## Government of the Republic of Suriname

**United Nations Development Programme** 

## PIMS 2790, Initial Assistance to Enable Suriname to fulfill its obligations under the Stockholm Convention on Persistent Organic Pollutants (POPs).

#### **Brief description**

The project aims to identify means to support Suriname's own sustained capacity to fulfill its obligations in the context of the Stockholm Convention, including the preparation of a National Implementation Plan focused on Persistent Organic Pollutants (POPs), that covers more widely aspects important to the safe and environmentally sound management of chemicals and waste. The National Implementation Plan will describe how Suriname will fulfill its obligations under the Convention to eliminate or reduce POPs releases to the environment and carry out environmentally sound management of stockpiles of POPs-contaminated wastes and contaminated sites that pose high risks for health and the environment, with a regional perspective

## SIGNATURE PAGE

#### **Country: Suriname**

UNDAF Outcome(s)/Indicator(s)	A comprehensive environmental policy, developed with participation of social partners, including civil society and the private sector. <sup>1</sup>
Expected Outcome(s)/Indicator (s): <sup>2</sup>	Support to Suriname in meeting its reporting and other obligations under various international environmental conventions
Expected Output(s)/Annual Targets:	
Implementing partners:	Ministry of Labour, Technological Development and Environment UNDP
Programme Period: 2002-2006 Programme Component: 2006 Project Title: Initial Assistance to Enable Suriname	Total budget:US\$ 430,000Allocated resources:US\$ 407,800
to fulfill its obligations under the Stockholm	Government in kind contribution
Convention on Persistent Organic Pollutants	US\$ 22,200

Agreed by (Government):

Management Arrangement NEX

Project ID: PIMS 2790 Project Duration:

Date \_\_\_\_\_

(POPs).

R. O. van Ravenswaay, Minister of Planning and Development Cooperation Agreed by (Implementing partners):

Date\_\_\_\_\_

C. P. Marica, Minister of Labour, Technological Development and

Environment

Date

Inyang Ebong-Harstrup; UNDP Resident Representative

Agreed by (UNDP): Date:

<sup>1</sup> <u>http://www.undp.org/documents/32-3-</u> Suriname\_2002\_2006.doc <sup>2</sup> <u>http://www.undp.org/execbrd/word/CCFSUR2.doc</u>

24 months

Inyang Ebong-Harstrup; UNDP Resident Representative

## Section I—Narrative

## Part I. SITUATION ANALYSIS

#### **1.BACKGROUND, CONTEXT and RELATED WORK**

#### 1.1 General

In the 2000-2005 Multi-annual Development Plan of Suriname, the Government committed itself to the execution of the following actions, which promote sustainable production methods particularly in the agricultural sector:

- The reduction of the use of chemicals
- To improve the use of pesticides which are safe for human beings and the environment
- The implementation of the Project Research for PEST residue with Food Safety
- The development of activities, which are related to sustainable agriculture production in the interior.

In May 2002 the Government of Suriname signed the Stockholm Convention on Persistent Organic Pollutants. Organochlorine pesticides subject to this Convention are not in use at present in Suriname and since 1990 the Ministry of Ministry of Agriculture, Animal Husbandry and Fisheries stopped the issuing of import permits for several pesticides which were identified as dangerous for humans and the environment. In 1999 the Ministry of Trade and Industry prohibited (Negative list) the import of chemicals on the PIC list of the Rotterdam Convention, that include the following: 2,4,5-T, Aldrin, Binapacryl, Captafol, Chlordane. Chlordimeform, Chlorobenzilate, DDT, Dieldrin, Dinoseb, Dinoseb Salts, DNOC and its salts, EDB, Endrin, Ethylene dichloride, Ethylene oxide, Fluoroacetamide, HCH, *Heptachlor*, Hexachlorobenzene, Lindane, Mercury Compounds, Mirex. Monocrotophos, Pentachlorophenol, Toxaphene, Methamidophos, Methyl-parathion, Monocrotophos Parathion, Phosphamidon, Dustable powder formulations of Benomyl (at or above 7%),, Carbofuran (at or above 10 %) and Thiram (at or above 15 %), Asbestos, Polybrominated Biphenyls (PBB), Polychlorinated Biphenyls, Polychlorinated Terphenyls Tetraethyl lead, Tetramethyl lead, Tris(2,3 dibromopropyl) phosphate (substances in Italics are currently controlled by the Stockholm Convention)

Although DDT is not being used for the control of the vectors of Malaria, Suriname considers necessary to be able to use it in case of emergency or if the foreign aid to support the costs of the use of more expensive alternatives is not available.

Preliminary studies have been started to identify the existence of stocks or reserves of organochlorine pesticides.

Polychlorinated Byphenils (PCBs) have not been inventoried and there is no precise information about the moment when importation of equipment containing them was stopped and about the amount of PCBs that had been sent for incineration to a private company involved on bauxite mining activities and those that could exist on the country. There is a concern that the installations of the electric company where transformers containing PCBs were stored, contaminated soils, and this needs to be confirmed through sampling and analysis of the content of soils that seem to be contaminated with transformer oil of unknown composition. Other sources of PCBs need also to be investigated.

The Government also ratified the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, in May 2000.

#### **1.2 Institutional Organization**

- Ministry of Labour, Technological Development and Environment

The Ministry of Labour, Technological Development and Environment is responsible for the development of an overall environmental policy and the coordination and monitoring of all activities regarding environmental policy. This is done in collaboration with governmental and non-governmental bodies and institutions.

Other responsibilities of this Ministry of ATM regarding environmental management are:

- Establishment of a National Environment Act (legal basic law) to be approved by parliament
- Developing coordinating mechanisms and partnerships
- Identifying and preparing educational, training, and information programs
- Promoting implementation of the environmental conventions signed by the Government of Suriname
- Control, in collaboration with other Ministries, of the use of materials and technologies harmful to the environment
- Promotion of adequate involvement of the community to effectively address environmental degradation
- Stimulating the use of environmentally sound technologies
- Promoting and maintaining contacts with relevant national and international organizations concerned with the environmental aspect

Furthermore the Ministry is the GEF Operational Focal Point and the Focal point for UNCBD, UNFCCC, UNCCD, POPs, and Montreal Protocol. The Ministry also represents the Government in the GEF/SGP National Steering Committee.

The **National Council on the Environment** (NMR) The National Council for the Environment (NMR) was established by Presidential order in 1997 to support the Government of Suriname by advising on national environmental policy.

The **National Institute for Environment and Development in Suriname** (NIMOS) was established on March 1998, as the Executing Agency of the National Council for the Environment. The NIMOS is responsible for:

- Preparing proposals for initiating and realizing national legal instruments
- Preparing and enforcement of measures with regard to the protection of the environment

NIMOS, is expected to be transformed into an Environmental Authority This Authority will be responsible for the implementation of the environmental policy

Several other **Ministries** have their own state of responsibilities for widely different aspects of national environmental management according to the Government Decree on the Tasks of Ministries. (S.B. 1991 amended by SB 2002, no 16 and S.B. 2005 no. 941991. Ministries involved on Persistent Organic Pollutants Regulation and/or Control Related Activities

- Ministry of Agriculture, Animal Husbandry and Fisheries is responsible for the inventory of the use of pesticides and Agriculture Information
- Ministry of Health: The Central Laboratory within this ministry is responsible for research, investigation and enforcement.
- Ministry of Trade and Industry is responsible for the issuing of import permits on advice by Ministry of Agriculture, Animal Husbandry and Fisheries and the import registration of chemicals.
- Ministry of Finance, Customs, is responsible for the registration and verification of import of chemicals.

#### **1.3** Legal Framework

The Constitution of the Republic of Suriname provides a legal basis for a national environmental policy. Article 6 states that the social objective of the State is directed towards the creation and stimulation of conditions necessary for the protection of nature and the maintenance of ecological balance.

"The studies on environmental management in Suriname have indicated that current laws in the forms in which they exist were created to regulate the various sectors, but not sufficiently to accommodate environmental management. As a result of this, the legislation and regulation, is out of date, fails to use implementation and enforcement powers and establishes a low regime of fines and penalties".

NIMOS submitted the draft Environmental Act to the Minister of Labour, Technological Development and Environment. This draft Act was reviewed and has currently been submitted for endorsement by Parliament

This Act, which will provide a broad and flexible framework for addressing environmental issues and for responding to changes in socio-economic and ecological parameters will provide a basis and reference point for the coordination of sectoral activities and the rationalization and harmonization of sectoral regimes.

In 1993 one of the newly developed legislation products namely the revision of the Government decision of 1974 regarding the use of pesticides was submitted to the Parliament for discussion and approval.

The Pesticide Decree (a replacement of the Pesticide decree of 1974) has been approved in October 2005. A change in the Pesticide Act, prohibiting the import, storage and use of chemicals falling under the Rotterdam Convention, has been approved in February 2005.

#### **1.4** Chemical Management Policy

At present Suriname does not have a national policy to address the environmentally sound management of persistent toxic substances and wastes; regulations, standards and guidelines are to be developed.

Suriname has signed the Stockholm Convention on Persistent Organic Pollutants on May 22, 2002 but started to ban the use of POPs and PCBs since 1971. In 1990 the government stopped the issuing of imports permits for 9 pesticides, which were identified as prohibited by the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV). These permits are issued by the Ministry of Trade and Industry on advice of the Ministry of LVV. The Ministry of Trade and Industry has introduced a list (the negative list) in which all chemicals that are prohibited for import is registered. Since 1990 there is a tendancy towards using environmentally safer pesticides and chemicals. The costs to purchase these chemicals are

relatively higher than the traditional pesticides, which are purchased by farmers. This is causing the price to increase leading to a higher market price for agriculture products.

For the past 3 years now, the Ministry of LVV is executing awareness programs for farmers on the correct use of pesticides.

Residual research and investigation should be done by the University of Suriname and the Public Health department of the Ministry of Health. However these departments lacks the necessary equipment to perform measurements like for example a laboratory.

#### 1.5 Waste management

At the moment the draft revised legislation on waste management, prepared by the Ministry of Public Works, is being finalized for submission and approval to the Parliament. Within this framework the disposal of waste coming from companies, liquid waste and car wreckages are the main concerned issues dealt with. Also the rules for the protection of the environment are incorporated. In the Act these issues are discussed generally and limited to the responsibilities and duties of the institutes and people.

The draft Environmental Framework Law that is prepared by the Ministry of ATM and NIMOS provides a legal framework for the establishment of standards and procedures for solid waste and hazardous. This mainly includes standards for the usage, import, storage, transport and process. Within this law the issue of a policy regarding the licensing system is also dealt with.

A governmental decree, proceeding from this Framework Law will be needed to incorporate more practical solutions and regulations regarding the safe disposal of chemical waste. This will enable Suriname to develop a strategic approach to chemical management, a national policy for management of chemicals such as the Persistent Toxic Substances (PTS) and more specific standards and guidelines for the use of pesticides.

#### 1.6 DDT

Regarding the use of DDT for malaria vector control, Suriname is already using alternatives such as deltamethrine. However, because of the high costs these can only become available through donor projects, which provide funds to purchase these alternatives. The last funds that became available for the Public Health Bureau amounted up to US\$10,000.- which provided for the purchase of alternatives for a period of two years. However, these alternatives are less effective than DDT, making frequent spraying necessary.

Between 1958 and 1982 Suriname has intensely used DDT for Malaria control in the interior of the country. In the second part of the 1980's and early 1990's the use of Synthetic pyrethroids was gradually introduced and by the end of the 90's these insecticides were the only ones imported and used in the malaria vector control strategies. The main insecticides used were deltamethrin, Permethrin and Lambda Cyhalothrin. Presently Suriname is in the process of the implementation of a project, financed by the Global Fund against Aids, Tuberculosis and Malaria, grant agreement number SUR-404-G02-M. This project will run for 5 years, starting March 2005 and will consist of the following main components:

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- Promoting the use of long lasting Insecticides Treated Nets (LLN) in the interior.
- Expanding the prompt access to diagnosis and treatment with artemisinin-based combination Therapy (ACT) for P. falciparum.
- Strengthening the surveillance of the Malaria Control Program

Each of these main components consists of 5 to 7 related and more detailed sub components. Strengthening of the surveillance system will cover strengthening of the epidemiological system as well as the laboratory system, composing lab. diagnosis and insecticides effectiveness monitoring among others.

Outcomes of this project will be taken into account during NIP preparation.

#### 1.7 Laboratory Capacity for Monitoring Environmental Pollution

The Office Environmental Monitoring and Enforcement of the National Institute for Environment and Development in Suriname promoted a study to determine the current status of the laboratories involved on chemical analysis in Suriname in 1997 and in 2003 as part of the Environmental Management Cooperation Program, financed by Surinamese Government, the Inter American Development Bank and the European Union. Through this study the capacity of laboratories was determined by assessing the physical infrastructure, the institutional arrangement and the human resources. Many professionals in the field of laboratory management were consulted, and the capacity of 49 laboratories was assessed. The results of this study will serve as a base to identify the best options to strengthen national laboratory capacity to support government authorities on charge of the enforcement of legislation and of the monitoring of the state of the environment.

### Part II. PROJECT STRATEGY

#### 2.1 **Project Strategy**

The main objective of the project is to identify means to support Suriname's own sustained capacity to fulfill its obligations in the context of the Stockholm Convention, including the preparation of a National Implementation Plan focused on Persistent Organic Pollutants (POPs), that will more widely cover aspects important to the safe and environmentally sound management of chemicals and wastes, as called for in Chapters 19 and 20 of Agenda 21. The National Implementation Plan describes how Suriname will fulfill its obligations under the Convention to eliminate or reduce POPs releases to the environment and carry out environmentally sound management of stockpiles of POPs-contaminated wastes and contaminated sites that pose high risks for health and the environment, with a regional perspective

Environmental and sustainability concerns have become a priority for Suriname. This was reflected in the main objectives of the UNDAF<sup>3</sup> and the CCF<sup>4</sup>. The UNDAF 2002-2006 states: Every human being has the right to live in a world free from toxic pollution and environmental degradation. The UN system will, therefore, assist the Government of Suriname in overcoming the threats of environmental degradation, which also includes urban environmental degradation

The fulfillment of the obligations under the Stockholm Convention relates to the national priorities as presented in the Government declaration 2006-2010, which emphasizes that responsible management of environmental problems enquires an efficient and effective approach," whereby strategies and action plans will be developed for several thematic areas. Some of these thematic areas are: biodiversity, climate, sustainable land and coastal management, and chemicals.

<sup>&</sup>lt;sup>3</sup> <u>http://www.dgo.org/documents/3203-Suriname\_2002\_2006.doc</u>

<sup>&</sup>lt;sup>4</sup>.<u>http://www.undp.org/exebrd/word/CCFSUR2.doc</u>

One of the four thematic focus areas identified as key areas for UNDP support for the CCF period, 2002–2006, is: environmental management and sustainable development, with the main focus on the support of the Government's approach to the management of the environment sector within the context of the interactions between the ecosystems and ecosystem users (national and local stakeholders) through the integration of environmental concerns and the sound management of renewable and non-renewable natural resources, as well the assistance to Suriname in meeting its reporting and other obligations under various international environmental conventions.

#### 2.2 Linkages to other activities.

The Environmental Framework Law, which provides for interalia regulations for a safe disposal of waste and hazardous waste, is currently finalized for approval by the Council of Ministers to be submitted to the Parliament for endorsement.

Presently Suriname is in the process of the implementation of a project, financed by the Global Fund against Aids, Tuberculosis and Malaria, grant agreement number SUR-404-G02-M.

This project will run for 5 years, starting March 2005 and will consist of the following main components:

- Promoting the use of long lasting Insecticides Treated Nets (LLN) in the interior.
- Expanding the prompt access to diagnosis and treatment with artemisinin-based combination Therapy (ACT) for P. falciparum.
- Strengthening the surveillance of the Malaria Control Program

Recently the Ministry of Health started with the implementation of a project "National Profile Preparation, Priority Setting and Information Exchange for Sound Chemicals Management". A draft "Chemical Safety Profile" was developed through a multi-stakeholder process and has now been finalized. With this profile insight has been developed in the so-called life cycle management of chemicals in Suriname with regard to the problems that are encountered and the existing mechanisms which could address these problems. This document will serve as a base to build further on to update data and identify the capacity needs at relevant institutions to enhance monitoring and enforcement. Within this project also a website for chemical safety will be set up. The project is being funded by UNITAR.

Suriname is also involved in the preparation of a Regional Project for the final disposal of existing waste pesticides and selected POPs in the Caribbean and the prevention of future accumulation. This Caribbean pesticide project aims at the complete collection, removal and final disposal of existing stocks of obsolete pesticides and PCBs and the setting up of a long-term strategy for the prevention of future accumulation of stocks of pesticides. The project is being developed and co-funded by UNEP chemicals and the Secretariat of the Basel Convention. The project is in accordance with article 5 and 6 of the Stockholm Convention where it is interalia states that parties to the convention shall take necessary measures to ensure that stockpiles consisting of, containing or contaminated with POPs, including products and articles upon becoming waste are managed in a manner that is protective to human health and the environment.

The Ministry of ATM has already taken steps with regard to the safe disposal of PCB's with the signing of a bilateral agreement with the Government of the Netherlands for the transportation and processing of equipment containing PCB waste. An annex attached to this agreement identifies the type of PCB containing waste to be shipped and provide for the opportunity to add more to the list. Further inventory on the amount of PCBs in the country will help to ship all PCB containing waste out of the country. The agreement is valid for two years. Within these two years Suriname has the opportunity to enter to the Basel Convention.

#### 2.3 Outputs.

A. A Focal Point and a National Coordinating Committee are enabled to carry on the process leading to the formulation and approval of the National Implementation Plan for fulfilling Suriname's obligations under the Convention.

B. Preliminary inventory of unintentional POPs sources and loads and basic elements to create a hazardous chemicals information system.

C. An updated inventory and strategy to manage and dispose of POPs pesticides and PCBs stockpiles in a safe, efficient, economically viable and environmentally sound manner.

D. Options and strategies to create and operate a central laboratory capacity to monitor POPs environmental pollution and to assess risks for particular vulnerable human populations and ecosystems.

E. A strategy to reform or enact regulations concerning chemical and hazardous waste management to facilitate the implementation of the Stockholm Convention.

F. Practical and viable strategies (action plans) to prevent and reduce POP's releases to the environment and relevant sources of exposure.

G. A strategy for raising public awareness and to establish efficient mechanisms (intersectoral networks) to promote social participation to support the implementation of the National Action Plan.

H. An agreed National Policy and National Profile of the Infrastructure, for the Environmentally Sound Management of Chemicals and Wastes.

I. Financial mechanisms to implement the National Policy and the National Action Plan identified.

J. National Implementation Plan consistent with the GEF Initial Guidelines for Enabling Activities for the Stockholm Convention on POPs, and the Interim guidance for developing a National Implementation Plan (UNEP and The World Bank Group), including strategies required under Articles 5 and 6 of the Convention.

### 2.4 Project Activities

#### **Step 1. Organization of the Process**

#### Activity 1.1. Establishment and Strengthening Coordinating Mechanism

1.1.1. Coordination Unit: The Government of Suriname will establish a Project Coordination Unit (PCU) responsible for the project execution, identify and appoint a National Project Coordinator (NPC) and the core project team. The PCU will be established involving the Suriname Stockholm Convention Focal Point. The PCU will be an integrated Unit of the Ministry of ATM as the focal point of the Stockholm Convention.

1.1.2. Co-ordination Committee: A National Co-ordination Committee (NCC) will be established comprising relevant government agencies and other key stakeholders for the purpose of formulating and developing the National Implementation Plan (NIP). This Committee will consist of representatives of the various Ministries and others institutes such as: NIMOS, the University of Suriname, the Customs, representatives of the NGO's and the private sector

1.1.3. Definition of responsibilities: The roles and responsibilities of the members of the NCC for the various aspects considered in the Project will be identified, clarified and assigned.

1.1.4. Capacity strengthening: Capacities of PCU and NCC as well as country Stockholm Convention Focal Point will be developed, and information, equipment and administrative support provided according to their needs.

#### Activity 1.2. Public Awareness and Participation

**1.2.1. Development of information activities: To understand the relevance of the Stockholm** Convention on Persistent Organic Pollutants (POPs), and to assure wide support to its implementation, both government officials and members of the different sectors of society (including common citizens) need to have a basic understanding about the difference that exists between the hazards and the risks of chemicals and hazardous wastes, as well as about the different aspects that need to be considered on their integral management to assure safety and the protection of human health and the environment all along their life cycle.

A clear understanding need to be developed as well concerning the particular characteristics of products and unintentional byproducts that are considered to be persistent organic pollutants, and about the risks derived from the fact that they can stay active in the environment for long periods, accumulate in body tissues and along the food chain, travel long distances and cause different adverse effects in sensitive human populations and organisms from the aquatic and terrestrial biota.

**1.2.2. Development of information tools**: The understanding and the support to the present Project activities and the National Implementation Plan (development of specific action plans), require a sustained effort from government agencies and the public, that could only be obtained by continuous stimulation through educative programmes, information campaigns in the media, dissemination of information brochures, and other related means.

**1.2.3. Development and promotion of network mechanisms:** The weak governmental capacity to enforce the existing environmental and health legislation regarding chemical and waste management, demands public support all along the country and the establishment and operation of intersectoral voluntary networks on chemical and waste environmental sound management. Those networks could be a mechanism to obtain public support for the implementation of governmental programs to protect human health and the environment from the risks of hazardous chemicals and wastes, as well as those associated to persistent organic pollutants.

#### Activity 1.3 Training

**1.3.1. Regional training activities**: Suriname has been participating in different workshops and activities that have taken place at a regional level to enable the Parties of the Convention to become aware of the obligations to be fulfilled as well as to provide training in different aspects that need to be considered during the formulation and development of the National Implementation Plan. It is convenient to continue taking part on these regional training activities to establish or strengthen regional networking, sharing experiences and developing partnerships with other neighbor countries.

**1.3.2. Initial training workshop:** An initial training workshop to create the same level of understanding of the Stockholm Convention on Persistent Organic Pollutants (POPs), its objectives and goals, as well as about the Project to support the formulation of the National Implementation Plan need to be carried out, open for the participation of government agencies staff as well as different sectors of the society that need to be involved on the process as partners.

**1.3.3.** Successive training workshops: Along the development of the different activities comprised on this Project, training workshops concerning the different areas covered by the Stockholm Convention (management, control and effects of unintentional releases of dioxins and furans, PCB, pesticides, legislation related to controlled substances, contaminated sites, etc) will take place before starting them, offering new opportunities to strengthen the capacities of the stakeholders. According to the subject those

activities and workshops will require the engagement of local or overseas adviser(s) to conduct the training and work alongside local staff until their capacity had been established on a sustainable basis.

#### Activity 1.4. Securing Commitments of Major Stakeholders

**1.4.1. High level inception workshop:** Organization of a high level inception workshop addressed to representatives of the main stakeholders to:

- Present the national and international context relevant to the Convention and implementation of the Project to develop the National Implementation Plan (relationship with Agenda 21 chapters 19 and 20, SAICM, the Intergovernmental Forum on Chemical Safety and with other related International Conventions such as Basel, Rotterdam, Montreal Protocol and Climate Change).
- Presentation of Project objectives and the anticipated results and outcomes.
- Securing commitments for participation of all stakeholders involved in the management of persistent organic pollutants and clarifying and obtaining agreements regarding their roles and responsibilities, as well as resource commitments (information, technical, human, etcetera).

#### Activity 1.5. Approval of Work-Plan and Timetable

**1.5.1.** A detailed work-plan and timetable for implementation of the Project will be presented by the Project Coordination Unit and endorsed by the National Co-ordination Committee.

#### **Step 1: Expected Outputs**

1.	Establishment and strengthening of the National Co-ordination Committee.
2.	Establishment and strengthening of the Project Coordination Unit
3.	Commitments of POPs stakeholders to support and execution of the Project.
4.	Finalized and endorsed project work-plan and timetable.
5.	A strategy and tools to raise awareness about POPs
6.	A mechanism to create and operate intersectoral networks to support the development of the
	Project and the implementation of the National Implementation Plan
7.	Training

## Step 2. Elaboration of a National Profile on Chemical and Waste Management to Support the Implementation of the Stockholm Convention.

#### Activity 2.1. Institutional and Legal Framework

**2.1.1. Institutions involved on chemical and waste management**: Elaboration of an inventory of governmental and non governmental institutions/organizations/groups involved on chemical and waste management, or close related activities, relevant for the implementation of the Stockholm Convention; describing:

- Organizational structure
- Objectives
- Main activities on this field.
- Legal mandate in relation to chemical and waste management related issues

**2.1.2. Legislation**: Inventory and description of relevant laws, regulations and standards (and other types of legal provisions) that support the control of chemical and waste management, relevant for the implementation of the Stockholm Convention.

- Organization of a training workshop to review the key aspects involved on chemical and waste integrated and environmentally sound management regulation.
- Assessment of the effectiveness of national legislative, regulatory and enforcement infrastructure to comply with chemical and waste management related International Conventions.
- Description of co-ordination mechanisms among governmental agencies.
- Access and dissemination of regulatory instruments (integration of a CD containing the files of the most relevant chemical and waste management regulations).
- Description of public consultation and participation mechanisms established to support the process of development of regulatory instruments.
- Evaluation of needs and definition of strategies to strengthen the legal framework.

#### Activity 2.2. Monitoring and Assessment Capacity

**2.2.1. Monitoring capacity**: Characterization of public and private national capacity to monitor environmental chemical pollution and exposure, in particular concerning persistent organic pollutants, through the:

- Organization of a training workshop to review the needs and means to monitor POPs and other chemical environmental pollution and assess human and ecosystem exposure.
- Elaboration of an inventory of laboratories involved on chemical environmental and biological monitoring.
- Description of mechanisms in place for quality control/quality assurance and accreditation of laboratories and number and types of accredited laboratories.
- Identification of needs to strengthen monitoring and analysis capacity.

**2.2.2. Risk assessment capacity**: Characterization public and private available capacity to assess the risks for humans and the environment derived from pollution and exposure to persistent organic pollutants and other hazardous chemicals and wastes, through:

- Organization of training workshop(s) to offer training on the methodologies to assess human health and eco-toxicological risks.
- Inventory of institutions/research centers or other groups involved on or aware of risk assessment applied to chemical and hazardous wastes risks evaluation.
- Identification of need to strengthen risk assessment capacity.

#### Activity 2.3. Infrastructure Capacity

**2.3.1. Hazardous waste management**: Obsolete, prohibited, not allowed, and discarded hazardous products or materials (such as persistent organic pollutants) become hazardous wastes and need to be managed safely and properly during its storage, transport, treatment, destruction, co-processing as alternative fuels, or disposed off on landfills. In this particular activity the capacity and needs of Suriname for the environmentally sound management of hazardous wastes is to be determined and assessed, through:

- The organization of a training workshop to review environmentally sound options for the integrated management of hazardous wastes along its complete life cycle.
- The gathering of available information about sources and volumes of hazardous wastes generated in the country.
- The inventory of existent infrastructure and capacities (installations, technologies, trained manpower and other relevant aspects).
- The actual means of management of industrial hazardous wastes.
- The identification of capacity building needs for strengthening the capacity for the local environmentally sound management of hazardous wastes.

**2.3.2. Best available techniques (BAT) and Best environmental practices (BEP):** The elimination or reduction of the liberation into the environment of persistent organic pollutants (and by the same means of other relevant chemical pollutants) require access to BAT and BEP and is one of the main goals of the Stockholm Convention. For this reason the present activity is focused on:

- The organization of a training workshop to review the Stockholm Convention provisions regarding this issue, the work being developed by the Expert Group in charge of developing the BAT and BET guidelines concerning the sources of unintentional POPs considered in Annex C Part I and II and other relevant aspect that will help Suriname to fulfill this particular objective.
- The analysis of the results of the preliminary inventory of sources and loads of POPs in Suriname to establish priorities, objectives and goals to be considered in the National Implementation Plan, in order to reduce or eliminate POPs emissions from these sources.
- The identification of capacity building needs on this area and design of a strategy to satisfy these needs.

**2.3.3. Information systems and access to information**: An essential element to raise awareness, to promote public participation and to provide means to assess the situation about and progress made on implementing the Stockholm Convention provisions to reduce or eliminate persistent organic pollutants and minimize their risks for human health and the environment, is the access to information on these matters through the establishment of an specific information system regarding POPs and other environmental chemical pollutants. Under the present Project this objective will be achieved through:

- The organization of a training workshop to review the key elements to be considered on the development of a chemical safety and environmentally sound management of chemicals information system to provide means for minimizing their risks for humans and ecosystems.

- The inventory of existent capacity and institutional arrangements concerning environmental chemical management and pollution prevention and control information systems and public dissemination of information.
- The identification of capacity building needs and priorities in this area and design of a strategy to satisfy such needs.
- The design and development of a Web page to give public access to information regarding the Project and the National Implementation Plan to fulfill Suriname obligations under the Stockholm Convention on persistent organic pollutants

# Activity 2.4. Integration, Endorsement and Publication of the National Profile on Chemical and Waste Management

**2.4.1. Integration of the National Profile**: The National Profile will be integrated using as a basis the diagnoses and conclusions derived from Activities 2.4.1 to 2.4.3.

**2.4.2. Endorsement of the National Profile**: The document concerning the National Profile will be submitted to the consideration of the stakeholders and the National Co-ordination Committee, through its circulation and presentation on a workshop, for their endorsement.

**2.4.3. Publication of the National Profile**: The document will be available on the Stockholm Convention Web page and will be published for its dissemination.

#### **Step 2: Expected Outputs**

- 1. National Profile on Chemical and Waste Management to support the implementation of the Stockholm Convention on Persistent Organic Pollutants published and accessible through Web page.
- 2. Training workshops concerning chemical and waste management relevant issues.
- 3. Identification of priorities and objectives of key action plans to address the most important sources and loads of POPs and the implementation of BAT and BEP.
- 4. Web page to give public access to information regarding the Stockholm Convention on Persistent Organic Pollutants.
- 5. Diagnose and strategies to strengthen national capacities regarding chemical and waste management.
- 6. CD with files of key regulations concerning chemical and waste management.

## Step 3. Elaboration of Inventories of Unintentional POP's Sources and Loads, as well as of Existing Stocks of POPs Pesticides and PCBs

## Activity 3.1. Identification of Sources and Loads of Unintentional POPs and Existing Stocks of POPs pesticides and PCBs.

**3.1.1. Inventory of sources and loads of unintentional POPs**: According to the spirit and objectives of the Stockholm Convention every Party need to identify which are in their particular circumstances the main sources of emissions and exposure of sensitive human populations and ecosystems to persistent organic pollutants in order to establish priority action plans to reduce or eliminate such emissions. In this regard the present activity is focused on:

- The organization of a training workshop concerning the application of UNEPs Toolkit to elaborate the preliminary inventory of unintentional POPs sources and loads.

- The development of the preliminary inventory.
- The establishment of a data base that could be updated periodically.
- The identification of needs and strategies to strengthen national capacities to build and update inventories on unintentional POPs.

**3.1.2. Field survey to establish an inventory and Management of Existing Stocks of Pesticides and Polychlorinated Byphenils (PCBs):** Preliminary inventories of stocks of discarded POPs pesticides and PCBs need to be confirmed and updated and a strategy need to be developed to address management related issues through:

- A field survey and inspections or visits to installations where these materials are stored.
- Assessment of their actual means of containment and storage.
- Design of a strategy to improve containment and storage conditions of existing POPs stocks.

#### Activity 3.2. Assessment of Socio-economic Implications of POPs Management

#### 3.2.1. Training on cost-benefit analysis of the various options for POPs management

#### 3.2.2. Evaluation of the socio-economic implications of POPs management

## Activity 3.3. Financial Mechanisms to Support the Implementation of the National Implementation Plan

#### **3.3.1.** National sources of funding

#### 3.3.2. International sources of funding

#### **Step 3: Expected Outputs**

- 1. Training on the use of the UNEP toolkit to elaborate inventories of unintentional POPs sources and loads.
- 2. Preliminary inventory of unintentional POPs sources and loads.
- 3. Confirmation of preliminary inventories concerning POPs pesticides stocks and existing volumes of PCBs.
- 4. Improvement of containment and storage conditions of existent POPs stocks.
- 5. Management and disposal of DDT and other POPs pesticides stocks
- 6. Socio-economic implications of POPs management assessment.
- 7. Sources of funding identified

## **Step 4: Identification of priorities and objectives of key action plans to address the most important sources and loads of POPs and the implementation of BAT and BEP**

Development of Action plans: based on the results of step 3 which will give an overview of the whole national situation priorities will be identified and selected as to target financial resources for execution and capacity building needs.

#### **Step 4: Expected Outputs**

1. Development of Action plans

#### Step 5. Formulation and Endorsement of Stakeholders of the POPs National Implementation Plan

#### Activity 5.1 Formulation of the POPs National Implementation Plan

**5.1.1. Integration of the Action Plans**: Based on the results from activities developed on steps 1 to 3, a series of action plans such be formulated to address the particular issues that need to be considered in order to fulfill the obligations under the Stockholm Convention, strengthen national capacities and eliminate or reduce POPs releases to the environment, as well as to protect human populations and ecosystems from exposures and risks from POPs.

**5.1.2.Endorsement of the Action Plans**: The proposed action plans will be submitted into the consideration of stakeholders and the National Co-ordination Committee, through their distribution and presentation and discussion on a Workshop, to obtain their endorsement.

**5.1.3.Publication and dissemination of the National Implementation Plan**: The National Implementation Plan of the Stockholm Convention on Persistent Organic Pollutants will be published and made publicly available through the Web page.

#### **Step 5: Expected Outputs**

- 1. National Implementation Plan of the Stockholm Convention on Persistent Organic Pollutants formulated and publicly available.
- 2. NIP endorsed by stakeholders

The main elements of the narrative section of an enabling activity proposal are listed below. The proposed enabling activities should be consistent with the GEF Initial Guidelines for Enabling Activities for the Stockholm Convention on Persistent Organic Pollutants.

### Part III – MANAGEMENT ARRANGEMENTS

#### Roles and Responsibilities of the Parties, including financial and administrative modalities

The project will be implemented according to the National Execution modality (NEX) in which UNDP supports the implementation of the activities and is therefore considered the "GEF Implementing Agency'. The Ministry of Planning and Development Cooperation as UNDP's counterpart on behalf of the Government of Suriname, and will have the final responsibility for the execution of this project in a timely manner in accordance with UNDP Assisted Government Execution procedures.

The Ministry of Labour, Technological Development and Environment (ATM) will be the implementing partner and will have the overall responsibility for the technical aspects of the project outputs, including the final review and approval of technical reports. The Minister of ATM will establish a Project Coordination Unit (PCU) responsible for the project execution, identify and appoint a National Project Coordinator (NPC) and the core project team. The PCU will be established involving the Suriname

Stockholm Convention Focal Point.. The NPC will supervise the day-to-day implementation of project activities and will be in close contact with the Stockholm Convention Focal Point and will be part of the PCU.

The National Co-ordination Committee (NCC) will be established comprising relevant government agencies and other key stakeholders for the purpose of formulating and developing the National Implementation Plan (NIP). This Committee will consist of representatives of the various Ministries and others institutes such as: : NIMOS, the University of Suriname, the Customs, representatives of the NGO's and the private sector

The NCC will further provide overall policy guidance for the process. In addition, a Team of Consultants with the necessary experience in issues relating to Chemical and Waste Management, Monitoring and capacity assessment, Inventory of sources and loads of unintentional POPs, . Inventory and management of existing stocks of pesticides and PCBs, will be contracted to assist with the implementation of the project.

UNDP will provide full implementation and monitoring support to the Ministry of Labour, Technological Development and Environment in the following areas:

- Monitoring of support activities to the Ministry of Labour, Technological Development and Environment
- Procuring of goods and contracting of services under agreed UNDP procedures;
- Reviewing and assessing proposals for services and goods to ensure quality and value;
- Ensuring timely payment disbursements;
- Submit quarterly financial reports to the Ministry of Planning and Development Cooperation, with a copy to the Ministry of Labour, Technological Development and Environment (ATM).
- Preparing and issuing Requests for Proposals (RFPs) internationally for the identification of the Technical assistance;
- Advising the Ministry of Labour, Technological Development on the technical content of the work produced by experts;
- Supporting the pre- and ongoing training activities.

The project will be subject to an audit at least once during the duration of the project; preferably towards the end of the project activities, according to standard UNDP procedures.

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. The UNDP logo should be more prominent -- and separated from the GEF logo if possible, as UN visibility is important for security purposes.

All project activities are to be implemented according to Terms of Reference (see list of TORs to be developed as annex to this project document).

### Part IV. MONITORING AND EVALUATION

The implementation of the project will be reviewed periodically. There will be monthly review meetings between the Implementing partners: Ministry ATM and UNDP.

The National Co-ordination Committee NCC will meet at least every 3 months. Minutes will be made from these meeting and be endorsed by all parties, based on which the implementation of the project may be revised

A joint Terminal Report will be prepared by the Ministry of Labour, Technological Development and Environment and UNDP. Acceptance of the terminal report will be subject to the technical review and approval by the Implementing partners.

The monitoring of the project will be focused on outcomes and performance measurements of outputs of the project. The Technical reports, the reports on the workshops (see annex 2), minutes of the review meetings and the terminal report are the main instruments to assess this and stakeholders are participating in the rating process.

## Part V. LEGAL CONTEXT

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Suriname and the United Nations Development Programme, signed by the parties on 27, April 1978.

The following type of revisions may be made to this project document with the signature of the UNDP Resident Representative only, provided he or she is assured that the other signatories of the project document have no objections to the proposed changes:

- Revisions in, or addition of any of the Annexes of the Project Document.
- Revisions that do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the re-arrangement of inputs already agreed to or by cost increases due to inflation
- Mandatory annual revisions that rephase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility.

## PROJECT RESULTS AND RESOURCES FRAMEWORK

Intended Outcome 1: Own sustained capacity to fulfill its obligations in the context of the Stockholm Convention						
UNDP Global core result ()		nal Strategies for Sustainable Develo lemented	pment for integ	rating of economic, social and en	vironmental issu	les adopted
	ework (CCF) Suriname outcome: S	Support to Suriname in meeting its rep ions	porting and othe	er obligations under various interr	national environ	mental
Outcome indicators:						
<b>Applicable MYFF Service</b>	<b>e Line<sup>5</sup>):</b> 3.5					
<ul> <li>in particular the Ministry of Labour, Technological Development and Environment, the National Institute for Envir and Development (NIMOS) and numerous stakeholders from Government and non government agencies and insti- and commercial enterprises. The project and the intended follow-up program on institutional strengthening will ref partnership.</li> <li>Project title and ID: PIMS 2790, Initial Assistance to Enable Suriname to fulfill its obligations under the Stockholm Convention on Persistent Organic Pollutants Atlas number :000504191</li> </ul>					l institutes	
Intended Outputs	Output target	Indicative activities	Timeframe (year)	Input	Budget (USD)	Responsibl e partner
<u>1. Project and process</u> <u>coordination</u>	Coordinating mechanism established and trained in year 2	Activity 1.1. Establishment and Strengthening of Coordinating Mechanism and Training concerning the different areas covered by the Stockholm Convention	Y1-Y2 Y1-Y2 Y1 Y1-Y2 Y1-Y2 Y-Y2 Y2	Project Manager Technical Assistance Office Equipment Operating cost Coordinating Committee meetings(12) Travel (2 international, 4 national) Audits	48,000 14,400 22,700 28,000 1,200 6,000 6,000	ATM
					126,300	

<sup>5</sup> MYFF: Multi-Year Funding Framework 2004-2007

Population aware of POPs	Activity 12. Public Awareness And Participation	Y1-Y2	Broad-based Stakeholder inception training workshop High level inception workshop Technical assistance Raising awareness materials reproduction and dissemination	1,000 1,000 3,500 10,000 <i>15,500</i>	ATM
Approved work plan and timetable	Activity 1.3. Approval Of Work Plan And Timetable	Y1-Y2			

2. National Profile on Chemical and Waste Management elaborated	National profile available for the public in year 2	Activity 2.1. Preparation of Institutional and legal framework	Y1-Y2	Technical Assistance (local) Technical Assistance (international) Training workshops (2) Travel (international experts and Suriname participants) Compact disc on national chemical and waste regulations- Dissemination	7,000 10,000 4,000 9,000 6,000 <b>36,000</b>	ATM NIMOS
	Capacity and risk assessment done in year 2	Activity 22. Monitoring and assessment of capacity	Y1-Y2	Technical Assistance (local) Technical Assistance (international) Training workshops (2) Travel (international experts and counterparts )	7,000 10,000 20,000 11,000 <b>48,000</b>	ATM NIMOS
	Infrastructure capacity assessment done in year 2	Activity 23 Infrastructure capacity survey	Y2	Technical Assistance (local) Technical Assistance Training workshop Travel (international expert and	3,500 15,000 6,000 8,000	АТМ

			Suriname participants)	32,500	
National profile on chemical and waste management published in year 2	Activity 24. Integration, endorsement and publication of the National Profile on Chemical and Waste Management;	Y2	Technical Assistance Workshop Publication and dissemination of the Profile	3,500 1,000 8,000 <i>12,500</i>	ATM NIMOS

					1	,
<u>3. Inventories elaborated</u>	Inventory made on sources and loads of unintentional POPs in year 2	Activity 3.1. Inventory of sources and loads of unintentional POPs	Y2	Technical Assistance (local) Technical Assistance (international) Workshop Indicative sampling and analysis (50 samples) Travel (international expert and Suriname participants) Information dissemination	14,000 5,000 3,000 20,000 4,000 6,000 52,000	ATM
	Field survey done on inventory and Management of Existing Stocks of Pesticides and (PCBs) in year 2	Activity 3.2. Inventory and management of existing stocks of pesticides and PCBs	Y2	Technical Assistance Travel Survey to establish an inventory of Existing Stocks	3,500 1,000 50,000 <i>54,500</i>	ATM Min. of Agricultur e NIMOS
	Assessment made of socio- economic implications in year 2	Activity 3.3 Assessment of socio- economic implications	Y2	Technical Assistance Workshop	3,500 1,000 <i>4,500</i>	ATM
	Financial mechanism identified in year 2	Activity 3.4 Identification of financial mechanisms to support the implementation of the National Implementation Plan	Y2	Technical Assistance (one month/person)	3,500 3,500	АТМ

4. National Implementation Plan	Priorities identified and objective saction plans formulated in year 2	4.1 Identification of priorities and objectives of key action plans to address the most important sources and loads of POPs and the Implementation of BEP and		Technical assistance Workshop	3,500 1,000 <b>4,500</b>	АТМ
	National Implementation Plan Formulated and endorsed by stakeholders in year 2	4.2 Formulation and Endorsement by Stakeholders of the National Implementation	Y2	Technical assistance Workshop Publication and dissemination	7,000 1,000 10,000 <i>18,000</i>	АТМ

#### Section III—The total workplan and budget

#### Award:

#### Award Title: PIMS 2790, Initial Assistance to Enable Suriname to fulfill its obligations under the Stockholm Convention on Persistent Organic Pollutants (POPs)

#### 1. Project ID:

#### 000504191

**Project Title:** Initial Assistance to Enable Suriname to fulfill its obligations under the Stockholm Convention on Persistent Organic Pollutants (POPs)

OUTCOME 1: Project and process coordination         Min. ATM         GEF $71300$ 72200 72200 72500 72500 72500 72500 72500 72500 72500 72500 72500 72500 72100 71500 72100 71500 72100 71500 71000 71	GEF Outcome/Atlas Activity	Responsi ble Party	Source of Funds	ATLA	S Budget Description	Amount 2006 (USD)	Amount 2007 (USD)	Amount 2008 (USD)	Total (USD)
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<u>National</u> <u>Implementation</u> <u>plan</u>	74200	Publication/dissemin ation <b>sub-total</b>	0 <b>0</b>	0 <b>0</b>	10,000 <b>22,500</b>	10,000 <b>22,500</b>
		TOTAL	120,400	205,500	81,900	407,800
		Summary of Funds: GEF GoS( in kind) TOTAL	120,400	205,500	81,900	407,800 22,200 430,000

### <u>Annex I</u> Terms of Reference – Project Manager Technical

#### Type of Position: Consultant

#### **Duration:** Twenty four months

#### **Qualifications:**

The candidate should be highly motivated and capable of working independently. Ability to work with a wide variety of people from governments, agencies, private companies, NGOs, and research institutions is essential. A good understanding of the institutional framework is highly desirable. In addition the consultant should have:

- University degree in Chemistry or related area to at least the Masters level;
- Training in project management;
- Facilitation skills and experience;
- Demonstrated ability in managing and supervising project activities;
- Experience in the preparation of national reports and relevant international and national documentation;
- Familiarity with the Stockholm Convention on Persistent Organic Pollutants and other relevant global conventions such as the Basel Convention and the Rotterdam Convention
- Familiarity with the legislation on waste management, Chemicals Management and waste pesticides
- Knowledge of the experts and institutions involved in this area
- Good working relations with both government and non-government entities;
- Strong communication skills (verbal and written) Dutch and in English;;
- An openness to a fully participatory and consultative approach to project implementation;
- Computer skills including a working knowledge of Word, Power Point and Excel.

#### Tasks:

The Project Manager will be responsible for day-to-day management of project activities. The Project Manager will contribute technical expertise to the various thematic and cross-cutting assessments, and be responsible for compiling the various consultants' reports and to reach preparing the project outputs:

- Preliminary inventory of unintentional POPs sources and loads and basic elements to create a hazardous chemicals information system.
- An updated inventory and strategy to manage and dispose of POPs pesticides and PCBs stockpiles in a safe, efficient, economically viable and environmentally sound manner.
- Options and strategies to create and operate a central laboratory capacity to monitor POPs environmental pollution and to assess risks for particular vulnerable human populations and ecosystems.
- A strategy to reform or enact regulations concerning chemical and hazardous waste management to facilitate the implementation of the Stockholm Convention.
- Practical and viable strategies (action plans) to prevent and reduce POP's releases to the environment and relevant sources of exposure.

- A strategy for raising public awareness and to establish efficient mechanisms (intersectoral networks) to promote social participation to support the implementation of the National Action Plan.
- An agreed National Policy and National Profile of the Infrastructure, for the Environmentally Sound Management of Chemicals and Wastes.
- Financial mechanisms to implement the National Policy and the National Action Plan identified.
- National Implementation Plan consistent with the GEF Initial Guidelines for Enabling Activities for the Stockholm Convention on POPs and the Interim guidance for developing a National Implementation Plan for the Stockholm (UNEP and The World Bank Group), including strategies required under Articles 5 and 6 of the Convention.

To reach the project outputs, the Project manager will support the national Focal Point and the National Coordinating Committee in leading the process to the formulation and approval of the National Implementation Plan for fulfilling Suriname's obligations under the Convention.

The Project Manager will ensure proper coordination of all activities, and will manage and approve the activities and outputs of the consulting teams.

Among the PC's specific duties will be:

- Develop a project work plan under the general supervision of the National Coordinating Committee and in close consultation and coordination with UNDP Country office, Executing Agencies, implementing partners;
- Act as the secretary of the National Coordinating Committee and Organise the meetings of National Coordinating Committee;
- Coordinate, manage and monitor the implementation of the Project conducted by the local experts, consultants, sub-contractors and co-operating partners;
- Ensure effective communication with the relevant authorities, institutions, private firms and government departments in close collaboration with the National Coordinating Committee;
- Foster, establish and maintain links with other related national and international programmes;
- Organise, contract and manage the consultants and experts, and supervise their performance;
- Coordinate and oversee the preparation of the outputs of the project;
- In close collaboration with the Ministry of ATM oversee overall resource allocation and where relevant submit proposals for budget revisions.
- Coordinate the work of all stakeholders under the guidance of the Ministry of ATM, National Focal point and the National Coordinating Committee;
- Ensure that information is available to the National Coordinating Committee about all Government, private and public sector activities, which impact on the project implementation :
- Ensure consistency between program elements and related activities provided or funded by other donor organizations;
- Foster and/or establish links with other related GEF programs;
- Prepare and submit to the UNDP and the National Coordinating Committee regular progress and financial reports;
- Act as the lead author of National Implementation Plan in cooperation with the Ministry of ATM, the National Focal point and the National Coordinating Committee .

#### **Expected Outputs:**

- A detailed work plan indicating the manner and time in which the project outputs will be delivered
- Project management reports as required Consulting team meetings -
- -
- Draft Terms of Reference for the national and international consultants -
- Draft National Strategy and Action Plan to build capacity -

## **Terms of Reference – project assistant**

#### **Characteristics:**

The Project Assistant works directly under the Project Manager is responsible for overall daily administration and information management, including keeping databases up-to-date, and facilitates responses to requests for information and guidance. The Project assistant assists the Project manager Coordinator in the implementation of activities, tasks, and correspondence and especially in planning, implementation and monitoring of the project. S/he handles the organization and logistics of meetings and workshops.

**Duration:** Twenty four months (14,400))

#### **Qualifications:**

- Completed High School plus demonstrable skills and experiences in environmental or developmental studies or similar fields, comparable to a B.Sc. level
- Demonstrable knowledge and experience with project cycle management, including project identification and design, implementation, monitoring and evaluation
- Proven administrative and information management skills
- Strong computer electronic communications skills in at least MS Word, Excel, Powerpoint, Access, Outlook and Internet Explorer
- Excellent inter-personal skills and experiences
- Fluency (verbal and written) in Dutch and English

#### The project assistant will perform the following functions :

- Establish and maintain a filing system and equipment register.
- Route enquiries from the government, partner agencies and general public to the technical staff;
- Prepare and document financial information and assist in the preparation of financial reports
- Arrange appointments for the project manager and the consultants
- Arrange in-country and overseas travel for staff.
- Draft routine correspondence.
- Provide logistical support for meetings and workshops
- To deal with general enquiries on programmatic and project related issues.
- To execute tasks delegated by the Project manager, and pertaining to the Terms of Reference of that position.

#### Annex II

## **Country Background**

#### Socio-demographic context

Suriname has an area of around 164,000 sq kilometers, is located in South America and it borders to the north on the Atlantic Ocean, in the west on Guyana, in the east on French Guyana and in the south on Brazil.

Its capital is Paramaribo and its territory is divided into ten districts, which are in turn sub-divided in jurisdictions with an uneven distribution of the 492,829 total number of inhabitants (by example Paramaribo has about 250,000 inhabitants, while the largest district of Sipaliwini with 130,000 sq kilometers has a population of only 30,000 people).

Suriname has a multiethnic population as a result of its history. The Arowak Amerindians moved from the Orinoco delta to the coastal plains of Suriname around 500 AD where they established a well developed agricultural system. The arrival of tribes from the Caribbean around 100 AD changed the Arowak lifestyle as they where obliged to: *revert to "shifting cultivation" in which sections of the forest were burned off and cultivated until the soil was exhausted*, <sup>6</sup> a practice that can lead to the generation of persistent organic pollutants.

In 1651 England established the first colony in Suriname, introducing sugar cane plantations using African slave labour. A conflict between England and the Netherlands led to a peace treaty and Surinam became a Dutch colony where Indians were assured not to become slaves; this arrangement didn't involve runaway African slaves (the Maroons born in Africa and the Creoles born in Suriname) "who would still have to fight for their freedom many times".<sup>1</sup>

In 1682 Suriname became -for a period of less than one hundred years- a "Licensed Society" owned by the Dutch West Indies Company, the city of Amsterdam and the family van Aersen van Sommelsdijck, and the License itself was considered as the first Constitution of the country. After a transition period between 1799 and 1816 where Surinam was again an English colony, the country became the "Kingdom of the Netherlands" until 1954 when the official autonomy was established leading in November 25, 1975, to the independence of the Republic of Suriname.

During the last hundred years British-Indian immigrants arrived to Suriname and this population group grew rapidly and represents at present around 33 per cent of the population. Javanese workers started the immigration to Suriname at the end of the 19th century and had also a rapid population growth, as Chinese immigrants that arrived to the country after slavery has been abolished. Jewish groups from Spain and Portugal followed the same path and immigrated to Suriname as other small groups such as Lebanese, contributing to the mosaic of ethnic groups that form Suriname population and that speak a variety of languages (the official ones being Dutch and Surinamese).

The exodus of Suriname people to the Netherlands (200,000) after the independence of the country and until 1980, that decimated "the country's entrepreneur and manpower resources,<sup>7</sup> as well as political internal problems, declining of world market places and the suspension of

<sup>&</sup>lt;sup>6</sup> Toon Fey. Surinam. Switi Srabab, KIT Publishers. 2003. pp 51-52.

<sup>&</sup>lt;sup>7</sup> NIMOS. State of the Environment Report 2000. Final Draft. Pp. 21

foreign aid, have generated severe economical problems. Nevertheless, the development of free elections and the establishment of a democratic government in 1991, have created better conditions to face the challenges derived from the stagnation of the economy and the overwhelming presence of the state in the economic arena (the Governmental Sector employs around 40 percent of total working population).

Services contribute with 65% the Growth Domestic Product (GDP), Agriculture: 13% (rice, bananas) and industry: 22% (bauxite, alumina production, gold, oil)

To monitor progress in human development in Member countries, the United Nations Organization has established the Human Development Index (HDI) that "reflects achievements in the most basic human capabilities, leading a long life, being knowledgeable and enjoying a decent standard of living. Three variables have been chosen to represent these dimensions –life expectancy, educational attainment and income".<sup>8</sup>According to this ranking system, Suriname occupies the level 86 in the list of 175 countries which HDI has been established.

#### Environmental pressures and state of the environment

The more tangible pressures from different sector activities on the environment of the different regions of the Suriname territory, as well as the state of the environment in the country are summarized on the following tables.

ZONE	ECONOMIC ACTIVITY	PRESSURE
Ocean Zone	Navigation	Shipping waste
75,000 Sq Km		
Continental Zone	Fisheries	On fish resources
65,000 Sq Km	Navigation	Shipping waste
	Oil exploration/exploitation	Waste generation, emission of pollutants (including POPs?)
Young Coastal Plain	Urban development	Pressure on agricultural land
10,000 Sq Km	_	Urban waste
		Waste water
	Industry	Environmental pollutants
		Industrial waste
		Waste water
		Risks of accidents
	Agriculture	Use of agrochemicals
		Water use and management
		Pressure on forests
	Oil distribution, exploration	Wetland/mangrove conversion
	& refinery	Solid and liquid wastes
		Air emissions
		Accidental chemical releases
	Construction materials	Pressure on agricultural land and forests
	mining	Solid wastes
		Destruction of natural sea walls
		Pressure on water resources

#### Environmental pressures of social and productive activities

<sup>&</sup>lt;sup>8</sup> UNDP. Human Development Indicators. http://www.undp.org/hdr2003/indicator/index.html

ZONE	ECONOMIC ACTIVITY	PRESSURE
	Forestry	Loss of biodiversity
		Los of other environmental services (areas of
		water recharge)
	Energy	Waste generation
		Air pollution
		Nuisance
	Hunting	Loss of biodiversity
Old Coastal Plain	Bauxite mining	Pressures on land, biodiversity and water
10,000 Sq Km	_	resources.
		Wastes and air emissions.
		Disturbance of communities
	Forestry	Loss of biodiversity
		Los of other environmental services (areas of
		water recharge)
	Hunting	Loss of biodiversity
Savanna Belt	Forestry	Loss of biodiversity
10,000 Sq Km		Los of other environmental services (areas of
		water recharge)
	Construction materials	Solid wastes
	mining	Pressure on water resources
	Hunting	Loss of biodiversity
Interior	Hunting	Loss of biodiversity
136,000 Sq Km	Gold mining	Mercury pollution
	-	Loss of biodiversity
		Land degradation
		Waster pollution
		Socially disturbed communities
	Bauxite mining	Pressures on land, biodiversity and water
	_	resources.
		Wastes and air emissions.
	Energy	Waste generation
		Air pollution
		Nuissance
	Forestry	Loss of biodiversity
	-	Los of other environmental services (areas of
		water recharge)

Modified from: NIMOS. State of the Environment Report 2000. Final Draft. Pp. 27

## Energy use

Electricity consumption	Total Millions of kilowatt- hours 1996	Index (1980= 100) 1996	Per capita Kilowatt- hours 1980	Per capita Kilowatt- hours 1996
Traditional fuel consumption	1,621 As % of total 1980	109	4,442	3,752

		1		
Source:	UNDP.	Human	Development	Indicators.
http://www.u	ndp.org/hdr2003/ind	icator/index.html		

#### **Profile of Environmental Degradation**

	3.			
Internal renewable water resources per capita	m <sup>3</sup> /year			
	1998			
	452,489			
Annual fresh water withdrawals	As % of Per capita m <sup>3</sup>			
	water			
	resources 1987-1995			
	1987-199	5	1,192	
	0.2			
Average annual rate of deforestation	% %			
	1980-199	0	1990	)-1995
	0.1		0.1	
Printing and writing paper consumed	Metric tons per 1,000 people			
	1996	-		
	2.1			
CO <sub>2</sub> emissions	Total	Shar	e of	Per capita
	Millions	wor	ld	Metric
	metric	total	l	tons
	tons	%		
	1996	1996	5	1996
	2.1	?		4.9

Source: UNDP. Human Development Indicators. http://www.undp.org/hdr2003/indicator/index.html

**Crop farming**: Since early 1960's Suriname Government supported large-scale units for the production and export of rice, bananas and oil palm, most of them located in the district of Nickerie. The average amount of pesticides used annually in these activities amounts to approximately 1 million liters in a total area of about 74,000 hectares.

**Waste management**: "Burning and illegal dumping of solid waste on vacant lots, along roads or in nearby open water have become common practice as a result of a deteriorated waste management infrastructure. The amount of solid waste produced by different sectors is increasing and putting tremendous pressure on the environment, which leads to inadequate handling and inappropriate disposal under uncontrolled conditions. The disposal of waste occurs in open dumpsites, without minimal health and safety requirements, which is a source of pollution to the environment."

**Sewage**: "Since planning and construction of the sewer system have not kept pace with the increasing urbanization, Paramaribo has traditionally been confronted with a drainage problem. Lack of funds in the preceding two decades has resulted into the poor maintenance of the sewer system, the pumping stations and the sluices. The result is frequent flooding of streets and premises and overflow of septic tanks and sewers, especially after heavy tropical rains".

#### Examples of Environmental impacts<sup>9</sup>

**Agrochemical pollution**: "The topography of the coastal plain, the characteristic hydrological system, and climatic and physical factors cause residues of the agrochemicals applied in the coastal cropping areas to be found in the fresh and brackish water ecosystems. Acute intoxication of fish, birds and wild animals is a common occurrence. Excessive use of pesticides, a consequence of resistance and resurgence frequently occurring, is now common and has led to unacceptable pesticide residues in market produce, risks to consumers and commodity rejection. Furthermore, the resistance has reduced the efficiency and raised the costs of pesticide-based control measures in many crop systems." Other threats of concern are those that can be produced on the Bigi Pan Multiple-use Management Area and the Coppenamemonding Nature Reserve, as well as on the freshwater swamps in the Coastal Plain and coastal mangrove forests.

**Forestry**: "Waste generated by the sawmills is tremendous, since the average recovery is 35-40 percent. Despite the improper harvesting and extraction methods used by most companies, round wood-production increased as a result of which a multiplied damage to the forest resources are caused."

**Bauxite mining**: Up to 1998 the bauxite residue (red mud) produced during the processing of bauxite was disposed in sealed diked areas, known as "bauxite residue lakes" or "wet lake operation" and currently is being used the so-called Dry Stack Areas (October 1998). Since the refinery is in operation, 400 hectares of bauxite residue areas were constructed. The run-off of the dry stack areas, contaminated with caustic liquor and diluted wit rainwater is being captured in a close system for re-use in the refinery process. In case of excess wastewater, this water is treated through the CO2 neutralizing plant and discharged into the environment (cpH 9.0

**Gold mining**: "Thousands of kilograms of mercury are spread into the environment every year, which threatens the vulnerable ecosystems in both the rainforest and the coastal wetlands. Many local communities in the Interior are left to look for other waterways, in most cases a great distance from their residence, because process water of mining when spilled in rivers and their tributaries causes mud clouds." "Losses of biodiversity and land degradation, for example in the vicinity of and in the Brownsberg Nature Park are posing a serious threat to tourism."

**Oil**: "Oil spills occurring during the exploration and/or the exploitation of offshore oilfields can pose a threat to the marine and coastal environment". "During the starting phase of the refinery many people living in the vicinity of the refinery complaints about odor. This nuisance was caused because "sour water strippers" were not functioning yet."

**Energy generation**: "Environmental effects that are most significant related notably to electricity generation and transmission are:

- Particulates emitted from and (lubrication) waste oil generated by diesel generating units,
- The use of Polychlorinated Biphenyls (PCBs) in transformers, capacitors, and ballasts,
- Local nuisance e.g. odor, noise, etc,
- Loss of biodiversity and tribal communities' territories due to construction of the Brokopondo reservoir, is not just a threat but a fact,
- Generation of greenhouse gases due to the presence of the Brokopondo reservoir." (Afobaka Hydropower Lake). Note: The emission of CO2 should currently be stable in the lake (emitted and sink).

<sup>&</sup>lt;sup>9</sup> NIMOS. State of the Environment Report 2000. Final Draft

**Small and medium-sized industries**: "Environmental impacts associated with this sector, mostly located in living areas, are pollution of surface water and groundwater due to poor management of industrial waste. At location with a relatively high density of industries, such as Saramacca doorsteek/-canal, water pollution occurs. Air pollution caused by excess odors and product particles from several small-scale industries is common. Site selection is very inadequate. Many warehouses and small industries such as repair shops are allowed to establish in the middle of urban areas. Many agro-industries, producing organic wastewater are still allowed to settle in areas with a stagnating drainage."

Suralco: In 1996 all PCB in use were neutralized by a USA Company. The PCB waste is waiting for export to a special facility abroad for destruction. Planning to export the waste is in the first half of 2004 due to the requirement for being in-compliance with the Basel Convention. Suriname is not yet party of the Basel Convention.

No official inventory of potential sources of emissions of dioxins and furans has been carried out; but personnel from the Adek University of Suriname (Faculty of Technological Sciences), have received training on the use of the Toolkit developed by the United Nations Environment Program (UNEP) to support the elaboration of such inventory, on a Workshop that was held on May 2003 in Trinidad and Tobago. This University has also been involved in the development of studies to determine the types of pesticides been used in Suriname, as well as to identify potential sources of dioxins and furans and has some analytical capacity to asses chemical environmental pollution.

#### Conclusions

Suriname is a young independent nation with a long history and a complex array of ethnic groups that form its human population, as well as a rich biodiversity. At present the country is struggling with a critical economic situation and serious structural problems in every aspect of social, economical and political life.

In these circumstances, the development of the Project to enable the country to fulfill the obligations of the Stockholm Convention on Persistent Organic Pollutants, need to be adapted to the particular needs and realities of Suriname.

The fact that the country is in the middle of a process to develop and/or strengthen its institutional government environmental management capacity, their environmental legislation, the environmental services for managing wastes and controlling environmental pollution, the educative programs to form the specialists and trained personnel needed in this field, offers an opportunity for the present project to contribute to this process through the generation of synergies in particular areas.

For achieving such ambitious goal, it will be needed a great level of coordination among key stakeholders inside and outside the government, as well as a good knowledge of ongoing related projects, in particular those supported through foreign aid, to create those synergies.



## POPS ENABLING ACTIVITY Proposal for GEF funding for National Implem Plan on Persistent Organic Pollutants (POPs)

**Annex III**AGENCY'S PROJECT ID: 2790 **GEFSEC PROJECT ID: TB D COUNTRY:** Suriname COUNTRY ELIGIBILITY: Suriname signed the Stockholm Convention on 22 May 2002. **PROJECT TITLE:** Initial Assistance to Enable Suriname to fulfill its obligations under the Stockholm Convention on POPs. **GEF AGENCY: UNDP OTHER EXECUTING AGENCY(IES):** Ministry of Planning and Development Cooperation; National Institute for Environment and Development in Suriname (NIMOS) **DURATION: 24 MONTHS** GEF FOCAL AREA: Persistent Organic Pollutants GEF OPERATIONAL PROGRAM: OP 14, Enabling Activities **GEF STRATEGIC PRIORITY: POP-1 ESTIMATED STARTING DATE:** July 2005 **IA FEE: US\$ 54,000** 

FINANCING PLAN (US\$) GEF Project/Component		
Sub-Total GEF	407,800	
Co-FINANCING		
GEF Agency		
National Contribution	22,200	
(in kind)		
Others		
Sub-Total Co-financing:	22,200	
Total Project Financing:	430,000	

#### **Record of endorsement on behalf of the Government:**

Margret Kerkhoffs-Zerp Ministry of Labor, Technological Development / Environment (ATM) Date: 10/29/2004

This proposal has been prepared in accordance with GEF policies and procedures and meets the standards of the GEF Project Review Criteria for POPs Enabling Activity approval.

Name & Signature	Project Contact Person
Implementing Agency: UNDP	-
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Tel. and email:(1 212) 906 6678 e-mail: <u>suely.carvalho@undp.org</u> SUMMARY OF PROJECT OBJECTIVES, ACTIVITIES, AND EXPECTED OUTCOMES

## 1. Project objectives:

The objective of the project is to identify means to support Suriname's own sustained capacity to fulfill its obligations in the context of the Stockholm Convention, including the preparation of a National Implementation Plan focused on Persistent Organic Pollutants (POPs), that will more widely cover aspects important to the safe and environmentally sound management of chemicals and wastes, as called for in Chapters 19 and 20 of Agenda 21. The National Implementation Plan will describe how Suriname will fulfill its obligations under the Convention to eliminate or reduce POPs releases to the environment and carry out environmentally sound management of stockpiles of POPs-contaminated wastes and contaminated sites that pose high risks for health and the environment, with a regional perspective

2. PROJECT ACTIVITIES:

1. Organization of the process

2. Elaboration of a National Profile on Chemical and Waste Management to support the

implementation of the Stockholm Convention

3. Elaboration of inventories of unintentional POP's sources and loads, as well as up date of existing data on stocks and management of POPs pesticides and PCBs

4. Identification of priorities and objectives of key action plans to address the most important sources and loads of POPs and the implementation of BAT and BEP

5. Formulation and endorsement by stakeholders of the Persistent Organic Pollutants National Implementation Plan

## 3. Project Duration: 24 months

## 4. Project expected outcomes:

A. A Focal Point and a National Coordinating Committee are enabled to carry on the process leading to the formulation and approval of the National Implementation Plan for fulfilling Suriname's obligations under the Convention.

B. Preliminary inventory of unintentional POPs sources and loads and basic elements to create a hazardous chemicals information system.

C. An updated inventory and strategy to manage and dispose of POPs pesticides and PCBs stockpiles in a safe, efficient, economically viable and environmentally sound manner.

D. Options and strategies to create and operate a central laboratory capacity to monitor POPs environmental pollution and to assess risks for particular vulnerable human populations and ecosystems.

E. A strategy to reform or enact regulations concerning chemical and hazardous waste management to facilitate the implementation of the Stockholm Convention.

F. Practical and viable strategies (action plans) to prevent and reduce POP's releases to the environment and relevant sources of exposure.

G. A strategy for raising public awareness and to establish efficient mechanisms (intersectoral networks) to promote social participation to support the implementation of the National Action Plan.

H. An agreed National Policy and National Profile of the Infrastructure, for the Environmentally Sound Management of Chemicals and Wastes.
I. Financial mechanisms to implement the National Policy and the National Action Plan identified.

J. National Implementation Plan consistent with the GEF *Initial Guidelines for Enabling Activities for the Stockholm Convention on POPs*, including strategies required under Articles 5 and 6 of the Convention.

INFORMATION ON INSTITUTION SUBMITTING PROJECT BRIEF

#### 5. Information on the organization in the country submitting the proposal:

The Ministry of Planning and Development Cooperation: the ministry is responsible for:

- The national development planning as for the integration of the sectoral and regional plans and programmes within the national plan.
- The study and analysis of macro-economic quantities as the basis for formulation of national, regional and sectoral plans for long-,mid long- and short term
- Statistics
- The planning finances together with the Ministry of Finance
- The technical cooperation and other facilities regarding the implantation of the plan
- Coordination of the international development cooperation together with other Ministries

#### 6. Information on the proposed executing organization

The Ministry of Labor, Technological Development and Environment is responsible for the

development of an overall environmental policy and the coordination and monitoring of all

activities regarding environmental policy. This also includes its responsibility to promote the

implementation of environmental agreements and conventions signed and or ratified by the

Surinamese Government such as the Stockholm Conventions and the Rotterdam Convention

National Institute for Environment and Development in Suriname (NIMOS): was established on March 1998, as the Executing Agency of the National Council for the Environment, with the following responsibilities:

- Research (Environmental Impact Assessments)
- Training
- Awareness rising
- Execution of projects
- 7. Date the proposal was submitted to a GEF Implementing/Executing Agency: add
- 8. Date the proposal was submitted to the GEF Secretariat:
- 9. Date the proposal was approved:
- 10. Date of first Disbursement

#### **1. PROJECT DESCRIPTION**

#### **1.1 BACKGROUND**

In the 2000-2005 Multi-annual Development Plan of Suriname, the Government committed itself to the execution of the following actions, which promote sustainable production methods particularly in the agricultural sector:

- The reduction of the use of chemicals
- To improve the use of pesticides which are safe for human beings and the environment
- The implementation of the Project Research for PEST residue with Food Safety
- The development of activities, which are related to sustainable agriculture production in the interior.

In May 2002 the Government of Suriname signed the Stockholm Convention on Persistent Organic Pollutants. Organochlorine pesticides subject to this Convention are not in use at present in Suriname and since 1990 the Ministry of Trade and Industry stopped the issuing of import permits for several pesticides which were identified as prohibited by the Ministry of Agriculture, Animal Husbandry and Fisheries, that include the following: 2,4,5-T, *Aldrin*, Binapacryl, Captafol, *Chlordane*. Chlordimeform, Chlorobenzilate, DDT, *Dieldrin*, Dinoseb, Dinoseb Salts, DNOC and its salts, EDB, Ethylene dichloride, Ethylene oxide, Fluoroacetamide, HCH, *Heptachlor*, *Hexachlorobenzene*, Lindane,Mercury Compounds, Monocrotophos, Pentachlorophenol, *Toxaphene*, Methamidophos, Methyl-parathion, Monocrotophos Parathion, Phosphamidon, Dustable powder formulations , Benomyl, Carbofuran, Thiram, Crocidolite Asbestos, Polybrominated Biphenyls, *Polychlorinated Biphenyls*, Polychlorinated Terphenyls, Tris(2,3 dibromopropyl) phosphate (substances in Italics are currently controlled by the Stockholm Convention)

Although DDT is not being used for the control of the vectors of Malaria, Suriname considers necessary to be able to use it in case of emergency or if the foreign aid to support the costs of the use of more expensive alternatives is not available.

Preliminary studies have been started to identify the existence of stocks or reserves of organochlorine pesticides.

Polychlorinated Byphenils (PCBs) have not been inventoried and there is no precise information about the moment when importation of equipment containing them was stopped and about the amount of PCBs that had been sent for incineration to a private company involved on bauxite mining activities and those that could exist on the country. There is some possibility that the installations of the electric company where transformers containing PCBs were stored, could have contaminated soils, and this need to be confirmed through sampling and analysis of the content of soils that seem to be contaminated with transformer oil of unknown composition. Other sources of PCBs need also to be investigated The Government also ratified the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, in May 2002.

#### Institutional Organization

- Ministry of Labour, Technological Development and Environment

Due to the obligation of the Government of Suriname to promote a livable environment and therefore adequately adapt to new technologies, the tasks of the Ministry of Labor were formally extended with Technological Development and Environment in February 2002. A year before an environmental section was established already. As part of the extensions of its tasks the environmental structure was streamlined. Two environmental bodies, namely NMR and NIMOS, which were the first entities for environmental management received a new board and are now supporting the work of the ministry in respectively an advisory and technical manner.

The Ministry of Labor, Technological Development and Environment is responsible for the development of an overall environmental policy and the coordination and monitoring of all activities regarding environmental policy. This is done in collaboration with governmental and non-governmental bodies and institutions.

The **National Council on the Environment** (NMR) The National Council for the Environment (NMR) was established by Presidential order on June 9<sup>th</sup> 1997 to support the Government of the Republic of Suriname by advising on national environmental policy.

The **National Institute for Environment and Development in Suriname** (NIMOS) was established on March 1998, as the Executing Agency of the National Council for the Environment. The NIMOS is responsible for:

- Research (Environmental Impact Assessments)
- Training
- Awareness rising
- Execution of projects

The **Ministries** have their own state of responsibilities for widely different aspects of national environmental management according to the Government Decrees on the Tasks of Ministries. 1991. "With the presence of NMR and NIMOS, this does not imply that the existing ministries and their department relinquish their environmental and environmental-related tasks and duties as assigned to them by law. This institutional structure is meant to contribute to the effectiveness of the existing structures. The coordinating function of NMR and NIMOS is most visible in the relationships with the stakeholders in environmental management, particularly the ministries."

Ministries involved on Persistent Organic Pollutants Regulation and/or Control Related Activities

- Ministry of Agriculture, Animal Husbandry and Fisheries is responsible for the inventory of the use of pesticides and the Agriculture Information Center (not in operation because of lack of manpower).
- Ministry of Health: Within this ministry there is a Central Laboratory, which is responsible for research and enforcement. The operation of this Institute is very weak because they lack the equipment to be able to adequately perform their tasks

- Ministry of Trade and Industry is responsible for the import registration of chemicals.

# Legal Framework

The Constitution of the Republic of Suriname provides a legal basis for a national environmental policy. Article 6 states that the social objective of the State is directed towards the creation and stimulation of conditions necessary for the protection of nature and the maintenance of ecological balance.

"The studies on environmental management in Suriname have indicated that current laws in the forms in which they exist were created to regulate the various sectors, but not sufficiently to accommodate environmental management. As a result of this, the legislation and regulation, is out of date, fails to use implementation and enforcement powers and establishes a low regime of fines and penalties".

NIMOS is working on a Framework Act which will provide a broad and flexible framework for addressing environmental issues and for responding to changes in socioeconomic and ecological parameters. This framework law will provide a basis and reference point for the coordination of sectoral activities and the rationalization and harmonization of sectoral regimes."

In 1993 one of the newly developed legislation products namely the revision of the Government decision of 1974 regarding the use of pesticides was submitted to the Parliament for discussion and approval.

#### **Chemical Management Policy**

At present Suriname does not have a national policy to address the environmentally sound management of persistent toxic substances and wastes; regulations, standards and guidelines are to be developed.

Suriname has signed the Stockholm Convention on Persistent Organic Pollutants on May 22, 2002 but started to ban the use of POPs and PCBs since 1971. In 1990 the government stopped the issuing of imports permits for 9 pesticides, which were identified as prohibited by the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV). These permits are issued by the Ministry of Trade and Industry on advice of the Ministry of LVV. The Ministry of Trade and Industry has introduced a list (the negative list) in which all chemicals that are prohibited for import is registered. Since 1990 only environmentally safe chemicals are being used. The costs to purchase these chemicals are

relatively higher than the traditional pesticides, which are purchased by farmers. This is causing the price to increase leading to a higher market price for agriculture products.

In Suriname there is no impact of these alternatives on the peak of the agricultural production. But inventory of the import on pesticides is being done regularly. Also work has been done on legislation to prevent the import of pesticides because the existing legislation framework is inadequate.

For the past 3 years now, the Ministry of LVV is executing awareness programs for farmers on the correct use of pesticides.

Residual research is being done by the University of Suriname and the Public Health department of the Ministry of Health. However this department lacks the necessary equipment to perform measurements like for example a laboratory.

#### Waste management:

At the moment the draft revised legislation on waste management, that was prepared by the Ministry of Public Works, is being finalized for submission and approval to the Parliament. Within this framework the disposal of waste coming from companies, the disposal of hazardous waste, liquid waste and car wreckages are the main concerned issues dealt with. Also the rules for the protection of the environment are incorporated. In the Act these issues are discussed generally and limited to the responsibilities and duties of the institutes and people.

However, for more practical solutions and regulations, regarding the disposal of chemical waste, a governmental decree, proceeding from the waste management Act, will be needed in which the process for a safe disposal of chemical waste is incorporated. This will enable Suriname to develop a national policy for management of chemicals such as the Persistent Toxic Substances (PTS) and more specific standards and guidelines for the use of pesticides.

#### **DDT:**

Regarding the use of DDT for malaria vector control, Suriname is already using alternatives such as deltamethrine. However, because of the high costs they can only become available through donor projects, which provide funds to purchase these alternatives. The last funds that became available for the Public Health Bureau amounted up to US\$10,000.- which provide for the purchase of alternatives for a period of two years. However, these alternatives are less effective than DDT, making frequent spraying necessary.

#### Laboratory Capacity for Monitoring Environmental Pollution

The National Institute for Environment and Development in Surinam Office of Environmental Monitoring and Enforcement, promoted a study to determine the current status of the laboratories involved on chemical analysis in Suriname in 1997, with the support of Buursink International Consultants in Environment Management, as part of the Environmental Management Cooperation Program, financed by Surinamese Government, InterAmerican Development Bank and the European Union.

Through this study the capacity of laboratories was determined by assessing the physical infrastructure, the institutional arrangement and the human resources. During a survey, the team involved on the study consulted with many professionals in the field of laboratory management, and assessed the capacity of 49 laboratories. The results of this study will serve as a base to identify the best options to strengthen national laboratory capacity to support government authorities on charge of the enforcement of legislation and of the monitoring of the state of the environment.

### **<u>1.2</u> Project Activities**

#### Step 1. Organization of the Process

#### Activity 1.1. Establishment and Strengthening Coordinating Mechanism

1.1.5. Coordination Unit: The Government of Suriname will establish a Project Coordination Unit (PCU) responsible for the project execution, identify and appoint a National Project Coordinator (NPC) and the core project team. The PCU will be established involving the Suriname Stockholm Convention Focal Point. The PCU will be an integrated Unit of the Ministry of ATM as the focal point of the Stockholm Convention.

1.1.6. Co-ordination Committee: A National Co-ordination Committee (NCC) will be established comprising relevant government agencies and other key stakeholders for the purpose of formulating and developing the National Implementation Plan (NIP). This Committee will consist of representatives of the various Ministries and others institutes such as: the University of Suriname, Forum NGO (an umbrella NGO organization), the Customs, Association of Surinamese Private Sector, Chamber of Commerce, de National Electrical Company and the Foundation for a cleaner Suriname.

1.1.7. Definition of responsibilities: The roles and responsibilities of the members of the NCC for the various aspects considered in the Project will be identified, clarified and assigned.

1.1.8. Capacity strengthening: Capacities of PCU and NCC as well as country Stockholm Convention Focal Point will be developed, and information, equipment and administrative support provided according to their needs.

#### Activity 1.2. Public Awareness and Participation

**1.2.1. Development of information activities: To understand the relevance of the Stockholm** Convention on Persistent Organic Pollutants (POPs), and to assure wide support to its implementation, both government officials and members of the different sectors of society (including common citizens) need to have a basic understanding about the difference that exists between the hazards and the risks of chemicals and hazardous wastes, as well as about the different aspects that need to be considered on their integral management to assure safety and the protection of human health and the environment all along their life cycle.

A clear understanding need to be developed as well concerning the particular characteristics of products and unintentional byproducts that are considered to be persistent organic pollutants, and about the risks derived from the fact that they can stay active in the environment for long periods, accumulate in body tissues and along the food chain, travel long distances and cause different adverse effects in sensitive human populations and organisms from the aquatic and terrestrial biota.

1.2.2. **Development of information tools**: The understanding and the support to the present Project activities and the National Implementation Plan (development of specific action plans), require a sustained effort from government agencies and the public, that could only be obtained by continuous stimulation through educative programmes, information campaigns in the media, dissemination of information brochures, and other related means.

1.2.3. Development and promotion of network mechanisms: The weak governmental capacity to enforce the existing environmental and health legislation regarding chemical and waste management, demands public support all along the country and the establishment and operation of intersectoral voluntary networks on chemical and waste environmental sound management. Those networks could be a mechanism to obtain public support for the implementation of governmental programs to protect human health and the environment from the risks of hazardous chemicals and wastes, as well as those associated to persistent organic pollutants.

# Activity 1.3 Training

1.3.1. Regional training activities: Suriname has been participating in different workshops and activities that have taken place at a regional level to enable the Parties of the Convention to become aware of the obligations to be fulfilled as well as to provide training in different aspects that need to be considered during the formulation and development of the National Implementation Plan. It is convenient to continue taking part on these regional training activities to establish or strengthen regional networking, sharing experiences and developing partnerships with other neighbor countries.

1.3.2. Initial training workshop: An initial training workshop to create the same level of understanding of the Stockholm Convention on Persistent Organic Pollutants (POPs), its objectives and goals, as well as about the Project to support the formulation of the National Implementation Plan need to be carried out, open for the participation of government agencies staff as well as different sectors of the society that need to be involved on the process as partners.

1.3.3. Successive training workshops: Along the development of the different activities comprised on this Project, training workshops concerning the different areas covered by the Stockhom Convention (management, control and effects of unintentional releases of dioxins and furans, PCB, pesticides, legislation related to controlled substances, contaminated sites, etc) will take place before starting them, offering new opportunities to strengthen the capacities of the stakeholders.

According to the subject those activities and workshops will require the engagement of local or overseas adviser(s) to conduct the training and work alongside local staff until their capacity had been established on a sustainable basis.

#### Activity 1.4. Securing Commitments of Major Stakeholders

1.4.1. High level inception workshop: Organization of a high level inception workshop addressed to representatives of the main stakeholders to:

- Present the national and international context relevant to the Convention and implementation of the Project to develop the National Implementation Plan (relationship with Agenda 21 chapters 19 and 20, SAICM, the Intergovernmental Forum on Chemical Safety and with other related International Conventions such as Basel, Rotterdam, Montreal Protocol and Climate Change).
- Presentation of Project objectives and the anticipated results and outcomes.
- Securing commitments for participation of all stakeholders involved in the management of persistent organic pollutants and clarifying and obtaining agreements regarding their roles and responsibilities, as well as resource commitments (information, technical, human, etcetera).

### Activity 1.5. Approval of Work-Plan and Timetable

1.5.1. A detailed work-plan and timetable for implementation of the Project will be presented by the Project Coordination Unit and endorsed by the National Co-ordination Committee.

#### Step 1: Expected Outcomes

- 1. Establishment and strengthening of the National Co-ordination Committee.
- 2. Establishment and strengthening of the Project Coordination Unit
- 3. Commitments of POPs stakeholders to support and execution of the Project.
- 4. Finalized and endorsed project work-plan and timetable.
- 5. A strategy and tools to raise awareness about POPs
- 6. A mechanism to create and operate intersectoral networks to support the development of the Project and the implementation of the National Implementation Plan
- 7. Training

# Step 2. Elaboration of a National Profile on Chemical and Waste Management to Support the Implementation of the Stockholm Convention.

#### Activity 2.1. Institutional and Legal Framework

2.1.1. Institutions involved on chemical and waste management: Elaboration of an inventory of governmental and non governmental institutions/organizations/groups involved on chemical and waste management, or close related activities, relevant for the implementation of the Stockholm Convention; describing:

- Organizational structure
- Objectives
- Main activities on this field.
- Legal mandate in relation to chemical and waste management related issues

2.1.2. **Legislation**: Inventory and description of relevant laws, regulations and standards (and other types of legal provisions) that support the control of chemical and waste management, relevant for the implementation of the Stockholm Convention.

- Organization of a training workshop to review the key aspects involved on chemical and waste integrated and environmentally sound management regulation.
- Assessment of the effectiveness of national legislative, regulatory and enforcement infrastructure to comply with chemical and waste management related International Conventions.
- Description of co-ordination mechanisms among governmental agencies.
- Access and dissemination of regulatory instruments (integration of a CD containing the files of the most relevant chemical and waste management regulations).
- Description of public consultation and participation mechanisms established to support the process of development of regulatory instruments.
- Evaluation of needs and definition of strategies to strengthen the legal framework.

### Activity 2.2. Monitoring and Assessment Capacity

2.2.3. Monitoring capacity: Characterization of public and private national capacity to monitor environmental chemical pollution and exposure, in particular concerning persistent organic pollutants, through the:

- Organization of a training workshop to review the needs and means to monitor POPs and other chemical environmental pollution and assess human and ecosystem exposure.
- Elaboration of an inventory of laboratories involved on chemical environmental and biological monitoring.
- Description of mechanisms in place for quality control/quality assurance and accreditation of laboratories and number and types of accredited laboratories.
- Identification of needs to strengthen monitoring and analysis capacity.

2.2.4. **Risk assessment capacity**: Characterization public and private available capacity to assess the risks for humans and the environment derived from pollution and exposure to persistent organic pollutants and other hazardous chemicals and wastes, through:

- Organization of training workshop(s) to offer training on the methodologies to assess human health and eco-toxicological risks.

- Inventory of institutions/research centers or other groups involved on or aware of risk assessment applied to chemical and hazardous wastes risks evaluation.
- Identification of need to strengthen risk assessment capacity.

### Activity 2.3. Infrastructure Capacity

2.3.1. Hazardous waste management: Obsolete, prohibited, not allowed, and discarded hazardous products or materials (such as persistent organic pollutants) become hazardous wastes and need to be managed safely and properly during its storage, transport, treatment, destruction, co-processing as alternative fuels, or disposed off on landfills. In this particular activity the capacity and needs of Suriname for the environmentally sound management of hazardous wastes is to be determined and assessed, through:

- The organization of a training workshop to review environmentally sound options for the integrated management of hazardous wastes along its complete life cycle.
- The gathering of available information about sources and volumes of hazardous wastes generated in the country.
- The inventory of existent infrastructure and capacities (installations, technologies, trained manpower and other relevant aspects).
- The actual means of management of industrial hazardous wastes.
- The identification of capacity building needs for strengthening the capacity for the local environmentally sound management of hazardous wastes.

2.3.2. Best available techniques (BAT) and Best environmental practices (BEP): The elimination or reduction of the liberation into the environment of persistent organic pollutants (and by the same means of other relevant chemical pollutants) require access to BAT and BEP and is one of the main goals of the Stockholm Convention. For this reason the present activity is focused on:

- The organization of a training workshop to review the Stockholm Convention provisions regarding this issue, the work being developed by the Expert Group in charge of developing the BAT and BET guidelines concerning the sources of unintentional POPs considered in Annex C Part I and II and other relevant aspect that will help Suriname to fulfill this particular objective.
- The analysis of the results of the preliminary inventory of sources and loads of POPs in Suriname to establish priorities, objectives and goals to be considered in the National Implementation Plan, in order to reduce or eliminate POPs emissions from these sources.
- The identification of capacity building needs on this area and design of a strategy to satisfy these needs.

2.3.3. Information systems and access to information: An essential element to raise awareness, to promote public participation and to provide means to assess the situation about and progress made on implementing the Stockholm Convention provisions to reduce or eliminate persistent organic pollutants and minimize their risks for human health and the environment, is the access to information on these matters through the establishment of an specific information system regarding POPs and other environmental chemical pollutants. Under the present Project this objective will be achieved through:

- The organization of a training workshop to review the key elements to be considered on the development of a chemical safety and environmentally sound management of chemicals information system to provide means for minimizing their risks for humans and ecosystems.
- The inventory of existent capacity and institutional arrangements concerning environmental chemical management and pollution prevention and control information systems and public dissemination of information.
- The identification of capacity building needs and priorities in this area and design of a strategy to satisfy such needs.
- The design and development of a Web page to give public access to information regarding the Project and the National Implementation Plan to fulfill Suriname obligations under the Stockholm Convention on persistent organic pollutants

### Activity 2.4. Integration, Endorsement and Publication of the National Profile on Chemical and Waste Management

2.4.1. Integration of the National Profile: The National Profile will be integrated using as a basis the diagnoses and conclusions derived from Activities 2.4.1 to 2.4.3.

2.4.2. Endorsement of the National Profile: The document concerning the National Profile will be submitted to the consideration of the stakeholders and the National Coordination Committee, through its circulation and presentation on a workshop, for their endorsement.

2.4.3. Publication of the National Profile: The document will be available on the Stockholm Convention Web page and will be published for its dissemination.

#### Step 2: Expected Outcomes

- 1. National Profile on Chemical and Waste Management to support the implementation of the Stockholm Convention on Persistent Organic Pollutants published and accessible through Web page.
- 2. Training workshops concerning chemical and waste management relevant issues.
- 3. Identification of priorities and objectives of key action plans to address the most important sources and loads of POPs and the implementation of BAT and BEP.
- 4. Web page to give public access to information regarding the Stockholm Convention on Persistent Organic Pollutants.
- 5. Diagnose and strategies to strengthen national capacities regarding chemical and

waste management.

6. CD with files of key regulations concerning chemical and waste management.

# **Step 3. Elaboration of Inventories of Unintentional POP's Sources and Loads, as well as of Existing Stocks of POPs Pesticides and PCBs**

# Activity 3.1. Identification of Sources and Loads of Unintentional POPs and Existing Stocks of POPs pesticides and PCBs.

3.1.1. Inventory of sources and loads of unintentional POPs: According to the spirit and objectives of the Stockholm Convention every Party need to identify which are in their particular circumstances the main sources of emissions and exposure of sensitive human populations and ecosystems to persistent organic pollutants in order to establish prioritary action plans to reduce or eliminate such emissions. In this regard the present activity is focused on:

- The organization of a training workshop concerning the application of UNEPs Toolkit to elaborate the preliminary inventory of unintentional POPs sources and loads.
- The development of the preliminary inventory.
- The establishment of a data base that could be updated periodically.
- The identification of needs and strategies to strengthen national capacities to build and update inventories on unintentional POPs.

3.1.2. Survey to establish an inventory and Management of Existing Stocks of Pesticides And **Polychlorinated Byphenils (PCBs)**: Preliminary inventories of stocks of discarded POPs pesticides and PCBs need to be confirmed and updated and a strategy need to be developed to address management related issues through:

- A survey and inspections or visits to installations where these materials are stored.
- Assessment of their actual means of containment and storage.
- Design and implementation of a strategy to improve containment and storage conditions.
- Formulation and implementation of a mechanism to dispose of DDT and other POPs pesticides stocks.

#### Activity 3.2. Assessment of Socio-economic Implications of POPs Management

- 3.2.1. Training on cost-benefit analysis of the various options for POPs management
- 3.2.2. Evaluation of the socio-economic implications of POPs management

#### Activity 3.3. Financial Mechanisms to Support the Development of the National Implementation Plan

- 3.3.1. National sources of funding
- 3.3.2. International sources of funding

#### **Step 3: Expected Outcomes**

- 1. Training on the use of the UNEP toolkit to elaborate inventories of unintentional POPs sources and loads.
- 2. Preliminary inventory of unintentional POPs sources and loads.
- 3. Confirmation of preliminary inventories concerning POPs pesticides stocks and existing volumes of PCBs.
- 4. Improvement of containment and storage conditions of existent POPs stocks.
- 5. Management and disposal of DDT and other POPs pesticides stocks
- 6. Socio-economic implications of POPs management assessment.
- 7. Sources of funding identified

# **Step 4: Identification of priorities and objectives of key action plans to address the most important sources and loads of POPs and the implementation of BAT and BEP**

Development of Action plans: based on the results of step 3 which will give a overview of the whole national situation priorities will be identified and selected as to target financial resources for execution and capacity building needs.

#### **Step 4: Expected Outcomes**

#### 1. Development of Action plans

#### Step 5. Formulation and Endorsement of Stakeholders of the POPs National Implementation Plan

#### Activity 5.1 Formulation of the POPs National Implementation Plan

5.1.1. Integration of the Action Plans: Based on the results from activities developed on steps 1 to 3, a series of action plans such be formulated to address the particular issues that need to be considered in order to fulfill the obligations under the Stockholm Convention, strengthen national capacities and eliminate or reduce POPs releases to the environment, as well as to protect human populations and ecosystems from exposures and risks from POPs.

5.1.2.Endorsement of the Action Plans: The proposed action plans will be submitted into the consideration of stakeholders and the National Co-ordination Committee, through their distribution and presentation and discussion on a Workshop, to obtain their endorsement.

5.1.3.Publication and dissemination of the National Implementation Plan: The National Implementation Plan of the Stockholm Convention on Persistent Organic Pollutants will be published and made publicly available through the Web page.

#### **Step 5: Expected Outcomes**

1. National Implementation Plan of the Stockholm Convention on Persistent Organic Pollutants formulated and publicly available.

The main elements of the narrative section of an enabling activity proposal are listed below. The proposed enabling activities should be consistent with the GEF Initial Guidelines for Enabling Activities for the Stockholm Convention on Persistent Organic Pollutants.

# **Project Implementation Plan**

<b>DURATION OF PROJECT (IN MONTHS)</b>																								
ACTIVITIES	PF	ROJ	EC	Т-М	ION	TH	S																	
Number of Activity corresponds to that of each activity in Description of proposed enabling activities.				6						2						8					24			
1. Organization of the process	X	Х	Х	X	X	X	X	X	X	X	X	X	Х	X	Х	X	X	Х	X	X	X	Х	X	X
Activity 1.1. Establishment And Strengthening Coordinating Mechanism	X	Х	Х	X	X																			
Activity 1.2. Public Awareness And Participation		Х																						
Activity 1.3 Training		Х																						
Activity 1.4. Securing Commitments Of Major Stakeholders		Х		Х																				
Activity 1.5. Approval Of Work Plan And Timetable			Х	Х																				
2. Elaboration of a National Profile on Chemical and Waste Management to Support the Implementation of						X	X	X	X	X	X													
the Stockholm Convention																								
Activity 2.1. Institutional And Legal Framework						Х	Х	Х																$\neg$
Activity 2.2. Monitoring And Assessment Capacity						Х	Х																	
Activity 2.3. Infrastructure Capacity								Х	Х	Х														
Activity 2.4. Integration, Endorsement And Publication Of The National Profile On Chemical And Waste Management											X													
<b>3. Elaboration of Inventories of Unintentional POP's</b>												Х	X	Х	Х									
Sources and Loads, as well as of Existing Stocks of POPs																								
Pesticides and PCBs																								
Activity 3.1. Identification of Sources and Loads of												Х	Х	Х	Х									
Unintentional POPs, as well as of Existing Stocks Of POPs																								
Pesticides and PCBs								<b> </b>															$\square$	
Activity 3.1.1 Inventory of Sources and Loads of Unintentional POPs												Х	X	Х	Х									

<b>DURATION OF PROJECT (IN MONTHS)</b>																			
ACTIVITIES	PR	OJE	CT-N	10NT	HS														
Number of Activity corresponds to that of each activity in Description of proposed enabling activities.			6			1	2				18					2	4		
Activity 3.1.2. Survey to establish an inventory and Management of Existing Stocks of Pesticides And PCBs							Σ	XX	X	X									
Activity 3.2. Assessment of Socio-Economic Implications of POPs Management										X									
3.2.1. Training on Cost-Benefit Analysis of the Various Options For POPs Management									Х										
3.2.2 Evaluation of Socio-Economic Implications of POPs Management Options										X									
3.3. Identification of Financial Mechanisms to Support The Development of The National Implementation Plan										X									
4. Identification of priorities and objectives of key action plans to address the most important sources and loads of POPs and the implementation of BAT and BEP																			
4.1. Identification of priorities and objectives of key action plans to address the most important sources and loads of POPs and the implementation											X	X							
5. Formulation and Endorsement of Stakeholders of The Stockholm Convention National Implementation Plan																			
Activity 5.1 Formulation of the Stockholm Convention National Implementation Plan												2	ХУ	XX	X	X	Х	Х	Х

No	TYPE	TOPIC	DELIVERY
			(Month)
1	Initial awareness raising	Stockholm Convention obligations/health and environmental risks of POPs	02
2	High level inception workshop	Presentation and endorsement of Project objectives, anticipated outcomes work-plan and timetable.	03
3	Training workshop	Integral and environmentally sound management of hazardous chemicals legislation	07
4	Training workshop	Integral and environmentally sound management of wastes (including hazardous wastes) legislation	09
5	Training workshop	Needs and means for the environmental and biological monitoring of POPs to assess human and ecosystem exposure	05
6	Training workshop	Methodologies to assess human and ecosystem POPs related risks	08
7	Training workshop	Environmentally sound options for the integral management of wastes	09
8	Training workshop	Best available techniques and best available practices to eliminate or reduce unintentional emissions of POPs	10
9	Training workshop	Chemical Information Systems to support risk assessment and management	09
10	Training workshop	Inventories of sources and loads of unintentional emissions of POPs	04
11	Training workshop	Cost-benefit analysis	13
12	Review and endorsement of outcomes	National Profile on Chemical and Waste Management	12
13	Review and endorsement	Stockholm Convention National Implementation Plan	24

# NUMBER OF WORKSHOPS AND TIMETABLE

No	TOPIC	END RESULT
1	Persistent Organic Pollutants and Stockholm Convention (Awareness raising)	Brochures
2	Strategy to establish and operate inter-sectoral networks to support the application of the National Implementation Plan	Report Document and Electronic File
3	National chemical and waste regulations	Compact Disc
4	Strategy to strengthen national chemical and waste regulations	Report Document and Electronic File
5	National analytical laboratory/risk assessment capacity and needs	Report Document and Electronic File
6	Inventory of national waste management capacity and needs	Report Document and Electronic File
7	Inventory of sources and loads of unintentional emissions of POPs	Report Document and Electronic File
8	Inventory of existing stockpiles of POPs pesticides and PCBs	Report Document and Electronic File
9	Chemical Information System	Report Document, Electronic File and Design of Web Page
10	National Profile on Chemical and Waste Management	Report Document, Electronic File, Publication
11	Stockholm Convention National Implementation Plan	Report Document, Electronic File, Publication
12	Financial mechanisms to support the development of the National Implementation Plan	Report Document and Electronic File

# TECHNICAL REPORTS/PRODUCTS

# SURINAME PROJECT BUDGET

	Component	Unit Cost (US\$)	Total (US\$)
1	Organization of the process		
	Activity 1.1. Establishment and strengthening coordinating I	nechanism	
	Project Manager (24 person months)	2,000	48,000
	Technical Assistance (24 person months)	600	14,400
	Office Equipment		22,700
	Operating cost throughout the project (24 months)	1,200	28,000
	Coordinating Committee meetings(12)	100	1,200
	Travel (2 international, 4 national)		6,000
	Audits		6,000
	Sub-total		126,300
	Activity 1.2. Public awareness and participationBroad-based Stakeholder inception training workshop (50participants, 1 day)	1,000	1,000
	High level inception workshop (30 participants)	1,000	1,000
	Technical assistance (one person/month)(1 month)	3,500	3,500
	Raising awareness materials reproduction and dissemination		10,000
	Sub-total		15,500
2	Elaboration of a National Profile on Chemical and Wast	te Managem	ent
	Activity 2.1. Institutional and legal framework	1	1
	Technical Assistance (local)(one person/month)(2 months)	3,500	7,000
	Technical Assistance (international)(2 persons/2 weeks)		10,000
	Training workshops (30 participants, 2 days) (2 workshops)	2,000	4,000
	Travel (international experts and Suriname participants)	2,000	9,000

Compact disc on national chemical and waste regulation	ons-	6,000
Dissemination	,115	0,000
Sub-total		36,000
Activity 2.2. Monitoring and assessment capacity		
Technical Assistance (local) (one person/month)(2 months)	3,500	7,000
Technical Assistance (international) (two persons)(one week	)	10,000
Training workshops (30 participants, 5 days) (two workshop	s) 10,000	20,000
Travel (international experts and Suriname participants)		11,000
Sub-total		48,000
	·	
Activity 2.3 Infrastructure capacity		
Technical Assistance (local) (one person/month)(1 months)	3,500	3,500
Technical Assistance (international)(3 persons)(one week)		15,000
Training workshops (30 participants, two days)(3 workshop)	2,000	6,000
Travel (international expert and Suriname participants)		8,000
Sub-total		32,500
	tion of the N	ational P
Activity 2.4. Integration, endorsement and publication on Chemical and Waste Management	tion of the N	ational P
Activity 2.4. Integration, endorsement and publica	tion of the N	ational P
Activity 2.4. Integration, endorsement and publication on Chemical and Waste Management		
Activity 2.4. Integration, endorsement and publication on Chemical and Waste Management Technical Assistance (one person/month)(1 month)	3,500	3,500
Activity 2.4. Integration, endorsement and publicationon Chemical and Waste ManagementTechnical Assistance (one person/month)(1 month)Workshops (30 participants, one day)	3,500	3,500 1,000
Activity 2.4. Integration, endorsement and publication         on Chemical and Waste Management         Technical Assistance (one person/month)(1 month)         Workshops (30 participants, one day)         Publication and dissemination of the Profile         Sub-total	3,500	3,500 1,000 8,000
Activity 2.4. Integration, endorsement and publication         on Chemical and Waste Management         Technical Assistance (one person/month)(1 month)         Workshops (30 participants, one day)         Publication and dissemination of the Profile         Sub-total	3,500 1,000	3,500 1,000 8,000 12,500
Activity 2.4. Integration, endorsement and publication         on Chemical and Waste Management         Technical Assistance (one person/month)(1 month)         Workshops (30 participants, one day)         Publication and dissemination of the Profile         Sub-total         Elaboration of Inventories         Activity 3.1.1. Inventory of sources and loads of unit	3,500 1,000	3,500 1,000 8,000 12,500 Ps
Activity 2.4. Integration, endorsement and publication         on Chemical and Waste Management         Technical Assistance (one person/month)(1 month)         Workshops (30 participants, one day)         Publication and dissemination of the Profile         Sub-total	3,500 1,000	3,500 1,000 8,000 12,500

Indicative sampling and analysis (50 samples)		20,000
Travel (international expert and Suriname participants)		4,000
Information dissemination		6,000
Sub-total		52,000
Activity 3.1.2. Inventory and management of existing PCBs	stocks of	pesticides
Technical Assistance (one person/month)(one month)	3,500	3,500
Travel		1,000
Survey to establish an inventory and Management of Existing Stocks		50,000
Sub-total		54,500
Activity 3.2 Assessment of socio-economic implications Technical Assistance (one month/person)(one month) Workshop (30 persons, one day)(one workshop)	3,500	3,500
	3,500	3,500
Workshop (30 persons, one day)(one workshop)	1,000	1,000
Sub-total		4,500
Activity 3.3 Identification of financial mechanisms to sof the National Implementation PlanTechnical Assistance (one month/person)(one month)Sub-total	3,500	ae develop 3,500 3,500
Identification of priorities and objectives of key actions important sources and loads of POPs and the Imp BAT		

Plan		
Technical assistance (one month/person)(two months)	3,500	7,000
Workshop (50 participants, one day)	1,000	1,000
Publication and dissemination		10,000
Sub-total		18,000
Total GEF Contribution		407,800
Total of Government Contribution (Offices, human resources, office supplies: furniture, telephone lines, public awareness activities)		22,200
Total Cost of Enabling Activities		430,000

#### <u>Annex I</u>

#### **Country Background**

#### Introduction

As a basis to support the formulation of the project proposal to enable Suriname to fulfill its obligations under the Stockholm Convention on Persistent Organic Pollutants (POPs), the following information has been reviewed to define the context in which this project is going to be developed and will lead to the formulation of the corresponding National Implementation Plan.

The structure of the document includes a brief description of the socio-demographic context, as well as some elements that can give an idea of the environmental pressures, the state of the environment, the environmental impacts, the situation about persistent organic pollutants, and the response from Government to the environmental problems faced by the country. When possible, human development indicators (HDI), developed by the UNDP, had been included to provide elements that help to put into perspective the situation of Suriname concerning those indicators.

The information considered in this document has been obtained from documents provided by the United Nations Development Program (UNDP), the National Institute for Environment and Development in Suriname (NIMOS), the Ministry of Labour, Technological Development and Environment (ATM), quoted in the text, or gathered during the interviews held with interested parties.

NAMES	INSTITUTION/ORGANIZATION	E MAIL ADDRESS
Mariska	Ministry of Labor, Technological	arbeid@sr.net
Riedewald	Development and Environment (ATM)	
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Parohi B	Ministry of Public Works (responsible for	minow@sr.net
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Prado		

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NAMES	INSTITUTION/ORGANIZATION	E MAIL ADDRESS
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Truideman		
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Tirtotatoeno		
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Waagmeester		
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Wesenhagen	Faculty of Technology	
Richard	Chamber of Commerce (KKF)	chamber@sr.net
Verwey		

#### Socio-demographic context

Suriname has an area of around 164,000 sq kilometers, is located in South America and it borders to the north on the Atlantic Ocean, in the west on Guyana, in the east on French Guyana and in the south on Brazil.

Its capital is Paramaribo and its territory is divided into ten districts, which are in turn sub-divided in jurisdictions with an uneven distribution of the 432,500 total number of inhabitants (by example Paramaribo has about 250,000 inhabitants, while the largest district of Sipaliwini with 130,000 sq kilometers has a population of only 30,000 people).

Suriname has a multiethnic population as a result of its history. The Arowak Amerindians moved from the Orinoco delta to the coastal plains of Surinam around 500 AD where they established a well developed agricultural system. The arrival of tribes from the Caribbean around 100 AD changed the Arowak lifestyle as they where obliged to: *revert to "shifting cultivation" in which sections of the forest were burned off and cultivated until the soil was exhausted*, <sup>10</sup> a practice that can lead to the generation of persistent organic pollutants.

In 1651 England established the first colony in Suriname, introducing sugar cane plantations using African slave labour. A conflict between England and the Netherlands led to a peace treaty and Surinam became a Dutch colony where Indians were assured not to became slaves; this arrangement didn't involve runaway African slaves (the Maroons born in Africa and the Creoles born in Suriname) "who would still have to fight for their freedom many times".<sup>1</sup>

<sup>&</sup>lt;sup>10</sup> Toon Fey. Surinam. Switi Srabab, KIT Publishers. 2003. pp 51-52.

In 1682 Suriname became -for a period of less than one hundred years- a "Licensed Society" owned by the Dutch West Indies Company, the city of Amsterdam and the family van Aersen van Sommelsdijck, and the License itself was considered as the first Constitution of the country. After a transition period between 1799 and 1816 where Surinam was again an English colony, the country became the "Kingdom of the Netherlands" until 1954 when the official autonomy was established leading in November 25, 1975, to the independence of the Republic of Suriname.

During the last hundred years British-Indian immigrants arrived to Suriname and this population group grew rapidly and represents at present around 33 per cent of the population. Javanese workers started the immigration to Suriname at the end of the 19th century and had also a rapid population growth, as Chinese immigrants that arrived to the country after slavery has been abolished. Jewish groups from Spain and Portugal followed the same path and immigrated to Suriname as other small groups such as Lebanese, contributing to the mosaic of ethnic groups that form Suriname population and that speak a variety of languages (the official ones being Dutch and Surinamese).

The exodus of Suriname people to the Netherlands (200,000) after the independence of the country and until 1980, that decimated "the country's entrepreneur and manpower resources,<sup>11</sup> as well as political internal problems, declining of world market places and the suspension of foreign aid, have generated severe economical problems. Nevertheless, the development of free elections and the establishment of a democratic government in 1991, have created better conditions to face the challenges derived from the stagnation of the economy and the overwhelming presence of the state in the economic arena (the Governmental Sector employs around 40 percent of total working population).

Trade, restaurants and hotels contribute with 17.2% to the Growth Domestic Product (GDP), Government Sector and Defence 16.7%, Manufacturing Sector 9.5%, Mining and Quarrying (15.3%), Financial Institutions 12.8% and Agriculture Sector 6.4%.

To monitor progress in human development in Member countries, the United Nations Organization has established the Human Development Index (HDI) that "reflects achievements in the most basic human capabilities, leading a long life, being knowledgeable and enjoying a decent standard of living. Three variables have been chosen to represent these dimensions –life expectancy, educational attainment and income".<sup>12</sup>

According to this ranking system, Suriname occupies the level 64 in the list of 174 countries which HDI has been established. The following tables give an idea of the situation prevailing in the country concerning key indicators, as well as some of the progress made in improving their performance.

#### **Demographic Trends**

Total Population	Millions	
*		

<sup>&</sup>lt;sup>11</sup> NIMOS. State of the Environment Report 2000. Final Draft. Pp. 21

<sup>&</sup>lt;sup>12</sup> UNDP. Human Development Indicators. http://www.undp.org/hdr2003/indicator/index.html

1975	0.4
1998	0.4
2015	0.5
Annual population growth rate	%
1975-1998	0.6
1998-2015	0.9
Urban population	As % of total
1975	44.8
1998	51.0
2015	60.8
Dependency ratio	%
1998	59.6
2015	42.3
Population aged 65 and above	As % of total
1998	5.3
2015	5.9
Total fertility rate	%
1970-1975	5.3
1995-2000	2.2
Contraceptive prevalence rate	%
1990-1999	72

# **Economic Performance**

Growth National Product (GNP)	US\$ billions
1998	0.7
GNP annual growth ratio	%
1975-1995	0.1
1990-1998	0.8
GNP per capita	US \$
1998	1,660
GNP per capita annual growth	%
1975-1990	-0.6
1990-1998	0.5
Average annual rate of inflation	%
1990-1998	138

Source: UNDP. Human Development Indicators. http://www.undp.org/hdr2003/indicator/index.html

#### **Resource Flows**

Exports of goods and services (as % of GDP) 1990	28.2
Imports of goods and services (as % of GDP) 1990	27.4
Net foreign direct investment flows (US \$ millions annual average) 1987-1992 1998	-119 10

GDP = Gross Domestic Product 10.1 US \$ billion in 1997

Source: UNDP. Human Development Indicators. http://www.undp.org/hdr2003/indicator/index.html

#### **Resource Use**

Public expenditures on education	As % of GNP

1990	8.3
1995-1997	3.5
Public expenditures on health	As % of GNP
1990	3.5
1995-1998	2.0

#### **Progress in survival**

Life expectancy at birth	Years
1970-1975	64.0
1995-2000	70.1
Infant mortality rate	Per 1,000 live births
	51
1970	28
1998	
Under-five mortality rate	Per 1,000 live births)
	68
1970	35
1998	
People expected to survive to age 60	%
1995-2000	19.9
Maternal mortality rate reported	Per 100,000 live births
	110
1990-1998	

Source: UNDP. Human Development Indicators. http://www.undp.org/hdr2003/indicator/index.html

# Health Profile

Infants with low birth weight	%
1990-1997	13
One year old fully immunized against measles	%
1995-1998	82
Doctors	Per 100,000 people
	40
1992-1995	
Nurses	Per 100,000 people
1992-1995	227

Source: UNDP. Human Development Indicators. http://www.undp.org/hdr2003/indicator/index.html

#### **Education Profile**

Primary education age group enrolment ratio	Adjusted, % of relevant age group 99.9
1997	
Public education expenditures	As % of GNP
1995-1997	3.5

# **Access to Information Flows**

Main telephone lines	Per 100,000 people
	92
1990	152

1996-1998	
Televisions	Per 100,000 people)
	138
1990	217
1996-1998	

### Environmental pressures and state of the environment

The more tangible pressures from different sector activities on the environment of the different regions of the Suriname territory, as well as the state of the environment in the country are summarized on the following tables.

ZONE	ECONOMIC ACTIVITY	PRESSURE	
Ocean Zone 75,000 Sq Km	Navigation	Shipping waste	
Continental Zone	Fisheries	On fish resources	
65,000 Sq Km	Navigation	Shipping waste	
05,000 Sq Kill			
	Oil exploration/exploitation	Waste generation, emission of pollutants (including POPs?)	
Young Coastal Plain	Urban development	Pressure on agricultural land	
10,000 Sq Km	-	Urban waste	
· •		Waste water	
	Industry	Environmental pollutants	
		Industrial waste	
		Waste water	
		Risks of accidents	
	Agriculture	Use of agrochemicals	
		Water use and management	
		Pressure on forests	
	Oil distribution, exploration &	Wetland/mangrove conversion	
	refinery	Solid and liquid wastes	
		Air emissions	
		Accidental chemical releases	
	Construction materials mining	Pressure on agricultural land and forests	
	_	Solid wastes	
		Destruction of natural sea walls	
		Pressure on water resources	
	Forestry	Loss of biodiversity	
		Los of other environmental services (areas	
		of water recharge)	
	Energy	Waste generation	
		Air pollution	
		Nuisance	
	Hunting	Loss of biodiversity	

Environmental pressures of social and productive activities

ZONE	ECONOMIC ACTIVITY	PRESSURE	
Old Coastal Plain	Bauxite mining	Pressures on land, biodiversity and wate	
10,000 Sq Km		resources.	
		Wastes and air emissions.	
		Disturbance of communities	
	Forestry	Loss of biodiversity	
		Los of other environmental services (areas	
		of water recharge)	
	Hunting	Loss of biodiversity	
Savanna Belt	Forestry	Loss of biodiversity	
10,000 Sq Km		Los of other environmental services (areas	
		of water recharge)	
	Construction materials mining	Solid wastes	
		Pressure on water resources	
	Hunting	Loss of biodiversity	
Interior	Hunting	Loss of biodiversity	
136,000 Sq Km	Gold mining	Mercury pollution	
		Loss of biodiversity	
		Land degradation	
		Waster pollution	
		Socially disturbed communities	
	Bauxite mining	Pressures on land, biodiversity and water	
		resources.	
		Wastes and air emissions.	
	Energy	Waste generation	
		Air pollution	
		Nuissance	
	Forestry	Loss of biodiversity	
		Los of other environmental services (areas	
		of water recharge)	

Modified from: NIMOS. State of the Environment Report 2000. Final Draft. Pp. 27

#### Energy use

Electricity consumption	Total Millions of kilowatt-hours 1996 1,621	Index (1980= 100) 1996	Per capita Kilowatt- hours 1980	Per capita Kilowatt- hours 1996
	1,021	109	4,442	3,752
Traditional fuel consumption	As % of total 1980 1			

Source: UNDP. Human Development Indicators. http://www.undp.org/hdr2003/indicator/index.html

# **Profile of Environmental Degradation**

Internal renewable water resources per capita	m <sup>3</sup> /year 1998
	452,489

Annual fresh water withdrawals	As % of war resources 1987-1995 0.2		capita m <sup>3</sup> 7-1995 2
Average annual rate of deforestation	% 1980-1990 0.1	% 1990 0.1	)-1995
Printing and writing paper consumed	Metric tons p 1996 2.1	ber 1,000 p	people
CO <sub>2</sub> emissions	Millions v metric tons 9	Share of world otal 6996	Per capita Metric tons 1996 4.9

**Crop farming**: Since early 1960's Suriname Government supported large-scale units for the production and export of rice, bananas and oil palm, most of them located in the district of Nickerie. The average amount of pesticides used annually in these activities amounts to approximately 1 million liters in a total area of about 74,000 hectares.

**Waste management**: "Burning and illegal dumping of solid waste on vacant lots, along roads or in nearby open water have become common practice as a result of a deteriorated waste management infrastructure. The amount of solid waste produced by different sectors is increasing and putting tremendous pressure on the environment, which leads to inadequate handling and inappropriate disposal under uncontrolled conditions. The disposal of waste occurs in open dumpsites, without minimal health and safety requirements, which is a source of pollution to the environment."

**Sewage**: "Since planning and construction of the sewer system have not kept pace with the increasing urbanization, Paramaribo has traditionally been confronted with a drainage problem. Lack of funds in the preceding two decades has resulted into the poor maintenance of the sewer system, the pumping stations and the sluices. The result is frequent flooding of streets and premises and overflow of septic tanks and sewers, especially after heavy tropical rains".

#### Examples of Environmental impacts<sup>13</sup>

**Agrochemical pollution**: "The topography of the coastal plain, the characteristic hydrological system, and climatic and physical factors cause residues of the agrochemicals applied in the coastal cropping areas to be found in the fresh and brackish water ecosystems. Acute intoxication of fish, birds and wild animals is a common occurrence. Excessive use of pesticides, a consequence of resistance and resurgence frequently occurring, is now common and has led to unacceptable pesticide residues in market produce, risks to consumers and commodity rejection. Furthermore, the resistance

<sup>&</sup>lt;sup>13</sup> NIMOS. State of the Environment Report 2000. Final Draft

has reduced the efficiency and raised the costs of pesticide-based control measures in many crop systems." Other threats of concern are those that can be produced on the Bigi Pan Multiple-use Management Area and the Coppenamemonding Nature Reserve, as well as on the freshwater swamps in the Coastal Plain and coastal mangrove forests.

**Forestry**: "Waste generated by the sawmills is tremendous, since the average recovery is 35-40 percent. Despite the improper harvesting and extraction methods used by most companies, round wood-production increased as a result of which a multiplied damage to the forest resources are caused."

**Bauxite mining**: Up to 1998 the bauxite residue (red mud) produced during the processing of bauxite was disposed in sealed diked areas, known as "bauxite residue lakes" or "wet lake operation" and currently is being used the so-called Dry Stack Areas (October 1998). Since the refinery is in operation, 400 hectares of bauxite residue areas were constructed. The run-off of the dry stack areas, contaminated with caustic liquor and diluted wit rainwater is being captured in a close system for re-use in the refinery process. In case of excess wastewater, this water is treated through the CO2 neutralizing plant and discharged into the environment (pH 9.0

**Gold mining**: "Thousands of kilograms of mercury are spread into the environment every year, which threatens the vulnerable ecosystems in both the rainforest and the coastal wetlands. Many local communities in the Interior are left to look for other waterways, in most cases a great distance from their residence, because process water of mining when spilled in rivers and their tributaries causes mud clouds." "Losses of biodiversity and land degradation, for example in the vicinity of and in the Brownsberg Nature Park are posing a serious threat to tourism."

**Oil**: "Oil spills occurring during the exploration and/or the exploitation of offshore oilfields can pose a threat to the marine and coastal environment". "During the starting phase of the refinery many people living in the vicinity of the refinery complaints about odor. This nuisance was caused because "sour water strippers" were not functioning yet."

**Energy generation**: "Environmental effects that are most significant related notably to electricity generation and transmission are:

• Particulates emitted from and (lubrication) waste oil generated by diesel generating units,

• The use of Polychlorinated Biphenyls (PCBs) in transformers, capacitors, and ballasts,

• Local nuisance e.g. odor, noise, etc,

• Loss of biodiversity and tribal communities' territories due to construction of the Brokopondo reservoir, is not just a threat but a fact,

• Generation of greenhouse gases due to the presence of the Brokopondo reservoir." (Afobaka Hydropower Lake). Note: The emission of CO2 should currently be stable in the lake (emitted and sink).

**Small and medium-sized industries**: "Environmental impacts associated with this sector, mostly located in living areas, are pollution of surface water and groundwater due to poor management of industrial waste. At location with a relatively high density of industries, such as Saramacca doorsteek/-canal, water pollution occurs. Air pollution caused by excess odors and product particles from several small-scale industries is common. Site selection is very inadequate. Many warehouses and small industries such as repair shops are allowed to establish in the middle of urban areas. Many agro-industries, producing organic wastewater are still allowed to settle in areas with a stagnating drainage."

Suralco: In 1996 all PCB in use were neutralized by a USA Company. The PCB waste is waiting for export to a special facility abroad for destruction. Planning to export the waste is in the first half of 2004 due to the requirement for being in-compliance with the Basel Convention. Suriname is not yet party of the Basel Convention.

No official inventory of potential sources of emissions of dioxins and furans has been carried out; but personnel from the Adek University of Suriname (Faculteit der Technologische Wetenschappen), have received training on the use of the Toolkit developed by the United Nations Environment Program (UNEP) to support the elaboration of such inventory, on a Workshop that was held on May 2003 in Trinidad and Tobago. This University has also been involved in the development of studies to determine the types of pesticides been used in Suriname, as well as to identify potential sources of dioxins and furans and has some analytical capacity to asses chemical environmental pollution.

# Conclusions

Suriname is a young independent nation with a long history and a complex array of ethnic groups that form its human population, as well as a rich biodiversity. At present the country is struggling with a critical economic situation and serious structural problems in every aspect of social, economical and political life.

In these circumstances, the development of the Project to enable the country to fulfill the obligations of the Stockholm Convention on Persistent Organic Pollutants, need to be adapted to the particular needs and realities of Suriname.

The fact that the country is in the middle of a process to develop and/or strengthen its institutional government environmental management capacity, their environmental legislation, the environmental services for managing wastes and controlling environmental pollution, the educative programs to form the specialists and trained personnel needed in this field, offers an opportunity for the present project to contribute to this process through the generation of synergies in particular areas.

For achieving such ambitious goal, it will be needed a great level of coordination among key stakeholders inside and outside the government, as well as a good knowledge of ongoing related projects, in particular those supported through foreign aid, to create those synergies.

# MINISTERIE VAN ARBEID, TECHNOLOGISCHE ONTWIKKELING EN MILIEU

#### MINISTRY OF LABOUR, TECHNOLOGICAL DEVELOPMENT AND ENVIRONMENT Wagenwegstraat no. 22 – Tel.: 475241 – e-mail: <u>arbeid@sr.net</u>

Uw kenmerk: Your reference: Uw brief van Your letter dated Ons kenmerk Q.T M ンアルム Our reference

Bijlage(n): Enclosure(s): Onderwerp: Subject: endorsement project proposal "Initial assistance to enable Suriname to fulfill its obligations under the Stockholm Convention on POPs"

Paramaribo: 29th October 2004

To: Dr. Inyang Ebong-Harstrup UNDP Resident Representative United Nations House 3A Chancery Lane Port of Spain Trinidad and Tobago, W.I.

Dear Madam,

On behalf of the Government of Suriname and, in my capacity as GEF Operational Focal Point, I hereby endorse the *Enabling Activity* request for the above mentioned proposal, to be presented through the United Nations Development Programme (UNDP) to the Global Environment Facility.

We look forward to your kind consideration in this matter.

Sincerely,

1. cold- the

Margret Kerkhoffs-Zerp GEF Operational Focal Point Ministry of Labour, Technological Development and Environment Suriname

#### NUMBER OF WORKSHOPS AND TIMETABLE

No	ТҮРЕ	TOPIC	DELIVER
			Y
			(Month)

1	Initial awareness	Stockholm Convention obligations/health and	02
	raising	environmental risks of POPs	
2	High level inception workshop	Presentation and endorsement of Project objectives, anticipated outcomes work-plan and timetable.	03
3	Training workshop	Integral and environmentally sound management of hazardous chemicals legislation	07
4	Training workshop	Integral and environmentally sound management of wastes (including hazardous wastes) legislation	09
5	Training workshop	Needs and means for the environmental and biological monitoring of POPs to assess human and ecosystem exposure	05
6	Training workshop	Methodologies to assess human and ecosystem POPs related risks	08
7	Training workshop	Environmentally sound options for the integral management of wastes	09
8	Training workshop	Best available techniques and best available practices to eliminate or reduce unintentional emissions of POPs	10
9	Training workshop	Chemical Information Systems to support risk assessment and management	09
10	Training workshop	Inventories of sources and loads of unintentional emissions of POPs	04
11	Training workshop	Cost-benefit analysis	13
12	Review and endorsement of outcomes	National Profile on Chemical and Waste Management	12
13	Review and endorsement	Stockholm Convention National Implementation Plan	24

# **TECHNICAL REPORTS/PRODUCTS**

No	TOPIC	END RESULT
1	Persistent Organic Pollutants and Stockholm	Brochures
	Convention (Awareness raising)	
2	Strategy to establish and operate inter-sectoral networks	Report Document and
	to support the application of the National	Electronic File
	Implementation Plan	
3	National chemical and waste regulations	Compact Disc
4	Strategy to strengthen national chemical and waste	Report Document and
	regulations	Electronic File
5	National analytical laboratory/risk assessment capacity	Report Document and
	and needs	Electronic File
6	Inventory of national waste management capacity and	Report Document and
	needs	Electronic File
7	Inventory of sources and loads of unintentional	Report Document and
	emissions of POPs	Electronic File
8	Inventory of existing stockpiles of POPs pesticides and	Report Document and
	PCBs	Electronic File
9	Chemical Information System	Report Document, Electronic
		File and Design of Web Page

No	TOPIC	END RESULT
10	National Profile on Chemical and Waste Management	Report Document, Electronic
		File, Publication
11	Stockholm Convention National Implementation Plan	Report Document, Electronic
		File, Publication
12	Financial mechanisms to support the development of	Report Document and
	the National Implementation Plan	Electronic File