

UN/ECE and UNEP Chemicals POPs activities

The UNEP / GEF project regionally-based assessment of persistent toxic substances

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Summary

The overall objective of the project is to deliver a comprehensive regionally based assessment of the damage and threats posed by persistent toxic substances, and to evaluate and agree the priorities between chemical related environmental issues at the regional level in order to focus subsequent interventions on the most important and pressing issues. The twelve Regional Reports will include assessment of the sources of persistent toxic substances in the environment, their concentrations and impact on biota, their trans-boundary transport, and an assessment of the root causes of the problems and capacity to manage these problems. Consolidation of the results of the regional analyses will provide an assessment of global priorities. The results of the assessment will be widely disseminated via the World Wide Web and other media.

Background and context

The introduction of xenobiotic chemicals that are generally referred to as "persistent toxic substances" (PTS) into the environment and resulting effects is a major issue that gives rise to concerns at local, national, regional and global scales. Many of the substances of greatest concern are organic compounds characterised by persistence in the environment, resistance to degradation, and acute and chronic toxicity. In addition many are subject to atmospheric, aquatic or biological transport over long distances and are thus globally distributed, detectable even in areas where they have never been used. The lipophilic character of these substances causes them to be incorporated and accumulated in the tissues of living organisms leading to body burdens that pose potential risks of adverse health effects. Toxic chemicals, which are less persistent but for which there are continuous releases resulting in essentially persistent exposure of biota, raise similar concerns. The persistence and bioaccumulation of PTS may also result in increase over time of concentrations in consumers at higher trophic levels, including humans.

A sub-group of the persistent toxic substances are the "persistent organic pollutants" (POPs) identified by the international community for immediate international action¹. These chemicals have serious health and environmental effects, which may include carcinogenicity, reproductive impairment, developmental and immune system changes, and endocrine disruption thus posing a threat of lowered reproductive success and in extreme cases possible loss of biological diversity.

Following the recommendations of the Intergovernmental Forum on Chemical Safety², the UNEP Governing Council decided in February 1997 (Decision 19/13 C) that immediate international action should be initiated to protect human health and the environment through measures which will reduce and/or eliminate the emissions and discharges of an initial set of twelve persistent organic pollutants (POPs). Accordingly an Intergovernmental Negotiating Committee (INC) was established with a mandate to prepare an international legally binding instrument for implementing international action on certain persistent organic pollutants. To date three³ sessions of the INC have been held. The GEF Secretariat and the GEF Council have indicated their willingness for the GEF to serve, as the financial mechanism for the Convention should the contracting parties so desire.

Persistent toxic substances can be manufactured substances for use in various sectors of industry, pesticides, or by-products of industrial processes and combustion. To date, their scientific assessment has largely concentrated on specific local and/or regional environmental and health effects, in particular "hot spots" such as the Great Lakes region of North America or the Baltic Sea. In response to the long-range atmospheric transport of PTS, instruments such as the Convention on Long-Range Transboundary Air Pollution (LRTAP) under the auspices of the UN Economic

¹ The initial twelve POPs are: aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene, mirex, toxaphene, polychlorinated biphenyls, dioxins and furans.

² Conclusions of the IFCS sponsored Experts Meeting on POPs and final Report of the ad hoc working group on POPs, Manila, 17-22 June 1996, "Persistent Organic Pollutants: Considerations for Global Action".

³ At the time of the submission of the project proposal, October 1999.

Commission for Europe (UNECE) have been developed. The Basel Convention regulates the transboundary movement of hazardous waste, which may include PTS. Some PTS are covered under the recently adopted Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. FAO has initiated a process to identify and manage the disposal of obsolete stocks of pesticides, including PTS, particularly in developing countries and countries with economies in transition.

A number of regional organisations have already conducted assessments of persistent toxic substances. Where they exist, the present project will rely on these assessments which include the Quality Status of the North East Atlantic completed by the Oslo and Paris Commission, the State of the Arctic Environment completed by the Arctic Monitoring and Assessment Programme, the State of the Marine Environment of the Baltic of the Helsinki Commission, and the work accomplished in the European Union through the Dangerous Substances Directive.

There is a need for a scientifically-based assessment of the nature and scale of the threats to the environment and its resources posed by persistent toxic substances that will provide guidance to the international community concerning the priorities for future remedial and preventive action. The assessment will lead to the identification of priorities for intervention, and through application of a root cause analysis will attempt to identify appropriate measures to control, reduce or eliminate releases of PTS, at national, regional or global levels.

The actual priorities for action within each region may not be the same, reflecting differences between regions in terms of economic development, agricultural and industrial production, climatic, geographic and social and cultural conditions. Therefore, the assessment will be based on an analysis of conditions in each region, using information available from a variety of sources and following common methods and approaches.

The GEF Contaminant-Based Operational Programme makes direct reference to contaminants that are so persistent that they can be considered to be "global contaminants" and it states that *"The GEF may support activities that help to characterise the nature, extent and significance of these contaminants and support the agreed incremental costs of processes and measures that demonstrate prevention of reduction of releases in recipient countries"*. This project would provide an objective and rapid evaluation of the priorities within regions and between chemical related environmental problems that will enable the GEF to focus subsequent activities within OP 10 on the most important and urgent issues.

Rationale and objectives

The objective of the project is to deliver a measure of the nature and comparative severity of damage and threats posed at national, regional and ultimately at global levels by PTS. This will provide the GEF with a science-based rationale for assigning priorities for action among and between chemical related environmental issues, and to determine the extent to which differences in priority exist among regions.

The outcome of this project will be a scientific assessment of the threats posed by persistent toxic substances to the environment and human health. The activities to be undertaken in this project comprise an evaluation of the sources of persistent toxic substances, their levels in the environment and consequent impact on biota and humans, their modes of transport over a range of distances, the existing alternatives to their use and remediation options, as well as the barriers that prevent their good management.

Additional possible outcomes of the project are: a greater awareness of PTS related environmental problems in developing countries; opportunities for bilateral or multilateral action; network building and co-operation within and between regions; stimulus for research through the identification of data gaps; support to international conventions, such as the Rotterdam Convention, the UNECE LRTAP convention, Regional Seas Agreements or the future POPs Convention. The project will make contributions to the Global International Waters Assessment (GIWA) that is being carried out by UNEP with GEF funding.

Project activities and expected results

The project relies upon the collection and interpretation of existing data and information as the basis for the assessment. No research will be undertaken to generate primary data, but projections will be made to fill data/information gaps, and to predict threats to the environment. The proposed activities are designed to obtain the following expected results:

1. Identification of major sources of PTS at the regional level;
2. Impact of PTS on the environment and human health;
3. Assessment of trans-boundary transport of PTS;
4. Assessment of the root causes of PTS related problems, and regional capacity to manage these problems;
5. Identification of regional priority PTS related environmental issues; and
6. Identification of PTS related priority environmental issues at the global level.

Establishment of the global network

A Network of participating institutions and individuals will be established for the Regionally-Based Assessment. In addition to utilising the experts and institutions involved in the PDF-B phase, UNEP Chemicals will solicit inputs from relevant government representatives such as UNEP national Focal Points, delegates to the INC POPs negotiations, UNEP POPs Focal Points, and IFCS Focal Points regarding national experts or institutions with relevant expertise who could participate in the project. The contact points will be asked to be as specific as possible, for example which government department (and name of resource person) should be asked about use of pesticides or which University (ies) (and name of Department/team leader) should be asked about levels of contaminants in environmental compartments. A minimum of one contact point will be identified per country, but where UNEP has more than one contact in the country, they all will be asked to contribute details of experts.

Scientists will also be contacted through recommendation of the Steering Group and through scientific societies. Public interest NGOs concerned with the elimination of persistent toxic substances will be contacted, in particular through the global network provided by the International POPs Elimination Network. Industry will be invited to participate through contacting directly, major companies and through trade associations.

For implementation of the project, the globe has been divided in twelve regions. These regions represent a compromise between the need for internally coherent groupings of countries with similar characteristics and the need to keep the number of regions small for financial and management considerations.

The output of this activity is the establishment of a network of PTS experts from various sectors of academia, government, relevant international organisations, NGOs and the private sector.

Technical co-ordination and management of the project

Regional Co-ordinators for each region will be identified by UNEP Chemicals from the global Network, and endorsed by the Steering Group at its first meeting. Decisions will be based on the list of experts provided by the Government contact points in order to facilitate country buy-in and ownership of the project. The Regional Co-ordinator will be responsible for organising the work at the regional level and will be the principle editor of the Regional Report. The Regional Co-ordinators will require infrastructure and logistic support from their institutions that will be assured through contractual arrangements between the Executing Agency and the host institution.

In each region, a Regional Team of 4-5 members (excluding the Regional Co-ordinator) will be constituted from the wider regional Network. Members drawn from government, academia, public interest NGOs or industry will be identified by UNEP Chemicals in consultation with the presumptive Regional Co-ordinators, and endorsed by the first Steering Group meeting. Individual Regional Team members will be responsible for co-ordinating specific components of the Regional Reports. Collectively, the Regional Team will assemble and finalise the Regional Report.

A Project Manager will be appointed at UNEP Chemicals (Terms of Reference Annex H). The Project Manager will act as Secretary for the Steering Group and will be responsible for: managing all aspects of project execution; and dissemination of results and progress, including maintaining a web site. The Project Manager will convene meetings of the Regional Co-ordinators as and when necessary.

The Steering Group will comprise UNEP Chemicals, UNEP-GEF Co-ordination Office, UNEP Division of Environmental Assessment and Early Warning, UNEP/GPA Co-ordination Office, the GEF Implementing Agencies UNDP and the World Bank, a member of the Scientific and Technical Advisory Panel, the Global International Waters Assessment Core Team, environmental NGOs such as the World Wildlife Fund for Nature, Industry, independent scientists, and other UN Agencies (including WHO, FAO and UNECE) The participation of non-UN members in the Steering Group will be funded from the project budget.

Project format

- Globe divided into 12 regions: Arctic, North America, Europe, Mediterranean, Sub-Saharan Africa, Indian Ocean, Central and North East Asia (Western North Pacific), South East Asia and South Pacific, Pacific Islands, Central America and the Caribbean, Eastern and Western south America, Antarctica

Global network

Website

- Address: URL://www.chem.unep.ch/pts/