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## **International POPs Elimination Project**

*Fostering Active and Efficient Civil Society Participation in  
Preparation for Implementation of the Stockholm Convention*

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# **Identification of health and environmental problems related to POPs**

**Organisation Béninoise Pour la Promotion de  
l'Agriculture Biologique (OBEPAB)**

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## About the International POPs Elimination Project

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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# Identification of health and environmental problems related to POPs

## Context

The Beninese Organisation for the Promotion of Organic Agriculture (OBEPAB) organised a series of activities in order to raise awareness about the protection of human health and the environment against the harmful effects of Persistent Organic Pollutants (POPs). Those activities were funded by the International POPs Elimination Project (IPEP) and were aimed at reducing POPs production and use in agriculture and other parts of the informal sector.

The present study was carried out in Benin, a Western African country lying between the Equator and the Tropic of Cancer. Neighbouring countries are Niger, Burkina Faso, Togo and Nigeria. The country also has a coast on the Atlantic Ocean. The total surface of the country is 112,622 Km<sup>2</sup>, with a population of 6,752,569 (in 2002). The population's growth rate is 3.2% per year.

Benin is a privileged country because it has direct access to the sea, but the permeability of its frontiers makes it vulnerable to importation of dangerous products despite the formal interdiction of any importation of toxic or pollutant products (Article 29 of Benin Constitution, voted on December 11, 1990).

The specificities of each sector of activity involved in pesticide use were taken into account for this study. Several villages, depending on the commune of Savé, were selected for the studies related to the agricultural sector: Gobé where the main market of the Commune is located; and Dani and Okéowo which are relatively close to the Nigerian frontier.

Those villages are largely involved in commercial transactions with Nigeria regarding pesticides and agricultural products imports. Those imports mainly depend on the informal sector.

The city of Bohicon was also selected due to the presence of small traders involved in the sale of various chemical products.

Fifty producers were selected randomly in each of the three villages, plus 30 other actors in the remaining activity sectors (i.e. 10 in each village).

The data collected during semi-directed discussions, based on specific questionnaires for each sector. The collected data were then recorded and codified on Excel spreadsheets and analysed with the SPSS software (descriptive statistics, average figures, typical differences etc.).

## About the Stockholm Convention and POPs

The Stockholm Convention is aimed at protecting human health and the environment by implementing measures aimed at reducing with the goal of eliminating POPs.

The objective is to set a legally binding instrument in order to implement an international action for the elimination of 12 highly dangerous chemical products called POPs, namely:

First generation organochlorines: Aldrin, Endrin, Dieldrin, Chlordane, DDT, Toxaphene, Mirex, and Heptachlor

Industrial products: Hexachlorobenzene, PCBs

Polychloro-p-dibenzodioxins (dioxins or PCDD), polychlorodibenzofurans (furans or PCDF), also called « non-intentional products », which are by-products from industrial processes, unfinished combustion and chemical reactions involving chlorine and organic elements.

The POPs Convention was adopted by a Conference of Plenipotentiaries, held in Stockholm Sweden on 22 and 23 May 2001. It was ratified by Benin on 5 January 2004 and entered into force on 17 May 2004. However, Benin had its own POPs regulation since the early 1990s, but it was included in a larger regulation dealing with more chemical products and poisonous substances, which made it less efficient.

There are two types of actors:

Farmers who use pesticides for pest control. Most of them (74%) have a poor level of education and are not aware of the toxicity, dosage and precautions of use of the products. They are the most exposed to the hazards related to the use of such products.

Other types of workers that come into contact with toxic chemicals include carpenters, metal welders and refrigeration workers. Only 32% of them have a low level of education, mainly because they dropped out of school, but most of them are aware of the risks related to the use of the products.

Several chemical substances, POPs and others, are used in the various sectors of activity identified. POPs were identified in the agriculture and metal welding sectors. Toxaphene and dieldrin were identified in the agriculture sector for pest management in the production of cotton and beans (niébé). PCBs were also found in the oil contained in electrical transformers used for metal welding. All these products were from Nigeria, where they are still being used “due to their efficaciousness” according to the interviewed actors.

The issue is that POPs are used like any other pesticide, i.e. without any precautionary measure and the users are therefore highly exposed. Farmers do not wear any protective

mask and the other actors also manipulate the products without any gloves or protective masks.

There is also an issue with the origin and quality of the products. Most of them are out of date or not properly dosed and sometimes the substances have become inactive. This is directly related to the fact that the suppliers are not able to give an insurance regarding the quality of such products.

## **Supply sources**

All the products are generally provided by informal dealers. There are 4 main distribution circuits.

The local market: This is the main supply source for pesticides and POPS (70 %).

From producer to producer: Farmers sell small quantities of product to their colleagues according to their needs. This system has a real advantage because they just buy what they need and do not have to buy the whole box as if they went to the market, which they cannot afford generally.

Formal distribution networks: These do not include cotton producers but Communal Agricultural Centres in cooperation with producers' organisations, especially the UCP (Community Producers Association).

The external market: The areas around the Nigerian frontier are directly supplied from that neighbouring country. The producers from that zone also provide producers from the rest of the country with smaller quantities of pesticide (1/3L, 1/4L, 1/2L, etc..)

Pesticides are brought into the agricultural sector through those channels, and therefore there is no control of their quality and usage. Farmers set their own dosage and use frequencies, which makes the issue even more serious.

## **Actors' perception of the of the risks related to pesticide use**

Most of the actors are aware of the health and environmental hazards related to the use of pesticides and POPS. They have a certain idea of the mid-term and long-term effects of the manipulation and use of harmful products. They gave some examples of various health problems related to the use of such products (headache, stomach aches, eye or skin burns, respiratory problems, etc.). However, they do not have sufficient knowledge of long-term effects.

They also declared that they do not have any other choice but pesticide use, especially due to the low cost and efficaciousness of those products. This is the main reason why they still use them, despite potential risks.

## **The consequences of pesticide and POPs use among the actors**

The use of these products has had some health effects on the various actors. The actors of the agricultural sector generally admit that they suffer from a certain number of troubles related to pesticide applications. The troubles vary between respiratory problems (98 %), skin diseases (98 %), burning eyes (52 %), headaches (72 %) and digestion problems. Respiratory problems skin diseases and burning eyes are the most common problems. Respiratory problems mainly consist of coughing, difficult breathing etc. As for skin diseases, they consist in skin irritations or eruptions, and sometimes swelling. Several intoxication instances were recorded.

## **Conclusion and recommendations**

According to the results of the study, the agricultural sector is the main sector where pesticides and POPs are used. Small scale workers are also POP users.

There are several types of risks related to poor quality, improper use or unreliable supply sources. The users do not take enough precautions when manipulating products and do not have enough information about the products. Some actors also keep on using the products despite the fact that they received relevant information because they do not have other alternatives. There are still examples of users who are victim of pesticide use.

Several actions were suggested to prevent such problems:

Carry out awareness-raising campaigns about the risks and dangers related to the use of pesticides and POPs.

Train farmers to use good agricultural practices.

Train small arts crafts workers in good POPs management practices.

Increase lobbying actions in order to make political leaders implement import controls at the frontier and restrict pesticide importations in order to implement the Stockholm Convention