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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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# **Raising awareness, evaluation and assessment, and sources of POPs in the Gaza Strip**

**Green Peace Association**

**Palestinian Territories  
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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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# Raising awareness, evaluation and assessment, and sources of POPs in the Gaza Strip

## What has been done so far?

Green Peace Association, in cooperation with local NGOs, has organized a public awareness workshop. POPs compounds which are used in agriculture like DDT and the organic wastes were the main themes of the workshop. In addition the effects of toxic waste incineration on air and land pollution were intensively discussed. The target group was people who work in agriculture such as farmers, pesticide handlers and other interested people in the fields of environment.

## Results from awareness-raising workshops

### 1. Introduction and Background

The Gaza Strip and West Bank are composed of two separate geographical areas, the West Bank and Gaza. In these areas integrated and full information on the distribution, use, production and impact of Persistent Organic Pollutants is not available while the most obvious sector to begin with is the Agricultural Sector.

The Stockholm Convention is a global treaty to protect human health and the environment from persistent organic pollutants (POPs). POPs are chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to humans and wildlife. POPs circulate globally and can cause damage wherever they travel. In implementing the Convention, Governments will take measures to eliminate or reduce the release of POPs into the environment. Palestine is one of the international communities where POPs compounds are used and present.

### 2. The Agricultural Sector

The total agricultural land in the West Bank and Gaza in 2000 was 1,860.7 Mio dunums (1 dunum = 1000 square meters; 1 acre = 4.046 dunum), of which 1,557.4 Mio and 0.077 Mio dunums are rain fed in the West Bank and Gaza Strip, respectively. Crops in the West Bank and Gaza, including vegetables and fruits, are produced for the local consumption mainly, but also for export.

The GDP and GNP were 4,667 and 5,801 million US Dollars in the year 2000, respectively. The agricultural contribution to these amounts consisted of around 7%. The sharing manpower in the agricultural sector amounted to 82,000 workers, i.e. 13.8% of the total manpower in the Palestinian Territories (PT) of 596,000 shared full-time workers.

The registration of pesticides has been taken up only recently, after the establishment of the Palestinian Authority and the Department of Plant Protection and Inspection Services in 1999. The eight pesticides specified in the Stockholm Convention were not registered within the past period, though this is no guarantee of their absence in the Palestinian agricultural sector, since considerable amounts of such substances find their way into the Palestinian market by illegal trafficking.

Different sources indicate that pesticides are used extensively within the West Bank and Gaza. In fact, the application rate is even believed to be amongst the highest in the world. From the 400 officially registered pesticides in Israel, some are banned for use in other industrialized countries, due to their high toxicity and harm potential. According to Ministry of Agriculture resources, the amount of pesticides used in the Gaza Strip was almost 400 tons in the year 2000. Bir Zeit University studies further indicated that 1,300 tons of pesticides were used in the West Bank, at a yearly application rate of 7kg/dunum in open agriculture, and 11 kg/dunum in greenhouses, respectively. Farmers in general do not use appropriate methodology, such as scales to weigh the pesticides, when utilizing them, but rather refer to their own judgments to determine rate and amount. Inappropriate practices, linked to the lack of knowledge about pesticides, cause severe health and environmental risks.

A first draft for an agricultural legal framework has been established recently, aiming at controlling the trade, use, and licenses for import and market distribution of pesticides in the West Bank and Gaza. This law will assign the examination monitoring and licensing process to the Department of Plant Protection and Inspection within the Ministry of Agriculture. This department has established state of the art laboratories to test pesticides and their environmental impact.

### **3. POPs Stocks and Contaminated Sites**

There is no reliable information available on DDT stockpiles in the West Bank and Gaza. This problem has a political dimension. Before the establishment of the Palestinian Authority following the Oslo Agreements of 13 September 1993, no administration of chemicals used in the Palestinian Territories existed. Hence, it was also possible to purchase pesticides at different quantities and for different purposes by merchants or directly by the farmers themselves from the Israeli market without monitoring. The problems of control and striving for appropriate solutions have still not been tackled due primarily to the lack of awareness, knowledge, and expertise within the Palestinian Authority institutions. However, it is assumed that the amounts of stocked DDT and other POPs in the West Bank and Gaza are considerable, and needs to be assessed during the inventories.

Also, no official investigation of contaminated sites with DDT and PCB is known at present. Estimations by the Environmental Quality Authority (EQA) suggest that the probability of contaminated sites is highly relevant and needs urgent investigation.

#### **4. Landfills, incineration, Disposal**

There are no designated storage and disposal sites for POPs, which are dumped together with regular waste, or disposed uncontrolled with wastewater discharge.

At present, there is one sanitary and two old landfills covering the needs of solid waste management of the Gaza Strip. In the West Bank, five sanitary landfills are planned, of which two are currently under construction. Domestic solid waste amounts to 15 Mio (million) tons/year. The average solid waste composition in the Palestinian territories is shown in the following graph. In addition, agricultural waste amounts to 4 Mio tons/year, and hazardous industrial waste to 15,000 tons/year. The total amount of hospital waste is 15,000 tons/year, of which most is directly incinerated in the hospitals.

There are three main incinerations for health care waste operating in the Gaza Strip. Monitoring or assessment of the dioxins emitted by these incinerators has never been looked at. Studies conducted by local researchers stressed that emissions, residual ash, and dioxins from such facilities should be tackled at the top levels. The unavailability of information on such toxins, dioxins, and emissions does not necessarily mean that such incineration is safe.

The main goal of such incinerators was to get rid of huge amounts of health care and hazardous waste. Public health as well as other negative aspects was not looked at.

Moreover, the public is strongly resisting the installation of such a facility due to the danger and negative health impacts associated with such facilities.

Several non governmental organizations (NGO's) and research institutions might be interested in the handling different issues of POPs, but have to be identified further.

#### **5. Monitoring of POPs**

With regard to environmental analysis and POPs determination, there are a few existing chemical testing laboratories within Palestinian Authority, and within the Gaza governorate. Further on, the laboratory of the Centre for Environmental & Occupational Health Sciences of Bir Zeit University at the West Bank plays a major role in environmental monitoring and analysis. In addition there are laboratories within the Department of Chemistry of the Islamic University and the Al Azhar University. Al Nujah University has laboratory facilities too. The lab of the Department of Plant Protection and Inspection of the Ministry of Agriculture can detect pesticide residues and dioxins in contaminated soil and water.

Moreover, as of 2002, a modern and specialized laboratory in pesticides analysis will be functioning for monitoring and testing the pesticides imported to Gaza Strip, as well as monitoring the residual pesticides in the vegetables and fruits.

The Birzeit University (BZU) established the Centre for Environmental and Occupational Health Sciences (CEOHS) in 1982 to perform research and offer services in areas related to its activities. Environmental Health and Toxicology Unit is divided into three principal

sections that are; water and wastewater, pesticides, and heavy metals and organics. This unit works on research and monitoring in the areas of water, wastewater, pesticides, hazardous organic chemicals, heavy metals and biological contamination of the environment. In 1998 CEOHS was the first to obtain PS/ISO Guide 25 related to PS/ISO 9002. This certification has been renewed every year after inspection by the PSI. The activities of CEOHS include environmental health and toxicology, environmental education and extension and monitoring of pharmaceutical and veterinary drugs, food, animal feed, water and wastewater. CEOHS has three facilities:

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2. At BZU where the administration and the mother laboratories are housed;
3. At Gaza where the environmental laboratories and offices are located; and
4. At Jericho where the IPM demonstration station and offices are located.

## **6. Information on the Releases of POPs into the Environment and Human Health Impacts**

There is currently no information available on releases of dioxins and furans into the environment. Further on, no initiatives have been taken up to date to establish a Pollutant Release and Transfer Register (PRTR).

The major duty of the Ministry of Health is to assess the impact of POPs on human health, but so far no relevant research has been performed. The main reasons for the lack of impact data of POPs on the human health in the West Bank and Gaza are the absence of any plan to handle, and the lack of institutional capacity for the issue of POPs, the lack of public awareness of the POPs-related issues, as well as sovereignty and access problems within the West Bank and Gaza