



Swiss Agency for
Development
and Cooperation
SDC



Swiss Agency for
the Environment,
Forests and
Landscape SAEFL

International POPs Elimination Project

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

Raising Public Awareness on Persistent Organic Pollutants Program

**Cambodian Centre for Study and Development of
Agriculture (CEDAC)**

**Cambodia
March 2006**

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>

IPEN gratefully acknowledges the financial support of the Global Environment Facility, Swiss Agency for Development and Cooperation, Swiss Agency for the Environment Forests and Landscape, the Canada POPs Fund, the Dutch Ministry of Housing, Spatial Planning and the Environment (VROM), Mitchell Kapur Foundation, Sigrid Rausing Trust, New York Community Trust and others.

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

Raising Public Awareness on Persistent Organic Pollutants Program

Introduction

Currently, POPs are still freely available in Cambodia, including DDT, Chlordane, and PCBs. The general public, NGOs, farmers, traders, and other stakeholders have not yet been very well exposed to the issues concerning POPs, and it is a relatively new issue to them. There is a need for an organized information dissemination campaign on the effects of POPs on health and the environment. With increased awareness of the various stakeholders, it is hoped that concrete steps may be taken towards the elimination of POPs in Cambodia.

Cambodia is signatory to the Stockholm convention on Persistent Organic Pollutant; It signed this Convention on the 23rd of May 2001 in Stockholm, Sweden but has not yet ratified it. Cambodia affirmed its full commitment to cooperation with the international community in reducing, eliminating and managing POPs. However, POPs are freely available in Cambodia including DDT, Chlordane, and PCBs.

CEDAC has been working to address issues related to pesticides since 1998. Our activities focus on doing field surveys, organizing, networking, and public education. The general aim of this project is to work towards the reduction and elimination of POPs and their harmful effects on farmers, the general population, and the natural resources. The specific objective of the project is to increase awareness among the general public in Cambodia about the risks associated with POPs.

A public awareness raising program on POPs will be conducted in Phnom Penh, Cambodia. Leaflets on POPs will be produced and distributed among various stakeholders. A workshop will be conducted in which stakeholders from the government, NGOs, farmers, and traders will have the opportunity to learn more about POPs issues in Cambodia. The workshop will serve as a venue to bring out the concerns of each stakeholder regarding POPs. A broadcast program regarding the health and environmental effects of POPs will also be aired in order to reach a wider audience.

Brief Summary of the Progress of the Project

CEDAC has already met with the key persons for the implementation of the project. A consultative meeting was conducted with Mr. Chea Sina and Mr. Rat Seth, government officers of the Ministry of Environment and Cambodia facilitators for the Stockholm Convention. They provided inputs and some documents related to the POPs issue in Cambodia. In addition, a meeting was held with Mr. Chea Chan Veasna, chief of the Bureau of Agricultural Material Standards, Department of Agricultural Regulation under the Ministry of Agriculture, Forestry and Fisheries. They were happy to provide speakers for the planned workshop.

With the review of the documents, CEDAC conducted a quick survey of pesticide shops in Koki and Cbar Ampov markets (Phnom Penh). The results of the survey showed that DDT and Chlordane are still sold in local markets, and CEDAC could not count them all.

CEDAC provided a speaker for the environment program of Good Morning Cambodia of the TVK (Television of Cambodia). The speaker discussed POPs pesticides and their impacts on environment and health. The 30-minute segment was broadcasted on April 23 and 24, 2006.

Planning for Next Activities

31 May 2006: Finish the production and printing of leaflets on POPs impacts. Approximately 20,000 copies will be made and distributed to relevant stakeholders.

16 June 2006: Awareness-raising workshop on POPs; Mr. Chea Chan Veasna and Mr. Chea Sina will be invited as speakers.

19 and 23 June: Broadcast IPEP project activities and results of the workshop on TVK.

What are POPs?

The United Nation Environment program has identified 12 POPs of particular concern, of which 9 are organochlorine insecticides: aldrin, endrin, dieldrin, DDT, chlordane, heptachlor, hexachlorobenzene, toxaphene and mirex.

Sources of POPs

Cambodia is an agricultural country, not a chemical-producing country. POPs that are used in Cambodia are imported from other countries. Cambodia has used pesticides, including POP pesticides, since the late 1950s. Some POP pesticides were imported by the government as international aid assistance. Agricultural statistics from 1985 to 1992 showed that two types of POP pesticides, DDT and endrin, were imported and distributed by Compagnie Centrale des Material Agricole (COCMA) under the Ministry of Agriculture, Forestry and Fisheries (MAFF) from the former Soviet Union and Eastern Europe. Since 1992, there has been no official data and information on pesticides, including POP pesticides. However, it is known that some POPs are imported, sold and used in Cambodia from neighboring countries over uncontrolled border areas.

Levels of POPs

POPs Pesticides

No reliable records are available that document POPs pesticide use in Cambodia. Two of the nine POPs pesticides, DDT and chlordane, are available in the local markets of Cambodia (CEDAC, 2004). The first POPs pesticide inventory found about 450kg of DDT and 54 kg of chlordane at the local markets (MoE, 2004a). Other POPs pesticides

found in this country were heptachlor and dieldrin, but data has not been recorded. There are reports that dieldrin was found in coil. In Cambodia, DDT is not used in agriculture, but it was used for public health. However, since 1991, DDT has not been used for controlling vector born diseases based on WHO recommendations in 1986 (MOE,2004b).

PCBs

It found that there are 1,600 transformers used in Cambodia, and about half of them are assumed to be contaminated with PCBs. On the other hand, it was not identified in other electrical equipment (MOE, 2004b).

POPs from By-products

An inventory on POPs in 2004 showed that Cambodia has a high potential for generating and releasing dioxin/furan from sources such as:

- Uncontrolled combustion process,
- Medical waste incineration without air cleaning facilities,
- Power generation plant, generating electricity by using oil and autoclave kiln operated by waste burning, and
- Ferrous and non-ferrous metal production

Damage caused by POPs

Cambodian researchers were not able to examine POPs residues in biological samples due to lack of expertise as well as laboratory facility. In 1996 and 1998, a scientific study on POPs residues in fish and mussels in Cambodia was undertaken by a Japanese research group from Yokohama City University and Ehime University, in cooperation with MAFF. The result of the research showed that DDT and chlordane were the most detected compounds in both fish and mussel samples. DDT concentrations ranged from 0.51 to 25 ng/g wet wt in fish and 0.2 to 1.6 ng/g wet wt in mussels. Chlordane contamination in fish was from 0.03 to 0.34 ng/g wet wt and in mussels from 0.06 to 0.16 ng/g wet wt. Freshwater fish was more contaminated with DDT (450 ng/g fat wt) than marine fish (80ng/g fat wt).

In 2004, researchers from Ehime University, Japan measured PCBs, DDT, HCH, HCB, chlordane and other compounds in human breast milk in Cambodia. All the substances were detected in almost all samples with DDT concentrations ranging from 310 – 11,000 ng/g lipid. Based on the high levels of DDT, the authors suspected continuing use of DDT in agriculture.

Laws currently regulating POPs

Sub decree 69 on Standards and Management of Agricultural Materials was issued in 1998 pertaining to the regulation of seeds, chemical fertilizers and pesticides in Cambodian agriculture. Referring to the sub decree, in December 2003, MAFF released Circulation 598 on List of Pesticides in Cambodia. The circulation has formulated three lists of pesticides relevant to the Kingdom of Cambodia. The first list of pesticides

banned for use in the Kingdom of Cambodia contained 116 pesticides, which included WHO class I and Class II pesticides, together with persistent organic pollutants (POPs).

Efforts to deal with POPs

Petitioning international development workers led His Majesty King Norodom Sihanouk to issue a communiqué on 16th October 1994, to the dual Prime Ministers of the Royal Government of Cambodia to ban the importation, production and distribution hazardous pesticides. Since this point the Cambodia Government has accepted no donation of pesticides as aid.

Under the Sub decree 69 on Standards and Management of Agricultural Materials, dated 28 October 1998, the management of POP pesticides came under the responsibility of the MAFF, in accordance with the assigned role and function of this ministry. In 1999, MAFF released a declaration on the creation of the Bureau of Agricultural Material Standards. In 2002, MAFF released a circular to ban 64 pesticides and restrict the use of over 100 pesticides. Endosulfan was added to the list of banned pesticides list. In 2003, Minister of MAFF approved the list of 116 banned pesticides (including POPs pesticides) and 40 restricted pesticides.

Recommendations on eliminating POPs

A number of recommendations are presented here for further consideration to assist Cambodia to be able to effectively implement the Stockholm Convention to eliminate DDT and all forms of POPs products. The recommendations are as follows:

- **Awareness-raising:** Provide the public and other stakeholders with basic knowledge on the risks caused by DDT and its related substances/products to human health and environment. Encourage participation on the public and stakeholders in the management of DDT including other POPs in household products;
- **Capacity building :** Provide and strengthen capacity of governmental officials and stakeholders in order for them to effectively perform their duties, especially for the implementation of national and international regulations related to sound chemicals management;
- **Strengthening laboratories :** Strengthen public laboratories regarding technical and human resources in order to be able monitor and analyze the banned chemicals;
- **Developing POPs management regulations:** Develop and apply regulations and/or guidelines on the management and monitoring of POPs use in household products and disposal including contaminated material. Ensure that concerned ministries, institution and stakeholders carefully develop and apply this regulation/guideline;
- **Controlling and monitoring activities:** Finding POPs within household products including DDVP will increase concerns regarding fraudulent chemical

ingredients in products for public use. Therefore, the control and monitoring of all import goods should be regularly applied;

- **Strengthening cooperation among institutions and stakeholders:** Strengthen cooperation and close collaboration among governmental institutions, the general public, private sector and other stakeholders towards as a goal of sound management of chemicals used in household products. Issues such as analysis and information should be freely shared among them; and
- **Developing and implementing specific regulations on sound chemicals management including POPs:** A general chemical management regulation, which includes the concept of the international convention, is necessary.

Resources on POPs

CEDAC,(2004).Pesticide use and Consequence in Cambodia.

MAFF, (2003). Circulation on the list of pesticide in the Kingdom of Cambodia, issue 598.

Monirith, I., Nakata,H., Tanabe, S and Tana,T.S., (1999). Organochlorine contamination in Fish and mussels from Cambodia and other Asian counties. *Water Science and Technology*. 42: 241-252.

MOE, (2004a). Inventory report on Agricultural POPs pesticides and DDT for malaria control in Cambodia.

MOE, (2004b). National profile on chemicals management in Cambodia

Kunisue T, Someya M, Monirith I, Watanabe M, Tana TS, Tanabe S. (2004) Occurrence of PCB, organochlorine insecticides, tris(4chlorophenyl)methane, and tris(4-chlorophenyl) methanol in human breast milk from Cambodia. *Arch Environ Contam Toxicol* 46:405-412