmental management of intentional POPs
				30,400	Training on cleanup of sites contaminated with POPs pesticides
				30,400	Training on cleanup of sites contaminated with PCBs
				59,000	Training of owners, labour force and NMC members on sound environmental management of PCBs
Outcome 4					
23	International Consultants	71200	45,000	45,000	Development of a Municipal Master Plan for integrated management of solid wastes
24	Local Consultants	71300	122,600	24,000	120 days for development and monitoring of an environmental supervision plan directed at the issue of the burning of domestic wastes
				8,000	40 days for development and publication of guides and manuals for the integrated management of solid wastes
				15,000	75 days for development of an awareness raising plan on non-burning of domestic wastes

				60,000	300 days for systematization of successful experiences with solid and domestic waste management
				6,000	30 days for development of a strategy and plan for replication of successful pilot experiences
				9,600	48 days for development and promotion of a plan for the private sector for the implementation of best available practice for the management of solid wastes
25	Contractual Services - Individ	71400	123,400	15,400	10.7% of salary of project coordinator
				103,968	48 months salary of component coordinator
26	Travel	71600	18,300	4,500	DSA for consultant supporting development of a Municipal Master Plan for integrated management of solid wastes
				6,000	DSA for consultant supporting development and monitoring of an environmental supervision plan directed at the issue of the burning of domestic wastes
				1,500	DSA for consultant supporting development of an awareness raising plan on non-burning of domestic wastes
				5,000	DSA for consultant carrying out systematization of successful experiences with solid and domestic waste management
				500	DSA for consultant developing strategy and plan for replication of successful pilot experiences
				800	DSA for consultant developing and promoting plan for the private sector for the implementation of best available practice for the management of solid wastes
27	Contractual Services-Companies	72100	153,000	12,000	Workshop for socialization of Municipal Master Plan for integrated management of solid wastes
				135,000	Campaign to raise awareness of the importance of not burning domestic wastes
				6,000	Workshops for developing and promoting plan for the private sector for the implementation of best available practice for the management of solid wast
28	Equipment and Furniture	72200	30,000	30,000	Vehicle for team members and consultants. This be used over virtually the whole national territory, both for visits to the widely-separated pilot sites, to visit further sites nationwide that potentially have POPs problems and to carry out studies, training and other forms of institutional strengthening and awareness raising nationwide. Project success depends upon there being access to such a dedicated vehicle, which SERNA/CESCCO is not able to provide.
29	Supplies	72500	35,000	35,000	Personal protection equipment for workers handling solid wastes in 5 municipalities
30	Training	75700	60,800	46,000	Training of members of municipal governments in management of solid wastes
				14,800	Training of private sector actors on management of industrial wastes to minimize dioxin and furan emissions
31	Information Technology Equipmt	72800	10,000	10,000	Computers for municipal offices
32	Rental & Maint of Info Tech Eq	73300	34,540	34,540	Fuel and maintenance of project vehicles
33	Audio Visual&Print Prod Costs	74200	97,000	49,000	Bulletins and leaflets on solid waste management
				48,000	Project promotional publications

34	Miscellaneous Expenses	74500	2,140	2,140	Insurance of project vehicle
33	Training	75700	60,800	46,000	Training of members of municipal governments in management of solid wastes
				14,800	Training of private sector actors on management of industrial wastes to minimize dioxin and furan emissions
Outcome 5					
34	International Consultants	71200	30,000	30,000	External consultants for mid term and final evaluations
35	Local Consultants	71300	12,000	12,000	External consultants for mid term and final evaluations
36	Contractual Services - Individ	71400	149,600	82,400	57.2% of salary of project coordinator
				67,200	100% of salary of project administrator
37	Travel	71600	13,000	13,000	International air tickets and DSA for external consultants contracted for mid term and final reviews
38	Contractual Services-Companies	72100	15,000	3,000	Inception workshop
				12,000	Audit
39	Equipment and Furniture	72200	2,000	2,000	Furniture for project office
40	Information Technology Equipmt	72800	5,000	5,000	Computers for project office
41	Rental & Maintenance-Premises	73100	38,400	38,400	Office rental

V. MANAGEMENT ARRANGEMENTS

Arrangements and responsibilities

227. The organizational structure of the project is shown in Figure 5. The principal elements of the structure are as follows:

Implementing Partner

228. The Implementing Partner (IP) of the Project will be the Ministry of Environment and Natural resources (SERNA). The decision that SERNA will occupy this role is based on its position as lead institution in the environmental sector.

229. The Minister of Environment will designate a Project Director, who will be a full-time member of SERNA and will approve project annual work plan, budget and financial report together with UNDP.

230. A Project Coordinator will be contracted, who will be dedicated full time to the project and funded by GEF resources, and who will be responsible for overall executive coordination of the project.

Project Board

231. The Board will consist of the following members:

1) **The Executive**, who will chair the Board. This role will be filled by the Minister or Environment or his/her representative.

2) A representative of the **Senior Supplier**, who will provide guidance regarding the technical feasibility of the project. This role will be filled by UNDP.

3) **Senior Beneficiaries,** who will represent the interests of those who will ultimately benefit from the project and ensure the realization of project results from the perspective of project beneficiaries. Subject to confirmation at project start-up, the following beneficiaries will also be represented on the Project Board:

   - SAG
   - Ministry of Health
   - Ministry of Education
   - Ministry of Labour
   - National Centre for Clean Development
   - Honduran Association of Municipalities (AMHON).

232. UNDP will provide **Project Assurance**, supporting the Project Board Executive by carrying out objective and independent project oversight and monitoring functions.

233. The Project Board will be responsible for making executive decisions for the project, in particular when guidance is required by the Project Coordinator. The Project Board will play a critical role in facilitating inter-ministerial coordination, project monitoring and evaluations by quality assuring these processes and products, and using evaluations for performance improvement, accountability and learning. It will ensure that required resources are committed and will arbitrate on any conflicts within the project or negotiate a solution to any problems with external bodies. In addition, it will approve the appointment and responsibilities of the Project Manager and any delegation of its Project Assurance responsibilities. Based on the approved Annual Work Plan, the Project Board will also consider and approve the quarterly plans and will also approve any essential deviations from the original plans.

234. In order to ensure UNDP's ultimate accountability for the project results, Project Board decisions will be made in accordance to standards that shall ensure management for development results, best value

for money, fairness, integrity, transparency and effective international competition. In case consensus cannot be reached within the Board, the final decision shall rest with the UNDP

Project Director

235. The Project Director, who will be the Director of CESCCO, will have the main responsibility for ensuring that the project is implemented in accordance with the policies and plans of the Government. To this end, he/she will therefore liaise and coordinate closely with lead representatives of MAG and MITUR or their dependencies.

Project Support

236. A Project Administrator, who will be appointed through competitive processes, will provide project administration, management and technical support to the Project Coordinator. The preparation and presentation of Annual Work Plans and Budgets, quarterly reports and PIRs will be the responsibility of the Project Coordinator.

Other Responsible Parties

237. The project's targets will be achieved through collaboration between SERNA (Implementing Partner), UNDP (Senior Supplier), and a number of national Executing Agencies, namely SAG, Ministry of Health, the National Centre for Clean Development and Municipal Governments. Overall strategic coordination of the actions of these different partners, within the context of the project, will be provided by the Project Board. At the operational level, their actions will be coordinated by the Project Manager.

UNDP Support Services

238. In addition to its Project Assurance role, UNDP will contribute technical expertise to the project as required, particularly in relation to the development and promotion of the participation of the private sector in forest-based businesses, and to the promotion and monitoring of livelihood and gender considerations in the project.

Collaborative arrangements with related projects

239. The project will build upon GEF/UNDP Project 2323, 'Initial Assistance to Enable Honduras to Fulfill Its Obligations Under the Stockholm Convention', as it will respond to the priorities defined through that project expressed in the National Implementation Plan.

240. It would complement the GEF-funded regional project, executed by the Panamerican Health Organization (PAHO), in support of the phasing out of DDT in disease vector control, ensuring that the actions taken under that project are carried out as part of integrated national efforts to eliminate stocks of POPs pesticides. This project will serve to strengthen foundational capacities for chemicals management within the country and provide a valuable means by which to link the POPs work to Honduras's broader national chemicals management agenda. This, in turn, will serve to support the GEF's strategic aim to promote the sound management of chemicals, as well as the objectives of the Strategic Approach to International Chemicals Management (SAICM), adopted in February 2006.

241. The Regional Office of UNDP in Panama will function as a channel for coordination and for the exchange of lessons learnt between this project and other GEF projects in the POPs focal area under development of implementation in the region, including those listed in Table 13. The fact that the majority of these are implemented by UNDP will facilitate this coordination.

Table 13. National GEF projects in the POPs focal area in Latin America

GEF ID	Country	Project Name	GEF Agency	Project Type
3269	Argentina	Environmentally Sound Management and Disposal of PCBs in Argentina	UNDP	FSP
3282	Brazil	Establishment of PCB Waste Management and Disposal System	UNDP	FSP
3270	Mexico	Environmentally Sound Management and Destruction of PCBs	UNDP	FSP
3345	Nicaragua	Improved Management and Release Containment of POPs Pesticides in Nicaragua	UNDP	MSP
3709	Peru	Environmentally Sound Management and Disposal of PCBs	UNIDO	FSP

242. The activities proposed in the project related to environmental monitoring will complement those proposed in the regional GEF/UNEP project 'Supporting the Implementation of the Global Monitoring Plan of POPs in Latin America and Caribbean States (GRULAC)'.

Audit arrangements

243. The Government will provide the Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by a special and certified audit firm. UNDP will be responsible for making audit arrangements for the project in communication with the Project Implementing Partner.

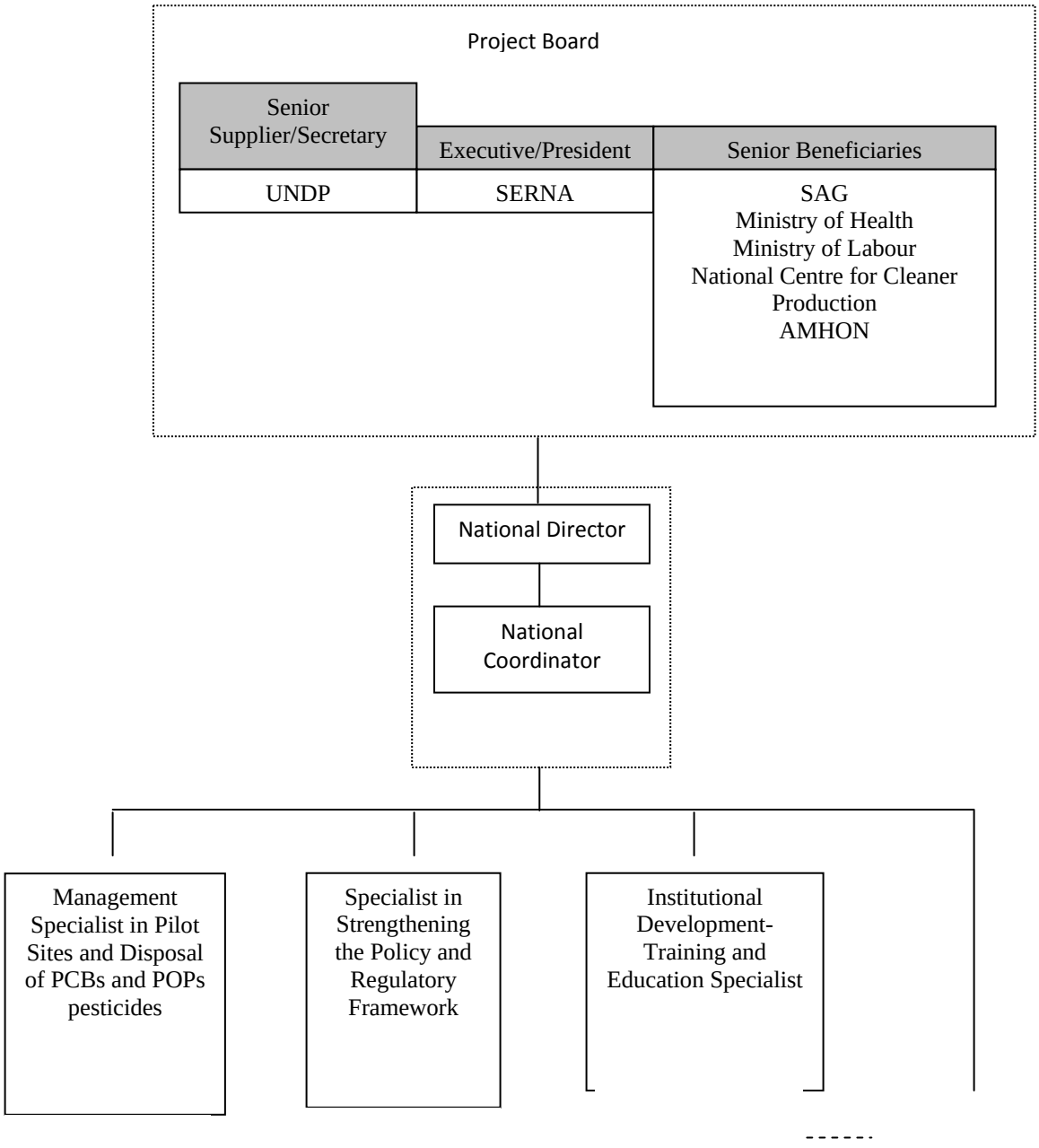
244. UNDP and the project Implementing Partner will provide audit management responses and the Project Manager and project support team will address audit recommendations.

245. As a part of its oversight function, UNDP will conduct audit spot checks at least two times a year.

Agreement on intellectual property rights and use of logo on the project's deliverables

246. In order to accord proper acknowledgement to GEF for providing funding, a GEF logo should appear on all relevant GEF project publications, including among others, project hardware and vehicles purchased with GEF funds. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgment to GEF.

Figure 5. Organizational structure of the project



VI. MONITORING FRAMEWORK AND EVALUATION

247. The project will be monitored through the following M& E activities. The M& E budget is provided in the table below.

Project start:

248. A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.

249. The Inception Workshop should address a number of key issues including:

a) Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO and RCU staff vis à vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.
b) Based on the project results framework and the relevant GEF Tracking Tool if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.
c) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
d) Discuss financial reporting procedures and obligations, and arrangements for annual audit.
e) Plan and schedule Project Board meetings. Roles and responsibilities of all project organisation structures should be clarified and meetings planned. The first Project Board meeting should be held within the first 12 months following the inception workshop.

250. An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

Quarterly:

- Progress made shall be monitored in the UNDP Enhanced Results Based Managment Platform.
- Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical).
- Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.
- Other ATLAS logs can be used to monitor issues, lessons learned etc... The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

Annually:

- Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous

reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual).
- Lesson learned/good practice.
- AWP and other expenditure reports
- Risk and adaptive management
- ATLAS QPR
- Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

Periodic Monitoring through site visits:

251. UNDP CO and the UNDP RCU will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Board members.

Mid-term of project cycle:

252. The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation (insert date). The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Center (ERC).

253. The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

End of Project:

254. An independent Final Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

255. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC).

256. The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation.

257. During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

Learning and knowledge sharing:

258. Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

259. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

260. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

M& E workplan and budget

Type of M&E activity	**Responsible Parties**	**Budget US$** *Excluding project team staff time*	**Time frame**
Inception Workshop and Report	▪ Project Manager ▪ UNDP CO, UNDP GEF	Indicative cost: 3,000	Within first two months of project start up
Measurement of Means of Verification of project results.	▪ UNDP GEF RTA/Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members.	To be finalized in Inception Phase and Workshop.	Start, mid and end of project (during evaluation cycle) and annually when required.
Measurement of Means of Verification for Project Progress on *output and implementation*	▪ Oversight by Project Manager ▪ Project team	To be determined as part of the Annual Work Plan's preparation.	Annually prior to ARR/PIR and to the definition of annual work plans
ARR/PIR	▪ Project manager and team ▪ UNDP CO ▪ UNDP RTA ▪ UNDP EEG	None	Annually
Periodic status/ progress reports	▪ Project manager and team	None	Quarterly
Mid-term Evaluation	▪ Project manager and team ▪ UNDP CO ▪ UNDP RCU ▪ External Consultants (i.e. evaluation team)	Indicative cost: 27,500	At the mid-point of project implementation.
Final Evaluation	▪ Project manager and team, ▪ UNDP CO ▪ UNDP RCU	Indicative cost : 27,500	At least three months before the end of project

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team staff time*	Time frame
	▪ External Consultants (i.e. evaluation team)		implementation
Project Terminal Report	▪ Project manager and team ▪ UNDP CO ▪ local consultant	0	At least three months before the end of the project
Audit	▪ UNDP CO ▪ Project manager and team	Indicative cost per year: 3,000 (total 12,000)	Yearly
Visits to field sites	▪ UNDP CO ▪ UNDP RCU (as appropriate) ▪ Government representatives	For GEF supported projects, paid from IA fees and operational budget	Yearly
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		US$70,000	

VII. LEGAL CONTEXT

261. This document together with the CPAP signed by the Government and UNDP which is incorporated by reference constitute together a Project Document as referred to in the SBAA and all CPAP provisions apply to this document.

262. Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.
The implementing partner shall:

a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
b) assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

263. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

264. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

ANNEX I. Description of Pilot Sites and Proposals of Models/Processes to be Supported There

PILOT PROJECT SPECIFICATIONS

Pilot's Name:	Strengthening the Integrated Solid Waste Management in Comayagua, with a focus on the uncontrolled burning of household waste.
Exact location:	The municipality is located in the heart of the old city of Comayagua. The current dump site where the landfill will be built is located to the east of the urban area of Comayagua, 9 kilometers from the central park. To access the current dump site you must take a path located on the Westside of the Pan American Highway (CA-5) that leads to Tegucigalpa at kilometre 77.1. From here, the distance is approximately 3 km to the planned landfill sites"4th stage: Rafael Pineda Ponce". Central Park Location: 430870/1598510 Landfill site: 436085/1594145.
Status:	As for solid waste collection, 76% of the districts and urban settlements of the Municipality of Comayagua have this service, which is administered directly by the municipal authorities. The main weakness of the model used by the Municipality of Comayagua (urban population: 71.570 inhabitants, rural population: 45.738 inhabitants) in solid waste management, can be identified in the final disposal stage. The site where solid wastes are disposed off is an open dump located about 9 km from downtown and managed without any qualified operation guidelines or engineering criteria, you will find that it not only impacts the landscape and scenery, but also the environment. Due to the fact that there is no weigh bridge available, it is estimated that 50 tons of waste is deposited daily. Since site access is not restricted, an unspecified number of people of different ages enter the sites daily to recover materials (an estimate of about 35 people of different ages enter the sites daily). Of the Solid wastes that are deposited in the site, much of it is periodically burned intentionally. Therefore, this site represents a significant source of pollution.
Pilot Summary:	The Municipality of Comayagua foresees the construction of a sanitary landfill under the Regional Environment Programme in Central America (PREMACA) of the Danish International Development Agency **(DANIDA).** The main objective of the program is to improve the environmental management of the Municipality on solid waste (MIRS in spanish), through a proper disposal stage. The specific objectives are: 1. Reduce the ongoing pollution of the environment (air, water and soil) caused by the handling and burning of solid waste in the current municipal dump site, 2. Improve the living conditions of citizens surrounding the current municipal dump site and scavengers who work and live on the site, 3. Ensure continuity and sustainability of the project by estimating the costs of landfill management and defining the best model for managing the system. The GEF project aims to reduce the burning of solid waste by developing a master plan for the integrated management of solid waste, training of the municipal authorities and the implementation of a monitoring plan, as well as the development of solid waste management guides, citizen´s awareness and documentation of lessons learned from the pilot project. With the proposed construction of a sanitary landfill, the ongoing burning of solid waste, and associated dioxin and furan emissions, at the dump site will be eliminated.

	The GEF project funding seek to improve solid waste management with a focus on supporting the planning of the landfill as well as reducing the burning of waste at household level before transportation to the landfill site.		
	Actors to be involved (co-financiers) The city of Comayagua, supported with funds from the Regional Environment Programme in Central America (PREMACA) of DANIDA.		
	Activities List 1. Landfill design 2. Study to define the best management model 3. Landfill construction 4. Operation and maintenance of landfill 5. Study for Rate details 6. Awareness and information campaign 7. Master Plan for the integrated management of solid waste 8. Training of national and local authorities 9. Implementing a monitoring plan for environment and health 10. Elaboration of guides, manuals and procedures 11. Public awareness regarding the non-burning of wastes at household level 12. Lessons learned and project systematized		
	Investment List	*Co financiers (amount U.S. $)*	*GEF (Amount U.S. $)*
	1. Design of the landfill, study to define the best model of management, landfill construction, tariff study, awareness and information campaign.	*1,647,000*	
	2. Plan		*16,800*
	3. Training authorities		*8,800*
	4. Monitoring Plan		*5,700*
	5. Preparation of guides and manuals		*3,160*
	6. Public awareness		*1,300*
	7. Documentation of Lessons learned		*3,000*
	Total		*68,760*
		1,647,000	
Systematization and Replica:	Once the lessons learned from this pilot project GEF funds, an action plan to replicate successful experiences will be developed. In the case of Comayagua, an intermediate city such as Siguatepeque is suggested to replicate Comayagua`s experience given its geographic and demographic similarities (409.950/ 1726.050).		
Potential Limitations:	A major constraint to replicate this experience is that for planning and implementation, adequate financial resources are needed for the construction of the landfill and related activities. Also, this can only be applied to intermediate cities in Honduras, of which there are approximately 20.		

PILOT PROJECT SPECIFICATIONS

Pilot's Name:	Strengthening the integrated management of solid waste in the municipality of La Ceiba, focusing on the uncontrolled burning of household waste.
Exact location:	The main building of the municipality is located in the central park of the city. Danto District, western sector of the Municipality of La Ceiba, Atlántida. City Hall: 522450/1744830 Barrio Danto: 520200/1742135
Status:	The Municipal Government of La Ceiba, provides collection and transport service to the neighborhood of Danto. It is estimated that 60% of 360 homes have an irregular collection service, which encourages the practice of burning of solid waste in a high percentage of households. In addition, the district has no street sweeping coverage, which has serious health implications for residents of this area, exposing them to typical diseases caused by poor conditions of hygiene and sanitation.
Pilot Summary:	The project will pilot a microenterprise for Solid Waste Management in the community of Danto to serve as an example for other local communities of La Ceiba.It will be operated by local population and financially supported by DANIDA, with the aim of improving the integrated management of solid waste in the municipality and the quality of life in the Danto District and adjacent neighborhoods. . The specific objectives are 1. Socialial mobilization for waste meanagment through involvement 10 neighborhood residents of Danto (e.g. single mothers or heads of families), through technical and financial support, 2. Improve hygienic conditions in the community through the organization for street sweeping activities, which is a complementary action to the maintenance of the sewage system performed under PREMACA. 3. Develop a model approach to be implemented in other communities in the Municipality of La Ceiba. As a second stage after community mobilization the Danto district will develop and implement a master plan for solid waste collection with the aim of increasing the coverage of solid waste collection, from the current rate of 60% to 100% in the community of Danto. This will eliminate the practice of burning solid waste at the household level and consequently emissions source of dioxins and furans will be eliminated. The GEF funds will be utilized towards reducing the burning of solid waste by as a part of the municipal waste management approach by developing a master plan for an integrated management of solid waste, training of the authorities, implementation of a monitoring plan, development of guidelines, manuals and procedures, awareness and systematization of the pilot project. In addition, the GEF support will be used for improving solid waste management with a main objective of reducing the burning of waste at household level in general terms in the municipality of La Ceiba.
	Actors to be involved (co-financiers) The city of La Ceiba, supported with funds from the Regional Environment Programme in Central America (PREMACA) of DANIDA.

Activities List

1. Design and drafting of Danto Pilot
2. Identification and training of members of the micro-enterprise
3. Conformation, legalization and consolidation of the microenterprise
4. Equipment
5. Other Training (Institutes, Schools, Trusts and groups)
6. Execution of the Project with technical assistance and initial support
7. Master Plan for the integrated management of solid waste
8. Training authorities
9. Implementing a monitoring plan for an environmental and health.
10. Elaboration of guides, manuals and procedures
11. Public awareness regarding the non-burning of wastes at household level.
12. Lessons learned and project systematized.

Investment List	*Co financiers (amount U.S. $)*	*GEF (Amount U.S. $)*
1. Operation of the microenterprise for Solid Waste Management in the community of Danto.	*87,750*	
2. Master Plan		*16,800*
3. Training authorities		*8,800*
4. Plan for environmental monitoring and health		*5,700*
5. Preparation of guides and manuals		*3,160*
6. Public awareness		*21,300*
7. Documentation of Lessons learned (two)		*13,000*
Total	*87,750*	*68,760*

Systematization and Replica:	Once the lessons learned have been document (with GEF funds) an action plan to replicate successful experiences will be developed. For Danto community, it is suggested to replicate its experience in other districts in the municipality of La Ceiba, and in the municipality of Choloma due to its geographic and demographic similarity (397.950 / 1726.050).
Potential Limitations:	As in every neighborhood, town or region, conditions may vary, which means that they must be tailored to local conditions and peculiarities. It cannot be replicated exactly as performed in this pilot as project differences may occur.

PILOT PROJECT SPECIFICATIONS

Pilot's Name:	Strengthening the integrated management of solid wastes in the municipality of the Central District, with emphasis on the uncontrolled burning of household waste.
Exact location:	The City has several facilities in different places, the main building of the Solid Waste Superintendent of the City Hall is located on the "Colonia 21 de octubre" in the northeastern sector of the city of Tegucigalpa. The current dumping site is located in the area of "Tusterique", village of "El Guanábano", 6.5 kilometers north of the city of Tegucigalpa on the highway leading to the department of Olancho. Central Park Tegucigalpa: 477960/1559210 Controlled Dumping site: 476150/1563650
Status:	The current and "improved" municipal dumping site (Tegucigalpa) has many engineering and operational deficiencies . One of these shortcomings is the frequent burning of solid waste . This site has a weighbridge, operational booth, unpaved access roads, radio communication, no perimeter fence, geomembrane system, leachate collection and treatment facility and biogas control. Also heavy machinery operates in the dumping site. It is noteworthy that the property has been invaded by people for housing purposes. In this context, considering the current operational situation, the dumping site can be considered an important source of emissions of dioxins and furans.
Pilot Summary:	The objective of the project: "Expansion for energy recovery and pre-installation of Tegucigalpa´s Landfill" is to improve the conditions of the current dumping site including the construction of a fence, relocation of the weighbridge, construction of a hazardous waste cell, biomedical waste cell and leachate treatment pond. This project will improve the current dump site and minimizing the burning of solid waste with resulting elimination of dioxins and furans releases. The project co-financing will undertake the physical infrastructure work, and the GEF funds will be utilized towards planning and capacity building in order to reduce burning of solid waste through developing a master plan for the integrated management of solid waste, training of authorities, implementation of a monitoring plan, development of solid waste management guidelines, awareness and systematization of the pilot project. In addition, the GEF project activities seek to improve solid waste management with a focus on reducing the burning of waste at household level before transportation to the landfill.
	Actors to be involved (co-financiers) The City Hall of the Central District, with funds from the Central American Bank for Economic Integration (BCIE). *Details of the practice or technique that is expected to show-validate impacts sought* .
	Activities List 1. Fence Construction 2. Relocation of the weighbridge, construction a hazardous waste cell 3. Construction of a biomedical waste cell 4. Construction of a leachate treatment pond 5. Master Plan for the integrated management of solid waste 6. Training authorities 7. Implementation of a monitoring plan 8. Elaboration of guides, manuals and procedures 9. Public awareness on solid waste (not burning at household level 10. Documentation of Lessons Learned

	Investment List	*Co financiers (amount U.S. $)*	*GEF (Amount U.S. $)*
	1. Improving the current dump site, including a perimeter fence, relocation of the weighbridge, hazardous waste cell , biomedical waste cell , leachate treatment pond.	*2,000,000*	
	2. Master Plan		*24,900*
	3. Training authorities		*8,800*
	4. Monitoring Plan		*5,700*
	5. Preparation of guides and manuals		*3,160*
	6. Public awareness		*21,300*
	7. Documentation of Lessons Learned (two)		*13,000*
	Total	*2,000,000*	*76,860*
Systematization and Replica:	Once the experience is systematized of, GEF funds will be used to elaborate an action plan to replicate the pilot project. . In the case of Central District, it is suggested to be replicated in the Municipality of San Pedro Sula for its demographic similarity and high waste generation.		
Potential Limitations:	One limitation is that this replica will require adequate financial resources to improve the dump site of San Pedro Sula.		

PILOT PROJECT SPECIFICATIONS

Pilot's Name:	Strengthening the integrated management of solid waste in the municipality of Tela, with focus on the uncontrolled burning of household waste.
Exact location:	The main building of the municipality is located in the central park of the city of Tela. The proposed site for the construction of the landfill is called "Los Cocos" in the village "El Jute" about 15 km from Tela, Atlántida. City Hall: 451680/1744870 Coco Site: 440150/1738800
Status:	Tela´s solid waste collection service coverage is 91%, while the rest of the city has no service mainly due to access difficulties. The city subsidizes 60% of the collection and treatment service, yet the collection area is still poor and without proper route planning. It is noteworthy that beach cleaning and street sweeping activities and solid waste collection is not provided regularly and that collection service to the Garifuna´s community and other rural areas is null. In addition, there is a conflict between the municipality and these communities since they are not willing to pay for a service fee. The city urgently needs the presence of a new site for the operation of the landfill considering that the current site is not being properly operated and does not comply with the provisions of the Regulation for Solid Waste Management (378-2001) specifically in terms of location within the urban perimeter. The current municipal dump site is performing a partial treatment, as there is not daily coverage of waste with soil and there is presence of scavengers in the area.
Pilot Summary:	The objective of the project:"Improvement and Expansion of Tela´s LandfillThe specific objectives are: 1. Improving environmental management of solid waste through a proper waste collection and disposal. 2. Reduce the ongoing pollution of the environment (air, water and soil) caused by the inadequate operation of the current municipal dump site, 3. Ensure continuity and sustainability of the project by estimating the costs of landfill management and the definition of best management model. The activities include the construction of Tela´s landfill, landfill design and construction, training, equipment, waste collection fleet, model management design /administration as well as technical closure of current dumping site. With the construction and operation of Tela´s new landfill will eliminate burning of solid waste practice which currently occurs at the city dump site. The capacity building activities related to this such as training of local authorities, implementation of a monitoring plan, development of solid waste management guides, awareness raising will be supported with the GEF funds. GEF funds will further be supporting activities improving solid waste management with a focus on reducing the burning of waste at household level in the city of Tela. The GEF project aims to reduce the burning of solid waste by and systematization of the pilot project.
	Actors to be involved (co-financiers) National Program for Sustainable Tourism (PNTS), coordinated by the Honduran Institute of Tourism (IHT), with funding from the Central American Bank for Economic Integration (BCIE). The implementing company of the Project is (INYPSA) and the

	beneficiary is the municipality of Tela. In addition, the Pan American Health Organization (PAHO / WHO), within the activities of the Joint Programme on Water and Sanitation (PC & S) will formulate and implement Tela´s master plan for an integrated solid waste management.
	Activities List 1. Design and construction of landfill 2. Training 3. Equipment 4. Model management / administration 5. Close current dump site 6. Master Plan for the integrated management of solid waste 7. Training authorities 8. Implementation of a monitoring plan 9. Elaboration of guides, manuals and procedures 10. Public awareness regarding the non-burning domestically 11. Documentation of Lessons Learned

Investment List	*Co financiers (amount U.S. $)*	*GEF (Amount U.S. $)*
1. Design and construction of the landfill, training, equipment, model management / administration and technical closure of the dump today.	*1,887,347*	
2. Master Plan	*10,000*	*8,800*
3. Training authorities		*5,700*
4. Monitoring Plan		*3,160*
5. Preparation Guide		*21,300*
6. Public awareness		*13,000*
7. Documentation of Lessons Learned (two)		
Total	*1,897,347*	*51,960*

Systematization and Replica:	Once the experience is systematized with GEF funds an action plan will be developed to replicate the pilot project. In the case of Tela it is suggested to be replicated in the city of Choluteca due to its demographic similarity (479.500 / 1470.800).
Potential Limitations:	Availability of financial resources which are needed for the construction of a landfill.

PILOT PROJECT SPECIFICATIONS

Pilot's Name:	Strengthening the integrated management of solid waste in the municipality of Santa Rosa de Copan, focusing on the uncontrolled burning of household waste.
Exact location:	Municipality of Santa Rosa de Copan, Copan. 308680/1633120
Status:	The City has a solid waste collection service, which is composed partially with municipal machinery and by contractual service. The collection service in the commercial and market area as well as in the residential sector is done daily. Currently, the landfill is still under construction. Solid wastes are disposed in the municipal dumping site without any previous classification or segregation. The Pan American Health Organization (PAHO/WHO) currently provides technical cooperation for the development of a master plan and training. ILO supports Santa Rosa´s municipality with micro-projects related to solid waste management.
Pilot Summary:	The main objective of the project: "Technical assistance for developing a master plan and training for an Integrated Solid Waste Management in the Municipality of Santa de Rosa de Copan" leaded by PAHO/WHO and ILO is to reduce the burning of solid waste at household level accompanied with an awareness campaign. The GEF project aims to reduce the burning of solid waste implementing the waste master plan by training the local authorities, the waste monitoring plan, developing waste management guides, citizen's awareness and documentation of lessons learned of the pilot project. In addition GEF funds would be directed for reducing the burning of waste at household level in the municipality of Santa Rosa de Copan
	Actors to be involved (co-financiers) Pan American Health Organization (PAHO / WHO), International Labour Organization (ILO) and the beneficiary is the City of Santa Rosa de Copan.
	Activities List 1. Preparation of Master Plan for the integrated management of solid waste. 2. Training for municipal staff 3. Training authorities 4. Implementation of a monitoring plan 5. Development of solid waste management guides, manuals and procedures 6. Public awareness regarding non-burning at household level 7. Project Systematized

Investment List	*Co financiers (amount U.S. $)*	*GEF (Amount U.S. $)*
1. Plan, Training	*40,000*	
2. Training authorities		*8,800*
3. Monitoring Plan		*5,700*
4. Preparation Guide		*3,160*
5. Public awareness		*21,300*
6. Two systematizations		*13,000*
Total	*40,000*	*51,960*

Systematization and Replica:	Once the lessons learned from the project has been documented (with, GEF funds), it will be used to develop an action plan to replicate successful experiences to other municipalities. In the case of Santa Rosa de Copan, it is suggested to replicate in the Municipality of Danlí because of its demographic similarity (546.250 / 1551.400).
Potential Limitations:	Every neighborhood, town or region, conditions may vary, which implies that future projects must be adapted to local conditions and peculiarities.

ANNEX II. Data on costs of disposal of pesticides and PCBs and of the reduction of unintentional emissions of POPs

Activity/Description	Cost (US$ / ton)	Quantity (ton)	Total Cost (US$)
Elimination (high temperature) POPs pesticides stocks (including packaging, labeling, storage, transportation and disposal)	3,500	18	63,000.00
Elimination of total mass (oil and housing) contaminated with PCBs (including packaging, labeling, storage, transportation and disposal)	4,000	100	400,000.00
TOTAL (US$)			**463,000.00**

ANNEX III. Risk Analysis.

ANNEX IV. Agreements.

ANNEX V. Terms of Reference:

Project Coordinator

Under the overall supervision of the National Project Director, the Coordinator will have the following responsibilities:

- Coordination of project actions, in compliance with Annual Work Plans and Budgets (APWBs).
- Supervision of the activities of the technical members of the Project Implementation Unit (PIU), thereby ensuring their relevance, effectiveness and efficiency.
- Preparation of terms of reference for external consultants contracted by the project, supervision and coordination of their work, and review and approval of their products.
- Ensuring that the project is implemented with the full participation of local actors and that functioning mechanisms exist that ensure that their interests are taken into account, communicated and reflected in the implementation of the project.
- Promotion of the coordinated participation of Government institutions and NGOs, at central and local levels, in project implementation.
- Realization of continuous and periodic monitoring of project impacts, in relation to the achievements foreseen in the APWBs and the impacts foreseen in the project results framework.
- In communication with the NPD, ensuring that the project is implemented in accordance with the policies and plans of MARN.
- In communication with the Programme Official of UNDP, ensuring that the project is implemented in accordance with the United Nations Development Assistance Framework (UNDAF) in Honduras.
- Identification and promotion opportunities for actions by other agencies of the UN system in the project area.
- Ensuring that a cross-cutting gender focus is incorporated into the actions of the project.
- Together with UNDP, preparation of Periodic Implementation Reports (PIRs), detailing project progress, to be presented to GEF.
- Together with UNDP and the project team and in discussion with local stakeholders, preparation of APWBs for approval by the Project Steering Committee (PSC) and the GEF.
- With support from the project administrative team, ensuring efficient and transparent execution of financial and physical resources, in conformity with the rules of the Government, GEF and UNDP.
- Design and implementation of professional development plans for the members for the PIU.
- Identification of risks that could affect the achievement of the foreseen impacts of the project, and the definition and application of corresponding mitigation strategies.
- Support to the functioning of the PSC, through the provision of advice and logistics.
- Preparation and oversight of the implementation of the operational manuals for the implementation of the project.
- Organization and support of external evaluations of the project.

ANNEX VI. List of the 8 sites potentially contaminated with POPs pesticides

No	Name Site	Description	Prioritization*	Recommended Remediation Actions
1	Bodega de Salud Publica en Santa María del Real en el Departamento Olancho	Located on the outskirts of a rural area. In the past the site stored DDT, but is currently abandoned. However, it still contains approximately 0.75 tons of Temephos, 0.24 tons of VectoLex and 35 liters of Malathion, which is likely contaminated with POPs.	Short Term Action	a. Restrict access to the site and the winery as well as people and animals, with the placement of a perimeter fence and warning signs.b. Informing the public about the dangers of the site.c. Provide training to staff of Public Health regarding the use and handling of pesticides and proper personal protective equipment.d. Sampling of spilled formulated (Temephos) to know if the product is contaminated with DDT. e. Soil sampling to assess whether the site is contaminated or not. f. The products and residues including Malathion should be disposed according to the results of the analysis. g. After removal of the products, the shed must be cleaned and neutralized. h. The facilities shall not be used for storage of pesticides, food or stay of persons.
2	Bodega de SENASA en Tegucigalpa, en el Departamento de Francisco Morazán	SENASA control cellar located in Mateo, Tegucigalpa, Francisco Morazan, 135 Kg of a product containing Chlordane and Aldrin. Pesticides are in good storage conditions, the site is secure and the infrastructure of the warehouse is in good condition. Here, about 300 different pesticides are stored.	Mid Term Action	Order all products by type of poison and update the inventory. b. Improved physical conditions of the cellar. c. Managing the disposal of these products.
3	Cementerio Coyoles Central, en el Departamento Cortés	Vault of the "Landfill" one of the major banana companies located in the northern sector, in the filling, there are 15 concrete vaults buried toxic chemicals. In the first, vault is a barrel of Lindane, the vault No. 9 contains 3.5 tons of DDT.	Long Term Action	a. Make location of the first 5 vaults, possible location of a barrel of lindane. b. All products stored in the vault should be considered as POPs (DDT and potentially contaminated product) and subject to removal. c. The vault should not be open until we have assured the management of the disposal of products.
4	Bodega de la Ferretería La Estación, en el Departamento de Cortés	Former warehouse of toxic pesticides, possible contaminated soil.	No Action	a. Register this site in the future inventory of contaminated sites. b. To investigate the composition of the products of the site (see site Naco, Cortes).

5	Antigua Bodega de la Organización de la Campaña de Erradicación de la Malaria (SNEM) en San Pedro Sula, Departamento de Cortés	were weighed and stored large amounts of DDT in the past ..	Mid Term Action	a. To analyze soil samples to assess whether the site is contaminated.
6	Bodega de Salud Publica en Santa Rosa de Copan en el Departamento de Copán	In the past it was the regional winery to Lempira and Copan, Ocotepeque. Large stored amounts of DDT in the past.	Mid Term Action	a. Taking soil samples to assess whether it is a contaminated site.
7	Bodega de Salud Publica en el Ocotillo, San Pedro Sula en el Departamento de Cortés	Recognized as the second collection center for disposal of toxic substances in 2000. Located about 8 km outside the urban area of San Pedro Sula, the winery was built in the mid-80s, to relocate the store located in the center of the village of San Pedro Sula.	Mid Term Action	a. Restrict access to the site and placing a secure hold on both doors access. b. Analyze the soil samples taken at the winery and in front of the entrance to see if the residues and soil are contaminated with DDT. c. Collect and pack the VectoLex prior to final disposal as POPs. d. All residues must be disposed according to the results of the analysis. e. After removal of the products, ensure the clearance and neutralization of pollution in the cellar. f. Once the facility has received a proper decontamination, these should not be used for storage of foodstuffs or operation of offices. g. Provide training to staff of Public Health regarding the use and handling of pesticides and the use of appropriate personal protective equipment.
8	Bodega de Salud Publica en Saucique, Distrito Central en el Departamento de Francisco Morazán	DDT is stored and poured in the past.	Mid Term Action	a. Sort the cellar, segregating and labeling the different products according to their presentation. b. Re Malathion pack the metal barrel leaking a plastic barrel in good condition. c. Obsolete pesticides should be eliminated: we must seek their safe disposal. d. Analyze the soil sample taken.
9	Antigua Bodega de Salud Publica en San Benito, Villa San Antonio en el Departamento de Comayagua	Presence of obsolete permitted pesticides.	Short Term Action	a. Limiting access to the site. b. Provide training to staff of Public Health regarding the use and handling of pesticides and the appropriate personal protective equipment. c. Analyze the soil sample taken near the entrance of the cave to see if the soil is contaminated with DDT. d. The products and residues to be reimbursed and disposed of properly.

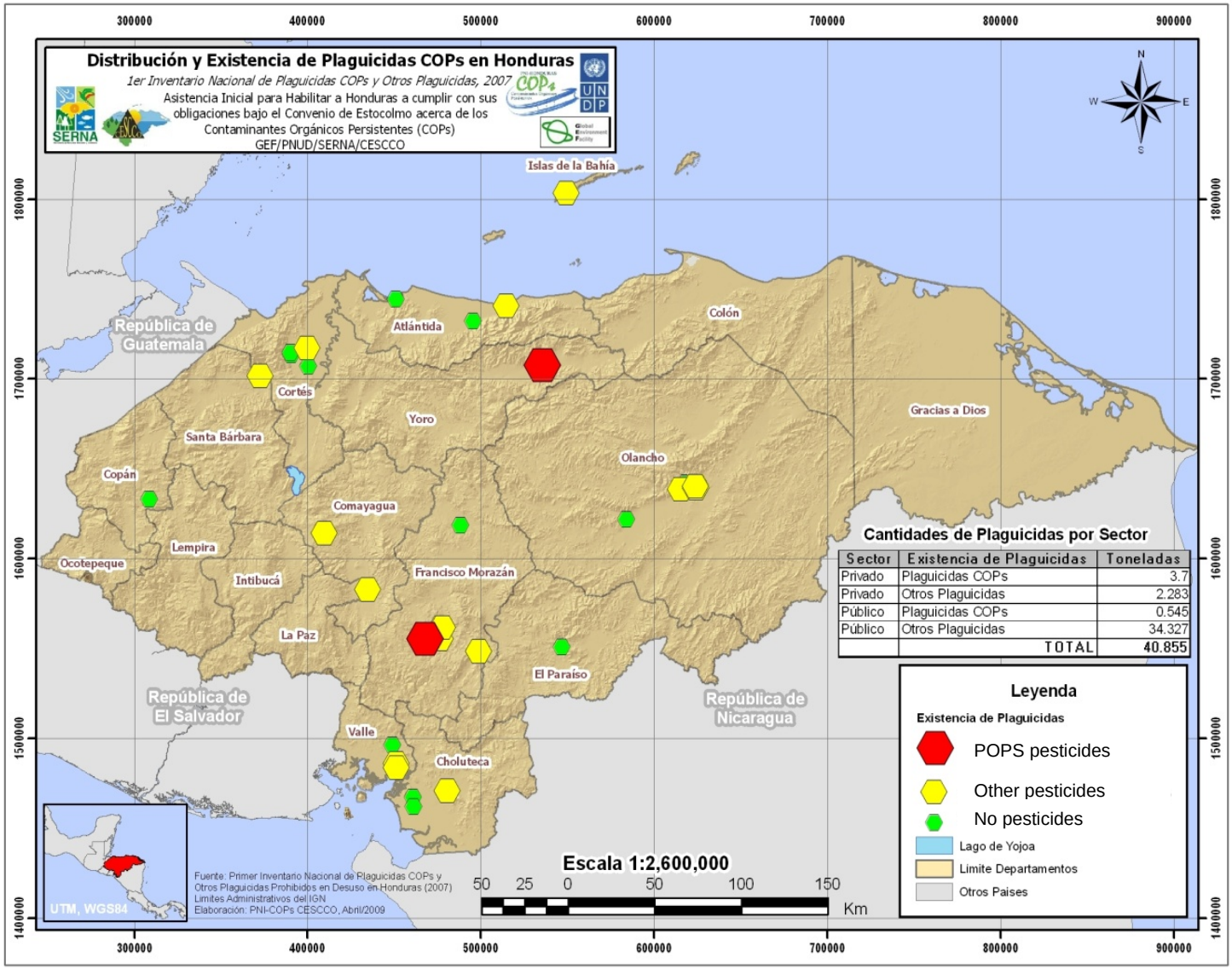
				e. After removal of the products, ensure the clearance and neutralization of pollution in the cellar. f. The facilities shall not be used for storage of foodstuffs or office operation.
10	Antigua Pista de Aterrizaje en el Departamento de Choluteca	Toxic substances were not found, but references are considered a potentially contaminated site.	Mid Term Action	a. This site should be considered potentially contaminated site Chlordane used in applications for cotton. b. We recommend further investigation with analysis of soil as the site is in a populated area.
11	Monumento en la UNA en Catacamas, Departamento de Olancho	The UNA stored pesticides activated charcoal in a containment structure Specifically, which can not be open. According to records A, no stockpiles of POPs and other pesticides banned in Honduras.	Long Term Action	a. This is a temporary storage of obsolete pesticides, however it recommended not to remove the product until it has a final disposal solution appropriate product.
12	Entierro en Regional de Salud Publica	It is a barrel of Malathion confined with concrete. The state of the container is unknown. Presence of pesticides not obsolete POPs, according to the inventory conducted by the EAP.	Mid Term Action	a. Dig up the barrel with all necessary precautionary measures. b. Find the proper disposal of the product or seek a temporary storage site.
13	Entierro en el municipio de Cedros, Departamento de Francisco Morazán	There are currently no pesticides, but the soil is probably contaminated (Source: Memorandum of visits 5 and 16 April1999).	Mid Term Action	a. Conduct an investigation and analysis takes soil samples to determine if the site is contaminated.
14	Bodega de la Escuela Agrícola Panamericana El Zamorano en el municipio de San Antonio de Oriente, Departamento de Francisco Morazán	Presence of pesticides not obsolete POPs, according to the inventory conducted by the EAP.	Long Term Action	a. It is recommended to eliminate obsolete pesticides in an environmentally sound manner.
15	Entierro en Naco, Departamento de	Place where the goods were carried from the cellar of	Short Term Action	a. Investigate Banpaís and the city of Naco, Cortes to locate products.

	Cortes	Banpais in Web (site No. 036), as living testimonies.		
16	Bodega de BANADESA en Tegucigalpa, Departamento de Francisco Morazán	The warehouse served BANADESA for sale and storage of chemicals in the past. He was also one of the two packing plants for shipment of 100 tonnes of organochlorine and organophosphorus pesticides in 2000. It currently contains different products obsolete, of which about 9 tons of Dipterex are possibly contaminated with POPs, stored in 2000.	Mid Term Action	a. Segregating at a single site of the hold stocks of malathion. b. Dipterex analyze samples to see if the products are contaminated with POPs. c. Order, refund and label correctly Dipterex to manage available environmentally sound. d. Remove Malathion and fertilizer properly. e. After removal of the products, ensure the clearance and neutralization of pollution in the cellar. f. The facilities shall not be used for storage of foodstuffs or office operation.
17	Bodega de Salud en Buenos Aires, San Lorenzo en el Departamento de Valle	Old School Name Winery of the Ministry of Health where DDT is stored and weighed in the past. Spills likely. Currently being used as school (4 classes) represents a risk to students and staff.	Short Term Action	a. Analyze 2 soil samples in front of the classroom to assess if the soil is contaminated. b. Develop a laboratory study to determine the degree of contamination of the infrastructure of the classroom. These facilities should not be used for any other purpose than storage of chemicals. c. Move the 4 kg of pesticides found in the cellar of Public Health in High Green. d. After removal of the products, ensure the clearance and neutralization of Pollution in the center. e. The facilities shall not be used for storage of foodstuffs or operation of offices or schools.
18	Bodega de la Secretaría de Salud en Alto Verde, municipio San Lorenzo en el Departamento de Valle.	Abandoned warehouse previously served as DDT distribution center for other regions of the country, and that stored DDT until 1999 for disposal (WB, 2000). In the cellar are stored approximately 1.6 tons of potentially contaminated with POPs	Short Term Action	a. Restrict access to the site and the warehouse. b. Repair the perimeter fence to prevent cattle grazing. c. It is recommended to test product samples taken in the hold, to know if these are contaminated with DDT. d. Place a cyclone mesh on the windows to prevent access to animals. e. Informing the public to reduce the risk to the stocks of pesticides. f. Place signs or signs that warn of danger. g. Provide training to staff of the Ministry of Health regarding the use and management of pesticides. h. The products and residues must be disposed according to the results of analysis. i. After removal of the products, ensure the clearance and neutralization of

				Pollution in the center. j. The facilities shall not be used for storage of foodstuffs or operation of offices or schools.

**Corto Plazo: Hasta 6 meses; Mediano Plazo: Hasta 2 años y, Largo Plazo: Hasta 5 años*

ANNEX VII. Geographic Distribution of POPs pesticide stocks.



ANNEX VIII. List of Sites with PCB-contaminated transformers. (PPG, 2010)

Name of Facility	Sector	Type	Filtration	Quantity	In use	Peso total
1. ENEE Store, Ceiba Oeste	Public	Distribution	Sí	7	0	4,025* Kg
2. La Ceiba Old Substation	Public	Distribution	No	1	0	575*Kg
3. Comayagua Substation	Public	Distribution	-	1	0	575*Kg
4. Siguatepeque Substation	Public	Distribution	-	1	0	575* Kg
5. La Puerta store, SPS	Public	3 Distribution 1 reclosed	No	4	0	1,407* Kg
6. El Cajón Hydroelectric Plant	Public	Power	No	2	2	3,570* Kg
7. Río Lindo Hydroelectric Plant	Public	Power	No	1	0	11,400 Kg
8. Cañaveral Hydroelectric Plant	Public	Distribution	No	2	0	1,150* Kg
9. Alsthom Substation, SanPedro Sula	Public	Power	No	1	1	44,000 Kg
10. Lima Substation	Public	Power	No	3	0	20,925 Kg
11. Tela Railroad Company, La Lima	Private	Power	No	6	0	20,934 Kg
12. Danlí Distribution Office	Public	Distribution	-	2	0	827 Kg
13. Miraflores Substation, Tegucigalpa	Public	-	Sí	0	0	-
14. Suyapa Substation	Public	Distribution	Sí	1	0	575* Kg
15. Electrom Workshop. ENEE, Tegucigalpa	Public	-	No	0	0	-
16. Las Flores Substation, Lempira	Public	Power	Sí	4	4	24,663 Kg
17. San Lorenzo Substation	Public	Distribution	Sí	1	0	575* Kg
18. Teaching Hospital, Tegucigalpa	Public	Power	No	3	3	3,285 Kg
19. Yojoa Sugar Plant Río Lindo	Private	Power	No	1	1	10,665 Kg
20. CENOSA, Choloma	Private	Power	No	1	1	35,500 Kg
21. Ingenio San Ramón, Villa Nueva	Private	Power	No	1	1	1,768 Kg
22. El Mochito Mine, Las Vegas	Private	Power	No	3	3	16,269 Kg
23. Standard Fruit C., Coyoles Central	Private	Distribution	No	2	2	1,150*Kg
24. "Cementerio" Substation La Cañada	Public	Distribution	No	15	0	7,368* ♦ Kg
TOTAL				**63**	**18**	**211,781 Kg**

* In some places it was not possible to accurately determine the weight of contaminated equipment because of lack of label information, so these amounts were not reported in the inventory (CESCCO/SERNA, 2009). However, these small equipments their weight is not significant with respect to the total inventoried. For this reason, the weight was estimated based on an average of 575 kg by distribution type transformer/claims and 1.785 kg for the missing power.

♦ This is a new site that was not inventoried in the first national inventory (CESCCO / SERNA, 2009f): Approximately 2,000 obsolete transformers and other equipment taken mainly from the Miraflores´ Substation and ENEE´s Electromechanical workshop are temporarily placed on the floor open cast 100 meters from La Cañada Substation without any mitigation measure. It is noteworthy that some equipment were seen leaking (and oil leaks and oil spills) in various areas of the facility, contaminating the soil. This cemetery has been designed as a temporary storage site planned for about a year.

ANNEX IX. Geographic Distribution of PCBs stocks. (NIP, 2008)