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The International POPs Elimination Project

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

PAN TOGO

Socio-economic, health and environmental impact study of POPs pesticide use in agriculture in Davie



Obsolete pesticide stocks in a D.A./PV store (Davié), Togo
Photo PAN TOGO, 2005

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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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The views expressed in this report are those of the authors and not necessarily the views of the institutions providing management and/or financial support.

This report is available in the following languages: English summary; full report in French

Summary

During the preliminary inventory of obsolete pesticides made by the Togolese Environmental Directorate in 2003 and led within the framework of the Stockholm Convention implementation activities on POPs, obsolete pesticides have been found in Davie, namely in the Agriculture Directorate store located in this village. Obsolete pesticides are spread on the soil, inside and in the surroundings of the store. As it is presented in the report, this environment seems to be contaminated by pesticides, namely POPs. However, investigation has neither been carried out among small-scale farmers nor samples taken on cereals.

The present project aims at better understanding impacts of pesticide use, namely POPs on human health and on the environment, public opinion regarding pesticides, viewpoints regarding other POPs present in the environment, etc in order to provide PAN TOGO with reliable advocacy/lobbying data in favour of the ratification of the Stockholm Convention on POPs.

Methodology

Generalities

The methodology below has been used for the present field study:

- 1) Setting-up of three working groups: Sociologic and Anthropologic Investigation Team, Legal review Team, Health and Environmental Impact Study Team.
- 2) Visits and interviews
 - Systematic visits in stores and sites stocking and distributing phytosanitary products and belonging to public- national, para-public and private institutions in Davie.
 - Interviews with phytosanitary regulators on secondment in the terrestrial frontiers, people in charge of phytosanitary control, storekeepers and pesticide users in the locality
 - Visits in health structures: Onchocercose, cleaning up and hygiene Services
 - Visits in CEET (Togolese Company for Energy and Electricity) and TDE (Togolose Water Supply Company) power stations
 - Visits in uncontrolled garbage dumps for waste incineration
 - Interviews with people of the different localities.
- 3) Preparing sectoral reports within each team.
- 4) Internal debriefing sessions and reports' validation
- 5) Sending of the temporary document to an external committee, including to certain experts involved in the POPs project in Togo.
- 6) Limited validation session of the study report with the committee

Hypotheses

Many hypotheses have been made before the study started.

- Abusive use and ignorance of pesticide hazards among populations
- Possibilities to use POPs in the private sector
- Davie is a POPs-contaminated locality.

Study results

The verification of the hypotheses led to the following conclusive results:

Regarding the hypothesis 1: abusive use of pesticides and lack of awareness of pesticide-related hazards among populations

The investigation revealed that the use of pesticides is virtually indispensable for cash crops such as maize and market-gardening according to populations.

- Producers in their whole have admitted that they can not have a good campaign without pesticides. The non-use of pesticides might lead to low harvests, according to them. Yields might decrease at the rate of more than a half (60%) or even 100%. This might lead to significant losses both for farmers and countries.
- 88% of the bean producers admit that they can have good yields without using pesticides because attacks are not permanent.
- 20% of people interviewed use herbicides in rice irrigated production and field preparation.
- Fungicides are found in market-gardening where 90% of people interviewed said that they systematically use them in the farming of cabbage, tomato and certain vegetables. Without this product, they say they will not be able to harvest, mainly with cabbages where the yields can drop up to 35%.
- Only a slight percentage (11%) of people interviewed have a small idea of organic agriculture but do not adopt it for lack of thorough and appropriate training.
- 95% of farmers want to minimize their use in pesticides because of health problems and in order to increase their profitability currently compromised by high pesticide prices.
- 97% of farmers don't even know about the existence of the different pesticide families
- 56% can distinguish insecticides (to combat insects) from fungicides (to combat diseases caused by microscopic fungi)
- 72% can make the differences between insecticides and herbicides

Poisoning cases due to pesticides

There are no data on pesticide-related poisonings in Togo and particularly in the health district of Davie. However, nurses have detected some acute poisonings that might be caused by pesticides. We do not have accurate evidence about the origin of these poisonings but have based our findings on declarations made by patients or their families in health districts.

Regarding hypothesis 2: Possibility of POPs use in the private sector

The investigation did not allow us to discover the recourse, by farmers, to POPs currently listed under the Stockholm Convention. However, it has revealed that pesticides are used for other purposes. Indeed, pesticides such as endosulfan, massively used in cotton production in Togo, have been found among many market-gardeners. Besides, many pesticides used could not be identified since they were put in non-labeled containers. Even market-gardeners we interviewed could not inform us about the nature of these pesticides. They limited themselves to saying that they bought the products from other market-gardeners who have themselves acquired them from hawkers coming from Ghana.

Regarding hypothesis 3: Davie is a POPs-contaminated locality

Presence of POPs residues in certain cereals: indeed, samples taken on cereal products (*Vigna Unguiculata*, (L.), Walp (niebe), *Zea Mays* L. (maize), *Pennisetum americanum* (L.), leeke (millet), *Sorghum bicolor* (L.), Moench (sorghum) have revealed a high presence of pesticide residues, among which the POPs heptachlor, aldrin, endrin, dieldrin and DDT and for certain among these latter at levels higher than standards. (See table, p.28)

Soils contamination: many sites in Davie seem to be contaminated by pesticides, namely POPs. It is about the immediate environment of the DAPV store (see Annex 1) and the chemical stockpiling site. In these two localities, pesticides are found in the soils and have highly reddened the grass and created reddish vegetation. Only an evaluation or a monitoring activity could help knowing which kind of pesticide it is.

Dioxin and furan releases: Regarding substances included in the Annex C of the Stockholm Convention on POPs, some dioxin and furan releases in the air and residues stemming from bushfires and inappropriate burning of household wastes among which are found biomedical wastes classified in the category of hazardous wastes by the Basel Convention.

Moreover, it is worth mentioning that it is more likely to find POPs in high concentrations in the breast milk of women living in this area considering significant quantities of pesticide residues (heptachlor, aldrin, endrin, dieldrin and DDT) present in food. Regarding this situation, the WHO campaign in favour of breastfeeding in our sub region can constitute an important source of POPs transmission from mothers to children. Breast feeding has many advantages for infants compared to formula and is necessary for both the physical and mental health of the baby. The contamination of breast milk may deny to women of this area the right to feed safely their babies without poison and emphasizes the need for POPs elimination.

Groups of people exposed to pesticides

Populations exposed to potential pesticide risks can be divided in sub-groups according to the exposure level. Generally, sub-groups are the following:

- Rural workers and market-gardeners potentially exposed to POPs and to other pesticides
- Warehouse keepers in charge of managing warehouses contaminated by POPs
- People formerly or currently handling POPs
- Populations exposed or living next to areas where burning operations are carried out (wastes/household wastes, biomass)
- Populations involved in salvage operations or using POPs-containing equipments
- Taxi-motorbike drivers exposed to U-POPs stemming from factory and exhaust fumes.
- Domestic maids exposed to dioxin/furan releases during food preparation on firewood.

According to our observations, rural populations with traditional way of life are virtually not exposed because pesticides use is low. However, certain pesticides can fall within small-scale farmers' hands cultivating subsistence crops. Most of the time, they are not knowledgeable about pesticide hazards and precautions to take. This does mean that they are not totally spared by these toxic chemicals' hazards.

On the other hand, exposure of rural populations can occur through food, air and water currents. It is mainly about accidental exposure, outside workplaces following:

- Conservation of pesticides in an unlocked cupboard within reach of children
- Conservation of pesticides in non-labeled recipients or reuse of pesticide recipients to keep water or food.
- Conservation of agricultural pesticides next to unprotected foodstuffs
- The use of pesticides to household or medical purposes, with a risk of massive exposure through skin route or by inhalation
- The use of old pesticide recipients to carry or keep water or other food.
- Transportation of food and seeds in the same vehicles as pesticides
- Medicinal plants cultivated in pesticide-treated farms are also sources of human contamination and poisonings

It is necessary to carry out more thorough studies by taking samples on biotic and abiotic compartments to assess the contamination level and take appropriate measures.

For the time being, IEC programs must be initiated to inform and raise awareness of the abusive use of pesticides among local populations.