

# REPUBLIC OF RWANDA



## MINISTRY OF LANDS, ENVIRONMENT, FORESTRY, WATER AND MINES

P.O.BOX 3502 KIGALI-RWANDA

AH POP-MINITERE PROJECT  
(GEF / RWA / 03/0005)

### NATIONAL IMPLEMENTATION PLAN OF THE STOCKHOLM CONVENTION ON PERSISTENT ORGANIC POLLUTANTS (POPs) IN RWANDA: 2007-2025

Kigali, December 2006

# FOREWORD

The Republic of Rwanda became a Party to the Stockholm Convention in order to work in liaison with the International Community to tackle problems arising from the persistent organic pollutants (POPs).

After the war and the genocide of 1994 that cast gloom over the country and the emergency period that followed, Rwanda has now embarked on the road towards development that would reconcile both the population needs and ecological concerns. Commitments made in the framework of the Stockholm Convention came to reinforce initiatives and priority actions undertaken by the Government of Rwanda through sector policies in order to achieve environment protection and management, poverty reduction and investments promotion.

Concerns related to the toxicological and ecotoxicologic impacts of dangerous chemicals never ceased to extend, their intrinsic toxicity being often worsened by mismanagement of their life cycle which results into the accumulation of all kinds of effluents and increasingly cumbersome stockpiles.

The Stockholm Convention is a legally binding treaty which Rwanda ratified on 4 June 2002. It constitutes one of the significant answers of the International Community in fighting against harmful effects both for human health and environment. The rejections of POPs are a factor of aggravation of poverty in developing countries and hinder the governments' efforts for a sustainable development.

To meet its obligations provided for by article 7 of the Convention, Rwanda carried out inventories of POPs pesticides, polychlorobiphenyls (PCBS) and dioxins and furans. The analysis of the situation revealed that except dioxins and furans which are unintentional POPs Rwanda never produced or reformulated the POP pesticides or industrial products. However, the POP pesticides have been imported for use in agriculture and public health, potentially contaminating exposed sites and a certain number of storage warehouses. Likewise industrial POPs such as the PCBS were imported in industrial plants of which some are still operational in the sector of electricity production and distribution.

The development of the national implementation plan of the Stockholm Convention constitutes a complementary expression of Rwanda's willingness to bring corrective measures to the process of sustainable development within the framework of Vision 2020. This willingness is also confirmed by the promulgation of the Organic Law N° 04/2005 of 08/04/2005 determining the

methods to protect, safeguard and promote the environment in Rwanda, by the establishment of the Rwandan Environment Management Authority (REMA) and the ratification of relevant International Conventions.

The Ministry of Lands, Environment, Forestry, Water and Mines, on behalf of the Government of Rwanda, expresses its gratitude to all national and international institutions and all national consultants who largely contributed to the development of the national implementation plan of the Stockholm Convention on Persistent Organic Pollutants (POPs) in Rwanda.

Thanks of the Ministry of Lands, Environment, Forestry, Water and Mines are especially intended for the Global Environment Facility (GEF) to have granted the necessary funds without which this National Implementation Plan (NIP) of the Stockholm Convention would not have come out.

Our recognition is addressed especially to the United Nations Industrial Development Organisation (UNIDO), executing Agency designated by WFP for its frank collaboration in the NIP preparation process.

**The Minister of State in charge of  
Lands and Environment**

**HAJABAKIGA Patricia**

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## ABBREVIATIONS AND ACRONYMS

<b>AH POPs</b>	Projet d'Activités Habilitantes pour la mise en œuvre de la Convention de Stockholm sur les Polluants Organiques Persistants
<b>CIN</b>	Comité Intergouvernemental de Négociation
<b>CL<sub>50</sub></b>	Concentration létale 50 pour cent
<b>CNUED</b>	Conférence des Nations Unies sur l'Environnement et le Développement
<b>COMESA</b>	Common Market for Eastern and Southern Africa
<b>DDT</b>	Dichloro-Diphenyl-Trichloro-ethane
<b>DL<sub>50</sub></b>	Dose létale 50 pour cent
<b>ELECTROGAZ</b>	Etablissement public de production et de distribution d'électricité, d'eau et de gaz
<b>ET</b>	Equivalent Toxique (TE)
<b>FAO</b>	Food and Agriculture Organisation
<b>GEF</b>	Global Environmental Facility
<b>FISC</b>	Forum Intergouvernemental sur la Sécurité Chimique
<b>FONERWA</b>	Fonds National de l'Environnement au Rwanda / Rwanda National Environment Fund
<b>HCB</b>	Hexachlorobenzène
<b>IOMC</b>	Programme Inter organisations pour la gestion rationnelle des produits Chimiques
<b>ISAE</b>	Institut Supérieur d'Agriculture et d'Elevage
<b>ISAR</b>	Institut des Sciences Agronomiques du Rwanda
<b>JORR</b>	Journal Officiel de la République Rwandaise (Rwanda Official Gazette)
<b>KIST</b>	Kigali Institute of Science ,Technology and Management
<b>K<sub>OE</sub></b>	Coefficient de partage n-octanol/eau
<b>MINAGRI</b>	Ministry of Agriculture and Animal Resources
<b>MINALOC</b>	Ministry of Local Administration, Good Governance and Social Affairs
<b>MINECOFIN</b>	Ministry of Finance and Economic Planning
<b>MINEDUC</b>	Ministry of Education
<b>MINICOM</b>	Ministry of Commerce, Industry, Investments Promotion, Tourism and Cooperatives
<b>MINIJUST</b>	Ministry of Justice

<b>MINISANTE</b>	Ministry of Health
<b>MINITERE</b>	Ministry of Lands, Environment, Forestry, Water and Mines
<b>NEPAD</b>	New Partnership for Africa's Development
<b>OIT</b>	Organisation Internationale du Travail
<b>WHO</b>	World Health Organisation
<b>NGO</b>	Non Gouvernemental Organisation
<b>UNIDO</b>	United Nations Industrial Development Organisation
<b>ORN</b>	Office Rwandais de Normalisation
<b>PCBs</b>	Polychlorinated biphenyls
<b>PCDD</b>	Polychlorinated dibenzo-para-dioxins
<b>PCDF</b>	Polychlorinated dibenzofurans
<b>PIB</b>	Produit Intérieur Brut
<b>PIC</b>	Prior Informed Consent
<b>NIP</b>	National Implimentation Plan
<b>UNDP</b>	United Nations Deveopmt Programme
<b>UNEP</b>	United Nations Environment Programme
<b>POPs</b>	Persistent Organic Pollutants
<b>PRSP</b>	Poverty Reduction Strategy Paper
<b>REMA</b>	Rwanda Environment Management Authority
<b>RRTP</b>	Registres des Rejets et des Transferts des Polluants
<b>SOPYRWA</b>	Société de Pyrèthre au Rwanda
<b>STP</b>	Persistent Toxic Substances
<b>TR</b>	Terms of Reference
<b>AU</b>	African Union
<b>UNITAR</b>	United Nations Institute of Training and Research
<b>UNR</b>	Université Nationale du Rwanda / National University of Rwanda



## **EXECUTIVE SUMMARY**

Rwanda is situated in the heart of Africa within the Great Lakes Region. She covers a total surface area of 26.338 km sq. and has a population of 8.500.000 inhabitants National census of 2005). Rwanda is governed under democratic system based on the principle separation of powers. The ongoing decentralization policy and good governance in the country gives the population the capacity to participate, decide and choose the way in which they can be governed. The official languages are Kinyarwanda, English and French. The Urban population and literacy rate is 16 % and 58.8 % respectively.

Concerning environmental issues, the Constitution of the Republic of Rwanda of 4<sup>th</sup> June 2003, in its article 49 makes environment protection a right and a duty of every citizen. The Constitution is supported by the organic law n° 04/2005 of 08/04/2005 determining the modalities of protection, conservation and management of environment, effective from 1 May 2005, the date of its publication in the Official Gazette of the Republic of Rwanda.

With this law the legal control of environment protection and management of chemical products is among the most important aspects of the implementation of the international agreements. It is also supported by the national policy on environment protection in Rwanda. The Rwandan Environment Management Authority (REMA) governed by law n° 16/2006 of 3 April 2006 determining the organisation, functioning and responsibilities of Rwanda Environment Management Authority (REMA) is a public institution that was created according to article 65 of the organic law n° 04/2005.

Aware of the dangers caused by POPs to human health and environment and involvement in the international community's efforts to fighting against POPs, Rwanda adhered to the Stockholm Convention signed on May 22 2001 and ratified as approved by the Presidential Order n° 78/01 of 8 July 2002.

In conformity with article 7 of the Stockholm Convention on POPs, Rwanda should:

- Prepare its national plan of implementation of the Convention,
- Try its best to comply with it and submit it to the Conference of the Parties at least in two years following the effective date of the Stockholm Convention (June 2006).

The POPs targeted by the Stockholm Convention are those resisting to natural degradation especially those which are solvent in fatty tissues, and accumulate into living organisms with risks of disturbing their normal physiology leading to

different and severe pathologies like cancer, mental illness, genetic malfunctions, and sterility just to mention a few.

- The NIP is the strategy document for the implementation of the Stockholm Convention on the POPs.
- In application of article 7 of the Convention, the NIP has a general objective of improving the management of POPs with the aim to protect human health and environment from harmful effects of chemical products.

NIP specific objectives are:

- Improve the knowledge about the POPs in order to be able to eliminate/reduce their local resources and wastes in quantities;
- Enact adequate national legislation policies aiming specifically at POPs and ensure its implementation;
- Reinforce the institutional capacities of the parties involved in the rational ecologic management of POPs and coordinate their activities;
- Ensure exchange of information in terms of implementation and participate with international cooperation in the fight against POPs.

Enabling activities project (AH POP-MINITERE) leading to among other things the preparation of NIP, begun on 1 November 2003 and its activities have been carried out through several phases in conformity with the recommended methodology.

- **First phase**, from 1 November 2003 to 17 June 2004, was about setting up institutional arrangements and organization of the whole process,
- **Second phase**; from 17 June 2004 to 13 May 2005 dealt with initial national inventories of POPs in Rwanda, together with the preparation of national chemical profile with a particular reference to POPs,
- **Third phase**; from 13 May 2005 to 21 February 2006 was dedicated to the identification of objectives and national priorities in managing the POPs,
- **Fourth phase**; which begun with a training on the preparation of NIP was dedicated to writing a NIP programme during a workshop that lasted two days from 6 to 7 August 2006,
- **Fifth and last phase**; will be dedicated to a large integration of the provisional version of NIP.

The initial national POPs inventories have been carried out between 2004 and 2005 in order to assess the situation of POPs in Rwanda. POPs pesticides which were used in agriculture and health sectors since the colonial period have been

banned in Rwanda since 1986 except that cross border activities gives an impression that they might still be used clandestinely.

The PCBS are still present in contaminating dielectric fluids in some electric transformers and condensers at the end of their life span or in their functioning. According to the inventory, a certain number of equipments will still be functioning in 2005 or they should be out of service for elimination Screening tests will give a clearer picture of the presence of PCBS.

The unintentional sub-products censured are the dioxins (PCDD) and the furans (PCDF). In the case of Rwanda, they essentially come from the combustion of solid wastes and biomass in the open air for various reasons.

The inventory has shown that there is presence of piles of obsolete pesticides of POPs (PCBS, dioxins and furans) wastes stored for different reasons by different actors not knowing the exact nature of those substances and their harmful effects on health and environment due to lack of information.

According to Article 7, Rwanda has prepared in conformity with the Convention's provisional directives, her National Implementation Plan to be presented to the Conference of Parties to Stockholm Convention on POPs.

The methodology adopted for the identification of the first national priorities of the NIP included « brainstorming » of a multidisciplinary team of 15 people basing on the major obligations of the Convention and the results from the analysis of the national situation carried out during phase II. This democratic exercise allowed the identification of (8) initial plans of action for the country. Basing on criteria and average factors chosen by the participants, these plans of action have thereafter been classified in order of priority for implementation as shown in the table below:

<b>Order of priority</b>	<b>Name of the Action plan</b>
1°	Information, sensitization and training the public about the POPs.
2°	Reinforcement of institutions and regulations.
3°	Rational ecologic management of wastes resulting from unintentional production of POPs.
4°	Management of polychlorinated biphenyles (PCBS: Annex A) and their packaging materials.
5°	Supervision and research-development.
6°	Management of stocks and wastes from POPs containing pesticides.

7°	Sound ecologic management of contaminated sites.
8°	System of information exchange and participation with international cooperation.

The total cost of the implementation plan is estimated at 8, 628 000 US \$.

Moreover, three project documents to be realized in the NIP framework have been designed. These include:

1. Sensitization, information and education project for Rwandan citizens about POPs (estimated cost of the project : 1, 086, 000 US \$),
2. Project for constituting a security stock of obsolete chemical products including POPs (estimated cost of the project : 500, 000 US \$),
3. Project for the promotion of alternatives to POPs pesticides (estimated cost of the project: 1, 000, 000 US \$).

The Rwanda NIP assignment is: **“To progressively achieve by the year 2025 an ecologically rational management of POPs which safeguards human health and environment”**.

Rwanda intends first of all to reinforce her system of sensitization, information and training of Rwandans on the POPs. At the same time putting special emphasis on reinforcement of her institutions and regulations for a rational ecologic management of chemicals and POPs in particular as the NIP strategy for implementation is based on legal framework and regulations in accordance with the roles and clear responsibilities towards the main stakeholders.

The Government of Rwanda, being aware of the fact that reduction or even elimination of POPs is not only going to protect human health and environment against their harmful effects, but will also provide the country with a real stand in implementing a national policy on integrated management of dangerous chemicals in general. This reaffirms through its declaration of intent, its readiness to work seriously for effectiveness and efficiency of NIP. This will require further mobilization of available resources at national level through all appropriate measures.

# **CHAPTER I: INTRODUCTION**

## 1. 1. CONTEXT

In June 1992, the United Nations Conference on Environment and Development was held in Rio de Janeiro (Brazil), after which Heads of State and Governments from more than 150 member countries of the United Nations adopted "Agenda 21", a general document that defines responsibilities of countries towards the realization of sustainable development for the 21<sup>st</sup> Century.

Chapter 19 of Agenda 21 deals with "Rational ecologic management of toxic chemical products including the prevention of illegal international trafficking of toxic and dangerous products".

In April 1994, the international Conference on Chemical Security was held in Stockholm–Sweden and adopted two major resolutions. One concerned the creation of an Intergovernmental Forum on Security of Chemicals (FISC) and the definition of priority activities of FISC in rational management of chemical products. These resolutions express the real commitment of the international community to efficiently contribute to the implementation of chapter 19 of Agenda 21 program.

Since the year 1980, several international legal instruments have been adhered to and Rwanda is already a party to:

- The Convention on Biological Diversity and its Habitat signed in Rio de Janeiro on 5 June 1992 by as approved by Presidential Order n° 17/01 of 18 July 2002;
- The United Nations Convention on Climate Change signed in Rio de Janeiro on 5 June 1992 and ratified as approved by Presidential Order n° 021/01 of 30 May 1995;
- The Stockholm Convention on Persistent Organic Pollutants signed in Stockholm on 22 May 2001 and ratified as approved by Presidential Order n° 78/01 of 08 July 2002;
- The Rotterdam Convention on the the establishment of international procedures agreed by states on commerce transactions of agricultural pesticides and other poisonous products, signed in Rotterdam on 11 September 1998, and in New York from 12 November 1998 to 10 September 1999 and ratified by Presidential Order n° 28/01 of 24 August 2003 approving the membership of Rwanda;
- The Basel Convention on the control of transboundary movements of hazardous wastes and their disposal dangerous wastes and their elimination, was adopted in Basel on 22 March 1989 and ratified by Presidential Order n° 29/01 of 24 August 2003 approving the membership of Rwanda;

- The Vienna Convention on the protection of Ozone Layer, signed in Vienna (1985) and the four protocols on substances that deplete the ozone layer signed in Montreal (1987), London (1990), Copenhagen (1992), Beijing (1999), specifically in article 2 of the London amendment and article 3 of Copenhagen, Montreal and Beijing amendments as approved by Presidential Order n° 30/01 of 24 August 2003 related to the membership of Rwanda;
- The Cartagena Protocol on Biosafety to the Convention of Biological Biodiversity opened to signature in Nairobi from 15 to 26 May 2000 and in New York on 04 June 2001 and ratified by Rwanda as approved by Presidential Order of 38/2003;
- The Kyoto Protocol on the Framework Convention on Climate Change adopted in Kyoto on 6 March 1998 and ratified by Rwanda as approved by Presidential Order n° 36/2003 of 29 December 2003;

In National law, the Constitution of the Republic of Rwanda, article 49 provides that "Every citizen has the right to same and satisfactory environment. Every individual has the right to protect, safeguard and promote the environment. A law defines modalities of protecting, safeguarding and promoting the environment": Following this constitutional provision the organic law determining the modalities to protect, safeguard and promoting the environment in Rwanda n° 04/2005 of 08/04/2005 clearly specifies the obligations of the State as regards the International Conventions and Agreements to which Rwanda is a Party, including those relating to the management of chemical products such as POPs.

Legal texts for implementation of this organic law that are under preparation to enable Rwanda to have a legal framework for the implementation of a National policy of integrated management of dangerous chemical products and other persistent chemical substances. The texts include among others the following:

- A Prime Minister's Order determining the list of poisonous products and other prohibited pollutants,
- A Prime Minister's Order determining the list of chemicals prohibited for importation, exportation, keeping for sale, distribution even for free;
- A Minister of Lands, Environment, Forestry, Water and Mines' Order that regulates usage of substances contributing to air pollution, ozone layer impoverishment in conformity with the United Nations Conventions on Climate Change;
- A Minister of Lands, Environment, Forestry, Water and Mines' Order that regulates environment inspection,

- A Minister of Lands, Environment, Forestry, Water and Mines' Order that regulates the list of activities and projects that have to be subjected to an environmental impact assessment study.

In this context, Rwanda has big challenges to create and reinforce national programmes for rational management of dangerous chemical products. As stipulated by "Agenda 21", such programmes include among others: an appropriate legislation, the collection and distribution of information, the national capacity to evaluate the risks, their interpretation and management; the capacity in application and implementation; the capacity of rehabilitation of contaminated sites and taking care of poisoned persons; the formal and informal efficient education programmes on chemical security and the capacity to respond to emergencies.

The present National Implementation Plan (NIP) of the Stockholm Convention on POPs is going to constitute a vital tool for the establishment of a national framework destined to bring appropriate solutions to these major concerns but will also enable the country to reach her target of Vision 2020. The NIP goes along well with the Millennium Development Goals relating to Environment and Sustainable Development.

## **1.2. THE ROLE AND STRUCTURE OF NIP**

The NIP is a document of strategies for the implementation of the Stockholm Convention on POPs. In application of article 7 of the Convention, NIP has as a general objective to improve the management of POPs with the aim of protecting human health and environment against deadly effects of these chemical products.

Its specific objectives are:

- The improvement of knowledge about the POPs so as to be able to eliminate the POPs from their localities and quantities of wastes,
- To enact a national legislation policy appropriate specifically to POPs and make it applicable,
- To reinforce capacities of the main stakeholders in the rational ecological management of POPs and coordinate their activities;
- To ensure exchange of information on implementation measures and closely work with international community aimed to fight against POPs.

The present NIP document, written in conformity with the provisional directives of the Convention, is articulated on the following lines:

- National design,



- Institutional, political and regulatory framework,
- Knowledge available about POPs,
- Declaration of intent,
- Implementation strategy,
- Strategies and plans of action of NIP,
- Development and capacity building proposals,
- Timetable for the implementation of NIP and achievement indicators as well as necessary financial resources.

### **1.3. OVERVIEW OF THE OBJECTIVES AND MAJOR OBLIGATIONS OF THE STOCKHOLM CONVENTION**

The objective of the Stockholm Convention is to protect human health and the environment against deadly POPs effects with a cautious approach.

It therefore provides a certain number of essential guidelines of which Parties must adhere to:

- Designate a focal point for information exchange (article 9) ;
- Prohibit and/or take judicial and administrative measures in order to eliminate the production and utilization of chemical substances mentioned in Annex A (aldrine, chlordane, dieldrine, endrine, heptachlor, hexachlorobenzene, mirex, toxaphene and PCBS) (article 3.1 a);
- Limit the production and utilization of the chemical substances mentioned in Annex B (DDT) (article 3.1 b);
- Ensure that any chemical substance mentioned in Annex A or B is only exported with a view to proper and ecological elimination or an authorized utilization of these annexes (article 3.2 a);
- Ensure that any chemical substance mentioned in Annex A or B is only exported with a view to proper and ecological elimination destined to one Party authorized to use that substance according to these annexes, or towards a non-Party State that commits itself to respect some provisions of the Stockholm Convention (article 3.2 b);
- Take measures in accordance with regulations and evaluation systems aiming at preventing the production and utilization of new pesticides or new industrial chemical substances, taking into account the criteria of identification of POPs by such systems (article 3.3, article 3.4) ;
- Record specific exceptions to Annexes A or B, otherwise, must, at the moment they become Party submit a report certifying that the derogation remains necessary whenever the extension of the registration is required (articles 4.3 et 4.6);

- Prepare and implement a national, sub-regional or regional action plan in order to reduce the total volume of wastes from chemical substances mentioned in Annex C (PCDD, PCDF, HCB, PCBS) by entropic sources in a two years period commencing from the date they become Parties to the Convention (article 5);
- Manage the stockpiles and wastes in a way that they protect human health and environment by preparing among others appropriate strategies for their identification, and organize how to collect, carry and then destroy them through proper and ecologic methods (article 6.1);
- Prohibit operations of elimination of stockpiles and wastes of POPs likely to end up into recuperation, recycling, regeneration, or direct reutilization or other uses of those stockpiles and wastes (article 6.1 d) iii);
- Regulate transboundary movements of POPs stockpiles and hazardous wastes in conformity with appropriate international rules, norms and directives (article 6.1 d) iv) ;
- Submit the Implementation Plan to the Conference of Parties in a two years period commencing from the date the Convention becomes effective between the involved Parties and regularly examine the plan (article 7.1);
- Present to Convention's Secretariat a proposition to register a chemical substance presenting POPs characteristics on the POPs list (Article 8; non binding Obligation);
- Exchange information with other Parties relating to elimination and reduction of the production, utilization and wastes of POPs and the replacement solutions of these substances (article 9);
- Ensure that the public has access to information on POPs including those on health and security of people and environment (article 10.2);
- Initiate appropriate activities of research-development, supervision and cooperation about the POPs and wit replacement solutions of potential of POPs (article 11) ;
- Provide, if it is Parties from developed countries, a technical assistance particularly those with economies in transition (articles 12.1 and 12.2);
- Provide support and financial incentives to national activities aiming at the realization of the objective of the present Convention (article 13.1);
- Provide (if they are developed countries) financial support as Parties which are developing with economies in transition to enable them cover

the total costs agreed upon so that they can meet their obligations as stipulated in the Convention (article 13.2);

- Periodically submit to the Secretariat reports on the implementation of the Convention's provisions, including statistical data on the total quantity produced, imported and exported chemical substances mentioned in Annexes A and B (articles 15.1 et 15.1a);
- Participate in the evaluation of the Convention's efficiency (article 16).

**The Stockholm Convention which is basically a convention for substitution and prevention has the following five principles:**

1. The principle of prevention and anticipation on actions that are likely to have immediate or future effects on the quality of the environment (principle of caution) ,
2. The principle of temporary and permanent supervision of the quality of environment,
3. The principle of restoration of contaminated and degraded sites,
4. The principle of pollution control in terms of charging those responsible for the pollution (principle of Polluter-Pays),
5. The principle of interdiction, regulation of importation and utilization of POPs.

As far as national plans for the implementation of the Convention are concerned, and in accordance with article 7, each Party:

- (i) Designs and tries to implement a plan to achieve its obligations in accordance with the Convention;
- (ii) Submits its plan of implementation to the Conference of the Parties in a two years period commencing from the date of the Convention becomes effective;
- (iii) Examines and ascertains its plan of implementation on a regular basis according to modalities specified by the Conference of Parties.

According to Article 7, Rwanda prepared the present NIP, in conformity with the Convention's provisional directives for the preparation of national implementation plans of the Stockholm Convention (revised version of December 2004).



## 1.4. NIP PREPARATION PROCESS

The project of capacity building activities to implement the Stockholm Convention on POPs in Rwanda started its activities on 1 November 2003. NIP is one of the major results to which one can add: the Convention ratification, sensitization of stakeholders, upgrading the knowledge on the POPs, reinforcement of national capacities to manage chemical products, exchange of information etc.

According to the methodological approach provided by the Directives of the Convention, the preparation of NIP was carried out through five phases:

**The first phase**, from 1 November 2003 to 17 June 2004, was about the establishment of institutional arrangements and organization of the process. The main activities that characterized this phase are:

- ✓ The choice of the institutional focal point (the Ministry of Lands, Environment, Forestry, Water and Mines),
- ✓ Establishment of the project coordination office,
- ✓ Identification of the main stakeholders and other parties regarding the issue of POPs management,
- ✓ Establishment of a national pilot committee of the project,
- ✓ Organization of sensitization forums and exchange of target groups (the general public, decision makers, professionals, women and children, etc.),
- ✓ Appointment of a national project Coordinator and a National Expert,
- ✓ The preparation of a plan of action for the running of the whole capacity building.

The first phase was closed in August 2004 by a workshop on POPs which gathered 35 Participants representing different stakeholders.

**The second phase** from 17 Jun 2004 to 13 May 2005, was about initial national inventories of POPs in Rwanda, preparation of national chemical profile with a particular emphasis on POPs.

National consultants carried out:

- (i) the preparation of the national profile for the management of chemical products,
- (ii) Inventory of pesticides and contaminated sites by POPs.
- (iii) Inventory of PCBS in electrical equipment and sites contaminated by the PCBS;
- (iv) Inventory of dioxins and furans ;

- (v) Study of the legal, regulatory and institutional framework of the management of POPs.

The preliminary inventories and evaluations followed by training from UNIDO international experts who cross checked the study reports before presenting it to the national validating workshop.

The preliminary inventories and evaluations carried out were validated in the National Workshop of 13 May 2005 which gathered 67 participants from different institutions, industries, local NGOs and the national pilot committee.

**The third phase** was 13 May 2005 to 21 February 2006, about the identification of objectives and national priorities as regards the management of POPs and respect of other obligations of the Convention to be taken into account in the NIP. The adopted methodology used the recruitment of a National Consultant who, basing on the major objectives of the Convention and results from analysis of the national situation carried out in phase II of the project determined the national initial action plans for the country. Basing on criteria and balanced factors chosen by the participants, the plans of action have been thereafter classified in the order of priority to implement them as shown in the table below.

The ultimate goal assigned by all stakeholders to NIP is: “Progressively achieve by the year 2005 an ecologically rational management of POPs which safeguards human health and environment”.

**Table 1: Action Plans by order of priority**

Order of priority	Name of the Action plan
1°	Sensitization, information and training the public on POPs
2°	Reinforcement of institutions and regulations
3°	Proper ecologic management of wastes resulting from unintentional production of POPs
4°	Management of PCBS and equipments containing them
5°	Supervision and research-development
6°	Management of stockpiles and pesticides wastes containing POPs
7°	Rational ecologic management of contaminated sites
8°	System of information exchange and of participation in international cooperation

**The fourth phase** started with a workshop which resulted into preparation and writing of the NIP. A workshop that lasted for two days from 6 to 7 August 2006 about the methodology of preparing action plans and development of NIP was conducted by an Expert from UNIDO.

**The fifth and last phase** will be dedicated to the approval of NIP by national stakeholders and the Government. The NIP report will thereafter be handed over to the Convention's Secretariat by World Environment Facility (WEF) through UNIDO.

## **1.5. MECHANISM SET UP FOR THE CONSULTATION OF STAKEHOLDERS**

For preparation of NIP to be a national fundamental participative process, a mechanism composed of consultations and information exchanges was developed during the process. It includes:

- ✓ Regular meetings of the National Pilot Committee;
- ✓ Regular meetings of the Project Coordinating Team AH POPs-MINITERE ;
- ✓ Participation in the National workshop organized within the NIP preparation process
- ✓ Preparation of special information exchange and sensitization days on POPs for target groups;
- ✓ Different participants organized workshops for the NIP preparation;
- ✓ Press Conferences and broadcasted programmes;
- ✓ Intensive involvement of the media.

## **1.6. SUMMARY OF THE POPs ISSUE IN THE NATIONAL CONTEXT TO DEAL WITH CHEMICAL PRODUCTS**

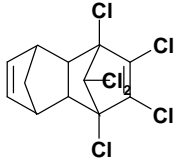
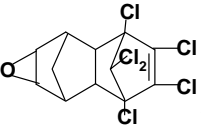
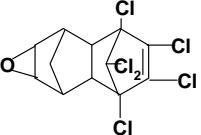
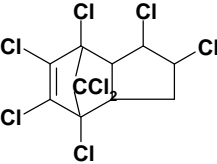
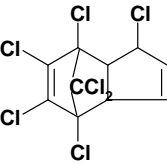
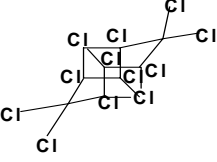
### **1.6.1. Simplified profile of POPs**

The Persistent Organic Pollutants POPs targeted by the Stockholm Convention are currently twelve in number divided into three categories:

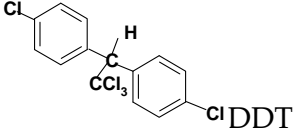
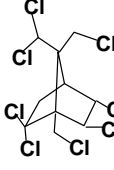
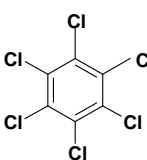
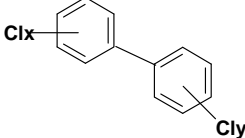
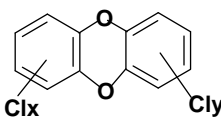
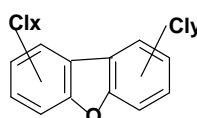
- i. **PESTICIDES** : Aldrine, Chlordane, DDT, Dieldrine, Endrine, Heptachlor, Hexachlorobenzene, Mirex, and Toxaphene,
- ii. **INDUSTRIAL PRODUCTS**: Hexachlorobenzene and Polychlorobiphenyl PCBS
- iii. **UNINTENTIONAL SUB-PRODUCTS**: Polychlorodibenzodioxine (PCDD) and Polychlorodibenzofuran (PCDF), hexachlorobenzene.

General information on the first 12 POPs and their simplified profiles are listed in table 2.

**Table 2: General information on POPs [4]**

Chemical Formulae	General information
 <p style="text-align: center;">Aldrine</p>	<p>N° CASE : 309-00-2</p> <p>Molecular Formula: <b>C<sub>12</sub>H<sub>8</sub>Cl<sub>6</sub></b></p> <p>Half life : &lt; 0,4 day (air) ; 1,1-3,4 years (water and soil)</p> <p>Toxicity : (oral way : DL50 :38-67 mg/kg ; through the skin : DL50 : 98 mg/kg)</p> <p>Utilization: ectoparasiticide , termiticide</p>
 <p style="text-align: center;">Dieldrine</p>	<p>N° CASE : 60-57-1</p> <p>Molecular Formula: <b>C<sub>12</sub>H<sub>8</sub>Cl<sub>6</sub>O</b></p> <p>Half life : 1,1-4,2 days (air) ; 1,1-3,4 years (water and soil)</p> <p>Toxicity : (through oral way : DL50 :37-87 mg/kg ; through the skin : DL50 : 60-90 mg/kg)</p> <p>Utilisations: insecticide, termiticide</p>
 <p style="text-align: center;">Endrine</p>	<p>N° CASE : 72-20-8</p> <p>Molecular Formula: <b>C<sub>12</sub>H<sub>8</sub>Cl<sub>8</sub></b></p> <p>Half life : 1,3-4,2 days (air) ; (1,1-3,4 days in water and the soil)</p> <p>Toxicity : (orally : DL50 :283 mg/kg ; through the skin : DL50 : 580 mg/kg) (Rabbit)</p> <p>Utilizations: insecticide ; termiticide.</p>
 <p style="text-align: center;">Chlordane</p>	<p>N° CASE : 57-740-9</p> <p>Molecular Formula: <b>C<sub>12</sub>H<sub>8</sub>Cl<sub>6</sub></b></p> <p>Half life : &lt; 0,4 day (air) ; 1,1-3,4 years (water and soil)</p> <p>Toxicity : (orally : DL50 :38-67 mg/kg ; through the skin : DL50 : 98 mg/kg)</p> <p>Utilizations: ectoparasiticide</p>
 <p style="text-align: center;">Heptachlor</p>	<p>N° CASE : 76 -44-8</p> <p>Molecular Formula: <b>C<sub>12</sub>H<sub>8</sub>Cl<sub>7</sub></b></p> <p>Half life : 1,3-4,2 days (air) ; 0,03-1,11 years in water ; 0,11-0,34 in the soil)</p> <p>Toxicity : (through oral way : DL50 : 147-220 mg/kg ; through the skin : DL50 : &gt;2000 mg/kg (rat) ; 119-320 mg/kg (rabbit)</p> <p>Utilizations termiticide; insecticide, pesticide.</p>
 <p style="text-align: center;">Mirex</p>	<p>N° CASE : 2385 -85-5</p> <p>Molecular Formula: <b>C<sub>10</sub>Cl<sub>12</sub></b></p> <p>Half life : 4,2-12,5 days (air) ; 0,34-1,14 years in water ; &gt; 3,4 in the soil)</p> <p>Toxicity : (through oral way : DL50 : 306 mg/kg ; through the skin : DL50 : 800 mg/kg (lapin)</p> <p>Utilizations: insecticide, pesticide.</p>



 <p>DDT</p>	<p>N° CASE : 50 -29-3</p> <p>Molecular Formula: <b>C<sub>14</sub>H<sub>9</sub>Cl<sub>5</sub></b></p> <p>Half life : 4,2-12,5 years (air) ; 0, 34-1,14 years in water ; 1,1-3,4 in the soil)</p> <p>Toxicity : (through oral way : DL50 : 87mg/kg ; through the skin : DL50 : 1,931 mg/kg (lapin)</p> <p>Utilizations: insecticide.</p>
 <p>Toxaphene</p>	<p>N° CASE : 8001 -35-2</p> <p>Molecular Formula: <b>C<sub>10</sub>H<sub>10</sub>Cl<sub>8</sub></b></p> <p>Half life : 417-1250 days (air) ; &gt; 3,4 years (water and soil)</p> <p>Toxicity : (orally DL50 : 40 mg/kg); through the skin : 600 mg/kg (lapin)</p> <p>Utilizations : insecticide</p>
 <p>Hexachlorobenzene (HCB)</p>	<p>N° CASE : 118 -74-1</p> <p>Molecular Formula: <b>C<sub>12</sub>Cl<sub>(x+y)</sub></b></p> <p>Half life : 4,2 days (air) ; 5,7 years in water ; 1,14 years in the soil)</p> <p>Toxicity : (orthrough oral way : DL50 : 3,500 mg/kg)</p> <p>Utilizations: fongicide.</p>
 <p>Polychlorobiphenyls (PCBS)</p>	<p>N° CASE : 11097 -69-1</p> <p>Molecular Formula: <b>C<sub>14</sub>H<sub>9</sub>Cl<sub>5</sub></b></p> <p>Half life : 4,2-12,5 days (air) ; 0, 34-1,14 years in water; 1,1-3,4 in the soil)</p> <p>Toxicité : (orally : DL50 : 87mg/kg ; par voie cutanée : DL50 : 1,010mg/kg (lapin)</p> <p>Utilisations: dielectricfluids.</p>
 <p>Polychloro Dibenzo-p-Dioxines</p>	<p>N° CASE : 1746 -01-6</p> <p>Molecular Formula: <b>C<sub>14</sub>H<sub>4</sub>Cl<sub>4</sub>O<sub>2</sub></b></p> <p>Half life : 4,2-12,5 days (air) (PCDDs); 0, 11-0,34 years in water ; 0,34-1,1 in the soil)</p> <p>Toxicity : (through oral way : DL50 : 22-165 mg/kg (rat)</p> <p>Sources: Incineration of biomedical wastes, emission of gas in incomplete combustion.</p> <p>Application : none</p>
 <p>Polychloro Dibenzofuran (PCDF)</p>	<p>N° CASE : 51207 -31-9</p> <p>Molecular Formula: <b>C<sub>12</sub>H<sub>4</sub>Cl<sub>4</sub>O</b></p> <p>Half life : 4,2-12,5 days (air) (PCDDs); 0, 11-0,34 yeras in water ; 0,34-1,1 in the soil)</p> <p>Toxicity : (see Dioxines)</p> <p>Sources : (Idem dioxines)</p> <p>Application : none</p>

From the results of the inventories, one finds the actual presence of the POPs including the PCBS, Dioxins and Furans and Persistent Toxic Substances (Endosulfane and Lindane). It is important to indicate that these inventories did not show evidence of the presence of POPs pesticides including the DDT. Concerning DDT, even if its use in Agriculture and Public Health was prohibited

since 1986, we cannot exclude its illicit entry into Rwanda from neighboring countries like Uganda and the Democratic Republic of Congo.

The PCBs is present in Rwanda as constituents or contaminants of dielectric fluids in certain transformers and electric condensers at the end of life or still in function. According to the inventory, the contaminated equipments are rare, as such they will not have reached their end of life in 2025 then it will be imperative to terminate their service towards their elimination.

In the case of Rwanda, dioxins and furans emanate from fuel, wood fires, combustion of biomass, the fossil fuels, the fusion and the wire netting of the tar, the production of cement, the combustion of objects in plastics, from municipal wastes and the cremation in open air of objects in plastics, etc. In Rwanda, industrial sources of POPs are almost non-existent. The result of the inventory gives a value of total generation of dioxin and furan of 122 get / year in 2003 taken as actual year of the inventories. However, it is important to indicate the difficulties of the absence or the incoherence of the national statistical data sources of emissions of dioxins and furans which introduces a significant uncertainty into their evaluation.

## **1.6.2. Summary of the national context**

### ***1.6.2.1. Institutional framework***

The national institutional framework of chemical management is determined by the working relationship of various ministries (concerned in different aspects of the management of chemical substances including POPs which include MINITERE, MINAGRI, MINISANTE, MINICOM, MININFRA, MINEDUC, MINAFFET, MINECOFIN), agencies and public institutions and parastatals. Their roles and responsibilities in the management of the life cycle of dangerous chemical substances in general are not still clearly defined.

However the organic law n° 04/2005 of 08/04/2005 determining the the modalities of protection, conservation and promotion of environment in Rwanda, clearly specifies the obligations of the State as regards the Convention and international agreements in which it is a party, including those related to the management of chemical substances including POPs. The texts of application of this organic law should identify clearly the responsibilities of ministries and institutions involved in the management of the various categories of chemical products.

### ***1.6.2.2. Management and reduction of the risks linked to produced industrial chemicals, public interest and research sector***

The activities of management and reduction of the risks connected to chemical substances produced by industries, groups of public interest and the research sector are still at embryonic stage: they are still not sensitive enough about the issue and lack of incentive measures limits their initiatives.

The opportunities that the new technologies of communication like the Internet are not enough to take advantage of the exchange of fast and reliable information. Let us indicate that in January 2006, the Network of Exchange of information about Chemical substances was created and required reinforcement to facilitate the access of data chemical substances including POPs. The management of chemical substances also required that the information about them is collected and shared between the various partners. The current situation regarding data access and their use shows that:

- ✓ Important gaps remain in the source of information / publication. Much data are neither collected nor compiled. It is the case of industrial and transport accidents; professional health (industrial); poisoning statistics; emissions and transfer of pollutant products inventory; data on dangerous wastes and registry of toxic chemical substances;
- ✓ The access to the international data and documentation is not sufficiently sensitized because all the parties concerned are not sensitized about the opportunities which the Internet offers.
- ✓ Obtaining additional information on specific chemical substances used in the country should come out from investigations from the various users. These investigations can appear sometimes difficult to carry out following the fact that those in charge of the management of these products do not keep reliable statistics.

### ***1.6.2.3. Legislative and regulatory framework [2]***

Rwandan national law provides several legislative and regulatory texts which deal with the management of chemical substances.

It is however necessary to note that the majority date from the time of colonisation and were never brought up to date since then. In many ways, they seem obsolete because they are not applied and moreover, they no longer meet the international standards currently in force. Their effectiveness as regards management of chemical substances appears doubtful.

Ministries or public organizations and/or parastatals which deal with the management of chemicals in general and other institutions dealing with them in a more specific way provide knowledge that remain applicable today in internal legal matters.

The organic law determining the modalities of protection, conservation and promotion of environment in Rwanda in its article 65, envisages the creation of the Rwanda Environment Management Authority (REMA) and the committees in the Provinces; Districts and Kigali City are in charge of the management of the environment. These organs will be in charge of implementing this policy pursuant to an environmental law aimed at the sustainable development with a sustainable use of resources of the environment in meeting the needs of the present and future generations.

It is obvious that with this law, the legal control of the environmental protection and management of chemicals will be one of its most important aspects. This control will be done through implementation of international agreements, payments and practical directives taken pursuant to this law with regard to the formulation, production, storage, handling, manufacturing, the use and waste disposal.

As regards the POPs pesticides, industrial POPs (Polychlorobiphenyls), and involuntarily produced POPs (chlorinated dioxins and furans), no law or regulation concerning them has yet been prepared. In the same way, Rwanda has not yet regulated the management of contaminated sites and dangerous wastes just as there is no law in place on the registration; wastes; transfer of pollutants (RRTP) and the inventories.

#### ***1.6.2.4. Infrastructure framework***

Out of the technical capabilities for the regulatory analysis of the chemicals, some laboratories have modern equipments to carry out for example analysis by chromatography in liquid (GC) and high resolution chromatography in liquid (HPLC). But this equipment should be supplemented by the acquisition of a mass spectrometer for GC-MS. In addition to the adequate laboratory equipments, the principal obstacles is with management; the monitoring of POPs, STP and the pollutants in general which lack of funds to acquire solvents and other necessary chemicals, has made it difficult to access to scientific data and other publications.

#### ***1.6.2.5. Human and financial resources framework***

The management of chemicals requires that human and financial resources be available for this purpose.

There are Ministries with potential human resources involved in the management of chemicals. These are MINEDUC, MINITERE, MINISANTE, MINAGRI, MINICOM and MININFRA but it would be necessary to strengthen the capacities of executives and agents of the various Ministries and the institutions which might be involved in the management of chemicals given their specificity. The training fields include environmental law, management of the wastes, phytosanitary legislation, study of environmental impact and management of the POPs, environmental audit, standardization and certification, quality assessment, industrial ecology, environmental management, etc.;

Lack of environmental lawyers in chemical management in general seems to be common in every institution including Ministries, hence the need for specialization or regular refresher courses;

As regards the financial resources, the Government used to revise the budgets assigned to the public institutions and parastatals. Parastatals similarly faced the same financial situation and consequently had to suspend most of their projects and activities. However financial resources can be mobilized from the private sector and other parastatals.

Regarding systems of technical and professional training which provide the technical expertise required to implement the government's programs and the policies relating to the management of chemicals, they are in place. The content adjustment would allow integration of aspects relating to issues of chemical safety in general and particularly aspects of alternatives to POPs, analysis of the POPs in biotic and abiotic environment and the destruction of the POPs in local conditions, etc.

#### ***1.6.2.6. Education and sensitization of target groups***

Education and sensitization of the targeted public remain one of the strategies adopted by the Government to limit the damages to health and to environment inherent to the use of toxic and dangerous chemicals. Potential local public and private partners are involved in awareness programme which are coordinated by MINITERE and REMA at the national level.

#### **1.6.3. General information on chemical products [3]**

Rwanda is more of an importer than a producer of chemicals.

- ❖ **The production** of chemicals is confined to some products including: paintings; cosmetics; batteries; soap; matches; PVC products; pharmaceutical products; crates; etc.

- ❖ **The importation** of chemicals includes: chemicals used in the existing industries; pesticides used in agriculture; in the health sector; fertilizers; oil products; chemicals used in the energy sector; building industry and other chemicals for use. Oil products, fertilizers and pesticides are the most important chemicals in terms of quantity and value.
- ❖ **The use** of these products generates a lot of waste (packages, solid industrial waste, industrial used water, obsolete products and particularly pesticides and fertilizers) which Rwanda cannot handle in ecologically rational way due to lack of infrastructure and appropriate means. Two sites were recognized as being potentially contaminated by agricultural pesticides and two sites as being potentially contaminated by PCBS or presumed PCBS oils. The warehouses of pesticides are poorly maintained that they could be also be classified as contaminated sites.

As regards unintentionally produced POPs, their sources are essentially the processes of unchecked combustion: burning of municipal solid wastes and hospital wastes, bush fires, domestic heaters with biomass (wood, charcoal), transport by vehicles using leaded fuel, handcrafts activities, incineration of hospital wastes, etc.

The NIP preparation has been fundamentally a participative process characterized by a strong involvement of all the stakeholders and an intensive information and sensitization of the population and all the parties involved with the POPs. It is integrated into a national context characterized by an institutional framework which is not functional enough with incomplete legislative and statutory framework. Technical infrastructures as well as human and financial resources are insufficient.

The actual synergies involved in the implementation between the Stockholm Convention on the POPs and other multilateral Agreements dealing with Environment in various domains (biodiversity, climate change, desertification, chemical safety, etc.) will have to be used to protect people's health and environment.

## **CHAPTER II: RWANDA REFERENCE DATA**

## 2.1. National description

### 2.1.1. Geography and population

Rwanda is located in the heart of Africa within the Great Lakes region. The total surface area is 26,338 km<sup>2</sup>; Rwanda lies between 10° 04' and 2° 45' of latitude south and between 28° 53' and 30° 53' of longitude East. It is estimated to be 120 km south of the equator, and 1,100 km from the Indian Ocean and 2,000 km from the Atlantic Ocean. The bordering Countries are: Tanzania in the East, Burundi in the South, the Democratic Republic of Congo to the West and Uganda to the North.

Rwanda has uneven relief offering a landscape of hillsides with steep hillsides which exposes it to massive soil erosion.

The altitude of Rwanda is between 900 m in the Southwest (Bugarama) and 4,500 m in the Northwest (Chain of volcanoes). One distinguishes usually 5 zones: the valley of Rusizi with a height of about 900 m in the Southwest, the chain of volcanoes in the Northwest among which volcanoes Kalisimbi (4,507 m), Muhabura (4,127 m), Bisoke or Bushokoro (3,711 m), Sabyinyo (3,631 m) and Gahinga (3,474 m on Rwanda side, Crest of Congo-Nile whose height is between 1,800 and 3,000 m. The central plateau with average altitude varying from 1,500 to 1,900 m. The Eastern part of Rwanda with much lower altitude down from 1,500 to 1,000m.

Rwanda enjoys a moderate continental tropical climate with two dry seasons which alternate with two rainy seasons. The annual average temperatures vary between 18°C and 21°C with regional disparities according to the height. Annual precipitations vary between 700 mm and 1400 mm in the lowlands of the East and the West, between 1,250 mm and 1,400 mm in the central area of the plateau and 1,400 mm to 2,000 mm in the area of high altitude.

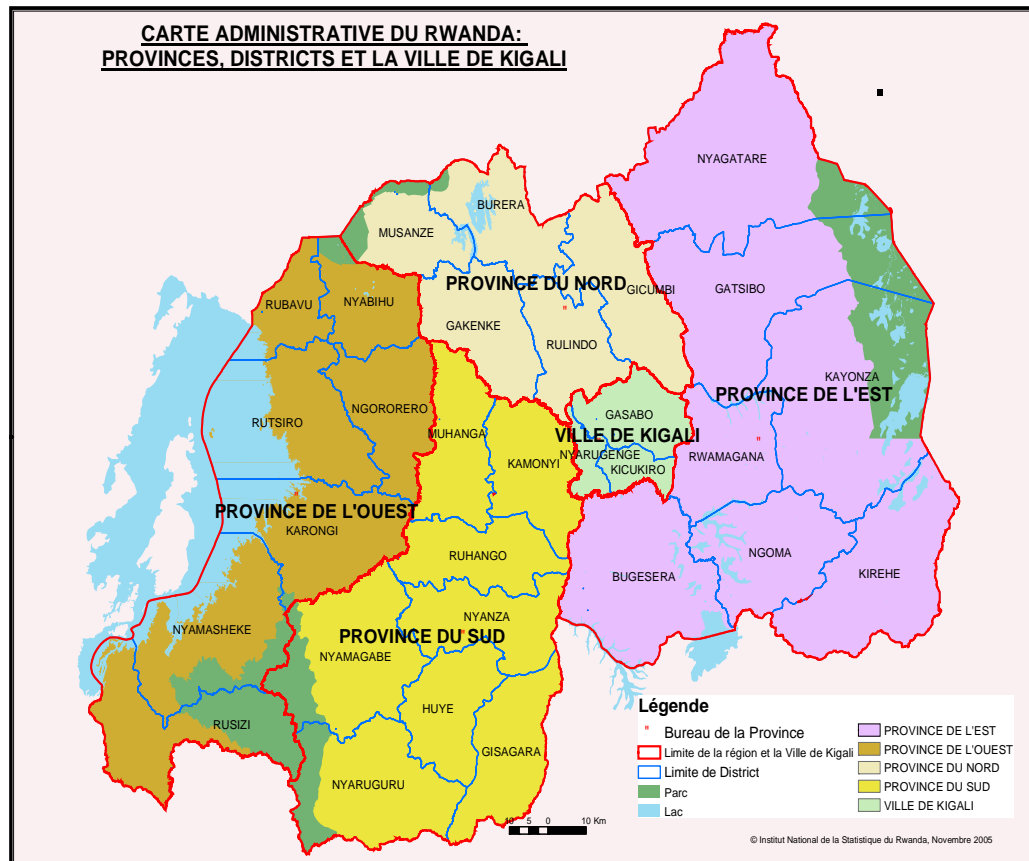
The dryness, floods and the landslides are very frequent in Rwanda. The areas of East and South-Eastern experience prolonged drought while the areas of the Northern and Western part experience floods and landslides.

Rwanda has a hydrographic network characterized by abundance of water from rivers and lakes. The rivers of Rwanda are divided between two hydrographic basins known as Congo and Nile basin.

The soils of Rwanda come from the physicochemical deterioration of the schistose, quartz, gneissic, granite and volcanic rocks which constitute the geology of the country. Its pedology is characterized by six types of soils: the soils derived from the schistose formations, sandstone and quartzite, the soils derived from granite and gneiss occupy approximately the soils derived from the



intrusive basic rock cover hardly 10% of the territory; soils derived from recent volcanic materials, soils derived from old volcanic materials; the alluvial soils and colluvionnaires characterized by the swamps of Rwanda. The population census of 2002 estimated the population at 8,128,553 inhabitants out of which 3,879,448 were men and 4,249,105 were women. The population today is estimated at 8,500,000 inhabitants and the annual population growth is 1.2% and the active population is 76.8% of the total population. The rural population is 83.3% and 16.7% constitutes the urban population. The rate of literacy is 58,8% with a variation between the level of literacy of women (53.8%) and that of men (65%).The rate of school enrolment for the school going children is 78.3% according to the statistics of 2003. The percentage of women in decision making positions was fixed at least to 30% of their fellowmen according to the Constitution of the Republic of Rwanda of 4/6/2003.



**Figure 1: Administrative map of Rwanda**

### **2.1.2. Political and Economic Situation**

On the administrative and political level, the country is subdivided into 4 provinces plus the City of Kigali. Each province is headed by a Governor named by the Council of Ministers. Provinces and the City of Kigali are divided into thirty Districts. At the head of each District is an elected Mayor who is supported by the District Council, a kind of Local Parliament. The District is divided into Sectors and each Sector is headed by an Executive Secretary, who executes the policy of the State and the decisions of Sector Council. The sectors are divided into cells headed by a cell coordinator, elected directly by the people.

Rwanda is a Republic since independence of 1/07/1962. After the 1994 genocide that claimed about a million people and the liberation of the country by RPF-Inkotanyi, the Government of National Unity embarked on a process of decentralization and good governance which gave the people the power to participate in decisions making through transparency and the fight against corruption. According to the Constitution which was adopted by the people in a Referendum of 26/05/2003, the people elect their representatives through transparency and democratic elections from the Cell level to the level of the Presidency.

Rwanda follows a democratic political system based on the principle of separation of powers, the Legislature has two chambers; the House of Deputies and the Senate; the Executive powers are based on the semi-presidential model with the President of the Republic, the Prime Minister and the Cabinet and finally the Judicial Powers, with the Supreme Court at the top.

Kinyarwanda is the national language, which is spoken by all citizens. It is also an official language. Two other official languages are English and French. Swahili is especially spoken in urban areas. There is no local dialect, which is an invaluable factor of national unit.

### **2.1.3. Overview of economic sectors [3]**

#### **a) The primary sector**

More than 90% of the population depends on agriculture and livestock which contribute 42% to the GDP. The main export products of agriculture are coffee and tea. In addition to the low technology of farmers, banana is regarded as an additional handicap to agricultural profitability since banana plantations occupy nearly 40% of the arable ground for an energy production lower than 10% of the calories consumed in the country. In addition, livestock is still traditional and cattle keeping in many cases tend to be modernized due to impulse carried out by

the Ministry of Agriculture with the aim of protecting environment and improving the productivity.

**b) The secondary sector**

The industry sector contributes about 17.5% to GDP. It comprises the food production industry, represented by private or mixed companies like (breweries; mining sector, manufacturing sector, chemical industry, production of water, electricity and gas, textile industry, brickmaking and printing works). There are also small private companies and handcraft small industries (bakery, production of furniture and converted timber, soap factory, decorative craft industry).chemical industry in Rwanda is primarily geared towards the production of batteries, paint and varnish, soap and cosmetics.

**c) The tertiary sector**

The tertiary sector, which covers trade, transport, tourism and other services, contributes on average to 40.5% of the national GDP.

**Table 3:** Contribution of the three economic sectors to GDP

<b>Economic Sector</b>	<b>Contribution to GDP (%)</b>
Primary sector	42%
Secondary sector	17.5
Tertiary Sector	40.5%
<b>TOTAL</b>	<b>100</b>

#### **2.1.4. General overview of the environment**

The vegetation of Rwanda varies according to the relief and the distribution of rainfall. The entire vegetation can be observed in a dense mountain forest of the West and the semi-arid savanna of the East. The ecosystem is diversified by: natural ecosystems made up of ombrophilous mountain forests, forests galleries, savannas, average wet and humid and artificial forests. All these ecosystems maintain a floristic and faunistic richness. The national park of Nyungwe dominates banks of the Lake Kivu. It has a complex of mosaic of divers vegetations. This rich variety of flora is also accompanied by a variety of fauna including several species of birds and primates. One finds a certain number of endemic species there. The Volcano National Park is extended to the border of Rwanda with the Democratic Republic of Congo and Uganda. It is characterized

by an afro-alpine vegetation of high altitude, high precipitations and cold temperatures. The Volcano National Park is the remaining sanctuary of the rare mountain Gorilla, (*Gorilla gorilla beringei*). Other endangered species found there are also internationally protected by CITES. It is a home for a diversity of species of plants, mammals, birds, reptiles, amphibians and arthropods. The Akagera National Park is located to the eastern part of the country. It covers a surface area of approximately 90.000 ha and has a diversity of species of plants, large mammals, amphibians and reptiles.

Afforestation was started between 1920 and 1948 and is mainly made of Eucalyptus spp while agro forestry trees like Grevillea, Cedrella, and calliandra species are now common every where: The protected areas in Rwanda include; the Natural Forest of Nyungwe, the Volcanos and the Akagera National Park while the natural reserves of Rwanda constitute the natural forest of Mukura as well as Forestry of Cyamudongo, Busaga and savannas of the East. Unfortunately; the natural Forest of Gishwati has practically disappeared.

The wetlands of Rwanda consist of marshes, lakes and rivers and cover approximately 14.9% of the national territory including 6.3% of marshes and 8.6% of lakes, rivers and permanent or seasonal fresh waters.

The major environmental problem in Eastern Rwanda is the imbalance between the population and the natural resources (grounds, Water, flora, fauna and other non-renewable resources). This imbalance creates massive deforestation, reduction and the occupation of marginal lands through agriculture, erosion and unplanned development of wetlands.

Rwanda is among the most populated countries in Africa whose demographic growth puts an enormous pressure on the natural resources more particularly, on the arable lands and the Forestry: while the rate of reduction of illiteracy is still very low, the health sector still lacks the basic infrastructure like water, electricity, transport and communication.

The organic law on environment protection, conservation and promotion in Rwanda in its article 65 provides for the creation of the Rwanda Environmental Management Authority, REMA for its implementation.

REMA has the following attributions:

1. Implement Government policy and the decisions taken by the Board of directors on matters of environment;
2. Foresee the necessary budget to be used in investment and recurrent expenses;

3. Advise the Government on policy, strategies, legislation and other measures related to the management of environment and the implementation of the International Conventions relating to the environment where necessary.
4. Carry out exhaustive inventory and inspect the management of the environment in order to prepare a report to be distributed once in two (2) years on the state of natural resources in Rwanda;
5. Examine and approve reports of environmental impact studies of any sector of socio-economic activities undertaken by any person;
6. Undertake relevant research, investigations, studies and other work in the field of environment and distribute the results obtained;
7. Ensure the follow-up and evaluation of development programmes to control the environmental standards in the planning and implementation of all developmental projects, including those which are already under way and which have or are likely to have a significant impact on the environment;
8. Take part in the development of procedures and safeguard measures aiming at the prevention of the accidents and other phenomena which can cause the environmental pollution and to put forward corrective measures
9. Give technical advice and support as much as possible the organs involved in the natural resource management and environmental protection;
10. Provide the tariffs and the possible subsidies in order to facilitate research and the reinforcement of capacities as regards environmental protection;
11. Publish and disseminate teaching handbooks relating to management and environmental protection on the reduction of environmental pollution.

## **2.2. INSTITUTIONAL, POLITICAL AND LEGISLATIVE FRAMEWORK**

### **2.2.1. Policy on Environment and Sustainable Development Policy**

#### *2.2.1.1. Environment and Sustainable Development Policy [3,7]*

Environment in Rwanda has been taken for granted for a long time and as a result the government has taken stringent measures for its protection. Efforts and consultations were carried out and adopted at different times. But the conservation programmes and the establishment and preservation of protected areas begun during the colonial time and continued after independence.

However, environmental pollution continued deteriorating following the demographic pressure, erosion, pressure on the natural resources, massive deforestation, pollution in its various forms, absence of a strong legal and coherent political and institutional framework and in particular the war and the 1994 genocide.

In the light of prevailing situation, the Government of Rwanda considered it necessary and urgent to put in place an environment policy to the people's welfare in order to ensure the sustainable use of the natural resources and the protection of the vital ecosystems for present and future generations.

The National policy on environment aims at general and specific objectives as well as fundamental principles for a better management of the environment at all levels in accordance with the policy of decentralization and good governance being observed in the country.

It also proposes institutional and legal reforms in order to provide to the country a coherent and harmonious framework of coordination of sectoral and multisectoral policies.

Moreover, it provides strong foundation for the installation of a legal framework for a better management of the environment including such principles that are favorable to the population in general, women and youth in particular.

The National Environment policy has political and strategic options regarding population and regional planning, management of the use of natural resources and other socio-economic sectors with necessary provisions to the implementation of the policy. It constitutes a framework of conciliation of the three pillars of sustainable development which are the environment, the social and the economic set up. This way, it falls under the policy of poverty reduction while ensuring the quality of life and environment.

The organic law determines the modalities for protection, safeguard and promotion of environment in Rwanda within the following legal framework of environmental policy to:

1. Protect the environment, population and settlements;
2. Establish the fundamental principles relating to the environment protection against all forms of degradation in order to develop the natural resources, and fight against all kinds of pollution and harmful effects;
3. Improve the living conditions of the people in a sustainable way
4. Ensure the sustainability of resources in respect to present and future generations;
5. Guarantee all Rwandans sustainable economic development, which does not affect the environment and the welfare of the population;
6. Establish mechanisms of protection and reduction of negative effects on environment, take care and restore the damaged areas.

### *2.2.1.2. The legislative framework*

The texts hereafter deal in a specific way with the management of chemical product. Implying e.g:

- ✓ The organic law N° 04/2005 of 08/04/2005 determining the modalities of protecting, safeguarding, and promoting the environment in Rwanda,
- ✓ The law N° 16/2006 of the 03/04/2006 on organization, operation and attributions of the Rwandan Environment Management Authority,
- ✓ The Presidential Order N° 78/01 08/07/2002 relating to the adhesion to the Stockholm Convention on Persistent Organic Pollutants;
- ✓ Ministerial directive of the 9/8/2004 taken by the Minister of Lands, Environment, Forestry, Water and Mines relating to the use and the manufacture of plastic bags,
- ✓ Law N° 03/02 of 19/1/2002 establishing the creation of the Rwandan Bureau of Standards,
- ✓ The instruction N° 01/04 of the Rwandan Bureau of Standard relating to the delivery of the obligatory certificate of quality of imports,
- ✓ Law n° 14/2003 of 23/5/2003 relating to production, quality control and commercialization of plant seeds,
- ✓ Law n°51/01 of 30/12/2001 establishing the labor code,
- ✓ Law n° 39/2001 establishing the creation of the Regulatory Authority of public services.

These laws and texts are all compatible with the national priorities as regards management of the chemicals and dangerous wastes in general. With regard to dangerous wastes, the organic law on protection, conservation and promotion of the environment in Rwanda specifies that they must be collected, treated and eliminated in an ecologically rational way in order to prevent, remove or reduce their harmful effects on human health and the ecosystems.

Generally speaking, existing laws and those in pipeline regarding environment management are appropriate and constitute a timely judicial framework for sustainable development.



### **2.2.2. Roles and responsibilities of the ministries, public organizations and other governmental institutions concerned with the life cycle of POPs**

In Rwanda the central authority regarding environmental issues is the Ministry of Lands, Environment, Forestry, Water and Mines. This Ministry is in charge of coordinating the development and the implementation of the government policy on lands, environment, forestry, water and mines. It has partially a mission of working out the legislation concerning the environment protection and the prevention of risks on pollution.

Several other Ministries and public institutions get involved in the field of environment because it is a cross cutting issue. They include:

#### **✓ Ministry of Agriculture and Animal Resources (MINAGRI)**

Regarding the issue of chemicals, this Ministry intervenes in the management of the pesticides, artificial fertilizers, food for cattle and veterinary products. It manages the national policy concerning agro-breeding and coordinates all activities in connection with the protection of plants by ensuring the follow-up of imports and the use of artificial fertilizers, pesticides and veterinary products. Unfortunately, the ministry does not have appropriate logistics to enable it eliminate the outdated products and derived products.

#### **✓ Ministry of Health (MINISANTE)**

The ministry is the principal importer of the drugs and the reagents for its laboratories. The Kigali University Hospital is equipped with an incinerator intended to incinerate all expired wastes and pharmaceutical products. At the provincial level, health issues are supervised by a provincial director of health, social affairs and gender promotion. On the level of the districts, the district hospitals lead and support the dispensaries, rural health centers as well as hygiene services. The latter are in charge of ensuring the standards in the field of prevention on the quality of water and food as well as the control of some chemicals. The drainage of used water, refuse and wastes is the responsibility of the municipal services. Religious Organizations and some NGOs intervene in the fields of medical care, sensitizing the population on hygienic and public health. The ministry also manages a manufacturing plant of pharmaceutical products known as "LABOPHAR".

✓ **Ministry of Commerce, Industry, Investments Promotion, Tourism and Cooperatives (MINICOM).**

This ministry is in charge of two major responsibilities: one as the principal importer and distributor of chemicals. Secondly it grants the authorization of importation of chemicals. It defines the standards of the use of chemicals.

✓ **Ministry of Local Administration, Good Governance, Community Development and Social affaires (MINALOC)**

As a major authority of the decentralized organs, the ministry is used as a spring board of all governmental and non-governmental activities at the level of Provinces and Districts. For this reason, it is involved in management of medico-pharmaceutical products, manures, pesticides and veterinary products

✓ **Ministry of Public Service and Labor (MIFOTRA)**

This ministry organizes workshops of sensitization for the prevention of professional hazards and establishes health and safety committees at work.

✓ **Ministry of Education (MINEDUC)**

As a major authority in charge of research in Universities, Institutes and Research centers, this ministry is involved in the importation and the use of chemicals. Moreover, having under its responsibility, secondary and technical education, it imports products and materials of chemical nature.

✓ **Ministry of Infrastructures (MININFRA)**

This ministry has in its mission the creation of conducive conditions allowing the equitable and durable access of the population to transport infrastructure, communication, viable settlement and energy, while protecting the environment. Work involved in the production of electrical energy, transport infrastructure generates chemical wastes which are later found in the environment. In its strategic policy, the ministry needs appropriate logistics for purification of the areas contaminated or threatened by contamination. There is a need to ensure environment protection by the control of installations and management of the infrastructures.

✓ **Ministry of Foreign Affairs and Cooperation (MINAFFET)**

The involvement of this Ministry in chemical products is due to its competence to sign and ratify international agreements and conventions.

✓ **Ministry of Finance and Economy Planning (MINECOFIN)**

This ministry is involved in the management of chemicals due to its attributions of State finance and national planning.

### **2.2.3 International obligations and commitments to be taken into account**

On the international level, Rwanda ratified several conventions and international agreements regarding environmental protection.

The Rwandan Government made great efforts in carrying out activities within the framework of the convention on biodiversity, the convention on the climate change, the convention on the protection of the ozone layer, and the Stockholm Convention on Persistent Organic Pollutants.

The Phytosanitary Index (ACTA), the regional agro-pesticide Index for Africa, (CIRAD CNEARC), FAO Directives, the utilization manuals of the Chemical products (BAYER) are the legal instruments which deal with the management of chemical products which the country should take into account as complements of the obligations on POPs' Convention.

The general observation is that these important conventions encounter difficulties of implementation. The main reason is the low budget available and the difficulties in mobilizing external funds to finance these conventions.

### **2.2.4. Principles underlying the legislation and the regulation in force aiming at POPs**

The guiding principles of environment protection are established by the organic law 2005 determining modalities to protect, safeguard, and promote the environment in Rwanda, the provisions of the Political Constitution and the Declaration of Rio 92 on the Environment and Development.

Among these principles, include:

- ✓ The principle of protection
- ✓ The principle of prevention;

- ✓ The principle of sustainability of the environment and equity between generations
- ✓ The principle of polluter pays
- ✓ The principle of information and sensitization and participation of the public to the safeguarding and protection of the environment
- ✓ The principle of respect of the capacity to sustain ecosystems;
- ✓ The principle of access to information;
- ✓ The principle of international cooperation
- ✓ The principle of responsibility;

### **2.2.5. Main methods and approaches used for the management of POPs and Pesticides containing POPs and their application and follow-up in particular**

Considering the current absence of legislation and an organization responsible for the control of importation, production, marketing and use of chemicals (including the POPs), an effective and rational management of the POPs products must respect the following methods and approaches:

- ✓ Adoption and application of a legislation to regulate the importation, modalities of production, the use, the storage and the elimination of chemicals in general, in particular the POPs;
- ✓ Setting up a programme of Information, Education and Communication at the grass roots for local communities;
- ✓ Establishment of an institutional framework such as the provisional sales authorization;
- ✓ Reinforcement of the existing services in relation to the protection of plants and phytosanitary control;
- ✓ Creation of a control mechanism of this regulation.

Training farmers in modern ways of farming on setting up methods to curb pesticides of vegetable origin and farming techniques of conservation of food products plant at a low content of pesticides.

### **2.3. POPs in Rwanda [3,7]**

Of primarily anthropic origin, persistent, bio-accumulative and prone to trans-border transport on long distances, far from their sources of origin, the POPs are "travellers without borders" which do not spare any nation in the world, contaminating more or less severely the environment in its biotic and abiotic components. Among other harmful effects, the POPs weaken health genetically,

intellectual performances and immunity defense; they are also suspected to be carcinogenic inducing congenital malformations, etc.

Rwanda could not escape from the problems of POPs: human beings and their life environment are undoubtedly exposed, to a certain extent, to the harmful effects of POPs used voluntarily (substances registered with Appendices A and B of Convention) or produced unintentionally at the time of combustion or in certain industrial processes (substances registered with the Annex C of Convention).

As it is the case in many developing countries, the issue of chemical safety to which the problem of POPs is attached is not tackled yet in Rwanda with the level of priority it would deserve. Indeed, it has a very close link with public health. Thus, as stated by the Stockholm Convention, for purposes of protection of human health and the environment, the issue of the persistent organic pollutants is relatively new and is wrongly perceived in many of its aspects in Rwanda by the decision makers, workers and the population in general.

Rwanda decided to take an active part together with the international community in its efforts to fight the harmful effects of POPs at the world level when it took part in the negotiations of the Convention which was signed on May 21, 2001 and ratified as approved by Presidential Order N° 78/01 of the 08/07/2002.

In its capacity as signatory to the Convention, Rwanda benefited from an initial support of the Funds for the Global Environment Facility (GEF) for the realization of enabling activities within the framework of a project entitled: *Enabling activities in order to facilitate the initial action for the implementation of the Stockholm Convention on the persistent organic pollutants (POPs) in Rwanda.*

The main goal of the project of enabling such activities was to assist Rwanda in the preparation of its national plan for implementation of the Convention in accordance with article 7. In addition, this project helps the reinforcement of the national capacities of management of POPs, maximize the commitment of the State and facilitate the ratification of the Convention.

The United Nations Industrial Development Organisation (UNIDO) was chosen by Rwanda as the executing Agency of GEF to assist it in starting up the projects.

At the national level, the Ministry for Lands, Environment, Forestry, Water and Mines, is the national project executing Agency.

This project made it possible for the first time to carry out an analysis of the situation of Rwanda with regard the issue of POPs.

Thus, initial inventories of sources of chemicals and quantities of wastes were carried out, the exposure of human health and of environment, were examined. In addition, the evaluation of the national means for the management of chemicals including POPs was made through the preparation of a national chemical profile. These inventories and evaluations sufficiently clarify the problems of POPs in Rwanda as it will be presented in this sub-chapter focusing on the nature of the sources and quantities of wastes, the policies and existing relevant legal framework, the socio-economic, health and environmental impacts and proposed solutions.

### **2.3.1. Evaluation of chemical products listed in annex A (Part I): POPs Pesticides [1]**

Rwanda is neither a producer nor exporter of POPs pesticides. But before 1990, the country imported and used POPs pesticides (Aldrin, Dieldrine, Endrine, DDT, Toxaphene) for agriculture and public health. However all the substances targeted in Annex A are not used in Rwanda neither in Agriculture nor in public health. In Agriculture, these products were gradually replaced by organophosphorous pesticides. In the antivectoral fight there is use of pyrethrinoids of synthesis such as Deltamethrine.

The inventory carried out from the 30/12/2004 to the 17/02/2005 did not highlight the presence of POPs pesticides including the DDT. No stock of pesticides outdated of Annex A was found during the inventory. However the inventory made it possible to locate small quantities (2948 kg) of outdated organic polluting substances (Endosulfan and Lindane)

The country does not currently have sufficient human, material nor financial resources or corresponding legislation to face the rational management of the POPs pesticides. Moreover, the absence of an organization responsible for controlling the importation, the production, marketing, and use of the dangerous chemicals deserve a particular attention for the implementation of the Convention on POPs as regards international cooperation.

### **2.3.2. Evaluation of chemical products in Annex A, Part II (PCBs) [5, 6]**

The substances listed in the second part of annex A are persistent organic pollutants known as industrial products: hexachlorobenzene (HCB) and polychlorobiphenyls (PCBs).

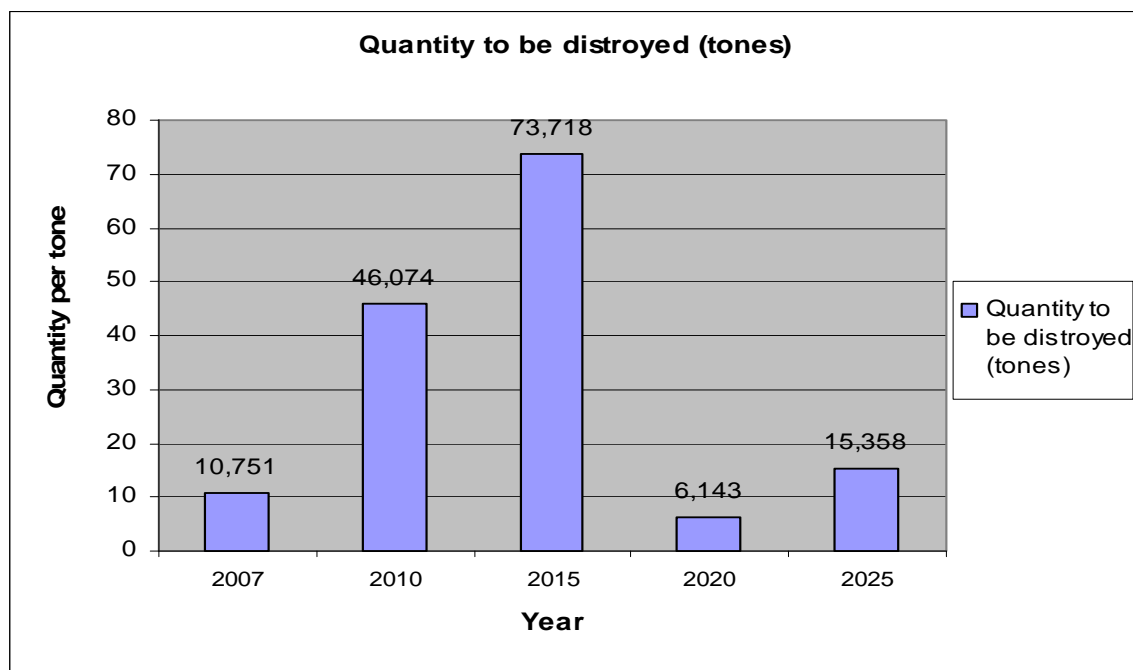
The methodology of inventory recommended within the framework of the enabling activities project is focused primarily on the PCBs and the equipment containing the PCBs. It is in this category of POPs that is treated under the

present heading. The initial national inventory of the PCBs was carried out in accordance with the standardized methodology recommended by UNEP. This methodology relates to the search of the PCBs in the electric transformers and condensers where they are in closed application.

The initial inventory covered each of the four Provinces of Rwanda and Kigali City and focussed mainly on the electric transformers which constitute the principal source of PCBs in the developing countries. This national initial inventory made it possible to inspect 986 apparatuses totaling approximately 1012 existing in Rwanda equivalent to 97.5 %. The year of manufacture of the apparatuses inspected goes from 1961 to 2005. One has to note that out of 986 listed apparatuses 58 have no date of manufacture. The data collected in October 2005 indicate the existence of 343 transformers containing PCBs dielectric fluids. This corresponds to 153.58 tons of fluids with PCBs and 352.58 tons of solid wastes contaminated with PCBs.

In accordance with the Basel Convention, which the Stockholm Convention on POPs refers to in a complementary manner, figure 2 presents the proposed plan of elimination of the PCBs 2007 to 2025.

**Figure 2: Plan of PCBs elimination from 2007 to 2025 in Rwanda**



The quantities of PCBs indicated are provisional. Indeed these quantities would have been higher on the assumption that the transformers carrying plates without indications are supposed to be with PCBs.

The PCBs have never been subject of an industrial production in Rwanda. To the contrary, they were logically imported in the country for use in the production and distribution of electricity as dielectric components of fluids in the transformers and condensers. For lack of statistics and files registers, it is impossible to have an idea of the quantities of PCBs used in Rwanda so far or to determine when they were imported in the country. It should also be noted that to this principal source of PCBs, that constitutes the electric components, minor sources like lubricants, hydraulic fluids were probably added in particular in lifting machines or special paints imported for various applications.

### **2.3.3. Evaluation of substances contained in Annex B: DDT [1]**

The Convention holds a special place for the DDT which, for the moment, is the only chemical substance targeted in Annex B.

In Rwanda, DDT was used in agriculture to fight against the bugs of coffee-trees, the devastating insects of the stored foodstuffs and in public health, in an effort to fight malaria before its prohibition in 1986.

Today, in addition to measures of hygiene and sanitation, the use of the impregnated mosquito net by pyrethrinoid of synthesis (permethrin, deltamethrin) constitutes the corner stone in the strategy to fight malaria in Rwanda within the framework of the National Programme of fighting against Paludism (PNLP).

The inventory did not reveal any stock in use, no stock outdated of DDT. Moreover because of porosity of the terrestrial borders of the country, it is possible that the POPs pesticides including DDT can enter the country illegally and is kept and used by people. It should also be noted that no study was carried out on the real quantities of anti-mosquito insecticides annually imported in the country so as to make sure that they do not contain DDT like active substances or other POPs pesticides in Annex A of the Stockholm Convention.

The particular statute of the DDT in the Convention authorizes the continuation of its production and its use in antivectorial fight in various parts of the world. However in the future, no objective factor as regards medical policy seems to favor the reuse of DDT in the national means to fight malaria more especially as there are alternatives in the antivectorial fight by use of synthetic pyrethrinoid such as: Cypermethrine (pulverization intradomiciliaire) and Deltamethrine and Permethrine (impregnation of the mosquito nets). It should be stressed that methods of non-chemical fight based on disease prevention for pregnant women, sensitizing the population and the use of the mechanical barriers (simple



mosquito net, impregnated mosquito net, anti-mosquito grid, etc) also constitute alternatives in the current strategy to fight against malaria in Rwanda.

#### **2.3.4. Evaluation concerning emissions from chemicals contained in Annex C [5]**

The Polychlorodibenzodioxins (PCDD) and the polychlorodibenzofurans (PCDF) have never been the subject of a production on a large scale for an unspecified use.

On the contrary, this category of POPs including 135 PCDD and 75 of PCDF occur in an accidental way as by-products of the processes of combustion (incineration at high temperature, burning of the biomass, combustion of fossil fuels, etc), some industrial processes (metallurgical, chemical, paper, mining, etc.) and also some biological processes (biomethanisation, composting, etc).

More than PCDD/PCDF, the Annex C also targets the hexachlorobenzene (HCB) and the PCBS which is referred to as involuntary by-products under the same conditions which generate dioxins and furans. The unintentional POPs are primarily related to anthropoid activities, but natural sources are known (volcanic activity). Those are not targeted by the Convention.

The standardized methodology which is recommended by UNEP for the inventory of the unintentional by-products (Toolkit) relates for the time being to the identification of the various sources of rejections of dioxins and furans and their quantification. It is in conformity with this methodology based on identification of the sources, determination of their statistics of activity and the use of emission factors which the initial national inventory of dioxins and furans was carried out in Rwanda in 2005.

The initial national inventory of these substances made it possible to identify the non controlled combustion processes, the incineration of domestic and biomedical wastes, transport, as being among the principal sources of emission of dioxins and furans.

**Table 4: Inventory of dioxins and furans in Rwanda in 2005**

Cat	Categories of Sources	Annual wastes (g TEQ/a)					Total
		Air	Water	Soil	Products	Waste	
1	Waste Incineration	8,570	0,000	0,000	0,000	0,0	17,14
2	Production of ferrous and nonferrous metals	2,400	0,000	0,000	0,000	0,0	4,8
3	Generating of electricity and heat	6,477	0,000	0,000	0,000	0,0	12,954
4	Production of mineral products	0,604	0,000	0,000	0,000	0,1	1,408
5	Transport	0,122	0,000	0,000	0,000	0,0	0,244
6	Non controlled combustion	46,602	0,000	1,845	0,000	12,7	122,294
7	Production of chemicals, consumption goods	0,000	0,000	0,000	0,011	0,0	0
8	Others	0,023	0,000	0,000	0,023	0,0	0,022
9	Elimination	0,000	1,004	0,000	0,053	41,5	0
<b>1-9</b>	<b>Total</b>	<b>64,798</b>	<b>1,004</b>	<b>1,845</b>	<b>0,087</b>	<b>54,3</b>	<b>122,034</b>

*Source: Report on dioxins and furans, 2005.*

Uncontrolled combustion due to bush fires and the burning of solid or industrial domestic wastes as well as a fraction of hospital wastes are the most contributing to for the dioxins and furans emission with a ratio of 85,1 %.

The incineration is a major source for which it will be necessary to seek the emissions attenuation. Indeed, the Convention, in its article 5, targets particularly activities of incineration of wastes, including medical wastes. It recommends to the Parties to abide by the standards of such activity by using the best techniques available and the best environmental practices as soon as possible and latest four years after the entry into force of the Convention for the Parties concerned. The Convention came into effect in 2004 and Rwanda, shall have to comply with the standards of the activity of incineration by 2008 at the latest.

### **2.3.5. Information about stockpiles and contaminated sites**

During the inventory no stock of obsolete POPs pesticides was recorded nor the sites contaminated by these substances. However a stock of 2 948 Kg of out-dated persistent toxic substances was identified during this inventory. The presence of these outdated stocks is a health hazard for human and environment. It is thus necessary to ensure continuous safety of this stock in a temporary way before it can be ecologically and rationally eliminated. Photographs here below show the identified location of the expired pesticides and their contamination.



**Photo 1: Contamination of the soil by parathion methyl before reconditioning**



**Photo 2: Stock of obsolete mancozeb: Stores of World Vision/Gikongoro**

The inventory revealed some contaminated sites that supposedly from leak of the PCBS starting from the electric components under operation or in store. These sites are at Butare airstrip, from Ngoma to Butare close to the cabin, of that of Nyirangarama around the cabin, and that of the parish of Gikongoro around the transformer which is within the parish and that of Gisenyi with Inyemera in the nearby cabin.



**Photo 3: Plate support and ground contaminated below the transformer of 75 KVA (year 1955) in the South of Butare Airstrip**

### **2.3.6. Summary of POPs production, use and wastes in future**

Rwanda is neither a producer nor an exporting country of POPs pesticides. All the substances targeted in Annex A (Left I) are no longer officially used in Rwanda neither in agriculture nor in public health. However, the illegal introduction and the marketing of POPs products are probably in the country. These products are used by the population ignorantly in terms of danger to their health.

As far as DDT is concerned, it is no longer used any more in Rwanda since 1986 and the recommended alternative solutions have been put in place and applied.

As for the PCBs, the Convention stipulates that all the Parties will be able to continue to use them at least by 2025 and their equipment with PCBs as long as they are in good condition according to the Basel convention. Consequently no request for exemption is necessary for the time being.

### **2.3.7. Current monitoring programmes of wastes with health and environmental incidences**

Currently there is no national monitoring programme for the rejections of POPs and their incidences on health of the people and the environment in Rwanda.

### **2.3.8. IEC system, Mechanism and exchange of existing information**

#### ***2.3.8.1. Information, Education and Communication System***

The Rwanda Environment Management Authority, REMA, a public organization under the supervision of the Ministry of Lands, Environment, Forestry, Water and Mines is entrusted by the law to prepare, publish and broadcast the teaching handbooks on the standards and laws relating to the management of the environment as well as reporting on environment every two years. REMA has a unit in charge of environmental education, sensitization and institutional development and create awareness of the dangers of the use of chemical products in the populations.

Generally, this unit appears to be nonfunctional for the moment as many of the actors are unaware of almost all the conventions signed or ratified by Rwanda in relation to environment and particularly chemical products. The Government does not have a clear policy to inform Non Governmental Organizations and

other concerned parties on the management of chemical products including POPs.

In addition, MINITERE obtained a national Network of information exchange on chemicals through Internet (REIC-RWANDA) which was to be a tool of communication between the concerned Parties, the Secretariat of the Convention and other Parties to the Stockholm Convention. It is thus obvious that this REIC needs to be reinforced.

Concerning POPs pesticides particularly, only some informed actors are aware of the seriousness of their harmful effects on health and the environment. On the other hand many of high ranking decision makers, employees and the public are unaware of almost all the adverse effects of POPs pesticides.

As regards the PCBs, it is necessary to urgently organize a national dialogue between the principal parties to the problems of management of the PCBs, more particularly the electric components with PCBs in regard to the obligations of the Stockholm Convention relative to these chemical substances. The national company for distribution of electricity ELECTROGAZ which is the only one to have this equipment should contribute in the organization of this dialogue in order to work out a national action plan of management and elimination of the PCBs. The absence of a management plan of the fluids with PCBs and their wastes indicates that the question of the PCBs is not taken with seriousness.

Indeed the information collected during the inventory reveals practices which facilitate the dissemination of the PCBs and PCBs contaminated wastes, thus exposing human health and the environment to serious risks of contamination. This illustrates the urgency of developing a national policy with the adoption of measures for the management of the electric components with PCBs at the end of their lifetime in order to avoid the uncontrolled sale for non-conventional and inappropriate uses.

As far as unintentional POPs are concerned, there is a degree of ignorance of the dangers related to the emission of dioxins and furans in the environment. The discharges of dioxins and furans are blown into the air by burning wastes in open air, bush fires and the consumption of fuel, wood as domestic source of energy. In the absence of data on monitoring of the level of contamination, for example, of the group at risk among whom nursing women, the question of unintentional POPs must be regarded as a priority for the purpose of daily sensitization on the origin of emissions together with reports to the Conference of the Parties. The current national emissions are perhaps low, but the strong toxicity and the ways of exposure (breathing, inhalation of dust, deposit on not protected food, etc.) are factors worsening the pathological consequences such as diseases related to the

respiratory system. Within the framework of daily activities, publicity and information campaigns to the public should be carried out on particular as good environmental practices.

#### ***2.3.8.2. Mechanism of information exchange between Parties to the Convention***

In Rwanda the Ministry of Lands, Environment, Forestry, Water and Mines is in charge of coordinating the preparation and implementation of environment national policy. In accordance with its attributions, it will play the role of institutional focal point referred to in article 9 of the Convention. However a mechanism of dialogue will be established between this Ministry, the Ministry of Foreign Affairs and Cooperation and other ministries for the purpose of preparing a report to the Convention and take part in the sub-regional, regional and international cooperation.

#### **2.3.9. Relevant activities of civil society stakeholders**

The civil society involved (NGOs, trade associations, trade unions, religious authorities, etc.) are very instrumental Government partners in the process of sustainable development.

However, it should be stressed that these NGOs do not have sufficient information on chemical safety. It is doubtlessly a problem of inaccessibility of information available for various reasons: absence of a true national strategy on chemical safety; insufficient communication between NGOs and the structures holding relevant information; insufficiency of human and material resources in NGOs, etc.

It comes out from all the above that REMA, from its role of environment management, should develop in the short run a specific strategy to chemical safety, with a particular attention on the conventions dealing with chemicals to which Rwanda is a Party. The Ministry in charge of communication should also play its role.

#### **2.3.10. Situation of technical infrastructure available to carry out evaluation of management and research–development on POPs**

Concerning infrastructure and national capacities likely to be used for evaluations, management and research-development on POPs, there are laboratories in several public institutions in particular:

- National University of Rwanda
- Rwandan Bureau of Standards
- Institute of Scientific and Technological Research
- Pharmaceutical laboratory of Rwanda

Laboratories of these institutions have basic modern equipments able to guarantee the monitoring of POPs, but this equipment should be reinforced for example by acquiring a mass spectrometer. But the main obstacles with management on the monitoring of POPs are the insufficiency of national experts specialized in the analysis of organic substances and lack of adequate financial resources. In particular, Rwanda lacks specialists in toxicology and ecotoxicology in the analysis of environmental risk management. The country will have to obtain these essential competences for the development and the execution of the national programme of POPs monitoring.

### **2.3.11. Census of the population or affected areas, estimate of the importance and the seriousness of the threats on public health and environmental quality**

Rwanda has not yet worked out a national program for specific monitoring of health and environmental effects of POPs. Consequently, there is no national data bank on this subject. But from the various inventories carried out within the framework of the NIP development, it shows that an important part of the population of Rwanda could have been exposed to the effects of POPs in particular in the agricultural areas where POPs pesticides were used before their prohibition.

It is undeniable that the role of the PCBs in a sector as strategic as that of energy (national safety, industry and employment, health, tourism and hotel trade, etc.) the question of their elimination is of extreme importance for the country. The respect by the country, of the obligations of the Convention at the end of 2025 and 2028 to definitively solve the problem of the management of the liquid PCBs (2025) and contaminated waste (2028) is strongly dependent on financial assistance in favor of Parties, developing countries, in accordance with article 13 to support the eventual extra costs.

The current establishment of a monitoring programme of POPs, equipped with adequate and sustainable resources, is an indispensable condition to have a national data bank of monitoring. This does not suppose the creation of a laboratory of expensive toxicology in the short term but the reinforcement in human and technical capacities of existing laboratory selected by mutual consent

of concerned parties to be used as reference for evaluation of the capacities of existing laboratories mentioned above.

### **2.3.12. System of evaluation and cataloguing new chemicals.**

Rwanda does not have a system of evaluation and cataloguing new chemicals, as required under article 8.

In Rwanda, there is no proper authority in charge of evaluation and cataloguing the chemicals. Actually, these tasks must be entrusted to the Ministry in charge of Agriculture, through the National Committee of Homologation of the Pesticides. This Committee can be supported by executives of the Ministry having the environment in its attributions (MINITERE) and those of the Rwandan Environment Management Authority (REMA) in order to reinforce its multi-field and multisectoral character and to respect the indications of the international standards on safety of chemical substances.



**CHAPTER 3: ELEMENTS OF NIP ACTION PLAN  
STRATEGY FOR RWANDA**

### 3.1. DECLARATION OF INTENTION

The Government of Rwanda,

In reference to the Constitution of the Republic of Rwanda of 04/06/2003, as revised to date provides that:

- Every citizen has the right to a healthy and satisfactory environment;
- Every person has the duty to protect, safeguard and promote the environment; and
- the State takes care of environment protection,

Referring to the organic law N° 4/2005 of 8 April 2005 determining the modalities of protection, conservation and promotion of environment in Rwanda and more particularly in its articles 26, 27, 32-35, 38, 40, 42-44, 47, 51, 56, 62, 81-84 and 88-93;

Referring to the law N° 16/2006 of 3 April 2006 establishing organization, operation and attribution of the Rwandan Environment Management Authority (REMA);

Referring to the Stockholm Convention on Persistent Organic Pollutants (POPS) adopted and ratified as approved by Presidential Order n° 78/01 of July 08, 2002.

Recognizing that the persistent organic pollutants are toxic, hard to degrade, accumulate in the living organisms and natural environments are propagated by the air, Water and the migrating species across international borders and are deposited far from their sites of origin, in terrestrial and aquatic ecosystems;

Conscious of the dangers facing the Rwandan population exposed to persistent organic pollutants, in particular the exposure to children and women and future generations;

In order to meet its commitments within the framework of Agenda 21 in its chapters 6, 9, and 19 which require in particular the Government:

- i. to set up campaigns against all forms of air pollution; to supervise the distribution and use of pesticides so as to limit health risks;
- ii. to mobilize communities to prepare and use more effective and less polluting forms of energy and to encourage less polluting means of transport;
- iii. to limit or prohibit toxic substances with persistent effects or bio accumulative, as well as products whose use cannot effectively be controlled; to provide to the public, information on chemical risks in the users' daily language;

Determined to promote a sustainable development of its population through implementation of its vision 2020;

Concerned about integrating in its policy the objectives of the Millennium Development Goals to which Rwanda subscribed, in particular the objectives 4, 5, 6, 7 and 8 which respectively aim at: (i) reducing infant mortality; (ii) improving maternal and infantile health; (iii) fighting HIV AIDS, malaria and other diseases; (iv) ensuring a sustainable environment; (v) setting up a global partnership for development.

Taking into account its commitments with respect to the International Conventions in relation to the management of chemicals to which it subscribed, in particular: the Basel Convention on the control of the transboundary movements of hazardous wastes and their disposal; the Bamako Convention on prohibition to import hazardous waste and on the control of their transboundary movements in Africa; the Rotterdam Convention on the procedure of preliminary assent in full knowledge applicable to some chemicals and dangerous pesticides which are subject to international trade; Framework Convention of the United Nations on Climate Change; the Vienna Convention as well as the Montreal Protocol on the protection of ozone Layer; and the Stockholm Convention on the Persistent Organic Pollutants;

In the spirit of the environmental Action plan of NEPAD (New Partnership for Africa's Development), whose global objective is "to improve the environmental conditions in Africa in order to contribute to the economic growth and eradication of poverty, to develop Africa's capacities in order to implement international agreements and to effectively deal with environmental challenges in Africa in the total context of NEPAD implementation".

Determined to take measures to prevent the harmful effects of the persistent organic pollutants at all stages of their life cycle;

Reaffirms its strong commitment to honor the Stockholm Convention which it signed on July 8, 2002.

To this end, the Government of Rwanda will be involved in the establishment of an institutional, legal and technical environment favorable to the implementation of the NIP. In this NIP, the organic law N° 4/2005 of 8 April 2005 determining the modalities of protection, conservation and promotion of environment in Rwanda, the environmental policy of Rwanda and the international key principles of management of chemicals (precaution, prevention, principle of 'polluter pays', environmental impact study, etc) will constitute the basis and references of activities.

Aware of its weak capacities for chemicals management from technological and financial point of view, the Government requests the international community for technical and technological expertise as well as mobilization of financial resources to help in the reduction of sources and wastes of POPs by the year 2025.

### **3.2. IMPLEMENTATION STRATEGY**

The strategy of implementing the Stockholm Convention on the Persistent Organic Pollutants in order to reduce/eliminate the sources and the rejections of POPs wastes is based on the following:

- i. Installation of appropriate institutional arrangements;
- ii. Establishment of a legal and regulatory coherent framework;
- iii. Accountability of all involved parties;
- iv. Mobilization of financial resources for the projects execution;
- v. Sensitization, education and communication;
- vi. Capacity building.

#### **3.2.1. Objectives of the strategy**

*The global objective* of the strategy is to contribute to the fight against poverty and the promotion of sustainable development while progressively taking into account the chemical requirement of safety in the strategies and action plans to fight against poverty for sustainable development, in order to bring appropriate solutions to the threats of POPs on human health and the environment.

*The specific objective* is to reduce from now to 2025 the sources and wastes of POPs in order to protect human health and environment against the harmful effects of these substances.

Hence:

- i. Actualise and harmonize legislative and regulatory texts with the Stockholm Convention on POPs;
- ii. Information, education and communication shall be achieved;
- iii. Training workshops shall be organized;
- iv. The NIP shall be distributed;
- v. The civil society and the private sectors shall be involved in NIP implementation;
- vi. Synergy between conventions dealing with the management of chemicals to which Rwanda adhered to will be developed;
- vii. Coordination of various activities related to management of chemicals shall be ensured;

- viii. Regular and periodic production of national reports on POPs shall be one of the major concerns;
- ix. Inventories and evaluations of POPs will be regularly and periodically carried out and updated.

### **3.2.2. Principal directives of the strategy**

*The main principles* governing this strategy are:

- i. Promotion of good governance;
- ii. Sustainable management of natural resources;
- iii. Taking into account sub-regional integration;
- iv. Promotion of human safety through environmental and health safety measures;
- v. Emphasising the role of the State and responsibility of the civil society, the local communities and private operators.

#### ***3.2.2.1. Promotion of good governance***

Good governance is considered by the Government of Rwanda as one of the pillars of its policy to increase economic growth and fight against poverty as described in its vision 2020. Indeed, the decentralization policy and the governing districts and towns give these entities the responsibility to be in charge of environment protection and management in their jurisdictions.

Within the particular framework of the Stockholm Convention implementation, the promotion of good governance will be achieved through the following interactive actions:

- Strengthening of institutional capacities of POPs management;
- Sensitization, information, education and training all the involved parties in order to obtain their cooperation in the implementation of the NIP;
- Establishment of a legal and regulatory framework which protects human health and environment from harmful effects of POPs.

#### ***3.2.2.2. Sustainable management of natural resources***

The Government of Rwanda is conscious of the needs to essential conditions to the realization of a sustainable economic development which consists of the rationalization of natural reserve management and environment protection, and that certain policies originally intended to support the economic activity or to increase the production can degrade natural resources and ecological conditions.

In conformity with the policy of the Government, NIP will have to be based on a search for a balance between the necessity to satisfy the population needs and preserve natural resources for future generations.

### ***3.2.2.3. Taking into account sub-regional integration.***

Rwanda is a member of sub-regional organizations whose aim is to promote trade and development within Member States. These include NEPAD (New Partnership for Africa's Development), COMESA (Common Market for Eastern and Southern Africa) and the CEEAC (the Economic Community of the States of Central Africa). Rwanda will soon be a member of the EAC (the East African Community) currently comprised of Tanzania, Kenya and Uganda.

All these organizations constitute privileged frameworks for the harmonization of policies, strategies and actions to fight the production and the distribution of persistent organic pollutants. This harmonization would also relate to the norms of industrial production as well as those related to trade products in the sub-region particularly those products likely to contain POPs.

### ***3.2.2.4. Promotion of human safety through environmental and health safety***

The Government's policy for the promotion of human safety is stated in organic law N° 4/2005 of 8 April 2005 determining the modalities of protection, conservation and promotion of environment in Rwanda and the ratification of International Conventions in the field of management of chemicals. The majority of these conventions are not yet integrated in the national legislation. Within the specific framework of the implementation of the Stockholm Convention on POPs, it will be essential to supplement and bring up this legislation so as to integrate the standards aiming at preventing the risks of degradation of environmental health related to POPs wastes.

### ***3.2.2.5. Streamlining the role of the State and the responsibility of the civil society, the local communities and the private sector***

The vision 2020 and the National strategy for poverty reduction put much emphasis on the promotion of the decentralization and involvement of the private sector. The promotion and participation of the private sector will be reinforced through dialogue with the public sector so that it gets actively involved in a rational management of chemicals, POPs among others. Development Projects will have to be identified and carried out with the participation of all partners

and interested actors, in particular the benefiting populations, the communities, local associations and NGOs.

As regards the fight against POPs, a partnership between the State and relevant parties (public owned Establishments ELECTROGAZ, CIMERWA, farmers, commercial operators, local communities, associations and NGOs) will have to be established and reinforced. A system of cofinancing certain projects of the NIP will have to be considered. The principle of polluter pays will have to be put into force to sensitize the public on the harmful effects of POPs on health and the environment.

### **3.2.3. Specific strategic lines**

Four strategic lines of intervention within the framework of NIP set up were identified within the framework of the study for identification of the national objectives and priorities as regards management of POPs. They are as follows:

- Reinforcement of human capacities in POPs management;
- Promotion of follow-up, research and development and POPs analysis;
- Adaptation of infrastructures to a rational management of POPs;
- Adaptation of legislative and regulatory texts to the obligations of the Stockholm Convention.

### **3.2.4. Strategies**

#### ***3.2.4.1. Census of stockpiles, articles used and wastes to be considered***

The census of the stockpiles, articles used and wastes to be considered involve several partners of which the most important are: the Ministries in charge of Environment, Health, Agriculture and Animal Husbandry, Energy and Transport, Industry and Trade, Public and Private Companies involved in the importation, use and production of chemical substances registered in Annex A, B, and C.

The strategies to adopt in order to have reliable data in the determination or reduction of volumes of wastes of pesticides stocks, DDT, PCBs and HCB (substances registered with Annex A, B, and C) as well as volumes of wastes containing these products, include in particular:

- Sensitization of all partners to the harmful effects of POPs on human health and environment;
- Reinforcement of capacities of all partners;
- Setting up a strategy of communication between all partners;

- Participation of all partners in carrying out inventories, their follow-up and their evaluation.

#### ***3.2.4.2. Strategy for information exchange***

The strategy for purpose of information exchange will be centered on:

- Establishment and management, at the national level, of a Network for exchange of Chemical information through Internet (REIC) on the persistent organic pollutants. That will require beforehand a reinforcement of the capacities of partners for the use and management of this site. It will also be necessary to make sure that an operational budget of the RIEC is available.
- *The use of other traditional ways of information exchange* such as periodic reviews and bulletins will be considered.
- The development of activities of information, education and communication as regards management of POPs, which activities will take into account the concerns of the various public and private sectors.

#### ***3.2.4.3. Strategy for research-development***

The strategy for research-development will be based on:

- Reinforcement of national analysis capacities;
- The establishment of a system of observation and follow-up impacts of chemicals on human health and environment;
- Mobilization of technical and financial resources;
- Sub-regional and regional co-operation;
- Identification, evaluation and promotion of alternatives to POPs;
- Promotion of the processes (technical) of cleaner production in reference to BAT and BEP.



### **3.3. ACTION PLANS FOR THE NIP IN RWANDA**

#### **Introduction: Plans of action in order of priority**

##### **A. Action plans**

Eight action plans were identified in the NIP:

1. Reinforcement of institutions and regulations
2. Management of Stocks and waste of pesticides containing POPs
3. Management of PCBs and their containers
4. Ecologically rational Management of wastes resulting from unintentional production of POPs
5. Ecologically rational Management of the sites contaminated by POPs
6. Sensitization, information and education of the Rwandan public on POPs
7. Monitoring and research - development
8. Exchange information system and participation in international cooperation.

##### **B. Criteria to be considered in the hierarchy of the action plans**

The following criteria are to be considered:

- Incidences action plan implementation on human health and the environment;
- Socio-economic impacts of action plan implementation;
- Urgency of action plan implementation;
- The cost of action plan implementation;
- Contribution of the beneficiary in the implementation of action plan.

##### **C. Questions to be asked by action plan**

- Will the implementation of the action plan, have important positive impacts on human health and environment?
- Will the implementation of the action plan have important socio-economic impacts?
- Is there urgency for implementation of the action plan?
- Is the cost of implementation of the action plan, accessible?
- Will the majority of the population, benefit from the implementation of the action plan?

#### D. Marks by response and by question

According to the answer given to each question, a mark varying between 0 and 5 is given to the answer.

<b>If the answer is</b>	<b>answer is</b>
Certainly	5
yes	4
Probably	3
Maybe	2-1
No	0

The total marks were calculated in relation to each plan and classification of plans of action was established.

**Table 5: Hierarchy of action plans**

ACTION PLANS	CRITERIA						CLASSIFICATION AND COSTS	
	Incidences	socio- economic Impacts	Urgency	Cost	Benefiting Population	Total of marks	Ranking	Estimated total cost (x1000 \$USA)
1. Reinforcement of institutions and regulation	5	5	5	2	4	21	<b>II</b>	2573
2. Management of stocks and pesticides wastes containing POPs	4	4	4	4	0	16	<b>VI</b>	767
3. Management of PCBs and its containers	4	3	5	4	2	18	<b>IV</b>	711
4. Ecological rational management of the wastes resulting from a unintentional production of POPs	5	5	4	2	4	20	<b>III</b>	1561
5. Ecologically rational management of POPs contaminated sites	4	3	4	4	0	15	<b>VII</b>	511
6. Sensitization, information and training the public about POPs	5	5	5	3	5	23	<b>I</b>	1086
7. Supervision and research-development	4	4	4	3	2	17	<b>V</b>	903
8. Information exchange system and participation to international cooperation	3	3	3	3	2	14	<b>VIII</b>	516
<b>TOTAL OF ESTIMATED COST FOR THE IMPLEMENTATION OF ACTION PLANS</b>								<b>8628</b>

### **3.3.1 Action plan No 1: INFORMATION, SENSITIZATION AND EDUCATION OF THE PUBLIC ON POPs**

#### **Context**

It was in 1997 when an intergovernmental Forum meeting on chemical safety (FISC) of governments, members of the United Nations decided to start the fight against the persistent organic pollutants (POPs) because of the sufficient scientific evidence accumulated by researchers on health and environmental harmful effects. Hence, they decided to work out and apply a constraining legal instrument of international significance called the Stockholm Convention on POPs which came into effect at the international level since 17 May 2004.

Aware of the danger that POPs present for human health and environment they decided to be involved in the efforts by the international Community in the fight against POPs, Rwanda negotiated the text of the Stockholm Convention which was adopted and ratified as approved by Presidential Order n° 78/01 of 8 July 2002.

The initial national inventories of POPs realized in 2005 show that the Rwandan population as a whole is exposed, in one way or another to the harmful effects of these substances (potable water, air, foodstuffs). Indeed, some are still used in electric components (transformers, condensers), others are produced involuntarily following the combustion of the biomass (bush fires, cooking wood, charcoal, burning of household wastes), burning of hospital waste in open air, the use of Lead contained fuel in vehicles, various handcraft activities...

Other POPs have been essential during these last years (DDT, TOXAPHENE, DIELDRIN, HEXACHLOROBENZENE, ALDRIN, ENDRIN...) and have been used in agriculture and public health. They were replaced by organophosphorous composites and pyrethrinoides of synthesis. It is in the process of their use that it was discovered that they were dangerously contaminating the soil, Water, and foodstuffs. According to the inventory, there are other stocks of unidentified outdated pesticides, in a more deteriorating condition.

The danger of POPs on health and the environment requires a strong sensitization force of the Rwandan population.

It becomes important to work out and set up an action plan aiming at putting forward information, sensitization and education of the public on the persistent organic pollutants, their effects on health and environment as well as solutions of replacement, in accordance with article 10 of the Stockholm Convention.

Information will have to be provided specifically to various categories of the public, (political leaders and less informed decision makers, women and children, workers, scientists, teachers, and technical staff) and particularly to the researchers so that, they get interested in the investigations on the issue of alternatives, the levels of contamination of human beings and environment by POPs, the new ecological techniques of destruction of POPs and the questions of standardization and approach of environmental management under the terms of provisions of article 11 of the Convention about research - development.

### **Aim**

Progressive rise in the level of knowledge and consciousness about the issue of POPs in different categories of the Public.

### **Objectives**

1. Establishment of a national programme of Information, Education and Communication (IEC) since 2007.
2. Providing the country with a toxicological information center.
3. Development and implementation of informal training schemes on chemical safety.
4. Preparation and implementation of formal training programmes on chemical security.

<b>ACTION PLAN n° 1: SENSITIZATION, INFORMATION AND EDUCATION OF THE PUBLIC ON POPs : 1 086 000US\$</b>					
<b>TARGET : Progressive evaluation of the knowledge and awareness level about the issue of POPs in general and different types of stakeholders in particular</b>					
<b>SPECIFIC OBJECTIVE 1: SETTING UP A NATIONAL PROGRAM OF INFORMATION, EDUCATION AND COMMUNICATION (IEC) ON POPs STARTING IN 2007</b>					
<b>Result 1: A national IEC program on POPs is operational starting in 2007</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
1.1. Put in place a coordination team and supervision committee for the action plan	Orders on creation, composition and attributions of the technical committee,  Existence of individual mandates of members	Minutes of the supervision committee meetings  Activity reports of the technical coordination teams	Ministry in charge of Environment, Other technical Ministries and concerned institutions, Ministry in charge of finance and economic development, NGOs, Associations, Local Communities	Political commitment,  State's budget available by 2007	2007
1.2. Identify in the big public the main target groups at risk	Validated inventory of the target groups and the population at risk	Minutes of the supervision committee meetings,  Activity reports of the technical coordination teams	Ministry in charge of Environment	State's budget available, Qualified human resources, Financial support by donors	2007

Activities/ Logic of intervention	Indicators objectively verifiable (IOV)	Source of verification	Actors	Hypothesis/suppositions (Financing and others)	Deadlines
1.3. Produce appropriate documentation and didactic materials	Number of Documents produced, Quantity and different didactic materials are produced	Minutes of the supervision committee meetings,  Activity reports of the technical teams (technical service in charge of IEC), media archives, Report to the secretariat of the Convention	Ministry in charge of Environment, Other technical Ministries and other Institutions having IEC in their attributions among others, NGOs, Associations	Qualified human resources, Financial support by donors, Technical assistance accessible.	Starting in 2007
1.4. Inform professionals from the medias on POPs	Number of information sessions organised, Report of information sessions	Minutes of the supervision committee meetings Activity reports of the technical Teams of coordination, media archives, NGOs' archives, Report to the secretariat of the Convention, audio-visual programs, Advertisement spots Articles in newspapers Articles of Internet sites	Ministry in charge of Environement, Ministry in charge of IEC, NGOs, Associations	Qualified human resources, Financial support by donors, Technical assistance accessible	Starting in 2007

Activities /Logic of intervention	Indicators objectively verifiable (IOV)	Source of verification	Actors	Hypothesis/suppositions (Financing and others)	Deadlines
1.5. Sensitize and inform target groups /groups at risk from the harmful POPs effects on health and Environment	Number of sensitization meetings, Number of programs broadcast on radio and television, Quantity of posters, leaflets, and brochures produced	Minutes of the supervision committee meetings Activity reports of the technical teams of coordination, media archives, NGOs' archives, Projects of research-development on the issue of POPs	Ministry in charge of Environment, Ministry in charge of IEC, Ministry in charge of health, NGOs, Associations.	Qualified human resources, Financial support by donors, Technical assistance accessible	Starting in 2007
1.6. Sensitize and inform the target groups on alternatives to POPs	Number of sensitization meetings, Number of programs broadcast on radio and television, Documentation on alternatives available	Minutes of the supervision committee meetings Activity reports of the technical Teams of coordination, media archives, NGOs' archives, Projects of research-development on the issue of POPs	Ministry in charge of Environment, Other technical Ministies and other Institutions having IEC in their attributions among others, NGOs, Associations	Qualified human resources, Financial support by donors, Technical assistance accessible,	Starting in 2007



Activities /Logic of intervention	Indicators objectively verifiable (IOV)	Source of verification	Actors	Hypothesis/suppositions (Financing and others)	Deadlines
1.7. Publish, in the languages used in the country, periodical review chemical security, with a particular attention on POPs and other persistent toxic Substances	Recognition by Ministries in charge of IEC, Number of issues published, Composition of the editorial committee	Minutes of the supervision committee meetings Activity reports of the technical Teams of coordination, Archives of the Ministry in charge of environment, Libraries and other newspapers' distributors, Libraries in the country	Ministry in charge of Environment, Other technical Ministries and other Institutions having IEC, Other technical Ministries, NGOs, Associations,	State's budget available, Qualified human resources, Financial support by donors, Technical assistance accessible.	Starting in 2007
1.8. Put in place a national network of information exchange through Internet (REIC).	Report of the workshop for the creation of the network, Inventory of members of the network, Report on the training of members of the network to the use of Internet, Contract of service of a Webmaster,	Minutes of the supervision committee meetings Activity reports of the technical Teams of coordination, Activity report of the network.	Ministry in charge of Environment	State's budget available, Financial support by donors, Technical assistance accessible .	Starting in 2007
1.9. Organize training workshop for legislators and public and private decision makers of the concerned services on POPs	Numbers of training workshops, Lists of services having benefited from the training, Categories and number of decision makers trained	Minutes of the supervision committee meetings Activity reports of the technical Teams of coordination, Workshop report Trainers' contract, didactic material used	Ministry in charge of Environment, Other technical Ministries and other Institutions	Financial support by donors, Technical assistance accessible, Qualified human resources	Starting in 2007

<b>SPECIFIC OBJECTIVE 2 : AVAIL THE COUNTRY WITH A TOXICOLOGICAL INFORMATION CENTER</b>					
<b>Result 2: Toxicologic information on POPs, alternatives to POPs and dangerous chemical products in general are available and accessible to those in need</b>					
<b>Activities /Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
2.1. Create and make operational a national toxicologic information center on dangerous chemical products.	Text establishing creation, organisation and functioning of the center, Regularity of data on toxicologic information	Minutes of the supervision committee meetings, Activity reports of the technical Teams of coordination of the center Reports of independent studies	Ministry in charge of Environment, Ministry in charge of health	State's budget available, Financial support by donors, Technical assistance accessible	Starting in 2008

<b>SPECIFIC OBJECTIVE 3: PREPARATION AND IMPLEMENTATION OF INFORMAL TRAINING PROGRAMS ON CHEMICAL SECURITY</b>					
<b>Result 3: Targeted programs of informal training are elaborated and carried out starting in 2007</b>					
<b>Activities /Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
3.1. Produce appropriate documentation and didactic material	Type of Documents produced, Quantity of didactic materials produced	Minutes of the supervision committee meetings, Activity reports of the technical Teams of coordination, Reports of implementation to the secretariat of the Convention	Ministry in charge of Environment, Other technical Ministries and other Institutions and concerned departments, NGOs, Associations	State's budget available, Financial support by donors, Technical assistance accessible, Qualified human resources	Starting in 2007
3.2. Organize informal training sessions for actual or potential users and workers concerned	Number of training sessions organised, Report on training sessions	Minutes of the supervision committee meetings, Activity reports of the technical Teams of coordination, Reports of implementation to the secretariat of the Convention, Reports of workshops	Ministry in charge of Environment, Other technical Ministries and other Institutions and concerned services, NGOs, Associations	State's budget available, Financial support by donors, Qualified human resources	Starting in 2007

Activities /Logic of intervention	Indicators objectively verifiable (IOV)	Source of verification	Actors	Hypothesis/suppositions (Financing and others)	Deadlines
3.3. Plead with administrative, political and judicial authorities about the issue of POPs	Number of sessions organised	Minutes of the supervision committee meetings, Activity reports of the technical Teams of coordination, Reports of implementation to the secretariat of the Convention, Focal points designated and mandated by the technical services to participate in the supervision Committee or the coordinating Team of the plan	Ministry in charge of Environment, Ministry of health, Ministry of agriculture, NGOs, Associations	Political commitment, State's budget available, Qualified human resources, Financial support by donors	Starting in 2007
3.4. Train public and private media professionals on POPs	Number of sessions organised, Number of people trained	Minutes of the supervision committee meetings, Activity reports of the technical Teams of coordination, Reports of implementation to the secretariat of the Convention	Ministry of in charge of Environment, NGOs, Associations	Political commitment, State's budget available, Qualified human resources, Financial support by donors	Starting in 2007

**SPECIFIC OBJECTIVE 4: PREPARATION AND IMPLEMENTATION OF FORMAL TRAINING PROGRAMS ON CHEMICAL SECURITY**

**Result 4: The country has operational programs of formal training on POPs adapted to the local conditions**

<b>Activities /Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
1. Introduce the chemical security issue in primary, secondary and higher institutions' of learning curricula	Programs integrating different aspects of chemical security including the issue of POPs	Curricula Trainer's file	Ministry in charge of Environment, Ministry of health, Ministry of Agriculture, Ministry of Education	Political commitment, State's budget available, Qualified human resources, Financial support by donors	Starting in 2007
2. Organize specialization training session on tracing, standardisation, labelling as regards dangerous chemical products, including POPs for the technical staff of the Rwandan Bureau of standards	Number of sessions organised, Number of people trained	Reports on the training, Qualified technical staff in place	Ministry in charge of Environment, Ministry of health, Ministry of agriculture, Ministry of Education	Qualified human resources available, Financial support by donors, State's budget available	Starting in 2007

### **3.3.2. Action Plan n° 2: INSTITUTIONAL DEVELOPMENT AND REGULATIONS**

#### **Context**

The management of chemicals in general and POPs in particular, is carried out by several ministries which have one or more structures involved. The concerned stakeholders do not have all the personnel specifically intended for the ecologically rational management of the chemicals. The available Human resources are not sufficiently trained for the management of POPs and are not sensitized on the harmful effects of POPs on health and the environment. As regards infrastructure, the evaluation showed that the capacities of the infrastructures concerned with the management of POPs in the various sectors are almost non-existent. As regards the legislation and the regulation of the management of POPs in Rwanda, it appears that the respect of the legislative texts and the regulatory texts remains subordinate to the existence of reinforced institutional structures and of the sufficient human capacities. According to the National Profile to evaluate the national capacities of management of the chemicals in Rwanda, carried out in October 2005, the laws and regulations in connection with POPs do not cover all the provisions of the Convention, in particular, industrial POPs and unintentional POPs are not yet regulated and many constraints limit the application and the effectiveness of the existing texts. The main obligations relating to the reinforcement of the legal and institutional framework for purposes of implementing the Convention are notably aimed at in its Articles 3, 4, 5, 6, 8, and 13.

#### **Aim**

Reinforcement of the institutional capacities, infrastructure and regulation for a rational management of POPs by 2010.

#### **Objectives**

- i.** Adaptation of infrastructure and institutions to a rational management of POPs;
- ii.** Adaptation of the national legislation in order to abide by the obligations of the Stockholm Convention and other relevant conventions;
- iii.** Preparation and implementation of formal training programmes.

<b>ACTION PLAN n° 2: INSTITUTIONAL DEVELOPMENT AND REGULATION: 2 573 000 US\$</b>					
<b>Target : Reinforcement of institutional capacities, infrastructure and regulation for a rational management of POPs towards 2010</b>					
<b>SPECIFIC OBJECTIVE 1: ADAPTATION OF INFRASTRUCTURE AND INSTITUTIONS TO A RATIONAL MANAGEMENT OF POPs, FROM 2006 TO 2010 UNDER THE RESPONSIBILITY OF TECHNICAL MINISTRIES CONCERNED</b>					
<b>Result 1.1: The missions/mandates of institutions are adapted to the Stockholm Convention obligations and other relevant conventions</b>					
<b>Activities /Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
1.1.1. Revise the missions/mandates of concerned institutions	Texts establishing the missions/ mandates of the revised institutions.	Texts establishing reorganisation of concerned institutions. (JORR)	Concerned technical Ministries	Political commitment	2007-2008
1.1.2. Set up new institutions in accordance with the Convention's obligations	Set up new institutions.	Texts establishing the creation of new institutions	Concerned technical Ministries	Political commitment	2007-2008
1.1.3. Avail enough human and material resources to the revised and/or created institutions	Number of involved entities; Quantity of material resources availed.	Reports of these institutions' activities.	Concerned technical Ministries	Available budget of the State; Financial support by donors	2008-2010

<b>Résultat 1. 2: A National laboratory of POPs and resulting wastes analysis is operational</b>					
<b>Activities /Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
1.2.1. Set up an operational reference laboratory for the analysis of chemicals (including POPs)	Presence of an operational reference laboratory	Reports of the laboratory's activities	MINITERE, REMA, MINAGRI, MINISANTE and ELECTROGAZ	Political commitment; Financial support by donors.	2007-2010
1.2.2. Provide a kit for qualitative analysis	Number of kits distributed	Reports on collected data for analysis	MINITERE, REMA, MINAGRI, MINISANTE, ELECTROGAZ)	Financial support by donors	2007-2010
1.2.3. Furnish the laboratory to make it a toxicologic documentation/information center on POPs	Library of the laboratory laboratory's Web Site	Library of the laboratory Web Site of RIEC	MINITERE, REMA	Financial support by donors	2007-2010
1.2.4. Publish the results from the analysis	Results from analysis collected and published Reports of analysis Information Bulletin	Reports of analysis	MINITERE	Competent staff available	2007-2010

<b>SPECIFIC OBJECTIVE 2: PREPARATION AND IMPLEMENTATION OF FORMAL TRAINING PROGRAMS STARTING IN 2010 UNDER THE RESPONSIBILITY OF THE MINISTRY OF EDUCATION</b>					
<b>Result 2.1: Formal training programs are elaborated and implemented starting with 2007</b>					
<b>Activities /Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
2.1.1. Introduce a training program as regards the POPs in primary, secondary schools and in higher learning institutions in Rwanda.	Programs having integrated notions on POPs	curricula	MINEDUC, MINITERE and REMA	Political commitment; Competent; Financial support from donors.	2007-2015
2.1.2. Organize trainings on POPs towards technical personnel from the public and private services concerned.	Number of training organized; Number of trainees.	Reports of the trainings.	MINITERE, REMA, MIFOTRA	Availability of trainers; Financial support from donors.	2007-2015
2.1.3. Organize post-graduate training on chemical products including the POPs	Number of trained people.	Reports of the training	MINEDUC, Higher learning Institutions and research Centers	Availability of trainers; Financial support from donors.	2007-2015



**SPECIFIC OBJECTIVE 3: ADAPTATION OF THE NATIONAL LEGISLATION IN ORDER TO RESPECT THE STOCKHOLM CONVENTION'S OBLIGATIONS AND OTHER RELEVANT CONVENTIONS TOWARDS 2010 UNDER THE RESPONSIBILITY OF THE CONCERNED TECHNICAL MINISTRIES**

**Result 3 .1 Legislative and regulatory texts relating to POPs are updated and completed**

<b>Activities /Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
3.1.1. Provide the institutions and concerned services with sufficient human and material resources to prepare the texts	Number of competent personnel hired; Quantity of material available.	Reports Archives of Ministries of Civil Service and of Finances	All concerned institutions and services	Available budget of the State	2007-2010
3.1.2. Inventory of legislative and regulatory texts to up date and/ or complete.	Number of checked texts	Inventory reports	MINITERE/ REMA	Sufficient qualified human resources; financial means available	2007-2010
3.1.3. Prepare and validate new legislative and regulatory texts according to loopholes.	Number of prepared and validated texts; voted and promulgated texts; Orders of application;	validation reports of workshop Official Gazette	All concerned services	Sufficient qualified human resources; financial means available	2007-2010
3.1.4. Advertise and popularize	Number of new texts published	Reports of organized forums	MINITERE/ REMA NGOs	Sufficient qualified human resources; financial means	2007-2010

legislative and regulatory texts.				available	
<b>Result 3.2: National legislation as regards the management of POPs is Published</b>					
<b>Activities /Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
3.2.1. Translate into KINYARWANDA legislative and regulatory texts	Number of translated texts	Final reports Contracts for recruitment of specialized translators.	MINITERE	Financial means; Competent human resources.	2007-2010
3.2.2. Validate the translation in KINYARWANDA of legislative and regulatory texts	Number of validated texts	Validation reports	All departments concerned	Available financial means	2007-2010
3.2.3. Organize workshops for public awareness of the legislative and regulatory texts	Number of workshops organized	Workshop reports	All the departments concerned	Available financial means	2007-2010
<b>Result 3.3: Applying legislative and regulation texts</b>					
<b>Activities /Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
3.3.1. Train the personnel in the concerned sectors for the implementation of legislative and regulatory texts	Number of training sessions; Number of trained persons	Reports on the training Observed problems Inflicted Sanctions	All concerned public and private sectors	Financial means; Competent human resources for the training.	2007-2010
3.3.2. Provide institutions/services with appropriate human and material resources.	Number of competent people recruited ; Quantity of appropriate materials availed	Reports on the training Observed faults Sanctions given	All concerned public and private sectors	Financial means	2007-2010
3.3.3. Publish and broadcast the texts	Number of published and broadcasted texts	Reports on advertisement and publication Official Gazette	All concerned Ministries	Available financial means; Competent personnel	2007-2010

**Result 3.4: A legislation/regulation in conformity with international norms as regards the POPs is prepared**

<b>Activities /Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
3.4.1. Prepare the legislative and regulatory texts for the country's adaptation of international norms	Number of prepared and validated texts	Reports J.O.R.R. Mechanisms of control of norms (laboratories, environmental policy, etc)	MINITERE , OTRN,	Available financial means; Competent personnel	2007-2010
3.4.2. Organize workshops/debates about these texts	Number of workshops organized	Workshop reports	All the concerned services	Available financial means; Competent personnel	2007-2010
3.4.3. Publicity of legislative and regulatory texts	Number of legislative and regulatory texts publicised	Reports of the organized forums, J.O.R .R., Web Site, Toxicological centre of documentation and information.	MINITERE, Concerned technical Services, NGOs	Available financial means; Competent personnel	2007-2010

### **3.3.3. Action Plan no 3: Ecological rational management of wastes resulting from unintentional production of POPs**

#### **Context**

Rwanda signed the Stockholm Convention on the Persistent Organic Pollutants on July 08, 2002, committing itself to taking measures to reduce wastes resulting from unintentional production of POPs (Article 5 of the Convention). Referring to the inventory report, in Rwanda, the emissions of dioxins and furans come from the following activities: (i) controlled processes of combustion, (ii) generation of electricity and heating, (iii) elimination and discharge, (iv) transport, (v) incineration of medical waste, (VI) production of cement and production of non-ferrous metals.

The initial inventory of the emissions of dioxins and furans proved very difficult due to lack of basic statistical data. It is the same for the evaluation for their environmental and health impacts.

The population is not sufficiently sensitized on the sources of emissions of dioxins and furans and the dangers which these substances pose to the environment, the health and the quality of human life. The management of dioxins and furans is thus hampered by the absence of sensitization and lack of related data.

Within the framework of implementing the Stockholm Convention, the parties must encourage: the reduction of wastes or the elimination of the sources; utilization of the materials, products and modified processes. Use the best available techniques and best environmental practices are encouraged/requested firstly for the categories of the sources of part II of the Annex C (incineration of waste, burning of dangerous waste).

Measures must also be taken by Rwanda to reduce the sources and the emissions of dioxans and furans compared to the sources listed in Part III of the Annex C (combustion of wastes in the open air, residential sources of combustion, fossil fuel combustion, wood burning, vehicles using leaded fuel...).

#### **Aim**

Progressive use of the best available techniques and the best environmental practices and application of other measures to reduce in the long term the national contribution to the emission unintentional POPs.

## Objectives

1. Improvement of the identification and characterization of the national sources of dioxins discharges and furans;
2. Sensitizing the population and decision makers on unintentional POPs and the issue of the best techniques available and the best environmental practices
3. Improvement of the management of biomedical wastes and municipal solid wastes
4. Progressive reduction of the unintentional emissions of POPs from combustion of biomass and fossil fuels.

<b>ACTION PLAN n° 3: ECOLOGICAL RATIONAL MANAGEMENT OF WASTES RESULTING FROM UNINTENTIONAL PRODUCTION OF POPs : 1 561 000 US\$</b>					
<b>Target: Progressive use of the best available techniques and the best environmental practices and apply other measures to reduce national contribution to unintentional wastes of POPs</b>					
<b>SPECIFIC OBJECTIVE 1: IMPROVEMENT OF IDENTIFICATION AND CHARACTERISATION OF NATIONAL SOURCES OF DIOXINS AND FURAN WASTES UNDER THE RESPONSIBILITY OF MINITERE</b>					
<b>Result 1.1: Update the inventory of dioxines and furans every five (5) years</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadline</b>
1.1.1. Set up a technical Team of Experts in charge of updating the national inventory	Texts establishing creation, composition and attribution of the technical Team	Texts in the official Gazette Minutes of meetings of the technical Team.	MINITERE	Available budget of the State	2007-2008
1.1.2. Prepare appropriate formats for collecting statistic data, in collaboration with technical services of concerned parties	Available and usable Formats	Users having the formats	MINITERE/REMA	Available budget of the State	2007-2008
1.1.3. Collect statistical data and prepare the updated inventory report	Validated report of inventory available	Inventory report; Reports of the technical Team activities	MINITERE	Available budget of the State	2007-2010
1.1.4. Popularize the inventory report and hand it over to the Convention's Secretariat	Number of broadcasted reports Letters and reception acknowledgement	Technical Services having received the report ; Secretariat of the Convention	MINITERE	Available budget of the State	2007-2010
1.1.5. Carry out case studies on national activities possible sources of dioxins and furans not registered in the Toolkit of UNEP (ex. fabrication and combustion of charcoal, wilderness fires, handcraft activities, informal activities,...)	Reports of validated studies available	Reports of studies Reports of the technical Team's activities	MINITERE; REMA all concerned and other services	Technical assistance Financial support by bankers	2007-2015

<b>SPECIFIC OBJECTIVE 2: SENSITISATION OF THE POPULATION AND DECISION MAKERS ON UNINTENTIONAL POPs AND THE ISSUE OF THE BEST AVAILABLE TECHNIQUES AND BEST ENVIRONMENTAL PRACTICES</b>					
<b>Result 2.1: The Population and decision makers are aware of the issue of dioxins and furans</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
2.1.1. Organize television forums	Number of forums organised; Number of programs organised	Medias archives; Reports; Leaflets distributed; Posters distributed;	Medias and concerned public and private services	Financial support by bankers	Starting by 2007
2.1.2. Prepare a national user guide on the best available techniques and best environmental practices	Validated guide available	Users having the guide	MINITERE/ REMA and concerned private services	Financial support by bankers	2007-2010
<b>SPECIFIC OBJECTIVE 3: IMPROVEMENT IN THE MANAGEMENT OF BIOMEDICAL WASTES AND SOLID MUNICIPAL WASTES</b>					
<b>Result 3.1: Wastes of unintentional POPs resulting from elimination of solid wastes are reduced</b>					
<b>Activities</b>					
3.1.1. Support hospitals so as to acquire improved Monfort incinerators ovens	Number of hospitals having functioning incinerators.	Technical reports; Financial reports	MINISANTE	Technical assistance Financial support by donors	2007-2015
3.1.2. To arrange controlled discharges for the urban centres.	Number of controlled, arranged and functioning discharges;	Technical reports; Financial reports	MINITERE/ REMA, municipal technical services	Political will , Financial support by donors	2007-2015

<b>SPECIFIC OBJECTIVE 4: PROGRESSIVE REDUCTION UNINTENTIONAL POPs WASTES RESULTING FROM THE COMBUSTION OF BIOMAS AND FOSSIL FUELS</b>					
<b>Result 4.1 : Wastes of unintentional POPs from the combustion of biomass and fossil fuels are progressively reduced</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
4.1.1. Promote importation of lead free fuel	Quantity of lead free fuel imported Text establishing obligation of using lead free fuel	Oil stations;	MINITERE, MINICOM, MINISANTE, MINECOFIN, ORN	Political commitment	2007-2008
4.1.2. Fight against bush fires	Number of defaulters arrested and prosecuted	Reports by the concerned authorities.	MINITERE/ ORTPN, Local administration,	Community participation	2006-2025
4.1.3. Promote the utilization of improved cooking techniques	Number of installations of alternative energies (at level of households and collectivities)	Reports of investigations.	MININFRA, MINITERE, REMA, Local administration, Private sector, etc...	Political commitment	2007-2025
4.1.4. Intensify tree planting and regulate deforestation	Number of hectares of new trees planted Plans for maintaining and managing the existing Forestry	Reports of inventory of Forestry Plans for maintaining and managing the existing Forestry.	MINITERE, Local administration,	Political commitment Available Budget of the State Financial support	2007-2025
4.1.5. Support centers of hand craft production (tilery, brickyard, etc.) to get improved technologies and equipment.	Number of centers of hand craft production with improved technologies and equipment.	Technical reports; Financial reports	MINICOM, MINITERE, Local administration,	Technical support by financial donors	2007-2015



### **3.3.4. Action plan No 4: MANAGEMENT OF THE PCBs AND EQUIPMENTS CONTAINING PCBs**

#### **Context**

Rwanda ratified the Stockholm Convention on the POPs as approved by Presidential Order n° 78/01 of 8 July 2002; since then this Convention has been in force in the country.

The intentional Persistent Organic Pollutant PCBs, registered in Annex A of the Stockholm Convention, are referred to in its articles 3 and 6. Rwanda as Party to the Convention has the obligation to take appropriate measures to reduce or eliminate the wastes from PCBs resulting from their production/utilization or emanating from their stocks.

Rwanda takes an active part in the activities of implementing at the national level, the international and regional multilateral agreements relating to the chemicals and dangerous waste such as the Conventions of Rotterdam, Basel and the three Rio Conventions.

Since 2002, the Conference of the African Ministers for environment made ecologically rational management of polychlorobiphenyls (PCBs) one of the priorities of the Action plan for environment in the NEPAD.

The initial national inventory carried out in 2005 showed that, the presence of the equipment in the electric energy sector depends still significantly on electric equipment likely to contain PCBs.

The results of the inventory carried out during phase II of AH POP- MINITERE Project shows that 986 apparatuses were inspected out of a total of 1012 apparatuses existing in Rwanda (equivalent to 97.5%)[6 ]. This inventory was carried out according to the methodology presented in the guidelines for the identification of the PCBs and the material containing PCBs recommended by UNEP

These, under the terms of the Stockholm Convention, will have to be entirely withdrawn from service at the latest by 2025 while making sure that a method of ecologically rational management of their wastes is set up and is operational before 2028. Indeed, chemicals and their wastes pose danger to human health and environment with the toxicity of PCBs.

In order to protect human health and the environment against the risk of exposure to the PCBs, Rwanda designed a national action plan, whose activities and means basically aim at the progressive withdrawal of the electric equipment with PCBs and

a protected management of their wastes. Not having currently sufficient resources for this purpose, a special attention is given to the international cooperation.

### **Aim**

Progressive halt and total prohibition from 2025 of any use of electric equipment with PCBs and setting up operational national infrastructure for an ecological management of stocks and waste of PCBs before 2028.

### **Objectives**

1. Accomplishment of the inventory of the PCBs and their wastes in the electric energy sector.
2. Insurance of an ecologically rational management of the PCBs and electric equipment with PCBs as well as other contaminated wastes by the PCBs.
3. Security of electric equipment with PCBs at the end of their lifetime starting from 2008 under the supervision of the Ministry having environment in its attributions.
4. Immediate security of the electric equipment with PCBs still functioning, presenting dielectric leaks under the responsibility of the ELECTROGAZ

<b>ACTION PLAN n° 4: MANAGEMENT OF PCBS AND ITS CONTAINERS : 562.000 US \$</b>					
<b>TARGET : Progressive halt and, starting from 2025, interdiction of any utilization of electric equipment withPCBs and avail an operational national strategy for an ecological management of stockpiles and PCBs wastes before 2028.</b>					
<b>SPECIFIC1 OBJECTIVE: ACCOMPLISHMENT OF THE NATIONAL INVENTORY OF PCBs FROM NOW TO 2008 UNDER THE SUPERVISION OF THE MINISTRY HAVING ENVIRONMENT IN ITS ATTRIBUTIONS</b>					
<b>Result 1: The total quantity of PCBs and of their wastes in the country is known</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
1.1. Reinforce local capacities as regards inventory of PCBs	Number of trained people on PCBs inventory	Minutes of activity reports from the coordinating Team	Ministry having Environment in its attributions, Ministry having Energy in its attributions, Ministry having economy and finance in its attributions, REMA, ELECTROGAZ	Political commitment, State's budget available	2007
1.2. To complete the inventory of the PCBs in the electric components on the entire country	Report of national inventory of the electric component validated and available to at the end of 2008	Report of national inventory validated, The MINITERE and REIC Web page, Report to the Secretariat of the Convention on the implementation	Ministry having Environment in its attributions, Ministry having Energy in its attributions, Ministry having economy and finance in its attributions, REMA, ELECTROGAZ	Financial support accessible	2007-2008

<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
1.3. Carry out an inventory of other applications of PCBs	Report of national inventory validated and available	Report of national inventory validated and available , MINITERE and REIC RWANDA web page, Report to the Secretariat of the Convention on the implementation	Ministry having Environment in its attributions, Ministry having Energy in its attributions, Ministry having economy and finance in its attributions, REMA, ELECTROGAZ	Methodology recommended available, Technical assistance Financial support by donors	before 2028
<b>SPECIFIC OBJECTIVE 2: SECURISATION OF ELECTRIC EQUIPMENT WITH PCBs AT THE END OF THEIR LIFESPAN STARTING FROM 2008 UNDER THE SUPERVISION OF THE MINISTRY HAVING ENVIRONMENT IN ITS ATTRIBUTIONS</b>					
<b>Result 2: Electric equipment with PCBs at the end of life, rightly labelled, are secured</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
2.1. Arrange a temporary platform of storage of the equipment with PCBs at the end of the lifetime	Survey of REMA, Platform arranged and delivered officially, Report of independent investigation	Report to the Secretariat of the Convention on the implementation , Report of independent investigation	Ministry having Environment in its attributions, Ministry having Energy in its attributions, Ministry having economy and finance in its attributions, REMA, ELECTROGAZ	Technical assistance Financial support by donors	2007-2008

Activities/Logic of intervention	Indicators objectively verifiable (IOV)	Source of verification	Actors	Hypothesis/suppositions (Financing and others)	Deadlines
2.2. Take the equipment at the end of the lifetime labelled with PCBs on the platform of temporary storage	Numbers of equipment with PCBs at the end of the lifetime still functioning, Numbers equipment with PCBs at the end of the lifetime abandoned, Number of equipment with PCBs at the end of the lifetime made safe on the platform, Contract of services with an approved transport company	Monitoring report of REMA, Report of an independent investigation, Data Base of the ELECTROGAZ, minutes of meetings of the committee of supervision, management Reports of the team of coordination	Ministry having Environment in its attributions, Ministry having Energy and transport in its attributions, Ministry having economy and finance in its attributions, REMA, ELECTROGAZ	Technical assistance available Financial support by bankers  Financial participation of ELECTROGAZ.	Starting in 2009
2.3. Prepare a national project of ecologically rational elimination of the PCBs and decontamination of the equipment	Project document validated and endorsed by the government, Accord Protocol with donors	Project document validated and endorsed by the government, Minutes of meetings of the committee of supervision, Activity Reports of the team of coordination	Ministry having Environment in its attributions, Ministry having Energy and transport in its attributions, Ministry having economy and finance in its attributions, REMA, ELECTROGAZ	Technical assistance available, State's budget available	Starting in 2009

<b>SPECIFIC OBJECTIVE 3 : IMMEDIATE SECURISATION OF ELECTRIC EQUIPMENT WITH PCBs STILL IN FUNCTION, INDICATING DIELECTRIC LEAKAGES UNDER THE RESPONSIBILITY OF ELECTROGAZ.</b>					
<b>Result 3: Defective equipment with PCBs and likely to remain in function are put in conformity</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadlines</b>
3.1 Confine the fluids coming from the leakages in vats of retention	Number of transformers with PCBs with leakages and equipped with vats with retention	Report of REMA investigation, independent study Investigation of the environment cabinet, Independent study	Ministry having Environment in its attributions, Ministry having Energy and transport in its attributions, Ministry having economy and finance in its attributions, REMA, ELECTROGAZ	Technical assistance  Effective commitment of ELECTROGAZ	Starting in 2008
3.2. Repair leakages on the defective electric transformers with PCBs	Numbers of electric transformers with PCBs presenting leakages	Report of REMA investigation, independent study Investigation of the environment cabinet, Independent study	Ministry having Environment in its attributions, Ministry having Energy and transport in its attributions, Ministry having economy and finance in its attributions, REMA, ELECTROGAZ	Effective commitment of ELECTROGAZ	Starting in 2008
3.3. Periodically monitor the electric transformers with suspected PCBs	Monitoring calendar validated, REMA inspection	Investigation reports of the environment cabinet, Independent study	Ministry having Environment in its attributions, Ministry having Energy and transport in its attributions, Ministry having economy and finance in its attributions, REMA, ELECTROGAZ	Owners of electric transformers sensitised and committed	Starting in 2008

**SPECIFIC OBJECTIVE 4 : HALT THE UTILISATION OF ELECTRIC EQUIPMENT WITH PCBs AT THE END OF LIFETIME FROM 2010 UNDER THE RESPONSIBILITY OF THE MINISTRY HAVING ENVIRONMENT IN ITS ATTRIBUTIONS**

**Result 4: The national program of replacement of electric equipment with PCBs is operational**

<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/suppositions (Financing and others)</b>	<b>Deadline</b>
4.1 Replace the electric equipment with PCBs by equipment of standards	Number of Equipment with PCBs at the end of lifetime still in service after 2010	Inspection report of the cabinet of the environment, Reports of independent investigations	Ministry having Environment in its attributions, Ministry having Energy and transport in its attributions, Ministry having Industry in its attributions ; ELECTROGAZ	Financial incentives by the State  Financial support by donors	2010-2025
4.2 Prohibit the importation of electric equipment with PCBs	Numbers of equipment with PCBs seized, Legal Disposition of prohibition	Reports of customs, Reports of inventories periodically updated validated	Ministry having Environment in its attributions, Ministry having Energy in its attributions, ELECTROGAZ.	Qualified staff operational at the borders	Starting from 2008
4.3. Periodic update of the national inventory of the electric equipment	Update calendar of update validated, Reports of inventory validated	Validated inventory reports, Reports of independent investigations	Ministry having Environment in its attributions, Ministry having Energy in its attributions ELECTROGAZ.	State's budget available, Financial support donors	Starting from 2010

### 3.3.5. Action plan No 5: MONITORING AND RESEARCH DEVELOPMENT

#### Context

Three categories of POPs were identified in Rwanda, they are namely:

- a. Pesticides
- b. Industrial Chemical products
- c. Dioxins and furans

These products pose a great danger to health and environment. The lack of scientific data on their impacts is due to the absence of a national program for monitoring and research - development in the field of chemical safety, with a particular mark on POPs.

However, the installation of this program would make it possible to set up appropriate activities of research and development, monitoring and finding necessary replacement solutions relating in particular to the following points: sources and wastes in the environment; (b) presence, levels and tendencies in human beings and in the environment; (c) propagation, outcome and transformation in the environment; (d) effects on health and the environment; (e) socio-economic and cultural impacts; (f) reduction or elimination of wastes; (g) harmonized methodologies of inventory of the sources of production and analytical techniques of evaluation of wastes.

The promotion of research - development projects will make it possible to control problems arising from the management and the use of POPs to health and environment and to be able to honour the obligations contained in article 11, in particular to :

- i. Develop programs of research - development and monitoring at all levels, and in all the concerned sectors of the national life;
- ii. Undertake research aiming at mitigating the effects of the persistent organic pollutants on genetic health;
- iii. Put at the disposal of the public results of the activities of research - development and monitoring carried out;
- iv. Update information resulting from activities of research - development and monitoring;
- v. Support national activities reinforcing the national capacities of scientific and technical research, and support the access to the data and analysis and their exchange;
- vi. Identify, evaluate and publisize alternatives to POPs.



## **Aim**

Establishment of a national programme for the monitoring and research - development in the field of chemical safety, with a particular emphasis on POPs

## **Objectives**

1. Knowledge of the evolution in time of the level of contamination of human beings and the environment;
2. Promotion of alternatives to POPs;
3. Promotion of the methods locally adapted for ecologically rational elimination of POPs and their sources;
4. Undertake epidemiologic studies on the exposure of certain groups and set a system of taking care of different cases.

<b>ACTION PLAN n° 5: MONITORING AND RESEARCH-DEVELOPMENT : 903 000US\$</b>					
<b>Target: Setting up a national program for monitoring and research-development in the field of chemical security, with a particular accent on POPs</b>					
<b>SPECIFIC OBJECTIVE 1 : KNOWLEDGE IN TIME OF THE EVOLUTION OF THE LEVEL OF HUMAN AND ENVIRONMENT CONTAMINATION BY POPs</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/important suppositions</b>	<b>Deadlines</b>
1.1.1. Monitor the sources and wastes of POPs in the environment	Number of missions carried out, Reports produced Results published	Follow up reports, Minutes of periodical sampling campaigns, Publications of scientific results in international magazines and in the national periodical review	Ministry in charge of Environment, and Research	State's budget available; Qualified human resources available, Financial support by bankers	2007-2020
1.1.2. Monitor transboundary movements of POPs	Nature and quantity of daily registered products at entering posts in Rwanda.	Registry of imported and exported products; Activities' reports;	Custom Services, Ministry in charge of Environment, Commerce and Industry	Qualified human resources available	2007-2020
1.1.3. Monitoring sources wastes of POPs and their impacts	Results published, Minutes of periodical sampling campaigns	Minutes of periodical sampling campaigns, Publications of scientific results in international magazines and in the national periodical review	Ministry in charge of Labour social Security, Public Health, Environment	Political commitment; Material and financial means available Qualified human resources available. Financial support by bankers	2007-2020

<b>SPECIFIC OBJECTIVE 2: PROMOTION OF ALTERNATIVES TO POPs</b>					
<b>Result 2.1 : Alternatives to POPs adapted to the local context are evaluated and Popularized</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/important suppositions</b>	<b>Deadlines</b>
2.1.1. Identify, evaluate alternatives to pesticides with a particular emphasis on natural pesticides of plant origin (pyrethroids), biologic fight and improvement in varieties for an integrated fight against vectors	Current research program Research results Popularized	Publications of scientific results in international magazines and in the national periodical review, Users' alternatives established	Ministry in charge, of Commerce and Industry and research, Health Agriculture, SOPYRWA	Political commitment, Financial support by bankers, Assistance technique	2007-2020
2.1.2. Intensify research on improved cooking techniques and promote their use	Research Programs financed Prototypes of improved cooking techniques are produced Results of investigation on cooking techniques improved	Sells of improved cooking techniques	Ministry in charge of Energy, Research and Environment	Political commitment, Financial support by bankers	2007-2020

<b>SPECIFIC OBJECTIVE 3: PROMOTION OF LOCALLY ADAPTED METHODS FOR ECOLOGICAL RATIONAL ELIMINATION/REDUCTION OF POPs AND OF THEIR SOURCES</b>					
<b>Result 3.1 : Methods to locally eliminating POPs and their sources exist and are operational</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/important suppositions</b>	<b>Deadlines</b>
3.1.1. Carry out research to ecologically eliminate plastic bags	Research program financed, Technologies patented	Publications	Ministry in charge of Environment, Commerce Industry, Research, and Donors' Private Companies	Political commitment, Financial support by donors' Assistance technique	2007-2020
3.1.2. Promote techniques of reduction or elimination of POPs wastes	Technologies and techniques designed are broadcast.	Report of work	Ministry in charge of Environment	Political commitment, Financial and technical support by donors	2007-2010
3.1.3. Undertake research to improve the thermal performances of the hospital incinerators waste and artisanal furnaces of manufacture building materials (tiles, bricks, lime) and bakery	Research program financed Prototypes oven exist and are functional	Results published Improved and functional oven are made public	Research centers and universities	Political commitment Financial support by donors Technical Assistance	2007-2020
3.1.4. Improve techniques of making wood charcoal in order to upgrade its calorific power	Research program financed Prototypes of furnaces of carbonization exist and are functional	Artisanal entities using new technology	Concerned technical Ministries, Private companies, Artisans	Political commitment, Financial support by donors Technical Assistance	2007-2020

Activities/Logic of intervention	Indicators objectively verifiable (IOV)	Source of verification	Actors	Hypothesis/important suppositions	Deadlines
3.1.5. Carry out regular inspection on the infrastructure which constitute sources of wastes and emissions of POPs	Number of inspection reports Number of users of polluting techniques	Inspection reports Records of sanctions inflicted according to the principle polluters/ pay	Ministry in charge of Environement, Labour, social Security.	State's financial means; Qualified human resources	2007-2020
3.1.6. Organize workshops on restitution of the results of the visits.	Numbers of workshops organized.	Workshops' reports.	Ministry in charge Environment	State's financial means	2007-2020
3.1.7. Regularly publish the results of the inspections	Number of publications.	Published reports	Ministry in charge of Labour Social Security, Public Health, Environment	State's financial means	2007-2020
3.1.8. Train the stakeholders for the adoption of the alternatives and new technologies	Number of people trained Number of users of new alternatives and new technologies	Training reports	All concerned Ministries, NGOs, Public and private companies	Political commitment ; Qualified human resources available Financial support by donors	2007-2020

**SPECIFIC OBJECTIVE 4 : UNDERTAKE EPIDEMIOLOGICAL STUDIES ON SOME TARGET GROUPS AND PUT IN PLACE A SYSTEM OF TAKING CARE OF CASES**

**Result 4.1 : Professional diseases linked to POPs are found out and the caring system is operational**

<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/important suppositions</b>	<b>Deadlines</b>
4.1.1. Regularly carry out inspections at place of work	A number of inspection missions are organized.	Inspection reports	Ministry in charge of Labour, Social Security, Public Health, Environement	Collaboration of those in charge of infrastructures ; State's financial means.	2007-2020
4.1.2. Organize periodical medical visits to people particularly those exposed to POPs	Number of consulted workers; numbers and types of medical examinations carried out;	Reports of medical consultations	Ministry in charge of Labour, Social Security, Concerned companies	Existence of appropriate laboratory; Political will to apply the law	2007-2020
4.1.3. Equip the workers with personal protection equipement and oblige them to use them while on duty.	A number of workshops/industries where discipline of works is obligatory.	Reports of visits at the place of work.	In charge of workshops / industries ; Ministry in charge of Labour, Social Security	Political commitment	2007-2020

### **3.3.6. Action Plan n° 6: MANAGEMENT OF STOCKPILES AND CHEMICAL WASTES CONTAINED IN THE FIRST PART OF ANNEX A**

#### **Context**

The use of DDT in Rwanda started in 1940 with a campaign against mosquitoes which cause malaria by using three formula of DDT such as the DDT 5% PP (powder to be powdered) or DDT 10% PP for the treatment of the marshes and DDT 50% WP (water powder) for spraying in their breeding places. Until 1986 and on top of fighting against insects vectors of the malaria, DDT was used in agriculture to fight against bugs on coffee-trees and the notorious insects in food stores.

Other POPs pesticides, in particular the Aldrin, Dieldrine and the Endrin were used in horticulture and in forestry to control the ground insects like white worms, gray Worms, termites, and weevils in banana stems, etc.

In 1990 the first ministerial directives were made public to prohibit the importation and the use of POPs pesticides hitherto used in Rwanda as DDT, Aldrin, Dieldrine and Endrin.

They were replaced by the organophosphorous compounds and synthesized pyrethrinoids.

The preliminary inventory conducted in 2005, showed that a good number of diversified pesticides were in various warehouses and common sales agencies. The quantity found at the sites was 76.793 liters (88% made up of chloropyriphos ethyl against the bug of coffee-tree) and 29.704 kg (copper oxychloride 71%. The deposits are scattered everywhere especially in shopping centres. Nearly 50% of stocks and up to 90% of the quantities are in Kigali Town.

This inventory carried out in the sector of Agriculture showed that the quantity of outdated pesticides reached a total of 2 865 liters and 28 523 kg including 2 948 kg of persistent organic polluting substances. In addition, 40 000 kg of damaged manure were recorded during this inventory.

Although some POPs pesticides were used before 1986 in particular on crops such as coffee, stored food products and on hygiene parasites they are currently prohibited. Since the relevant law is not yet adopted and applied, producers may supply them through black market due to the fluidity of borders.

In its article 6, the Convention recommends parties to take necessary measures to ecologically and rationally manage POPs wastes and stocks.

**Aim**

Collect and secure as soon as possible various stocks and obsolete wastes of pesticides and consider their elimination within the framework of ASP Project (Africa Stockpile Program).

**Objectives**

1. Actualization of the national inventory of the obsolete pesticides (POPs among others) and their wastes that the country uses in Agriculture;
2. Insurance of protected storage of the obsolete pesticides (including the POPs) and their waster;
3. Preparation of the ASP Project Document for Rwanda.



**PLAN OF ACTION n° 6: MANAGEMENT OF STOCKPILES AND CHEMICAL WASTES REGISTERED IN THE FIRST PART OF ANNEX A**

**Target: Collect and secure as quickly as possible the different stocks and wastes from obsolete pesticides and plan in the framework of ASP Project (Africa Stockpile Program) their elimination.**

**SPECIFIC OBJECTIVE 1: UPDATING THE NATIONAL INVENTORY OF OBSOLETE PESTICIDES (INCLUDING POPs) AND THEIR WASTES WHICH THE COUNTRY HAS IN AGRICULTURAL SECTOR**

**Result 1.1: The total quantity of obsolete pesticides (including POPs) and their wastes which the country has in the agricultural sector is Known**

<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/important suppositions</b>	<b>Deadlines</b>
1.1.1. Train the personnel from public and private sectors on pesticides inventory	Numbers of trained persons.	Training reports	MINITERE, Competent technical services	Collaboration of all concerned services; Financial support by donors	2007- 2009
1.1.2. Update the obsolete pesticides inventory including POPs in the agricultural sector	New data on POPs pesticides	Report of inventories.	MINITERE, MINAGRI	Collaboration of all concerned services ; Financial means of the State	2007-2010
1.1.3. Complete and finalize identification of sites where POPs obsolete pesticides have been dumped	New identified sites	Report of inventories.	MINITERE, MINAGRI	Collaboration of all concerned services ; Financial means of the State ;	2007-2010
1.1.4. Visualise on the country's geographic map the use and circulation of pesticides	Map available	Map of utilisation and circulation of pesticides	MINITERE, MINAGRI	Collaboration of all concerned services ; Financial means of the State	2007-2010

<b>SPECIFIC OBJECTIVE 2: INSURANCE OF SECURED STOCKAGE OF OBSOLETE PESTICIDES (INCLUDING POPs) AND THEIR WASTES</b>					
<b>Result 2.1 : Stockpiles of obsolete pesticides are assembled and secured</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/important suppositions</b>	<b>Deadlines</b>
2.1.1. Train the trainers in pesticides stock piling.	Number of people trained Number of trainers recruited Number of training sessions	Reports of training by the Expert trainers Follow up reports and feed-back on the training given	MINITERE, MINAGRI, REMA	Financial means of the State Financial support by donors	2007-2010
2.1.2. Sensitize storekeepers on the problems of pesticides stockpiling POPs pesticides.	Number of sensitisation meetings organised. Number of media reports.	Reports of sensitisation meetings. Media archives	MINITERE, MINAGRI, REMA	Financial means of the State Financial support by donors	2007-2010
2.1.3. Organise a campaign for thorough inspection of the location of infrastructure and pesticides stockpile;	Number of stock piles sites inspected.	Inspection technical Reports.	MINITERE, MINAGRI, REMA	Financial means of the State Financial support by donors	2007-2010
2.1.4. Broadcast and popularize norms for the infrastructure of pesticides stockpiles.	Number of sessions of publicity; Number of leaflets published; Number of stocks inspected, infrastructures inspected. Number of media reports	Reports of publicity meetings Media archives Sanctions inflicted	MINITERE, MINAGRI, REMA	Financial means of the State Financial support by donors	2007-2010
2.1.5. Provide a technical and financial support if needed, to improve stock piling infrastructures of pesticides	Estimated cost for works to improve stockpiling infrastructure.	Inspection technical Reports. Contracts for tenders	MINITERE, MINAGRI, REMA	Financial means of the State Financial support by donors	2007-2010

<b>SPECIFIC OBJECTIVE 3: PREPARATION OF THE ASP PROJECT DOCUMENT FOR RWANDA BEFORE THE END OF 2007 UNDER THE RESPONSIBILITY OF MINITERE</b>					
<b>Result expected 3.1: Stockpiles of obsolete pesticides are evacuated for elimination</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/important suppositions</b>	<b>Deadlines</b>
3.1.1. Create a project coordination team	Text establishing the coordination team	Training reports The coordination team functional Official Gazette	MINITERE	State's budget available	2006-2007
3.1.2. Collect information on the mechanisms of ASP Project	Information available	Report on the ASP Project mechanisms	MINITERE	Involvement of the Ministry in charge of Environment	2006-2007
3.1.3. Request international technical assistance for preparation of ASP Project Document	Requests addressed to donors	Financial Agreements for preparation of the Project Document	MINITERE	Involvement of authorities of the Ministry in charge of Environment	2006-2007
3.1.4. Prepare the Project Document and submit it to donors	ASP Project Document prepared	ASP Project Document Letters of reception of the Project Document by those responsible.	MINITERE	Financial and technical support by donors	2006-2007

### **3.3.7. Action Plan no 7: MANAGEMENT OF THE CONTAMINATED SITES**

#### **Context**

In Rwanda, all the contaminated sites constitute possible sources of pollution for surface water, underground water, air and foodstuffs, thus posing danger to human health and environment. However, these risks are not yet fully internalized in their true sense due to the following reasons; Lack of awareness about the dangers of POPs; Lack of trained staff as regards the management of POPs (ecotoxicologists and toxicologists); lack of specialists in evaluation, analysis of the contaminated sites; lack of laboratory equipment to determine the levels of pollution in soil, Water, air and foodstuffs by POPs.

In its Article 6, the Convention makes an obligation to parties to set up strategies to identify, evaluate and manage the contaminated sites by the 3 categories of POPs. In addition, it recommends that in the event of a possible rehabilitation of the sites, it should be done in an ecologically rational way.

The present action plan aims at objectives associated with activities whose outcome should help the country obtain the capacities and know-how in the field of evaluation, prevention and management of contaminated sites.

#### **Aim**

Give the country an operational strategy of ecologically rational management of sites contaminated by POPs and their wastes by the year 2007.

#### **Objectives**

1. Identification of the sites contaminated by POPs before 2008
2. Prioritisation before 2010 of the sites contaminated according to health and environmental risks.
3. Security of the priority contaminated sites before 2015.
4. Rehabilitation of the priority contaminated sites.

<b>ACTION PLAN n° 7 : MANAGEMENT OF CONTAMINATED SITES: 511 000 US\$</b>					
<b>TARGET : Avail from 2006 to 2007 an operationael strategy of ecologically rational management of contaminated sites by POPs and their wastes</b>					
<b>SPECIFIC OBJECTIVE 1 : IDENTIFICATION OF SITES CONTAMINATED BY POPs BEFORE 2008</b>					
<b>Result 1: A geographic map or a data base of contaminated sites is available</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/important suppositions</b>	<b>Deadlines</b>
1.1. Set up a coordination team and supervision committee for the action plan	-Orders establishing the composition and attributions of the supervision committee and the coordination team  -Existence of individual mandates of members	-Minutes of the supervision committee meetings  -Activity reports of the technical Coordination Teams	Ministry in charge of Environment,  Other Ministries concerned,  Ministry in charge of economic Development and finance,  Involved Parties of private sector and the civil ociety.	Political commitment,  Available State's budget 2007	2007

Activities/Logic of intervention	Indicators objectively verifiable (IOV)	Source of verification	Actors	Hypothesis/important suppositions	Deadlines
1.2. Set up a technical team in charge of inspection, evaluation and management of contaminated sites	<ul style="list-style-type: none"> <li>- Orders establishing the creation, composition and attributions of the technical Team</li> <li>- Individual contracts signed by the technical Team members,</li> <li>-Report of the training workshop on contaminated sites</li> <li>-Contract/Protocol of agreement of the trainer</li> </ul>	Minutes of the supervision committee meetings, Technical Team's report, The coordination team's activities reports, Reports on the implementation of the Convention	<ul style="list-style-type: none"> <li>Ministry in charge of Environnement,</li> <li>Other concerned technical Ministries,</li> <li>Ministry in charge of economy and finance,</li> <li>Involved Parties of private sector and the civil society,</li> </ul>	<ul style="list-style-type: none"> <li>Political commitment</li> <li>Available State's budget</li> </ul>	2007
1.3. Consolidate the inventory of contaminated sites by finalising the physical inspection according to their geographic localisation (GPS)	Exhaustive identification report of contaminated sites validated and available	Exhaustive identification report of contaminated sites validated, Reports on the implementation of the Convention	<ul style="list-style-type: none"> <li>Ministry in charge of Environment,</li> <li>Other concerned technical Ministries, collectivities Local</li> </ul>	<ul style="list-style-type: none"> <li>Political commitment</li> <li>Technical assistance</li> <li>Financial support by donors</li> </ul>	Starting in 2007
1.4. Validate and broadcast the inventory report	Validation workshop report, Number of copies of reports validated broadcast	Archives of stakeholders, Reports on implementation of the Convention, Internet Site of the Ministry in charge of Environment	<ul style="list-style-type: none"> <li>Ministry in charge de of Environment,</li> <li>Concerned local authorities</li> <li>NGOs</li> </ul>	<ul style="list-style-type: none"> <li>State budget,</li> <li>Financial support by donors</li> </ul>	Starting in 2007

**OBJECTIVE SPECIFIC 2 : PRIORITISATION BEFORE 2010 OF CONTAMINATED SITES REGARDING THE HEALTH AND ENVIRONMENTAL RISKS**

**Result 2: The contaminated sites are prioritised according to health and environmental risks**

<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/important suppositions</b>	<b>Deadlines</b>
2.1. Analyse/Evaluate the contamination and health and environmental risks	Analysis/evaluation report  Results from a reference laboratory	Technical Team's activity report,  Reports on implementation of the Convention	Ministry in charge of Environment	Technical assistance available  Financial support by donors	2008-2010
2.2. Validate and broadcast the analysis/evaluation report	Validation workshop report  Number of forums organised for the population  Validated report available for all the concerned actors	Validated report for the stakeholders  Reports to the Secretariat of the Convention	Ministry in charge of Environment,  Ministry in charge of health,  Ministry in charge of agriculture,  Concerned private companies,  Concerned local authorities	Available State's budget Full participation and collaboration among the concerned actors  Technical assistance available	2010

<b>SPECIFIC OBJECTIVE 3: SECURING IN TERMS OF PRIORITY CONTAMINATED SITES BEFORE 2015</b>					
<b>Result 3: The contaminated sites are secured and the surrounding communities are sensitized</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/important suppositions</b>	<b>Deadlines</b>
3.1. Sensitise the surrounding communities and local authorities	Correspondances addressed to competent authorities, Number of sensitisation and information forums organised.	Reports on sensitisation and information sessions, Correspondances of local authorities to concerned counterparts, Reports from independent investigations	Ministry in charge of health, Ministry in charge of agriculture, Ministry in charge of Environment, Concerned private companies, Concerned local authorities NGOs	State's budget  Financial support by donors	Starting in 2010
3.2. Isolate and mark the priority contaminated sites	Total number of priority contaminated sites, Total number of priority contaminated sites.	Report of inspection, Reports of independent studies, Official acknowledgement of realized works.	Ministry in charge of health, Ministry in charge of agriculture, Ministry in charge of Environment, Concerned private companies Concerned local authorities	State's budget,  Financial support by donors,  Technical assistance accessible	Starting in 2010
3.3. Secure contaminated sites	Total number of priority contaminated sites, Total number of priority contaminated sites Not yet secured	Report of inspection, Reports of independent studies, NGOs' Report, Official acknowledgement of realized works.	Ministry in charge of health, Ministry in charge of agriculture, Ministry in charge of Environment, Concerned private companies, Concerned local authorities	State's budget,  Financial support by donors,  Technical assistance accessible.	Starting in 2010



**SPECIFIC OBJECTIVE 4: REHABILITATION OF PRIORITY CONTAMINATED SITES**

**Result 4 : The priority contaminated sites are rehabilitated and useful once again**

Activities/Logic of intervention	Indicators objectively verifiable (IOV)	Source of verification	Actors	Hypothesis/important suppositions	Deadlines
4.1. Inventory of the priority contaminated sites to be rehabilitated 4.2. Inventory of the applicable technologies	Inventory report validated	Report of the technical Team on contaminated sites,  Reports of the supervision committee's sessions	Ministry in charge of Environment, Ministry in charge of health, Ministry in charge of agriculture, Concerned private companies, Concerned local authorities	State's budget available	2010-2015
4.3. Realize the ecologically rational rehabilitation of priority contaminated sites	Number of rehabilitated sites	Report of inspection, Reports of independent studies, NGOs' Report.	Ministry in charge of health, Ministry in charge of agriculture, Ministry in charge of Environment, Concerned private companies, Concerned local authorities	Technical assistance available  Financial support by donors	Starting in 2010
4.4. Prepare and apply a national program of monitoring and prevention of sites contaminated by toxic substances	National program for monitoring the prevention of sites contaminated by chemicals validated and available	National program for monitoring the prevention of sites contaminated by chemicals validated and available	Ministry in charge of health, Ministry in charge of agriculture, Ministry in charge of Environment, Concerned private companies, Concerned local authorities, Other concerned actors	Political commitment, Full collaboration and effective participation of different concerned actors,  Technical assistance accessible,  Financial support by donors, State's budget available	Starting in 2015

### **3.3.8. Action Plan no 8: ESTABLISHMENT OF NATIONAL SYSTEM OF INFORMATION EXCHANGE**

#### **Context**

The obligations of Exchange of information on POPs are stated under articles 3, 4, 5, 6, 8, 9, 10, 11, 12, 13 14, 15 and 16 of the Stockholm Convention.

Rwanda is determined to join hands with the international community commitment to protect human health and environment from the harmful effects of POPs.

In general, the analysis of the situation carried out during the development of the National Profile for management of chemicals and during inventories of POPs revealed a need for exchange of information on chemicals in general and of POPs in particular. Indeed, the legislators, the decision makers, the professionals and the public in general lack information on the nature of these highly toxic substances, their sources and uses and especially their health and environmental effects.

The Network of Exchange of information on chemicals (REIC) is a tool for reinforcement of the capacities to access information on chemicals for their ecological management. It facilitates the setting up of a network of the national partners for the dissemination of information on the multilateral treaties ratified by Rwanda and thus contributes to their effective implementation. The project is as a result of the partnership between the United Nations Environment Programme (UNEP) and the American Environmental Protection Authority (USEPA). It uses the information system on ecologically rational technologies (ESTIS) as a tool for the creation of Internet site for the exchange of information on chemicals. This network is operational in Rwanda since January 2006 after training on the ESTIS, a multi-lingual system of information management which promotes the transfer of technologies or the ecologically rational techniques (TER). ESTIS includes two integrated components which allow the creation of an information system on decentralized network for the transfer of information on TER and which improves the access and control on information at the local level. The objectives of the REIC are:

- The installation of structures for the collection, evaluation, validation and the publication of information,
- To inform and sensitize decision makers and other national institutions,
- Maintenance of sites on the chemical substances in Rwanda,

- To promote and develop synergies between the focal points of the Conventions (Stockholm, Rotterdam, Basel, Montreal Protocols),
- To coordinate management activities of the chemicals and to rationalize the use of the resources.

The REICs' project operates in the framework of facilitating the realization of the enabling activities for the implementation of the Stockholm Convention on the Persistent Organic Pollutants (POPs) as well as other activities relating to Conventions that Rwanda ratified.

The present action plan emanates from article 9 of the Convention. It ensures the success of the implementation of the measures considered to be a priority by the country, and it is conceived first of all to improve the knowledge of the involved national parties in order to ensure their full and effective participation in the fight against POPs. It is also essential to ensure the information flow between Rwanda, the Secretariat of the Convention, the Conference of the Parties as well as other Parties to the Convention.

### **Aim**

To produce and share information relating to the fight against POPs and produce the periodic reports and all other relevant information to the Secretariat of the Convention and the Conference of Parties by 2007.

### **Objectives**

1. Reinforcement of a national system of information exchange on chemicals and POPs in particular, operational since 2006, under the responsibility of the MINITERE and REMA.
2. Periodic information to the Secretariat of the Convention on the progress of NIP implementation progress.

<b>ACTION PLAN n° 8: ESTABLISHMENT OF NATIONAL SYSTEM OF INFORMATION EXCHANGE: 516 000 US\$</b>					
<b>TARGET: PRODUCTION AND SHARING INFORMATION RELATING TO THE FIGHT AGAINST POPs AND COMMUNICATION OF THE PERIODIC REPORTS AND ALL OTHER RELEVANT INFORMATION WITH THE SECRETARIAT OF THE CONVENTION</b>					
<b>SPECIFIC OBJECTIVE 1 : REINFORCEMENT Of A NATIONAL SYSTEM OF INFORMATION EXCHANGE ON CHEMICALS AND POPs IN PARTICULAR, TO BE OPERATIONAL BY 2006, UNDER The RESPONSIBILITY OF MINITERE AND REMA</b>					
<b>Result 1 : A reliable and operational system of data-collection is reinforced and the involved parties have access to information on chemicals and POPs in particular at the national and international level</b>					
<b>Activities/Logic of intervention</b>	<b>Indicators objectively verifiable (IOV)</b>	<b>Source of verification</b>	<b>Actors</b>	<b>Hypothesis/important suppositions</b>	<b>Deadlines</b>
1.1. To reinforce a Mechanism of supervision of the implementation of the NIP	Text establishing national mechanism of supervision of NIP implementation	Minutes of meetings Supervision mechanisms	PRIMATURE, MINIJUST MINITERE, REMA, MINECOFIN, MINAFFET, Private sector, NGOs.	Political commitment	2007
1.2. To facilitate the focal point in its activities	Fixed and movable means at the disposal of the focal point, technical means of the focal point, Operational Budget for focal point, Support staff at the disposal of the focal point	Archives and activity reports of MINITERE and REMA technical services.	MINITERE, REMA, MINECOFIN.	Political commitment, State's budget available, Financial support and technical assistance accessible	2007-2012

Activities/Logic of intervention	Indicators objectively verifiable (IOV)	Source of verification	Actors	Hypothesis/important suppositions	Deadlines
1.3. To centralize information on the effective installation of various supervision committees, coordination teams and other specialized teams for the implementation of the action plans	Repertory of the orders establishing the creation, composition and functioning of the supervision committee and the coordination team, Reports of inventories and evaluation update validated	Activity report of the focal point Files of the technical departments serving as chief guide of the committees and team activities reports of the focal point serving as office of the Secretariat of the Mechanism of report to the Convention	MINITERE, REMA, Operational Focal point,	State's budget available	2007-2012
1.4. To regularly and periodically update national inventories and evaluations on POPs	Report of inventories	Minutes of meetings of the coordination mechanism for NIP implementation	MINITERE, REMA, Coordinating committee NIP implementation, Supervision of the action plans' committee, Coordination Team of action plans, Specialized team for the action plans	Qualified human resources available  State's budget available Financial support from donors  Technical assistance accessible	2007-2011

Activities/Logic of intervention	Indicators objectively verifiable (IOV)	Source of verification	Actors	Hypothesis/important suppositions	Deadlines
1.5. To produce with the sector/service concerned a biannual report on POPs	Validated official reports of the services/sectors transmitted to the focal point of the Convention	Minutes of meetings of the coordination mechanism of action plans, Activity reports of the coordination Teams, Activity reports of the specialised Teams , Activity report of the operational focal point	MINITERE, REMA,  Operational focal point, Sectors /Concerned Services	Qualified human resources available, State's budget available, financial support from donors technical assistance accessible	2007-2025
1.6. To create a national Data Bank on the POPs	Existence and operability of the Data Bank, Existence of a qualified personnel in charge of keeping the data bank	Minutes of the supervision Committees meeting on the Action plans, Activity report of the operational focal point, Reports to the Secretariat of the Convention on the NIP implementation	MINITERE, REMA Operational Focal Point concerned Sectors / Services, Mechanism for supervision of the implementation of the Convention, Mechanism of reporting to the Convention, Supervision Committees of the action plans, Coordination Teams of the action plans, Specialised Teams of the action plans	Qualified human resources available, State's budget available Financial support and Technical assistance accessible.	2007-2025

Activities/Logic of intervention	Indicators objectively verifiable (IOV)	Source of verification	Actors	Hypothesis/important suppositions	Deadlines
1.7. To organize information and training sessions for the involved parties on the mechanism of data-collection on the POPs	Reports on sessions organized	Minutes of the supervision Committees meeting on the Action plans ,  Activity reports of the coordination Teams ,  Activity reports of the specialised Teams ,  Activity report of the operational focal point	Mechanism for supervision of the implementation of the Convention ,  Mechanism for reporting to the Convention ,  Supervision Committees on the Action plans ,  Theme Group REIC, Action plans coordination Teams Specialised Teams for the action plans	Qualified human resources available  State's budget available	2007-2011
1.8. To periodically evaluate if the involved parties are adapted to the mechanism of data-collection	Number of evaluations	Follow up reports  Activity report of the focal point	Supervision Committees on the Action plans Action plans coordination Teams  Specialised Teams for action plans	Qualified human resources available  State's budget available	2007-2012

## **3.4. IMPLEMENTATION, FOLLOW-UP AND EVALUATION OF THE STRATEGY AND ACTION PLAN**

### **3.4.1. Roles of Stakeholders**

The implementation of the strategy and action plans will be based on a broad participation of the actors concerned with the ecologically rational management of the Persistent Organic Pollutants, in particular AH POP-MINITERE project located within the Ministry in charge of environment which constitutes the focal Point of the Stockholm Convention on POPs, Government departments concerned, the civil society, the private sector and development partners.

#### **a) Focal point of the Stockholm Convention on POPs (AH-POPs)**

The role of the AH-POPs project in implementing the action plans will be:

- To coordinate the dissemination and information exchange to the Secretariat of the Convention including the reports specified in article 15 of the Convention;
- To facilitate the implementation of activities of Convention;
- To capitalize information relating to POPs;
- To develop a mechanism of information exchanges at the national level;
- To coordinate (and take care of) the development of the strategies and national action plans for the reduction of wastes and the elimination of POPs, including the NIP;
- To provide information and promote research, education, information and sensitization projects of the public on POPs;
- To identify the national needs as regards technical and financial aid and communicate to the Secretariat of the Convention;
- To identify the possibilities of technical and financial aid for the reduction and elimination of POPs wastes at the national, regional and international levels.

#### **b) Ministries concerned**

The role of various ministries concerned in the implementation of the action plan will be:

- Take into account the issue of POPs in the development plans and programs by harmonizing sectoral policies;



- Coordination of the implementation and the follow-up-evaluation of the strategy and NIP action plans;
- Dissemination of information, sensitization and public education;
- Reinforcement of operational capacities (training of specialists etc);
- Development, follow-up and evaluation of plans and projects with a participative approach;
- Capitalization of the data and information and management of the data banks;
- Development, dissemination and application of the legal texts;
- Dynamization of consultation frameworks;
- Search for financing, availability of necessary resources and the control of management;
- Control and follow up POPs wastes.

### **c) Local communities**

In the implementation of the action plans, the local communities will be used as relay structures and will intervene in the management of the infrastructure and collection sites.

### **d) The local communities, farmers' organizations, local associations and NGOs**

These actors will have a principal role in:

- the participation in publicity campaigns, information and education of the population;
- the control of actions at the grassroots level;
- control of the methods and ecologically rational management of POPs;
- the participation in the development, execution and follow-up-evaluation of NIP plans and projects;
- the dissemination and popularization of good practices and knowledge as regards management of POPs.

### **e) Private sector and parastatals**

The role of the private sector and the parastatal companies like ELECTROGAZ will be responsible for:

- The replacement of the equipment with PCBs
- The declaration of stocks containing PCBs and to import equipment without PCBs;

- The participation in publicity campaigns, information and education of the population
- The control of actions on the ground;
- The control of the methods and ecologically rational management of POPs;
- The participation in the development, execution and the follow-up-and evaluation of the NIP plans and projects.

#### **f) Financing organs**

The financing organizations (the World Bank, ADB, FAO, GEF, UNEP, UNDP, UNIDO, etc) and various bilateral co-operations will have a role in;

- The contribution to the harmonization of the strategies and the national action plans;
- Contributing to the financing of sub-regional projects;
- The technical and financial support for the reinforcement of the capacities;
- The transfer of technologies and knowledge;
- The support to the plans and projects' financing;
- the support to various official services, local communities and local NGOs;
- The participation in the supervision of the interventions on the ground;
- To take part in information exchange.

### **3.4.2. Institutional implementation mechanisms**

With the policy of decentralization which is already effective in Rwanda, the implementation of the strategy and action plans is mainly at three levels: national, provincial and district level.

#### **a) *At the national level***

A multisectoral and institutional National Supervision Committee of implementation will be set up, chaired by the Ministry of environment. This committee will be in charge of the orientation and the strategy of execution of the action plans. It will include representatives of the ministries concerned, the economic industrial/operators, the civil Society in general and technical and financial partners. It will contribute to the integration of the process of ecologically rational management of POPs in priorities, programs and activities of the various stakeholders. The Secretariat of the National Committee will be set

up, and will be responsible for the preparation of draft reports to the Convention and other necessary reports, possibly by compilation of the sectoral reports transmitted by the follow-up Sub-committees. The Executive Secretary is directly responsible of the operational focal Point of the Convention, designated by the government under the terms of article 9 of the afore mentioned Convention. The mandate of the operational focal point is incompatible with that of President of the National Supervision Steering Committee. It is in charge of the daily follow-up of the implementation process.

The operational focal point is responsible for the working of the national system of information exchange on POPs and other information under the terms of article 9 of the Convention, in respect of the obligations of the Convention in its articles 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15 and 16 which aim at the major obligations made to the Parties. For this purpose, the Secretariat is the body in charge for the Network of information Exchange on chemical through Internet (REIC).

**b) *At the provincial level and Kigali City***

The Ministry in charge of environment will create at the level of each four provinces and the Kigali City, an office in charge of the implementation, follow-up and evaluation of the action plans. The mission of this office will be to take care of:

- Harmonization and actualization of the province's or Kigali City's development Plan to deal with POPs issue;
- Orientation of development projects and activities addressing the national and provincial concerns as regards management of POPs;
- All development actors in the Province and Kigali City refer to the NIP action plans;
- Regularly and periodically give report to the operational focal point of the Convention on the progress of implementation, follow-up and evaluation of the action plans.

**c) *At the district level***

At the level of each district of Rwanda, an office in charge of the implementation follow-up-and evaluation of NIP will be created by MINITERE as a district office in charge. The mission of this office will be to make sure that:

- (i) The district development projects and activities are in harmony with the NIP;

- (ii) All the actors of development at the district level are informed and sensitized on the NIP;
- (iii) A report is regularly and periodically given to the provincial office and Kigali City.

### 3.4.3. Means of implementing the strategy and the action plans of the NIP

The means defined for each action are indicated in the timetable for implementing the plans. They include financial, human and technical means.

#### *a) Legal means*

##### *b)*

- ❖ The organic law N° 4/2005 of 8 April 2005 *determining the modalities of protection, conservation and promotion environment in Rwanda constitutes the principal legal instrument of reference for the implementation of the strategy and the action plans of this NIP. It will have to be supplemented to take into account the obligations of the Convention.*
- ❖ The legal texts to apply for the implementation and the follow-up-evaluation of the strategy and the action plans must be reinforced. Moreover, they must be in adequacy with the obligations of the convention of Stockholm on POPs but also in coherence with cultural, socio-economic realities and policies of the country.

#### *c) Financial means*

In accordance with article 13 of the Stockholm Convention, developing countries such as Rwanda, must mobilize the financial resources according to the following three levels':

- ❖ **On the level of each Party State** : the budget of the State and its economic operators (industrial, commercial), the civil society (farmers, households, associations, NGO, etc.)
- ❖ **At bilateral and multilateral level:** at this level the developed countries Parties were committed to helping developing countries in order to enable them meet their obligations towards the Convention
- ❖ **On the level of the provisions of the Convention:** the Conference of the Parties chose the World Environment Funds (WEF) as the financial mechanism of the Convention in order to financially help developing countries and those with economy in transition to meet their obligations.

There is also the Canadian funds on POPs which are available and can support the said country in various activities within the framework of the Convention.

*d) Human and technical means*

The country does not yet have enough human and technical resources for the management of POPs. Training courses and various technical aids will be developed and multiplied so that the country is equipped with sufficient human capacities both qualitatively and quantitatively. This is stipulated in the article 12 of the Convention.

### **3.4.4. Follow-up – evaluation technical mechanism**

**a) External follow-up-evaluation**

External follow-up/evaluation of the activities and of projects financed by the financial institutions which are carried out within the framework of the NIP implementation will be ensured by consultants of the financial institutions, representatives of the financial partners and the national structure in charge of the activity or project. There will be at least two evaluations: one in the middle and the other at the end of the project.

**b) Internal follow-up - evaluation**

At the national level, the principal parties involved in the management of POPs take part in the follow-up evaluation of the activities and projects financed and carried out within the framework of the NIP implementation.

The participative approach will be privileged so that the principal stakeholders of the public and private sectors as regards management of POPs are involved, in the piloting of the activities and projects and the appraisal of the achievements. The reports of internal follow-up evaluation will release the results of the NIP implementation in the socio-economic and environmental fields, the performances in terms of execution of the NIP, while accounting for the results and achievements by activity/Action plan of the NIP which was financed.

### 3.5. PROPOSALS FOR THE DEVELOPMENT AND THE CAPACITY BUILDING AND PRIORITIES [7]

The proposals for capacity building of POPs management have four specific aims which are:

- *Specific objective n° 1*: Human capacity building of POPs management
- *Specific objective n° 2*: Promotion of the follow-up, research - development and POPs analysis
- *Specific objective n° 3*: Adaptation of the infrastructure and the institutions to a rational management of POPs
- *Specific objective n° 4*: Adaptation of the legislative and legal texts to the obligations of the Stockholm Convention

The identified priorities compared to these specific objectives are included in the table below.

**Table 6: National priorities of POPs management in Rwanda**

Specific objectives	Priorities
Specific objective n° 1 : Capacity development of POPs management	Priority n°1 : An operational national IEC program
	Priority n°2 : Organisation of training session
	Priority n°3 : Preparation and implementation of formal training programs
Specific objective n° 2 : Promotion of follow up, research-development and POPs analysis	Priority n°1 : A national follow up, research-development and analysis center of POPs which is operational
	Priority n°2 : Publication of data and information on POPs
	Priority n°3 : A framework and network of information exchange is given on the follow up, research-development and POPs analysis
Specific objective n° 3 : Adaptation of infrastructure and institutions to an ecologically rational management of POPs	Priority n°1 : Establishment of a functional national library of POPs analysis and corresponding wastes
	Priority n°2 : Control of the production of POPs and other wastes
	Priority n°3 : Reduction of dioxins and furans emissions
	Priority n°4 : Protection of the environment, working places and workers
	Priority n°5 : Treatment/elimination of obsolete POPs and corresponding wastes
Specific objective n° 4 : Adaptation of legislative and regulatory texts to the obligations of Stockholm Convention	Priority n°1 : Actualise and complete legal texts and regulations relating to POPs
	Priority n°2 : Sensitize on legal texts and regulations relating to POPs
	Priority n°3 : Legal texts and regulations relating to POPs
	Priority n°4 : Legislation and regulations of national norms on matters of POPs
	Priority n°5 : A legislation modifying or adapting institutions to the Stockholm Convention obligations
	Priority n°6 : A permanent framework of preparation/ actualisation of legal and regulatory texts relating to POPs

### **3.6. TIMETABLE FOR THE IMPLEMENTATION OF THE ACTION PLAN AND ACHIEVEMENT INDICATORS**

The calendar of implementing the NIP goes from 2007 to 2025. The tables of the action plans indicate in a detailed way the calendar for each activity, the goals, the objectively verifiable indicators, as well as the expected results. The National Committee of supervision of the Convention implementation will have to maintain a permanent follow-up of the activities carried out by the various responsible organs.

### **3.7. FINANCIAL RESOURCES REQUIRED**

#### **3.7.1. Estimates of the financial resources required for the action plan**

Estimate of financial resources have been based on different activities to be realised for the implementation of each NIP action plan (see Annex 1). In many cases, resources will be specified only after the feasibility study of proposed actions. For the time being, these are only estimates.

As regard financing sources, the realization of the NIP will require a technical and financial support on behalf of the institutions: multilateral cooperation and financial resources availed by the Convention under its articles 13 and 14.

### 3.7.2. Files of Projects to be financed in order of priority

<b>Project n°</b>	<b>: 1</b>
<b>Title of Project</b>	<b>: Sensitisation, information and education of the public on POPs</b>
<b>Localisation</b>	<b>: The whole country</b>
<b>Sector of activities</b>	<b>: Environment</b>
<b>Duration</b>	<b>: 5 years</b>
<b>Budget estimate</b>	<b>: 1.086.000 US \$</b>

#### 1. The Problem

The inventories on POPs realized in 2005, show that the Rwandan population is exposed, in one way or another to the harmful effects of these products. However, the population is not sufficiently aware of the dangers these POPs pose on health and the environment. It is important to work out a program for providing information and to support in the sensitization and education of the public on POPs, on various alternative solutions, new techniques of their ecological elimination etc.

#### 2. Objective of the project:

##### 2.1. General objective:

- Uplift the level of knowledge and awareness of the population on of POPs issues.

##### 2.2. Specific objectives:

- Establishment of a national program of information, education and communication (IEC) starting 2007.
- Development and carrying out of informal and formal training on chemical safety.
- Equip the country with a toxicological information center.

#### 3. Expected results

- the level of knowledge and awareness of the population on the question of POPs is high.
- a national program of information, education and communication (IEC) is operational starting 2007.



#### **4. Activities**

- To identify among the general public the principal target groups and the population threatened or at risk;
- To produce appropriate documentation and didactic materials;
- To inform professionals of the media on POPs;
- To sensitize and inform the target groups about the risk and harmful effects of POPs on health and the Environment;
- To sensitize and inform the target groups on the alternatives to POPs;
- To publish in local languages used in the country, a periodic review on chemical safety in general, with particular label on POPs and other persistent toxic substances;
- To set up a national network of information exchange on chemicals through Internet (REIC).
- To organize training workshops for the legislators, the public and private decision makers of the concerned services on the question of POPs;
- To create and make operational a national center of toxicological information on the dangerous chemicals;
- To organize informal training courses for the proven or potential users and concerned workers;
- Advocacy for the administrative, political and legal people in charge of POPs issues;
- To train the professionals of the public and private media on POPs;
- To introduce the issue of chemical safety into the curricula of primary education, secondary and higher learning;
- To organize advanced training courses on the traceability, standardization, labeling in connection with dangerous chemicals, including POPs for professionals from the Office of Standardization.

#### **5. Modalities of implementation**

- Solicit for funds;
- A feasibility study will be undertaken;
- The Ministry in charge of environment in collaboration with the Ministry of education and other research institutions will follow up the program

#### **6. Beneficiaries of the project**

- The entire population of Rwanda.

#### **7. Sustainability of the project**

- Follow up and regular evaluation of impacts of the program to the beneficiaries.

#### **8. Estimate cost (in USD) : 1.086.000 US\$**

<b>Project n°</b>	: 2
<b>Title of the Project</b>	: Construction of a securisation stockpile of obsolete Chemical Products including POPs
<b>Location</b>	: Kigali City
<b>Type of activities</b>	: Environment
<b>Duration</b>	: 1 year
<b>Budget estimate</b>	: 500 000 US\$

## 1. Problem

The inventory carried out at the level of Agriculture and health sectors revealed that there are pesticides, pharmaceutical products and other obsolete chemical substances including POPs which are scattered in various warehouses in the country. These products pose a great danger to the health of the workers, storekeepers, managers of stocks, families, etc. These stocks are sometimes located near work places or in the same warehouses with food stuffs. Their empty packets are re-used by people or sold at the markets and sometimes burned with the risk of releasing dioxins and furans. These outdated products are sometimes buried under ground without precaution with the risk of polluting soils and water. The construction of a storage facility will reduce the dangers of getting into contact with chemicals and shall also protect the environment.

## 2. Objective of the project

### 2.1. General objective:

- Protection of health and the environment against the obsolete chemicals including POPs.

### 2.2. Specific objectives

- Realization of the inventory of chemicals including POPs through out the country
- Collection and securing of various chemical stocks scattered including POPs and kept safely for further destruction

## 3. Expected results

A stock of safety of the obsolete chemicals POPs is built, health and the environment are protected.

#### **4. Activities**

- To make inventory on scattered stocks of the chemicals including POPs;
- To sensitize groups at risk (manipulators, storekeepers, managers of stocks, families, etc.) on the dangers of out dated products in stock
- To identify the sites where these products have been dumped
- To train trainers as regards storage of these products;
- To create a program of regular inspection of the infrastructure of storage of these products in order to channel them to the common storage building.

#### **5. Methods of execution**

- Search for funds
- Choice of the construction company;
- Follow-up the completion of the construction work by the Ministry in charge of environment.

#### **6. Beneficiaries of the project**

- All the people of Rwanda.

#### **7. Sustainability of the project**

- Maintenance of the storage building for these products;
- Regular Inspection of the small infrastructure of storage;
- Regular Sensitization of the people, especially users, workers etc, on the dangers of these products.

#### **8. Estimated cost: 500 000 US \$**

**Project n°** : 3  
**Title of the Project** : Promotion of alternatives to POPs pesticides  
**Location** : Northern Province (MUSANZE)  
**Type of activities:** Environment  
**Duration** : 2.5 years  
**Estimated budget** : 1 000 000 US\$

## 1. The Problem

Rwanda has ratified several conventions aiming at reducing or eliminating the dangerous chemicals including the POPs pesticides. The substitute products are effective against vectors which cause malaria. For example, chloropyriphos ethyl 48%EC. is applied regularly on coffee against the bug; the pyrimiphos methyl for the preservation of the stored food products, the déltamethrine in used to spray mosquito nets, the bytical against the ticks.

The alternative use of a natural insecticide containing pyrethrum can be considered in Rwanda, because it is grown in the northern province and has company SOPYRWA which exports the raw material.

From the extract of refined pyrethrum, it is possible to locally produce natural pesticides and insecticides that can be used in the fields of agriculture and health.

## 2. Objective of the project:

### 2.1. General objective:

Reduction of the threat of the POPs pesticides on human health and the environment.

### 2.2. Specific objectives:

- Strengthening the research institutions;
- Acquisition of a natural and less expensive insecticide from pyrethrum;
- Increase the standard of living of the surrounding communities that are engaged in the cultivation of pyrethrum;
- Increase income of the country (taxation of the sale of the products with added value) and reduction of poverty,
- Regular Publication of research results on the use of the pesticides and insecticides containing pyrethrum.

### **3. Expected results**

- Research and development in the field of production of the pesticides and natural insecticides and their uses is operational.
- Pesticides and insecticides containing pyrethrum are available and are used in Rwanda.

### **4. Activities**

- Identify and evaluate alternatives to the pesticides with a particular label on the natural pesticides of plant origin, especially the pyrethrinoid;
- Creation of a laboratory analysis to reinforce the capacity of the experts in the field of research and development;
- Sensitize the neighboring population of SOPYRWA on the advantages of pyrethrum growing;
- Development of the marketing of the pesticides and insecticides locally produced;
- Promote appropriate methods for the increase of the output of pyrethrum growing.

### **5. Methods of execution**

- Solicit for funds
- Equip the laboratory for constant monitoring and analysis
- Recruit specialized researchers in this field

### **6. Beneficiaries of the project**

- All the people of Rwanda.

### **7. Sustainability of the project**

- Regular maintenance of the factory of refinery and its equipment;
- Regular sensitization of the benefiting population on the advantages of the use of pyrethrum compared to the use of other pesticides;
- Regular technical supervision through research - development.

### **8. Estimated cost: 1.000.000 US \$**

## **IV. CONCLUSION**

Rwanda participated in the United Nations conference on environment and development in 1992 in Rio de Janeiro in June 1992. ("Rio Summit "), after the Conference, Heads of States and Governments from more than 150 Member States of the United Nations adopted "the Agenda 21", which is a worldwide Action plan defining the responsibilities of States towards sustainable development in the 21st century.

The Summit resolutions comprised, among others, the goal to make a success in ecologically rational management of chemicals by 2000 through setting up priorities and strategies of Chapter 19 of Agenda 21 relating to the ecologically rational management of the toxic chemical substances, including the prevention of international illicit traffic of dangerous toxic products.

A framework of dialogue between governments on mechanisms of implementation of Chapter 19 of Agenda 21 was established in 1994, by the international Conference in Stockholm on chemical safety through the creation of Intergovernmental Forum for Chemical Safety (FISC).

In 1997, reconvened within the FISC, governments, members of the United Nations decided to engage the fight against persistent organic pollutants (POPs) because of the sufficient scientific evidence by researchers that they had serious health and environmental harmful effects.

For this reason, the governments decided enact a legal instrument, legally binding of international significance known as Stockholm Convention on POPs.

Aware of the danger that POPs cause to human health and the environment; concerned with the efforts of the international Community in the fight against POPs, Rwanda negotiated the text of the Stockholm Convention which it ratified as approved by Presidential Order n° 78/01 of 8 July 2002.

The objective of the Stockholm Convention is to protect human health and the environment from the harmful effects of POPs with an approach of precaution. For that end, it states a number of essential provisions Parties must consider:

- Designate a focal point for information exchange - article 9);
- Prohibit and/or take legal and administrative actions to eliminate the production and the use of chemical substances registered in Annex A (aldrin, chlordane, dieldrin, endrin, heptachlore, hexachlorobenzene, mirex, toxaphene and PCBs) - article 3.1 a);

- Limit the production and the use of chemical substances registered in Annex B (DDT) - article 3.1 B);
- Make sure that any chemical substance registered in Annex A or Annex B is exported only for an ecologically rational elimination or an authorized use under the terms of one or the other of these appendices - article 3.2 a);
- Make sure that any chemical substance registered with Annex A or the Annex B is exported only for one ecologically rational elimination towards an authorized Party to use this substance under the terms of one or the other of these annexes, or towards a non-Party State which started implementing the Stockholm Convention article 3.2 b);
- Take measures and modalities of regulation and evaluation aiming at preventing the production and the use of new pesticides or new industrial chemical substances, and identifying information of POPs by these modalities (article 3.3, article 3.4);
- Record the exemptions specific to Annexes A or B, otherwise, and must, at the moment they become Parties submit a report attesting that the recording of the exemption remains necessary when the prolongation of this record is required - articles 4.3 and 4.6;
- Prepare and implement a national, sub-regional or regional action plan, otherwise, reduce the total volume of chemical emissions registered in Annex C (PCDD, PCDF, HCB, PCBS) of anthropic sources within two years from the date they become Parties to the Convention - article 5;
- Manage the stocks and wastes so as to protect human health and environment by working out suitable strategies, in particular to identify, handle, collect, transport and eliminate them using ecologically rational methods - article 6.1;
- Prohibit the operations of elimination of POPs stocks and wastes of likely leading to recovery, recycling, regeneration, direct re-use or other uses - article 6.1 d) III);
- Regulate the transboundary movements of POPs stocks and wastes in accordance with the relevant rules, standards and international directives - article 6.1 d) iv);
- Transmit a Plan of implementation to the Conference of the Parties within a deadline of two years as from the date of entry into force of the Convention for the Parties considered and to examine within regular intervals the aforementioned plan - article 7.1;
- Present to the Secretariat of the Convention a proposal for a registration of a chemical substance showing the characteristics of POPs on the list of POPs (Article 8; Non-binding obligation);



- Exchange information with other Parties referring to the reduction or elimination of the production, the use and the emission of POPs, solutions of replacement of these substances - article 9;
- Make sure that the public has access to information on POPs including those related to health and safety of the people and the environment - article 10.2;
- Undertake appropriate activities of research - development, monitoring and co-operation concerning POPs and, solutions of replacement as well as potential POPs (article 11);
- Provide, from developed countries Parties, a technical aid to the Parties of developing countries and countries with an economy in transition - articles 12.1 and 12.2;
- Provide support and incentives in terms of finance for the national activities which aim at achieving the objective of the Convention - article 13.1;
- Provide, for developed countries, a financial support to the Parties of developing countries and countries with economy in transition to enable them to cover the totality of the agreed over-costs so that they can meet their obligations towards the Convention - article 13.2;
- Periodically submit to the secretariat the reports on the implementation of the provisions of the Convention, including statistical data on the total quantities produced, imported and exported chemical substances registered in Annexes A and B - articles 15.1 and 15;

In order to respect its obligations under the terms of the Convention, and in accordance with article 7, Rwanda prepared its National Implementation Plan in reference to provisional Directives provided by the Convention, following a five step methodology:

- i. Establishment of coordination mechanism (institutional arrangements);
- ii. Inventories and impact studies of POPs and evaluation of infrastructures and national means;
- iii. Determination of priorities and national objectives of POPs management and respect other obligations of the Convention;
- iv. Preparation of action plans and the formulation of NIP;
- v. Approval of NIP by all national stakeholders, its formal endorsement by the Government and its presentation to the Convention.

During the development process of the NIP, initial national inventories of POPs were carried out between 2004 and 2005 in order to assess the situation of POPs in Rwanda.

The use of POPs pesticides like DDT in the Agriculture and health Sectors (against the vectorial insects) is prohibited in Rwanda since 1986. However, due to the porosity of the borders, the population can import these products through black market. However, this inventory showed that there is one type of obsolete pesticides which should be rationally eliminated.

The PCBs are still present as components or dielectric contaminated fluids in some transformers and electric condensers at the end of their lifespan or still in operation. According to the inventory, the contaminated equipment which will not have reached their end of their lifetime by 2025, will have to be imperatively put out of service for elimination. The tracking tests will give a clearer situation on the quantities.

The studied unintentional products are the dioxins (PCDD) and the furans (PCDF). In the case of Rwanda, they come primarily from uncontrolled combustion of solid waste and the burning of biomass by bush fires or charcoal burning. The initial national inventory of these substances made it possible to identify the uncontrolled processes of combustion, the incineration of domestic waste, transport, as the main sources of dioxins and furans emission.

The Convention recommends to the Parties to use the best available techniques and the best environmental practices as soon as possible. The latest be four years after the entry into force of the Convention for the concerned Parties.

Essentially, the situational analysis proved the effective presence of the obsolete pesticides, POPs (PCBs, dioxins and furans) and that their wastes were kept for different reasons by unaware actors without realizing the nature of these substances and their harmful effects on health and the environment due to lack of information; proven practices of mismanagement, lack of knowledge and a weak legal and institutional framework as well as absence or insufficiency of the necessary means.

On the basis of obligation of the Convention and taking into account the results of the analysis of the national situation relating to the issue of POPs, with the legal institutional framework in place, with the necessary purposes of ecologically rational management; in consideration of the national strategies of

poverty reduction, Rwanda adopted its NIP with eight (8) initial action plans classified in order of priorities for purposes of implementation as indicated in the table below:

<b>Order of priority</b>	<b>Name of Action Plan</b>
1°	Information, sensitisation and training the public on POPs
2°	Reinforcement of institutions and regulations
3°	Ecologically rational management of wastes resulting from unintentional production of POPs
4°	Management of polychlorobiphenyls (PCBS: Annex A) and equipment containing them
5°	Monitoring and research-development
6°	Management of stockpiles of pesticides wastes containing POPs
7°	Ecologically rational management of contaminated sites
8°	System of information exchange and participation to the international cooperation

Rwanda's NIP objective is "to gradually reach 2025 with an ecologically rational management of POPs which safeguards human health and environment".

Rwanda will reinforce the information system, sensitization and training of the public about the POPs and at the same time reinforce its legal and institutional framework for better control of POPs.

Rwanda Government will be involved in the establishment of an institutional, legal and technical environment favorable to the management of POPs and respect other obligations of the Convention by promoting the "chemical safety" dimension in the strategy of poverty reduction and sustainable development, and offering direct synergies with other international commitments that Rwanda has already ratified regarding environment.

In the implementation of NIP, the Rwandan Organic Law on Environment and the international key-principles of management of the chemicals (precaution,

prevention, pollutant-payer, participation...) will constitute the basis and the reference of activity orientation.

With an estimated total cost of 8 628 000 US \$, the implementation of its NIP is without doubt a true challenge for Rwanda, as it is the case for other developing countries where the needs are immense and mobilizable resources rare.

But the Government of Rwanda, aware of the fact that the reduction and the elimination of POPs not only will make it possible to protect human health and the environment against their harmful effects, but also will offer the country a true integrated national policy of management of the dangerous chemicals in general, reaffirms in the present Declaration of intention, its willingness to resolutely set up an effective and efficient NIP. For this purpose, it will mobilize accessible resources at the national level by all kinds of appropriate measures (tax deductions, reduction/exoneration of taxes, etc).

In addition, it will not spare any effort to reach the external resources from the bilateral and multilateral co-operation and will do whatever necessary, in accordance with the principles of the Stockholm Convention, to be eligible to the technical and financial aid under the terms of its articles 12 and 13 to gradually reach by 2025 to an ecologically rational management of POPs which safeguards human health and environment.

## V. BIBLIOGRAPHICAL REFERENCES

1. HAKIZAMUNGU Léon, **Inventaire national initial des pesticides au Rwanda**, rapport définitif, Août 2005.
2. Journal Officiel de la République du Rwanda n° 9, mai 2005
3. Kalisa Nyilimbibi et al., **Profil national pour évaluer les capacités nationales de gestion des produits chimiques au Rwanda**, Kigali, Octobre 2005.
4. Ministère de l'Environnement et de l'Assainissement, République du Sénégal, **Profil National sur la gestion des Polluants Organiques Persistants au Sénégal**, Janvier 2004
5. MUKASA A Joseph, **Inventaire initial des substances inscrites à l'annexe C de la Convention de Stockholm sur les polluants organiques persistants (Dioxines/Furannes, PCBS,HCB) au Rwanda**, rapport provisoire, Novembre 2005.
6. NGENDAHAYO R et MANIRAKIZA B, **Inventaire national initial des Polychlorobiphényles et des équipements les contenant au Rwanda**, Novembre 2005.
7. TWAGIRAMUNGU Fabien, **Priorités et Objectifs nationaux pour une gestion rationnelle des produits chimiques dont les POPs**, Rapport définitif, Avril 2006.
8. UNEP, **Basel Convention: Minimising Hazardous Wastes. A simplified guide to the Basel Convention**, Genève, Septembre 2002.
9. UNEP, **Débarrasser le monde des POPs. Visite guidée de la Convention de Stockholm sur les Polluants Organiques Persistants**, Genève Juin 2003.
10. UNEP, **Evaluation régionale des substances toxiques persistantes : rapport de la région subsaharienne**, Genève Décembre 2002.
11. UNEP/The World Bank Group : **Directives provisoires pour l'élaboration des plans nationaux de mise en œuvre de la Convention de Stockholm**, version révisée de décembre 2004.
12. UNITAR, **Préparation et la mise à jour d'un profil national dans le cadre d'un plan de mise en oeuvre de la Convention de Stockholm**, document accompagnant le document d'orientation, janvier 2003
13. UNITAR/IOMC : **Développer et Soutenir un programme national de gestion rationnelle des produits chimiques**, document d'orientation, 2001-2002.
14. UNITAR, **Directives provisoires pour l'élaboration de NIP de la Convention de Stockholm**,
15. [www.basel.int](http://www.basel.int)

16. [www.biodiv.org](http://www.biodiv.org)
17. [www.chem.unep.ch/POPS/](http://www.chem.unep.ch/POPS/)
18. [www.pic.int/fr/](http://www.pic.int/fr/)
19. [www.pops.int](http://www.pops.int)
20. [www.unep.org/ozone/fr](http://www.unep.org/ozone/fr)
21. [www.unido.org](http://www.unido.org)
22. [www.unige.ch/droit/centres/gravite/docs/bamako](http://www.unige.ch/droit/centres/gravite/docs/bamako)

## ANNEX 1: NIP Budget

<b>ACTION PLAN n° 1: SENSITIZATION, INFORMATION AND EDUCATION OF THE PUBLIC ON POPs : 1 086 000 US \$</b>		
<b>TARGET : Progressive evaluation of the knowledge and awareness level about the issue of POPs in general and on different types of stakeholders</b>		
<b>SPECIFIC OBJECTIVE 1: SETTING UP A NATIONAL PROGRAM OF INFORMATION, EDUCATION AND COMMUNICATION (IEC) ON POPs STARTING 2007</b>		
<b>Result 1: A national IEC program on POPs is operational starting 2007</b>		
<b>Activities</b>	<b>Estimated cost ( in US \$)</b>	<b>Timeframe</b>
1.1. Set up a coordination Team and supervision committee for the action plan	10 000	From 2007
1.2. Identify from the big public the main target groups at risk	5 000	From 2007
1.3. Produce the appropriate documentation and didactic materials	85 000	From 2007
1.4. Inform professionals from the medias on POPs	50 000	From 2007
1.5. Sensitize and inform the target groups /groups at risk on the harmful POPs effects on health and Environment	70 000	From 2007
1.6. Sensitize and inform the target groups on alternatives to POPs	25 000	From 2007
1.7. Publish, in the languages used in the country, periodical review chemical security, with a particular attention to POPs and other persistent toxic Substances	90 000	From 2007
1.8. Set up a national network of information exchange through Internet (REIC).	110 000	From 2007
1.9. Organize training workshop for legislators and public and private decision makers of the concerned services on POPs	105 000	From 2007
<b>SUB-TOTAL</b>	<b>550 000</b>	

<b>SPECIFIC OBJECTIVE 2 : AVAIL THE COUNTRY WITH A TOXICOLOGICAL INFORMATION CENTER</b>		
<b>Result 2: Toxicological information on POPs, alternatives to POPs and dangerous chemical products in general are available and accessible to those in need</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
2.1. Create and make operational a national toxicological information center on dangerous chemical products.	250 000	From 2007
<b>SUB-TOTAL</b>	<b>250 000</b>	
<b>SPECIFIC OBJECTIVE 3: ELABORATION IMPLEMENTATION OF INFORMAL TRAINING PROGRAMS ON CHEMICAL SECURITY</b>		
<b>Result 3: Targeted programs of informal training are elaborated and carried out starting in 2007</b>		
3.1. Produce the appropriate documentation and didactic material	(see objective 1)	From 2007
3.2. Organize informal training sessions for actual or potential users and workers concerned	10 000	From 2007
3.3. Plead with administrative, political and judicial authorities about the issue of POPs	5 000	From 2007
3.4. Train public and private media professionals on POPs	60 000	From 2007
<b>SUB-TOTAL</b>	<b>75 000</b>	
<b>SPECIFIC OBJECTIVE 4: ELABORATION AND CARRYING OUT OF FORMAL TRAINING PROGRAMS ON CHEMICAL SECURITY</b>		
<b>Result 4: The country has operational programs of formal training on POPs adapted to the local conditions</b>		
4.1. Introduce the chemical security issue in primary, secondary and higher institutions' of learning curricula	80 000	From 2007
4.2. Organize specialization training session on tracing, standardization, labeling as regards dangerous chemical products, including POPs for the technical staff of the Rwandan Bureau of standards	130 000	From 2007
<b>SUB-TOTAL</b>	<b>210 000</b>	
<b>GRAND TOTAL for Action Plan n° 1</b>	<b>1 086 000</b>	



<b>ACTION PLAN n° 2: REINFORCEMENT OF INSTITUTIONS AND REGULATIONS: 2 573 000 US\$</b>		
<b>Target : Reinforcement of institutional capacities, infrastructure and regulation for a rational management of POPs towards 2010</b>		
<b>SPECIFIC OBJECTIVE 1: ADAPTATION OF INFRASTRUCTURE AND INSTITUTIONS TO A RATIONAL MANAGEMENT OF POPs, FROM 2006 TO 2010 UNDER THE RESPONSIBILITY OF THE CONCERNED TECHNICAL MINISTRIES</b>		
<b>Result 1.1: The missions/mandates of institutions are adapted to the Stockholm Convention obligations and other relevant conventions</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
1.1.1. Revise the missions/mandates of concerned institutions	5 000	2007-2008
1.1.2. Set up new institutions in accordance with the Convention's obligations	5 000	2007-2008
1.1.3. Avail enough human and material resources to the renewed and/or created institutions	196 000	2008-2010
<b>Résult 1. 2: A National laboratory of POPs and resulting wastes analysis is operational</b>		
1.2.1. Set up an operational reference laboratory for the analysis of chemical products (including the POPs)	445 000	2007-2010
1.2.2. Provide the concerned services with a kit for qualitative analysis	176 000	2007-2010
1.2.3. Furnish the laboratory to make it a toxicologic documentation and information center on the POPs	167 000	2007-2010
1.2.4. Publish the results from the analysis	157 000	2007-2010
<b>SUB-TOTAL</b>	<b>1 151 000</b>	

<b>SPECIFIC OBJECTIVE 2: PREPARATION AND IMPLEMENTATION OF FORMAL TRAINING PROGRAMS STARTING 2010 UNDER THE RESPONSIBILITY OF THE MINISTRY OF EDUCATION</b>		
<b>Result 2.1: Formal training programs are prepared and implemented starting 2007</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
2.1.1. Introduce a training program regarding POPs in primary, secondary schools and in higher learning institutions in Rwanda.	470 000	2007-2015
2.1.2. Organize trainings on POPs towards technical personnel from concerned public and private services	220 000	2007-2015
2.1.3. Organize post-graduate training on chemical products including POPs	236 000	2007-2015
<b>SUB-TOTAL</b>	<b>926 000</b>	
<b>SPECIFIC OBJECTIVE 3: INTERNALISATION OF THE STOCKHOLM CONVENTION'S OBLIGATIONS AND OTHER RELEVANT CONVENTIONS IN THE NATIONAL LEGAL CORPUS TOWARDS 2010 UNDER THE RESPONSIBILITY OF THE CONCERNED TECHNICAL MINISTRIES</b>		
<b>Result 3 .1 Legislative and regulatory texts relating to POPs are updated and completed</b>		
3.1.1. Provide the institutions and concerned services with sufficient human and material resources to prepare the texts	78 000	2007-2010
3.1.2. Update and/or complete Inventory of legislative and regulatory texts	25 000	2007-2010
3.1.3. Prepare and validate new legislative and regulatory texts	52 000	2007-2010
3.1.4. Advertise and popularize legislative and regulatory texts	26 000	2007-2010
<b>SUB-TOTAL</b>	<b>181 000</b>	

<b>Result 3.2: National legislation regarding the management of POPs is published</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
3.2.1. Translate into KINYARWANDA legislative and regulatory texts	25 000	2007-2010
3.2.2. Validate the translation in KINYARWANDA of legislative and regulatory texts	20 000	2007-2010
3.2.3. Organize workshops for public awareness of the legislative and regulatory texts	26 000	2007-2010
<b>Result 3.3: Applying legislative and regulation texts</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
3.3.1. Train the personnel in the concerned sectors for the implementation of legislative and regulatory texts	46 000	2007-2010
3.3.2. Provide institutions/services with appropriate human and material resources.	60 000	2007-2010
3.3.3. Publish and distribute the texts	20 000	2007-2010
<b>Result 3.4: A legislation/regulation in conformity with international norms regarding the POPs is elaborated</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
3.4.1. Prepare the legislative and regulatory texts for the country's adaptation to international norms	58 000	2007-2010
3.4.2. Organize workshops/debates about these texts	30 000	2007-2010
3.4.3. Publicity of legislative and regulatory texts	30 000	2007-2010
<b>SUB-TOTAL</b>	<b>315 000</b>	
<b>GRAND TOTAL for Action Plan n° 2</b>	<b>2 573 000</b>	

<b>ACTION PLAN n° 3: ECOLOGICALLY RATIONAL MANAGEMENT OF WASTES RESULTING FROM UNINTENTIONAL PRODUCTION OF POPs : 1 561 000 US\$</b>		
<b>Target: Progressive use of the best available techniques and the best environmental practices and apply other measures to timely reduce national contribution to unintentional wastes of POPs</b>		
<b>SPECIFIC OBJECTIVE 1: IMPROVEMENT OF IDENTIFICATION AND CHARACTERISATION OF NATIONAL SOURCES OF DIOXINS AND FURAN WASTES UNDER THE RESPONSIBILITY OF MINITERE</b>		
<b>Result 1.1: Update the inventory of dioxins and furans every five (5) years</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
1.1.1. Set up a technical Team of Experts in charge of updating the national inventory	6 000	2007-2008
1.1.2. Prepare appropriate formats for collecting statistic data, in collaboration with technical services of concerned parties	72 000	2007-2008
1.1.3. Collect statistical data and prepare the updated inventory report	75 000	2007-2010
1.1.4. Popularize the inventory report and hand it over to the Convention's Secretariat	20 000	2007-2010
1.1.5. Carry out case studies on national activities, possible sources of dioxins and furans not registered in the Toolkit of UNEP (ex. fabrication and combustion of charcoal, wilderness fires, handcraft activities, informal activities,...)	59 000	2007-2015
<b>SUB-TOTAL</b>	<b>232 000</b>	
<b>SPECIFIC OBJECTIVE 2: SENSITISATION OF THE POPULATION AND DECISION MAKERS ON UNINTENTIONAL POPs AND THE BEST AVAILABLE TECHNIQUE AND BEST ENVIRONMENTAL PRACTICES</b>		
<b>Result 2.1: The Population and decision makers are aware of the impact of dioxins and furans</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
2.1.1. Organize television forums	33 000	From 2007
2.1.2. Prepare a national user guide on the best available techniques and best environmental practices	46 000	2007-2010
<b>SUB-TOTAL</b>	<b>79 000</b>	

<b>SPECIFIC OBJECTIVE 3: IMPROVEMENT IN THE MANAGEMENT OF BIOMEDICAL WASTES AND SOLID MUNICIPAL WASTES</b>		
<b>Result 3.1: Wastes of unintentional POPs resulting from delimitation of solid wastes are reduced</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
3.1.1. Support hospitals so as to acquire improved Monfort incinerators ovens	315 000	2007-2015
3.1.2. To arrange controlled discharges for the urban centers.	600 000	2007-2015
<b>SUB-TOTAL</b>	<b>915 000</b>	
<b>SPECIFIC OBJECTIVE 4: PROGRESSIVE REDUCTION OF UNINTENTIONAL POPs EMISSION RESULTING FROM THE COMBUSTION OF BIOMAS AND FOSSIL FUELS</b>		
<b>Result 4.1: Wastes of unintentional POPs from the combustion of biomas and fossil fuels are progressively reduced</b>		
<b>Activities</b>	<b>Estimated cost (in \$US)</b>	<b>Timeframe</b>
4.1.1. Promote importation of lead free fuel	6 000	2007-2008
4.1.2. Fight against wilderness fires	40 000	2006-2025
4.1.3. Promote the utilization of improved cooking techniques	80 000	2007-2025
4.1.4. Intensify tree planting and regulate deforestation	65 000	2007-2025
4.1.5. Support centers of hand craft production (tilery, brickyard, etc.) to get improved technologies and equipment.	144 000	2007-2015
<b>SUB-TOTAL</b>	<b>335 000</b>	
<b>GRAND TOTAL for Action Plan n° 3</b>	<b>1 561 000</b>	

<b>ACTION PLAN n° 4 : MANAGEMENT OF PCBs AND ITS CONTAINERS : 562.000 US \$</b>		
<b>TARGET : Progressive halt and, starting with 2025, interdiction of any utilization of electric equipment with PCBs and avail an operational national strategy for an ecological management of stockpiles and PCBs wastes before 2028.</b>		
<b>SPECIFIC1 OBJECTIVE: ACCOMPLISHMENT OF THE NATIONAL INVENTORY OF PCBs BY 2008 UNDER THE SUPERVISION OF THE MINISTRY HAVING ENVIRONMENT IN ITS ATTRIBUTIONS</b>		
<b>Result 1: The total quantity of PCBs and of their wastes in the country is known</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
1.1. Reinforce local capacities as regards inventory of PCBs	15 000	2007
1.2. Complete an inventory of the PCBs in the electric components on the entire country	60 000	2007-2008
1.3. Carry out an inventory of other applications of PCBs	55 000	Before 2028
<b>SUB-TOTAL</b>	<b>130 000</b>	
<b>SPECIFIC OBJECTIVE 2: SECURISATION OF ELECTRIC EQUIPMENT WITH PCBs AT THE END OF THEIR LIFESPAN STARTING FROM 2008 UNDER THE SUPERVISION OF THE MINISTRY HAVING ENVIRONMENT IN ITS ATTRIBUTIONS</b>		
<b>Result 2: Electric equipment with PCBs at the end of life, rightly labeled, are secured</b>		
2.1. To arrange a temporary platform of storage of the equipment with PCBs at the end of their lifetime	100 000	2007-2008
2.2. To take the equipment at the end of the lifetime labelled with PCBs on the platform of temporary storage	15 000	From 2009
2.3. To prepare a national project of ecologically rational elimination of the PCBs and decontamination of the equipment	35 000	From 2009
<b>SUB-TOTAL</b>	<b>150 000</b>	

<b>SPECIFIC OBJECTIVE 3 : IMMEDIATE SECURISATION OF ELECTRIC EQUIPMENT WITH PCBs STILL IN FUNCTION, INDICATING DIELECTRIC LEAKAGES UNDER THE RESPONSIBILITY OF ELECTROGAZ.</b>		
<b>Result 3: Defective equipment with PCBs and likely to remain in function are put in conformity</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
3.1. To confine the fluids coming from the leakages in vats of retention	25 000	From 2008
3.2. To repair leakages on the defective electric transformers with PCBs	42 000	From 2008
3.3. Periodically monitor the electric transformers with suspected PCBs	15 000	From 2008
<b>SUB-TOTAL</b>	<b>82 000</b>	
<b>SPECIFIC OBJECTIVE 4 : STOP THE UTILISATION OF ELECTRIC EQUIPMENT WITH PCBs AT THE END OF THEIR LIFETIME FROM 2010 UNDER THE RESPONSIBILITY OF THE MINISTRY HAVING ENVIRONMENT IN ITS ATTRIBUTIONS.</b>		
<b>Result 4: The national program of replacing of electric equipment with PCBs is operational</b>		
4.1. Replace the electric equipment with PCBs by standard equipments	160 000	2010-2025
4.2. Prohibit the importation of electric equipment with PCBs	5 000	From 2008
4.3. Periodic update of the national inventory of the electric equipment	35 000	From 2010
<b>SUB-TOTAL</b>	<b>200 000</b>	
<b>GRAND TOTAL for Action Plan n° 4</b>		<b>562 000</b>

<b>ACTION PLAN n° 5: MONITORING AND RESEARCH-DEVELOPMENT : 903 000 US \$</b>		
<b>Target: Setting up a national program for monitoring and research-development in the field of chemical security, with a particular accent on POPs</b>		
<b>SPECIFIC OBJECTIVE 1 : KNOWLEDGE ON THE EVOLUTION CONTAMINATION IN OF TERMS OF THE LEVEL OF HUMAN AND ENVIRONMENT BY POPs</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
1.1.1. Monitor the sources and wastes of POPs in the environment	68 000	2007-2020
1.1.2. Monitor the transboundary movements of POPs	30 000	2007-2020
1.1.3. Monitor the sources of POPs wastes and their impact	15 000	2007-2020
<b>SUB-TOTAL</b>	<b>103 000</b>	
<b>SPECIFIC OBJECTIVE 2: PROMOTION OF ALTERNATIVES TO POPs</b>		
<b>Result 2.1 : Alternatives to POPs adapted to the local context are evaluated and Popularized</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
2.1.1. Identify, evaluate alternatives to pesticides with a particular emphasis on natural pesticides of plant origin (pyrethroids), biologic fight and improvement in varieties for an integrated fight against vectors	104 000	2007-2020
2.1.2. Intensify research on improved cooking techniques and promote their use	78 000	2007-2020
<b>SUB-TOTAL</b>	<b>182 000</b>	



<b>SPECIFIC OBJECTIVE 3: PROMOTION OF LOCALLY ADAPTED METHODS FOR ECOLOGICAL RATIONAL ELIMINATION/REDUCTION OF POPs AND OF THEIR SOURCES</b>		
<b>Result 3.1 : Methods of locally eliminating POPs and their sources exist and are operational</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
3.1.1. Carry out research on ecologically eliminate plastic bags	91 000	2007-2020
3.1.2. Promote techniques of reduction or elimination of POPs wastes	30 000	2007-2010
3.1.3. Undertake research to improve the thermal performances of hospital incinerators wastes and artisan furnaces of manufacturing building materials (tiles, bricks, lime) and bakery	157 000	2007-2020
3.1.4. Improve the techniques of making wood charcoal in order to upgrade its calorific power	85 000	2007-2020
3.1.5. Carry out regular inspection on the infrastructure which constitute sources of POPs emission and wastes	52 000	2007-2020
3.1.6. Organize workshops on POPs emissions and wastes vist results	30 000	2007-2020
3.1.7. Regularly publish inspection results	30 000	2007-2020
3.1.8. Train the stakeholders on the adoption of the alternatives and new technologies	78 000	2007-2020
<b>SUB-TOTAL</b>	<b>553 000</b>	
<b>SPECIFIC OBJECTIVE 4 : UNDERTAKE EPIDEMIOLOGICAL STUDIES ON SOME TARGET GROUPS AND PUT IN PLACE A SYSTEM OF TAKING CARE OF CASES</b>		
<b>Result 4.1 : Professional illnesses linked to POPs are depicted and the caring system is operational</b>		
4.1.1. Regularly carry out inspections at places of work	65 000	2007-2020
4.1.2. Rorganize periodic medical visits to people particularly exposed to POPs	-	2007-2020
4.1.3. quip the workers with personal protection equipments and oblige them to use them while on duty.	-	2007-2020
<b>SUB-TOTAL</b>	<b>65 000</b>	
<b>GRAND TOTAL for Action Plan n° 5</b>		<b>903 000</b>

<b>PLAN OF ACTION n° 6: MANAGEMENT OF STOCKS AND WASTES FROM OBSOLETE PESTICIDES INCLUDING POPs (CHEMICAL SUBSTANCES REGISTERED IN THE FIRST PART OF ANNEX A) : 767000 US \$</b>		
<b>Target: Collect and secure as quickly as possible different stocks and wastes from obsolete pesticides and plan in the framework of ASP Project (Africa Stockpile Program) their elimination.</b>		
<b>SPECIFIC OBJECTIVE 1: UPDATING THE COUNTRY'S NATIONAL INVENTORY OF OBSOLETE PESTICIDES (INCLUDING POPs) AND THEIR WASTES IN AGRICULTURAL SECTOR</b>		
<b>Result 1.1: The country's total quantity of obsolete pesticides (including POPs) and their wastes in agricultural sector is known</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
1.1.1. Train the personnel from public and private sectors on pesticides inventory	72 000	2007- 2009
1.1.2. Update the obsolete pesticides inventory including the POPs in the agricultural sector	144 000	2007-2010
1.1.3. Complete and finalize identification of sites where POPs obsolete pesticides have been dumped	140 000	2007-2010
1.1.4. Visualize the country's geographic map, its use and circulation of pesticides	72 000	2007-2010
<b>SUB-TOTAL</b>	<b>428 000</b>	
<b>SPECIFIC OBJECTIVE 2: ASSURANCE OF SECURED STOCKAGE OF OBSOLETE PESTICIDES (INCLUDING POPs) AND OF THEIR WASTES</b>		
<b>Result 2.1 : Stockpiles of obsolete pesticides are assembled and secured</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
2.1.1. Train the trainers in pesticides stock piling	45 000	2007-2010
2.1.2. Sensitize storekeepers on the problems of POPs pesticides stockpiling	45 000	2007-2010
2.1.3. Organize a campaign for thorough inspection of infrastructure and pesticides stockpile location	45 000	2007-2010
2.1.4. Broadcast and popularize norms for the infrastructure of pesticides stockpiles	45 000	2007-2010
2.1.5. Provide needed technical and financial support, to improve stock piling infrastructures of pesticides	45 000	2007-2010
<b>SUB-TOTAL</b>	<b>225 000</b>	

<b>SPECIFIC OBJECTIVE 3: PREPARATION OF THE ASP PROJECT DOCUMENT FOR RWANDA BEFORE THE END OF 2007 UNDER THE RESPONSIBILITY OF MINITERE</b>		
<b>Result expected 3.1: Stockpiles of obsolete pesticides are evacuated for elimination</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
3.1.1. Set up projects coordination teams	5 000	2006-2007
3.1.2. Collect information on the mechanisms of ASP Project	30 000	2006-2007
3.1.3. Request international technical assistance for the preparation of the ASP Project Document	40 000	2006-2007
3.1.4. Prepare Project Document and submit it to donors	39 000	2006-2007
<b>SUB-TOTAL</b>	<b>114 000</b>	
<b>GRAND TOTAL for Action Plan n° 6</b>	<b>767 000</b>	

<b>ACTION PLAN n° 7 : MANAGEMENT OF CONTAMINATED SITES: 511 000 US\$</b>		
<b>TARGET : Avail from 2006 to 2007 an operational strategy of ecologically rational management of sites contaminated by POPs and their wastes</b>		
<b>SPECIFIC OBJECTIVE 1 : IDENTIFICATION OF SITES CONTAMINATED BY POPs BEFORE 2008</b>		
<b>Result 1: A geographic map or a data base of contaminated sites is available</b>		
<b>Activities</b>	<b>Estimated cost (en US \$)</b>	<b>Timeframe</b>
1.1. Set up a coordination Team and supervision committee for the action plan	5 000	2007
1.2. Set up a technical Team in charge of inspection, evaluation and management of contaminated sites	10 000	2007
1.3. Consolidate the inventory of contaminated sites by finalizing the physical inspection according to their geographic localization	35 000	From 2007
1.4. Validate and broadcast the inventory report	25 000	From 2007
<b>SPECIFIC OBJECTIVE 2 : PRIORITISATION BEFORE 2010 OF CONTAMINATED SITES REGARDING THE HEALTH AND ENVIRONMENTAL RISKS</b>		
<b>Result 2: The contaminated are prioritized according to health and environmental risks</b>		
2.1. Analyze/Evaluate the contamination and health and environmental risks	67 000	2008-2010
2.2. Validate and broadcast the analysis/evaluation report	20 000	2010
<b>SUB-TOTAL</b>	<b>162 000</b>	

<b>SPECIFIC OBJECTVE 3: SECURING IN TERMS OF PRIORITY CONTAMINATED SITES BEFORE 2015</b>		
<b>Result 3: The contaminated sites are secured and the surrounding communities are sensitized</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
3.1. Sensitize the surrounding communities and local authorities	35 000	From 2010
3.2. Isolate and mark the priority contaminated sites	30 000	From 2010
<b>3.3. Secure contaminated sites</b>	54 000	From 2010
<b>SUB-TOTAL</b>	<b>119 000</b>	
<b>SPECIFIC OBJECTIVE 4: REHABILITATION OF PRIORITY CONTAMINATED SITES</b>		
<b>Result 4 : The priority contaminated sites are rehabilitated and once again useful</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
4.1. Inventory of the priority contaminated sites to be rehabilitated	20 000	2010-2015
4.2. Inventory of the applicable technologies	35 000	2010-2015
4.3. Complete the ecologically rational rehabilitation of priority contaminated sites	120 000	From 2015
4.4. Prepare and apply a national program of surveillance and prevention of sites contaminated by toxic substances	55 000	From 2015
<b>SUB-TOTAL</b>	<b>230 000</b>	
<b>GRAND TOTAL for Action Plan n° 7</b>	<b>511 000</b>	

<b>ACTION PLAN n° 8 : EXCHANGE OF INFORMATION AND INTERNATIONAL COOPERATION : 516 000 US\$</b>		
<b>TARGET: PRODUCTION AND SHARING INFORMATION RELATING TO THE FIGHT AGAINST THE POPs AND COMMUNICATION ON THE PERIODIC REPORTS AND ALL OTHER RELEVANT INFORMATION WITH THE SECRETARIAT OF THE CONVENTION</b>		
<b>SPECIFIC OBJECTIVE 1 : REINFORCEMENT Of A NATIONAL SYSTEM OF INFORMATION EXCHANGE ON CHEMICALS AND POPs IN PARTICULAR, TO BE OPERATIONAL BY 2006, UNDER The RESPONSIBILITY OF MINITERE AND REMA</b>		
<b>Result 1 : A reliable and operational system of data-collection is reinforced and the involved parties have access to information on chemicals and POPs in particular at the national and international level</b>		
<b>Activities</b>	<b>Estimated cost (in US \$)</b>	<b>Timeframe</b>
1.1. Reinforce a supervision mechanism for NIP implementation	65 000	2007
1.2. Facilitate the focal point in its activities	110 000	2007-2012
1.3. Centralize information on the effective installation of the various supervision Committees, the coordination teams and other specialized teams for the setting up of the action plans	70 000	2007-2012
1.4. Regularly and periodically update national inventories and POPs evaluation	83 000	2007-2011
1.5. Produce with the concerned sector/service a biannual report on POPs	25 000	2007-2025
1.6. Create a national Data Bank on the POPs	55 000	2007-2025
1.7. Organize sessions of information and training for the involved parties on the mechanism of data-collection on POPs	45 000	2007-2011
1.8. Periodically evaluate the adaptation of involved Parties to data collection mechanism	63 000	2007-2012
<b>GRAND TOTAL for Action Plan n° 8</b>	<b>516 000</b>	
<b>GENERAL TOTAL OF ALL ACTION PLANS</b>	<b>8 628 000</b>	

## **ANNEX-2: Terms of Reference**

### **1. Context**

Rwanda actively took part to the work of the Intergovernmental Negotiation committee which negotiated the Stockholm Convention on the Persistent Organic Pollutants (POPs). It adhered to this Convention officially entered into force at the international level on May 17, 2004.

In accordance with article 7, 12, 13 and 14 of the Convention, Rwanda benefited from an initial assistance in the form of a project which aims at allowing the realization of initial POPs inventories and other evaluation for the preparation of a National Implementation Plan of the Convention (NIP), sensitizing to the problems of POPs, the reinforcement of the national capacities for their management and elaboration of reports which will be transmitted to the Conference of the Parties.

The project on the entitling activities started in November 2003 and comprises five phases which are:

Phase 1: Set up a coordination team;

Phase 2: Realization of POPs inventories and evaluation of national capacities;

Phase 3: Establishment of national priorities;

Phase 4: NIP preparation;

Phase 5: Approval of NIP by all relevant stakeholders.

One of the major results of this project is the development of a National Implementation Plan of Rwanda for the Implementation of the Stockholm Convention (NIP). The NIP is made of quantified specific Action Plans, worked out on the basis of national priority objectives according to the obligations of the Convention and other priorities related to chemical products management.

Worked out on the basis of the chemical national profile and various data specific to the problems of management of POP in the Republic of Rwanda, the NIP aims at protecting human health and the environment from the harmful effects of the chemicals and POP in particular, in accordance with the objective of the Convention on the basis of a participative approach, to National Poverty Reduction Strategy towards sustainable development and the Vision 2020.

The Republic of Rwanda will present its NIP within the framework of its initial communication at the Conference of Parties.

## **2. Objective**

The work entrusted to consultancy firm consists of preparing a draft document for Rwanda's implementation of Stockholm Convention on POPs, in accordance with the recommended format for this purpose by the Intergovernmental Negotiation Committee.

## **3. Expected results:**

The selected consultancy firm will be requested to:

1. Make a thorough bibliographical review of all the relevant documents, in particular the Stockholm Convention on the POPs; reports of the initial inventories of POPs in Rwanda, national profile of management of chemicals and the report on national objectives and priorities.
2. Compile the NIP document in accordance with the format contained in the directives for the development of the national implementation plans of the Stockholm Convention.
3. Work out specific action plans for Rwanda for the management of the chemicals and the persistent organic pollutants in particular.
4. Prepare three project profiles to facilitate the implementation of the Stockholm Convention. These projects which will be submitted to the donors shall be written in English, and based on the reports from inventories and national priorities.

## **4. Required qualifications for consultancy firm:**

The Bureau shall have at least 5 year experience in similar fields with qualified following specialists:

**A chemist:** with minimum A0 level and a 5 year experience in the environmental issues and management of chemicals in particular, and a 3 year experience in similar fields.



**A lawyer:** with minimum A0 level and a 5 year experience in law drafting.

**A sociologist:** with A0 level and a 5 years experience in the preparation of strategies, programmes and action plans.

**A planner:** with A0 level in economics, management, social sciences, as well as 5 year professional experience in the fields of design, follow-up and project management.

**A translator:** with A0 level in French or English, with a good knowledge of the other language, as well as a 5 year experience in the field of translation.

## **5. Duration of the contract**

The duration of the contract is 40 calendar days to be counted from the following the day following the approval of the contract by the two parties.

## **6. Submission of the report**

The draft report written in English and French shall be presented the 30<sup>th</sup> day after the start of the exercise. It shall be analysed within a period of one week and returned to the consultants for corrections at least one week before the workshop on final report approval.

## **7. The work supervision**

The supervision shall be done by the project coordination and the National Steering Committee.

### ANNEX-3: POPs National Steering Committee

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