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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*

Monitoring of dioxins in fish from the impact zone of the Helwan cement and steel plants

Day Hospital for Development and Rehabilitation

**Egypt
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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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Monitoring of dioxins in fish from the impact zone of the Helwan cement and steel plants

Persistent organic pollutants (POPs) are a class of chemicals that persist in the environment, are capable of long-range transport, bioaccumulate in human and animal tissue, and have significant impacts on human health and the environment, even at low concentrations. They include such substances as dioxins, PCBs and DDT. POPs released to the environment can travel through air and water to regions far distant from their original source. In these distant regions, POPs can concentrate in living organisms, including humans, to levels that can injure human health and the environment.

Dioxins are chemical contaminants that have no commercial usefulness by themselves. They are formed during combustion processes, such as waste incineration, manufacturing processes such as herbicide and paper manufacturing and trash burning. People are constantly exposed to dioxins through ingestion of dioxins that are present at low levels as environmental contaminants in food. Although they are at low levels in food, some dioxins are very slowly removed from the body and therefore they accumulate in our fat tissue.

Monitoring of contamination levels with dioxins in fish produced in areas nearby the industrial zones would allow identifying impacts of the wastes and emissions of these factories on increasing the rate of fish contamination with dioxins. Fish is a link of food chain contamination so the human dietary exposure to dioxins could be estimated through their fish consumption.

The proposed project would allow identifying presence of dioxins in fish samples collected from different areas in River Nile nearby the cement and steel plants in Helwan and develop recommendations for reduction of adverse health impact of POPs. Should the project be implemented successfully, it might serve as a model for similar studies in other regions of Egypt

Planned outputs:

The objectives of the project are:

1. Identification of dioxins levels in fish produced near cement, and steel factories
2. Establishing a baseline concentration for dioxins in fish which will be an important reference for future monitoring plans;
3. Identification of sources of human intakes of POPs;
4. Effectively manage the risks to humans from dioxins and identify opportunities to reduce human exposure;
5. Raising awareness of public and decision-makers of health risks of POPs.

Project activities:

The project is divided into six main activities:

1. Coordination meeting to clarify and confirm project goals, tasks, and activities
2. Initiate group to collect samples from assigned areas
3. Initiate group for extraction of dioxins from the collected fish samples GC-MS analysis of the prepared samples
4. Meeting with the target groups to discuss the study results
5. Development of the aimed recommendations for the related authorities for the elaboration of national recommendations to the Egyptian National Implementation Plan for the Stockholm Convention Present the study results on the Internet

Project Progress

The following table shows achievements and forecast (according to the UNIDO/UNEP accepted project proposal)

Achievements from the starting of the project	Forecasted activities for the rest of the project duration
Formulated project team	Completed
Coordinated project goals and tasks	Completed
Prepared sampling plan	Completed
Obtained fish samples from River Nile nearby the cement and steel plants in Helwan region (see Annex 1)	Completed
Prepared information sheet for each sample	Completed
Analysis of the collected fish samples for determination of dioxins in central lab of residue analysis of pesticides and heavy metals in food	Continued to analyze the collected samples *This task is beyond the project time schedule, starting the analysis of the project samples has been delayed due to the over capacity problems in the hosting lab during summer time
Analysis of the study results and findings	Will start upon obtaining the analysis report of the collected fish samples
Inviting the project team and participants to discuss the research findings and release the final report	Will start directly after issuing the draft report on the study results and findings
Development and publication of a brochure on the study results	Will start directly after issuing the final report on the study results and findings
Development of project implementation and finance reports and submission of these reports to project partners and the sponsor	Directly after issuing the project brochure

Annex1: Sampling Information Sheet

Total No. of samples	Five fish samples where collected from different areas in River Nile in Helwan				
Type of fish	Nile Tilapia, (OREOCHROMIS NILOTICUS NILOTICUS)				
Date of sampling	25 / 04 /05				
Sample description	Each sample weighing about 3kg, the average weight/length of each fish is 100gm/15cm				
Sample No.	FHN1	FHN 2	FHN 3	FHN 4	FHN 5
Area where sample collected	Iron and Steel Plant	Al-Marazik Bridge	Kafr EL-Ellou	EL-Massara	Toura
Location	South Helwan	South Helwan	South Helwan	North Helwan	North Helwan
Pollutant source neighbouring	Egyptian Iron & Steel Company	Egyptian Iron & Steel Company and National Cement Company	Helwan Portland Cement Company	Toura Portland Cement Company	Toura Portland Cement Company
Fat %	2%	6%	2%	4%	5%