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The International POPs Elimination Project (IPEP)

*Fostering Active and Effective Civil Society Participation in
Preparations for Implementation of the Stockholm Convention*

Strategy for the elimination of polychlorinated biphenyls (PCBs) in Nouakchott



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About the International POPs Elimination Project (IPEP)

On May 1, 2004, the International POPs Elimination Network (IPEN <http://www.ipen.org>) began a global NGO project called the International POPs Elimination Project (IPEP) in partnership with the United Nations Industrial Development Organization (UNIDO) and the United Nations Environment Program (UNEP). The Global Environment Facility (GEF) provided core funding for the project.

IPEP has three principal objectives:

- Encourage and enable NGOs in 40 developing and transitional countries to engage in activities that provide concrete and immediate contributions to country efforts in preparing for the implementation of the Stockholm Convention;
- Enhance the skills and knowledge of NGOs to help build their capacity as effective stakeholders in the Convention implementation process;
- Help establish regional and national NGO coordination and capacity in all regions of the world in support of longer term efforts to achieve chemical safety.

IPEP will support preparation of reports on country situation, hotspots, policy briefs, and regional activities. Three principal types of activities will be supported by IPEP: participation in the National Implementation Plan, training and awareness workshops, and public information and awareness campaigns.

For more information, please see <http://www.ipen.org>

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This report is available in the following languages: English Summary and Full report in French.

Strategy for the elimination of polychlorinated biphenyls (PCBs) in Nouakchott

The elimination strategy for polychlorinated biphenyls (PCBs) in Nouakchott is introduced by a description of contextual elements such as general information on Mauritania, the international institutional and legal framework, and the national institutional and legal framework, before proceeding with a historical, demographic, and economic description of Nouakchott.

Information on Mauritania

The Islamic Republic of Mauritania covers a surface area of 1,030 700 square metres, is bordered upon at the North by Algeria, the North-West by Western Sahara, the South by the Senegal River, the West by the Atlantic Ocean and finally the East by Mali. Its capital City is Nouakchott. Mauritania has a sahelian type of weather.

The population of Mauritania is estimated at 2, 508 159 inhabitants and has an annual average increase of 2.4%. The average population density is approximately 2,43 inhabitants per square metre all over the country, but is highly varied from one region to another, ranging from 0.2 inhabitants/square metres in the Tiris Zemour in the north of the country to 15 inhabitants/square metre for the Gorgol in the valley. The official languages are Arabic and French.

The average age of the population is estimated at 24 years old. It is generally recognized that nearly 46% of the population is less than 15 years old.

The country economy is based on four major sectors which are: the mining activities (mainly extractive), farming which yields various varieties of grains such as millet, sorghum, bean, corn etc, range-type animal production and finally sea fishery. Some verified oil reserves will enable the country to join the club of black gold producers.

The city of Nouakchott was founded in 1958, but has known an anarchic growth, underlain by an intense rural depopulation. Its population is now estimated at over 600 000 people, scattered in 9 administrative areas (the Moughataa).

Institutional and legal framework of PCB regulation

The European Union was the first to ban PCB production and trade. Later, the United Nations Environmental Program (UNEP) set off, in May 1995 a long negotiation process which ended up 6 years later, on May 22nd and 23rd, in Stockholm, in the signature of the Stockholm Convention on 12 products known as Persistent Organic Pollutants, including PCBs.

The second part of Annex A of the Stockholm Convention is dedicated to PCBs. Provisions related to these products can be summed up as follows: no intentional polychlorinated biphenyl production is authorized in any part of the world, however, equipment which contains them will continue to be used and will be gradually removed until 2025. The ecologically sound elimination of PCBs will be carried on until 2028.

Mauritania signed the Stockholm Convention on 8 August 2001 and ratified it on 22 July 2005. The Ministry of Rural Development and the Environment, through the Environment

branch is institutionally in charge of setting up and enforcing policies and regulations as far as environmental protection is concerned. This department, in concert with the other technical departments elaborates environmental legislation.

In 2005, a coordination committee in charge of implementing the Stockholm Convention was set up. This created a multi-sectoral committee gathering all the ministerial departments involved in the management of Persistent Organic Pollutants (POPs). The committee undertook many actions which resulted in the development of a National Implementation Plan of the Stockholm Convention which is today at its final stage before validation. This plan establishes a five-year program and includes a certain number of administrative, legal and technical measures for good enforcement on the national plane, of expected provisions at the international level. It especially gives an important place to PCBs.

One study entitled “Impacts of POPs on Health and Environment in Mauritania” was carried out as part of activities enabling the National Implementation Plan of the Stockholm Convention.

Other ministerial institutions are also involved in the problem of PCBs. These include the Ministry of Oil, the Ministry of the Interior, the Ministry of Post Offices and Telecommunications, the Ministry of Finance, the Ministry of Water and Energy, the Ministry of Mines and Industry, the Ministry of Fishing and Maritime Economy and finally the Ministry of Health and Social Affairs.

Unfortunately, on the national legal plane, there have not been any texts of any kind whatsoever, dedicated to PCBs, apart from the ratification by the Mauritanian Parliament, of the Stockholm Convention.

Characteristics of PCBs

Though PCBs were well received in the beginning due to their numerous practical applications in people’s daily lives, eventually their hazardous properties and danger to human health and the environment became known. That is why the international community included them in the Stockholm Convention for containment and phase-out. PCBs are a family of chemical compounds with one chlorinated biphenyl and variable degrees of chlorination.

PCBs are chemically and thermally stable. They exhibit low conductivity and a good resistance to fire and biodegradation. PCBs can bring about many health complications and can even, in some cases, cause death.

The industrial applications of PCBs vary from the electrical materials to the chemical transformations. In fact, they are used in dielectric fluids, transformers and condensers (about 50% PCBs), hydraulic fluid, solvents for inks, carbonless papers, the additives of cutting oils and lubricants, in softeners, paintings and in adhesives and plastics.

PCB inventory

As part of its activities, the national coordination committee for the Stockholm Convention made an inventory of POPs in the national territory. This inventory, made in 2002, was subject to a re-updating in 2004. It contained raw data on the 12 POPs products included in the Convention. This report estimates that there about 3,2 tons of PCBs in Mauritania contained in the following equipment:

- 250 transformers
- 15 condensers
- 5,000 electrical cables filled with liquid;
- 5,000 sodium lamps;
- 194 electrical apparatus likely to be found aboard shipwrecks in Nouadhibou harbour.

The PCB situation in Nouakchott

The situation in Nouakchott as far as PCBs are concerned can be deduced without any difficulties from the country's general situation. The equipment of SONELEC containing the PCBs and present in Nouakchott are estimated at 115 transformers in operation, 30 broken down and 5 lost transformers, which represents a total of 150 transformers. In addition there are 5 Km of electrical cables, 15 condensers and the 5,000 sodium lamps.

Other industrial companies might have facilities containing PCBs while no data on the presence of PCBs in these companies is currently available. Only field inventory can prove instructive as far as this issue is concerned. But what is already sure, is the various estimation elements which are used as a basis of calculating PCBs quantities at the national level prove that they are found mostly in Nouakchott. Therefore, Nouakchott is very important in the fight to be carried out for the elimination of these hazardous substances.

To eliminate these PCBs in Nouakchott, we proposed an overall strategy with general frameworks that contain the various activities needed for PCB elimination.

The frameworks are as follows:

Framework n°1: Working to set up a favourable legal and institutional framework that consists of being in conformity, at the local legislative level, with the provisions expected on an international plane, notably those of the Stockholm Convention. These provisions can be summed up as follows: No intentional use of PCBs is allowed; however, equipment containing them will continue to be used and will be gradually removed until 2025. At an institutional level, it is proposed to set up a national mechanism in charge of the implementation of the Stockholm Convention. This system will logically have to be decentralized on the basis of geographical and thematic criteria, according to each area's needs.

Framework n°2: In keeping with a national and regional approach; the PCBs problem has four major aspects:

- Equipment containing PCBs is generally heavy. Handling it calls for technological and financial means which are not always easy to make available at the national level.
- The replacement and decontamination of equipment will require a large amount of money that will be obtained elsewhere.
- Equipment, once removed, must be grouped in secured places, far from urban centers. It would be more cost-effective to construct these places all over the country. The National Implementation Plan makes plans for three warehousing sites of the equipment withdrawn nationwide.

- Finally, if no technology can be readily implemented in the country, the disposal of this equipment must be done abroad, for there is neither any authorized institution in the country nor in the sub-region. There is already in existence regional programs sponsored by international organizations for a general management of PCBs in several countries.

Framework n°3: Working to better know the PCBs situation in Nouakchott is necessary. In fact, the available data on the situation of these substances at the national level in general, and at Nouakchott level in particular, shows up till now many shortcomings, and needs to be completed. Besides, it will be necessary, as the National Implementation Plan (NIP) advocates it, to make a systematic field inventory with the view to:

- Localize all the existing electrical equipment in Nouakchott, at the SOMELEC level and with the private industrial companies as well.
- Jotting down information related to the said equipment notably: manufacturing date, type, serial number, manufacturer, size, current use.
- Labeling the equipment one by one and making a technical warning file for each of them.
- Examining on the spot the state of the equipment and note all leakage.
- Working, once these data collected, to take the precise information related to the presence or not of PCBs in the said equipment by getting in touch either with local specialists, or with companies which manufactured them.

Framework n°4: Setting up a removal program of equipment containing PCBs, and a servicing and checking program of those which would not have already been contaminated. The second part of Annex A of the Stockholm Convention sets the order of priorities of the removal. So, they will be identified, labeled and then withdrawn from circulation.

- First, equipment recognized as containing more than 10% and 5 litres of polychlorinated biphenyls;
- Then equipment containing over 0.05% and 5 litres of polychlorinated biphenyls;
- Finally equipment containing more than 0.005% and 0.5 litres of polychlorinated biphenyls.

The National Implementation Plan (NIP) is designed for five years at the end of which it must be re-updated. It is expected to entirely meet the first of these priorities at the end of the five years. In other words, it expects that within a period of 5 years starting from the enforcement day, all the existing equipment on the national territory and containing over 10% and 5% litres of polychlorinated biphenyls would have been removed from circulation.

Framework n°5: A management and ecologically sound disposal of quantities of PCBs removed should be implemented. A method should be chosen that irreversibly destroys the PCBs and does not generate POPs or other toxic chemicals. Disposal of PCBs gathered in secure sites will probably not be possible on the national territory due to the lack of specialized equipment. It is then necessary to assure this disposal in locations which are familiar with this practice. The transportation of PCBs must be done in good safety conditions

enabling a maximum protection for people and the environment and the required authorizations consistent with the international provisions must be received before any transportation outside Mauritania.

Framework n°6: Sensitisation of authorities, economic agents and the population on the hazards of PCBs is vital. To fulfill this requirement, awareness and information actions must be carried out for decision makers; workers and manufacturers; educational and scientific needs; use of civil society and the public; and for use of women and young people.

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