Pop's Newsletter

No 12, December 2006
Prepared on behalf of **IHPA**

In this issue:

Aim

The aim of this newsletter is to disseminate information in a cost-effective way on the developments taking place in the area of POPs as implicated in the Stockholm Convention and other PTS of concern. It will cover, among others, the news on science and technology for disposal of obsolete stocks and remediation of POPs contamination which might be of interest for commercial exploitation both in developed and developing countries. Special emphasis will be given to bio-remediation, non-combustion related technologies which will benefit developing countries. The newsletter will not go into technical details of selected scientific publications but only highlight salient features for the benefit of the readers. One can **subscribe** and read IHPA Newsletter (2 times/yr free of charge).

Note from the Editors

As a review article we have included a special paper from Central Asian Republics Tajikistan contributed by Mr. Abdusalim Juraev.

In the last issue (Newsletter No 11) we reported from Moldova where the 9th International IHPA Forum will be hosted during September 2007. We also reported the approval of a major, GEF project in Slovakia. We are pleased to publish a status summary of the project submitted by the UNIDO Project Coordinator in Slovakia Dr. Murín. The write up is a good practical guide to implementation of co-financed GEF projects in POPs.

During November the United Nations Industrial Development Organisation (UNIDO) celebrated its 40th Anniversary in a grand manner in Vienna. During the last 15 years UNIDO has become one of the leading executing agencies of multilateral global environmental agreements such as Montreal Protocol on ozone depleting substances (ODS) and recently Stockholm Convention on POPs. We are pleased to report on UNIDO's 40th Anniversary under the leadership of the new Director General Mr. Yumkella.

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1. "Enabling Activities for the Development of a National Plan for Implementation of the Stockholm Convention on POPs in Tajikistan"

by Mr. Abdusalim Juraev. National Coordinator, Stockholm Convention Republic of Tajikistan

Introduction

Republic Tajikistan signed the Stockholm Convention on POPs on 21st May 2002 Global Environmental Facility through UNEP renders the financial support to Republic Tajikistan in implementation of Stockholm Convention on POPs. In framework of Project GFL/2328-2761-4708 (GF4030-03-24), The Republic of Tajikistan began elaborating of National Plan on Implementation (NIP) of the Stockholm Convention on POPs in Tajikistan

Measures of Project:

- Establishment of project coordination mechanism and capacity building;
- Evaluation of national infrastructure and institutional potential;
- Initial POPs inventory;

- Determination of tasks and priorities on POPs and alternative on phase out and stopping of POPs use;
- Elaboration of Conception and National Implementation Plan on realization of Stockholm Convention on POPs.

Stages of Project Realization:

- Coordination mechanism on project supportive measures.
- Conditions for realization of project measures (organizational, technical, expert, communicative and educational) are created.
- Initial evaluation of national infrastructure on POPs management is conducted.

During conducting of initial evaluation of national infrastructure on POPs management, it was revealed, that an appropriately functioning system of POPs management in Tajikistan is not created. From the middle of 1990, there was no state and departmental statistical reporting in sphere of use and transport of pesticides and their packages. This fact did not allow making the appropriate evaluation of availability and use of pesticides practically in all spheres of economy, including issues of their effects on human health and environment. There was a lack of special organizations in the sphere of POPs monitoring. The works on POPs were conducted in various ministries and agencies, scientific institutions, such as Sanitary Epidemiological Service and Tajik Scientific Research Institute of Preventive Medicine within Ministry of Health; Analytical Service within State Committee on Environment Protection and Forestry; Control Toxicological Laboratory within Ministry of Agriculture. These organizations collected certain data; however, there was a necessity in elaboration of systematic and integrated approach to the modern system of POPs monitoring. Monitoring should be conducted for receiving of objective environmental information on the moment being; it was necessary also for making appropriate analysis and determination of measures for future. It was the basis for acceptance of strategic solutions, where the principal reformation should be urgently done, because the existing methods of collection, processing, analyses and evaluation of information were not satisfactory.
In this connection, the Republic should elaborate the long-term conception on monitoring with taking into consideration all requirements of Stockholm Convention on POPs. The special accent should be done on quality of data and their harmonization. It was necessary to remember that for implementation of Stockholm Convention, the collaboration between ministries and agencies which have been dealing with the same problem should be established.
In future, when new chemicals will be included to the list of Stockholm Convention, the priority will be given to conducting of research of these substances. In this connection, it has been necessary to enlarge the programs / projects on monitoring and research, which are the instruments for effective implementation of Stockholm Convention.
Programs on monitoring should be elaborated in accordance with existing legislation of Republic Tajikistan. Monitoring data will be used for review of existing legislation.
More than 30 legislative and normative provisions, which have legal effect in the Republic, are connected with management of toxic substances and wastes containing toxic substances, which, in their turn, relate directly or indirectly to the Stockholm Convention on POPs. The main laws of Republic of Tajikistan in this sphere are following: “Law about Nature Protection”, “About Ecological Expertise”, “About Wastes of Production and Consumption”, “About Safety of Industrial Objects”, “About Protection of Public Health”, “About Ensuring of Sanitary-epidemiological Safety of Population”, “About Quality and Safety of Food”, “About Production and Safe Use of Pesticides and Agrochemicals”.
However, existing legislative base did not correspond to the modern realities of socio- economical development of the country and basic legislative documents on pesticides regulations; and first of all to such laws as: “Law about Nature Protection”, “About Ensuring of Sanitary-epidemiological Safety of Population”, “About Production and Safe Use of Pesticides and Agrochemicals”. Moreover, practically whole normative base on use of pesticides and other hazardous chemical substances and equipment, which contain these substances, was established during Soviet period, and that’s why it reflected the principles of centralized system of management. In this connection, it was obvious that the review of existing informative base needed to be done urgently.

Following programs and strategies are intended for partial solution of issues concerning prevention of negative effects of pesticides on human health and environment: “National Program on Desertification Control”, “National Strategy and Plan of Action on conservation and rational use of bio-diversity”, “State ecological program of the Republic of Tajikistan for the period 1998 – 2008”, “State Program of ecological education for population of the Republic of Tajikistan till the year 2010”, “Strategy of the Republic of Tajikistan on public health protection for the period till 2010”.

POPs inventory is the main task of project

In accordance with “Manual on elaboration of National Plan on implementation of Stockholm Convention on POPs” and in the framework of our project, the initial inventory was conducted on the following directions: POPs-containing pesticides, PCB-containing electro-technical equipment and evaluation of unintentionally produced POPs emissions. For this purpose, three Working Groups were established: for inventory of POPs-containing pesticides, for inventory of POPs-containing electro-technical equipment and for assessment of unintentionally produced POPs.

POPs-containing pesticides:

In Tajikistan, POPs-containing pesticides were never produced and, nowadays, they are not imported. During inventory, the pesticides’ storage facilities of former Soviet farms and agricultural airports were examined; practically in all cases their condition did not correspond to the sanitary-hygienic requirements, intended for such objects. In examining storage facilities, it was revealed presence of unknown pesticides in completely destroyed packages. This circumstance did not allow determining the exact volume of pesticides which were present in 167 examined storage facilities (45% from total number of all storage facilities in republic).
The approximate volume of unknown pesticides is about 160 tons, including more than 9 tons of POPs-containing ones. These indicators may increase approximately two times and more by inventory all over the Republic. It is necessary to note that storage facilities and surrounding territories are in high extent contaminated with various mixtures of pesticides with soil. Laboratory investigations showed that the mixtures of pesticides and soil contain such POPs-pesticides as aldrin, dieldrin, hexachlorobenzene, DDT and its metabolites; and in mixtures of unknown pesticides – only DDT and its metabolites.
There were revealed facts of illegal import of pesticides to the Republic from the neighbouring countries. In 2005, the customs services of republic seized 7.5 tons of illegally imported DDT. Vahshski and Kanibadamski burial places of pesticides were also examined.
In connection with the fact, that chlorinated pesticides were used during long period, the components of POPs-pesticides are revealed in all environmental components. All data, obtained during pesticides’ inventory, should be used during monitoring of environmental condition. Monitoring of pesticides should correspond to the general methodical structure of ecological monitoring, including system of observation, evaluation, prognosis of further contamination with pesticides, and elaboration of consequent measures on environment rehabilitation.

Elimination of obsolete and forbidden pesticides is the priority toxicology-hygienic and ecological problem, which should be solved on national level.

PCB-containing equipment: In Tajikistan, there is no production of polychlorinated biphenyls and chlorinated substances (polychlorovinyl, original components of pesticides and etc) and also technologies, by use of which the PCBs as interim product is produced. However, availability of PCBs in special equipment was not excluded, and that was why the examination of equipment was conducted during inventory. All over the Republic, 190 enterprises were examined, including 43 enterprises within the Ministry of Energy and 147 enterprises of various industrial sectors.

Total number of PCB-containing capacitors was 2764; volume of PCBs is 61681 kg.

Total number of PCB-containing transformers is 13; volume of PCBs is 20500 kg.

Total volume of PCBs in capacitors and transformers is 82181 kg.

The results of inventory showed that TCB, sovol and sovtol were not used as the hydraulic liquids.

In future, during conducting of complex inventory of PCBs-containing equipment may be revealed the additional equipment in which the limit of 50 ppm is increased.

In accordance with data received from 49 industrial enterprises, the total number of PCBs in removed out service PCB-containing electro-technical equipment (transformers and capacitors) is 14383 kg. Total number of equipment and/or instalments removed out of service is 601, including transformers 1 and capacitors – 600.

For solution of problem, connected with deactivating of PCBs, destruction of PCBs-containing wastes or cleansing of territories or environmental objects, the main criterion for determination of priority measures is protection of health of population in Tajikistan. Besides technologies and efforts (motives) of interested regional authorities and enterprises, which are the sources of PCBs, it is necessary to find the appropriate financial (material) support.

Also, it is necessary to remember that all components of the whole process of elimination PCBs-containing wastes are crucial, including transportation and storing before destruction.

At this stage, for regulation and determination of volume of high-toxic wastes and PCBs-containing equipment, Government of the Republic Tajikistan should make a special Statement about conducting of detailed inventory of high-toxic PCBs-containing wastes. In this Statement following aspects should be reflected:

-information about main physicochemical and toxicological properties of PCBs;

-trade names of PCBs-containing materials, produced in the Republics of former Soviet Union; information about production, use and possible places of storage PCBs and PCBs-containing materials, which are delivered officially from state and economical governmental bodies;

-responsible ministry (agency) for control and conducting of inventory in the Republic;

-prohibition of import, re-export of PCBs-containing substances and equipment;

-establishment of registration, organization of storage and determination of responsibilities in the enterprises, which have PCBs-containing equipment;

-prohibition of unauthorized destruction and dumping of PCBs-containing equipment;

-elaboration of instruction and forms for annual statistical reporting on PCBs-containing equipment.

This Statement should be observed by all ministries, agencies and enterprises, which have high-toxic wastes, irrespective on property form.

Activities on initial evaluation of unintentionally produced POPs (UPOPs), made it possible to determine the volumes of dioxins and furans emissions in Tajikistan.

In the process of initial evaluation of UPOPs was revealed, that in Tajikistan there are 6 categories of dioxins sources, which are significant for our republic.

In further, it will be necessary to continue the revelation of other potential sources of dioxins and furans and their monitoring. On 01.01.2004, the volume of UPOPs is assessed as 28.6 g of Toxic Equivalent.

The percentage of two indicators of UPOPs emissions of industrial and non-industrial sources shows greater share of industrial sources of emission. So, 47% of dioxins and furans emission are stipulated by functioning of ferrous and non-ferrous metallurgical enterprises, and 44% - by fuel combustion.

The most significant category for Tajikistan is Category № 2 – production of ferrous and non-ferrous metals (sub-categories: c – production of cast-iron and steel (foundry), e – production of aluminium) – 47% of emission UPOPs, from which 46% is due to production and processing of aluminium.

Specific kind of UPOPs emission in the Republic is combustion of guzapoya (cotton stalk) in the household ovens of rural population, the number of which is about 75% from total number of population in Tajikistan. In 2003, the volume of used guzapoya was 4183.34 thousand tons of conventional fuel. UPOPs emission by burning of this fuel is 12 g of TE or 42% from total volume of UPOPs emission all over republic.

During conducting of initial evaluation of UPOPs emission, the volume of emission to the atmosphere was determined exactly. Concerning emissions to water and soil, and also the volume of wastes, monitoring was conducted on the surface level. In further, it is necessary to pay more attention to such investigations.

For elaboration of effective policy on reduction UPOPs emissions from metallurgical enterprises and for implementation of appropriate measures, it is necessary to obtain special technologies and to increase the responsibility of administrative structure of enterprises and to find corresponding financial, material and other support.

Evaluation of UPOPs emissions showed that significant per cent of emission is stipulated by burning of solid fuel in ovens of rural households; mainly it is burning of guzapoya; that is why it is necessary to solve at first the economical problem connected with providing rural population with ecologically safe fuel. Moreover, it is essential to conduct official inventory of household ovens and in depth scrutinizing of UPOPs emissions from combustion of firewood, guzapoya, coal and household rubbish in household ovens.

POPs effects on public health

The Republic Tajikistan is the agro-industrial country with developed agriculture and industry, in particular: ferrous metallurgy – Tajik Aluminum Factory and chemical industry – Yavanski Electro-Chemical Factory, Isfarinski Chemical Factory etc.

In the Republic, there is the intensive activity in sphere of cotton cultivation, vegetables and rice growing. With the purpose of protection agricultural plants from pests, diseases and weeds, various kinds of pesticides, including POPs-containing ones, are used.

The analysis of literature and namely, works of Scientific Research Institute of Labor Medicine within Ministry of Health of the Republic of Tajikistan, research works of Professor F. M. Abdurahmanov, Professor A. A. Ahmedov and others for the period from 1995 to 2005 showed that use of pesticides, including POPs-containing ones, is not indifferent for health of population.

As the pilot districts were chosen Tursunzadevski and Yavanski districts, on the territory of which located Tajik Aluminum Factory and Yavanski Electro-chemical Factory – the sources of dioxins and furans. Moreover, these districts are the zones with intensive agriculture with high level of pesticides use. Presence of PCBs (precursor of dioxins and furans) was revealed in 4 out of 10 samples

of soil, taking in effected zone of Tajik Aluminum Factory. In two soil samples it was revealed that 8 to 10 times exceeding the maximum permissible concentration of PCBs. DDT concentration in 10 soil samples varied in the limits from 0.08 to 7.48 mg/kg of soil.

Public Awareness Raising about POPs Problem

The Republic Tajikistan has no great experience in conducting public awareness raising campaign on POPs problem, as also in conducting inventory of POPs emissions, investigations and implementation of programs on destruction of these substances... The main problem was collection of reliable data on all levels. If the information is not accessible for public community (description of problem and its evaluation), another problem may appear, i.e. wrong understanding of the problem's essence or it may lead to the panic, that in its turn will only embarrass the acceptance of serious decisions.
With the purpose of public awareness raising about POPs problem, seminars were conducted regularly in various regions of the country; participants of these seminars included the representatives of governmental structures, educational institutions and public community.
For preventing of illegal import of POPs-containing materials and equipment to Tajikistan, seminars for customs officers were conducted.
Eleven booklets on POPs problem were issued in Tajik and Russian languages. These booklets are distributed among administrative bodies of cities and rural localities; environmental ministries and agencies, ecological NGOs, schools, professional schools, higher educational institutions, industrial and agricultural enterprises.
"Round Tables" were conducted for ecological NGOs, teachers of higher and secondary educational schools.
The section on "POPs problems and their effects on human health" was inculcated to the module "Modern Epidemiology" for students of Public Health Care Faculty within Abu Ali ibn Cino Tajik State Medical University.
For senior schoolchildren, elaborated special module on principle "Peer to Peer", which also dedicated to POPs problems and their effects on environment and human health was conducted. Methodical manual "Persistent organic pollutants – influence on human health and environment" was issued for trainers / teachers of educational institutions and specialists, dealing with healthy life style issues and practical work with children / adolescents and adult peoples.
Information about POPs problems in Tajikistan and about activities of National Coordination Committee was published in newspaper "Hukuki Inson (Human Rights)", which issued by UN financial support, in the e-zine "Avesto", in newspaper "Navruzi Vatan (Sunrise of Fatherland" – Propaganda Department of State Committee on Environment Protection and Forestry of Republic Tajikistan, in "Digest" - republican newspaper, in newspaper "Sadoi Mardum (Voice of peoples) " – official agency of Government of Republic Tajikistan, and also in section "Vsyakoe Raznoe (Summary of various information)" – electronic news service. Informational support of project is realized via portal **http://www.caresd.net**, which was created by financial and technical assistance of UNDP.

Status of Ratification Stockholm Convention on POPs

Ministry of Foreign Affairs, Ministry of Economy and Trade, Ministry of Justice, Ministry of Finances, Ministry of Agriculture, Ministry of Energy, Ministry of Health Care, Ministry of Industry and State Committee on Environment Protection and Forestry expressed their agreement with necessity of Convention ratification. The package of documents on Convention ratification is submitted to the Government of Republic Tajikistan for consideration and making decision. The package of documents was submitted to the Parliament by the Government of Republic Tajikistan. These documents were considered by Parliament and transmitted to the President of republic Tajikistan for signing. President of republic Tajikistan signed the documents and transmitted them to the Upper Chamber of Parliament for approval. Hope that in nearest future, the Parliament will ratify the Stockholm Convention. In conclusion, I would like to note that NIP will be completed in December 2006 and submitted to the Government of republic Tajikistan for approval; after approval it will be sent to the Secretariat of Convention.

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2. Project Status Information

"Global Program to Demonstrate the Viability and Removal of Barriers that Impede Adoption and Successful Implementation of Available, Non-Combustion Technologies for Destroying Persistent Organic Pollutants (POPs)"

(Non-Com project)
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Project budget : Whole project budget is 20 155 040, - USD:
Summary of Financing (US$)
Project Title: Global Programme to Demonstrate the Viability and Removal of Barriers that Impede Adoption and Successful Implementation of Available, Non-Combustion Technologies for Destroying Persistent Organic Pollutants (POPs**)**
UNDP (in-kind) US$ 95,000
Starting Date: November 2004 **GEF Phase I US$ 10,004,040 ,**Completion Date: December 2008
Parallel Funding: Phase I Gov. of Slovakia (in-kind)1 US$ 3,000,000
Executing Agency: United Nations Industrial Development Organization (UNIDO)
Private sector (cash) US$ 6,121,000
Principal Cooperating Agency: Environmental Health Fund NGO (in-kind) US$ 270,000
Project Site: Slovakia UNIDO (in-kind) US$ 665,000
Sub-Total US$ 10,056,000
Classification Information:
ACC SECTOR AND SUBSECTOR: Environment **Sub-Total + UNDP US$ 10,151,000**

GRAND TOTAL US$ 20,155,

Introduction

Stockholm Convention concerning persistent organic pollutants (further Convention) was approved on May 2001, which require from the signatories to take measures for source elimination of 12 substances belonging to persistent organic pollutants (POPs). Measures consisting of direct production control, elimination of use of equipment containing POPs and minimisation of POPs emissions within defined industries. Assistance to developing countries and countries with economy in transition was approved during Convention approval process.

Slovak Republic is one of the countries where production of PCBs took place in past.mely polychlorinated biphenyls (PCB). Thus safe disposal of PCBs wastes from the production and PCBs containing equipments spread through the country together with solution of extend environment al contamination has to be done. Slovak Republic for these reasons decided to participate in global program „***Demonstration of viability and Removal of Barriers that Impede Adoption and Effective Implementation of Available, Non-combustion Technologies for Destroying Persistent Organic Pollutants.”*** Currently, POPs problems are addressed also in UN ECE Convention and more to this several Directives of European Union are dealing with as well. Besides other duties safe destruction of PCBs by the year 2010 is required for EU member states. This report present information concerning status of the project and was developed as background material for stakeholders for further project development and realisation.

Snapshot

Project is a constituent of a global program and it is primarily oriented on assistance with PCBs stockpile other POPs wastes destruction using non-combustion technology. Technology unit delivery and installation will be a grant by the Project. Establishment of the conditions for environmentally safe decontamination of polluted sediments and soil is an integrated component of the project.

This is a demonstration project. UNDP acts as an implementation agency and UNIDO as an executive agency in this Project. The aim of the project is a delivery of non-combustion technology of high technical level for destruction of chlorinated pollutants, namely polychlorinated biphenyls in the Slovak Republic. During the demonstration phase of the project destruction of an initial volume (1500 tons of PCBs wastes) will be addressed. Project duration together with preparatory phase, including 2 years of technology performance and results dissemination activities, is suggested to be 4 years. Project will be done based on collaboration of public and private sector. The Slovak Republic co-finance is aimed on the effective project support, site preparation, operation of the unit, destruction of PCBs stockpile etc.

Polychlorinated biphenyls

Polychlorinated biphenyls are oily liquids which contain two aromatic rings and according to chlorine atom bond, they can occur up to 209 different chemical compounds combinations (congeners) which differ in toxicity also.
PCBs production has started in the thirties of 20th century and they has had a wide ranging use at industry (transformer contents, capacitor contents, hydraulic liquids, heat transfer medium, plasticisors , lubricants, impregnants, dies, glues, additions into building material, sealing liquids, burning inhibitors, pesticides etc.)
In Slovakia PCBs were produced at CHEMKO Strážske during 1959-1984. under the name of Delor, Hydelor a Delotherm. In total it was produced more than 21000 tons of PCBs. It is expected that after export allowance, circa up to 7 000 tones of these materials has been left at former Czechoslovakia.

PCBs are emitted into atmosphere via evaporation from free materials and waste dumps contaminated with PCB. In water they are generally contained in sediment, they have strong adsorption qualities. In soils, they have no tendency to spread due to adsorption and low solubility. polychlorinated biphenyls degradation is very slow – the more chlorinated substance, the slower they are. According to last studies from year 1998, half-life at atmosphere is estimated for 3 – 21 days, more than 5 days in water and more than 40 days Biodegradation via microorganisms is slow also.

PCB Stockpiles

According to accessible data (PCBs equipment inventory in years 2001 – 2003 and POPs Enabling Activities Project) total amount of PCBs wastes and material is estimated to be 3 500 tons. Of this 1 000 tons of PCB wastes are from Chemko Strážske company residues and wastes from production of various wastes from PCB production, contaminated clothes, waste material etc. are kept relatively safely in objects inside company.
1 000 tons PCB equipment – transformers, capacitors and other equipment are within equipment inventory with PCB registered in transformers – 400 pieces, capacitors – 30 000 pieces other equipment – 400 pieces 1500 tons various wastes, largely in agricultural sector which include stockpiles of contaminated hydraulic oils, transformer oils with PCB contents, scrapings PCB dies, contaminated concrete pieces, PCBs equipment etc.
Moreover, the quantity documented is estimated that at Pláne waste dump is additional ca 900 tons PCB from production. In the near future, new legislation will be applied in Slovakia focused on PCB wastes and
equipment management. Thus that total waste volumes will be finally be higher comparing
todays estimated figures.

PCBs Contamination in Slovakia

Contamination at the company Chemko Strážske surrounding belongs to the so-called old environmental burdens. It directly relates to formal PCB production. Contaminated areas are found inside company area but more in wider surrounding areas as well. The contamination is primarily spread via surface water by gradual releasing from contaminated sediments of opened sewer leading from company to river Laborec and subsequently through inlet channel contaminated water reservoir – Zemplínska Šírava Lake. Certainly the contamination is slowly reaching other areas down in direction of flow.

Just recently the study co-finance by WHO is completed and data concerning PCBs exposure of population is to be published. Concentrations in industrial channel fluctuate from grams to tens of grams of PCBs for 1 kg of sediment dry weight, in some places in Laborec at hundreds of mg. and in sediment of Zemplínska Šírava in mg. This contamination has a serious impact for Zemplín region and it impacts negatively the environment, human health as well as socio-economic region development. Another problematic area is

waste dumpsite Pláne, where according to information from Strážske municipality, up to 900 tons PCB wastes could be stored. PCBs waste were dumped there during period of production in Chemko factory. Complex monitoring of PCB contamination in the area surrounding former production site was not done until today. Only partial data exists. For this reason it is not possible to estimate exactly the amount of contaminated sediment and soils in precise concentration layers.

Initial approximation assumes that opened industry channel (in length of 5.3 kilometres) may
contain up to 40 000 tons of highly contaminated material. For final problem resolution of soils and sediment contamination, it's needed to develop complete strategy considering the various concentrations of PCB contamination, such as technical and economical decontamination aspects and timetable.

Project outline

Realization of the “Non-combustion Project” will positively affect the PCB decontamination programme and PCBs equipment phase-out in the Slovak Republic. PCBs applications use has to be terminated in the Slovak Republic until 2010, including their final destruction. Furthermore excavation of contaminated sediments and soil, extraction of PCBs and disposal in environmentally friendly way will be possible. Under the terms of the project there will be delivered by grant (GEF) a technological unit for PCB destruction and simultaneously a unit for PCB extraction of solid matrix (sediment and soil) The PCB destruction prediction in destruction unit with projected capacity of 750 tons a year. Under the item “polluted sediment” we understand environmentally safe sediment excavation, storage near to the extraction unit, drying of sediment, extraction and transportation of extract to the place of final destruction. All cleaned sediments will be placed at the waste dumpsite considering on residual PCB concentration till the level 1 – 2 ppm.

Process of destruction technology selection:

1. GEF has confirmed that the 1st project for identification of commercially accessible non-burning technologies for persistent organic pollutants (POPs) destruction, document and criteria for choosing technologies appropriate for development of destruction capacities preparation through national projects in scope of program with this orientation in 1st of March 2001.
2. In Vienna a Technical Advisory Group (TAG) meeting was held in 17th of October 2001. TAG assessed wide scale of non-burning technologies considering technical and commercial criteria. There were assessed 15 destruction technologies, 9 of them fulfilled technical criteria. The most of these technologies were in that time available only in laboratory conditions or at not full-operational scale. Because of this they didn’t fulfil commercially accessible criteria. By this way there were identified 4 technologies suitable for POPs destruction and represented final list. Of these four, the GPCR (Gas-phase chemical reduction) technology was evaluated as the most developed and commercially accessible in evaluation time.
3. Additional grant to ensure project preparation in first two countries viz Slovakia and the Philippines have been accepted in April 2002.
4. Some of the TAG members have emphasized the importance of POPs reserve character that is needed to destroy in individual countries in relation to technology selection. This criterion was used for final selection of technology for the Slovak republic, where the GPCR technology showed advantages in destruction of solid and semi-solid types of high contaminated wastes of PCB production.
5. At committee meeting GEF in May 2003 preliminary project (Project brief) was adopted for destruction unit building with use of GPCR technology in the Slovak republic. At this meeting was approved concept for global program including other two countries – China and Nigeria.
6. At the present the Project Document reflect the comments and requirements and international bidding for the selection of technology provider will be done.

Project Structure

The project is realized by the attendance of more subjects, which can be divided into
following groups:
-government of the Slovak republic represented by the Ministry of Environment guaranteeing realization of this project and activities leading to fulfil Stockholm convention requirements as well as UN ECE convention and relevant European Union Directives.
- donator organization – GEF – via UNIDO/UNDP
- public and state administration consortium led by self governing region Košice
- private sector consortium guarantying operating appliance
The Project Steering Committee is created to coordinate the project, where are:
1. Ministry of environment
2. Ministry of agriculture
3. Ministry of regional development
4. GEF / UNIDO / UNDP
5. Public sector consortium
6. Private sector consortium
7. Non-governmental organizations

Public Sector Consortium

Public sector consortium guaranteed providing systematic and directed of activities leading to final and complete solution to environmental particle load in region Public sector consortium activities are aimed not only in the area decontamination, but also involved progress aspects in the meaning of complex regional development support and work with public. For this consortium generates *“**Project unit for decontamination of PCB polluted areas**”*, which operates everyday work by preparation and realization of activities and remediation projects. Project unit is financial and material protected from Consortium resources.

Consortium is constituted these areas
1. **Higher region unit Košice**
- co-ordinates consortium activities
2. **City Strážske**
-supplies priority Consortium interests in the area of the pollution source and operation of decontamination appliance, area of industrial activity development
3. **City Michalovce**

-supplies priority Consortium interests in the area of recreation and tourist activities

4. **Bodrog and Hornad catchment**

-is an expert organization for intervention into streams, supplies activities in realization of polluted sediments and soil decontamination programs Consortium delegates its representative for Project Steering Committee.

Private Sector Consortium

Private sector consortium task is to assign a preparation of construction site, appliance installation, their operation, safe storage and working with PCB waste and appliances.

Proposed structure of private sector consortium:

Envio

- the company provides know-how in area of PCB electro-appliance management, safety and technical conditions for environmentally suitable working with PCB wastes and appliances, safe transport and manipulation standards with experiences from Germany, Central and Eastern Europe and other countries

Dekonta s. r. o.

the company works in the area of collecting, transportation, storage and destruction of PCB wastes in Slovak market from year 1993; the Dekonta company operates a small non-combustion unit (Na reduction)

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3. United Nations Industrial Development Organization (UNIDO) Celebrates its 40th Anniversary in a grand manner in Vienna.

On November 28, 2006 UNIDO proudly celebrated its 40th Anniversary which was marked by the accession of 172nd member Montenegro. With a mandate to promote economically and environmentally sustainable industrial development to reduce world's poverty, UNIDO had set back in the 1990s but under the leadership of its last Director General from Argentina Mr. Carlos Magrinyos, it made big turn around and today UNIDO under the dynamic leadership of Mr. Mr. Kandeh K. Yumkella from Sierra Leone, made a big come back as an UN organization with a very important goal of poverty reduction through industrialization promoting South-South cooperation.

The ceremony attended by more than 2000 people. Mr. Yumkella in his opening address specially mentioned about UNIDO's activities in multilateral environmental agreements such as Montreal Protocol and Stockholm Convention on POPs. He specially thanked Mrs. A. Tchecknavorian (retired staff member of UNIDO and ambassador of IHPA) for her role in taking UNIDO as an implementing agency for Montreal Protocol on ODS and the Stockholm Convention on POPs.

UNIDO organized a unique panel discussion 'Reducing poverty through Sustainable Industrial Growth' with world renowned experts and moderated by Mr. Todd Benjamin, Financial Editor, and CNN International Networks. Mr. Peter Sutherland , Chairman, BP gave the keynote address to start the panel discussions. Following the official ceremony, UNIDO hosted a grand thanksgiving dinner on December 1, 2006 to its retirees and staff members and all who supported UNIDO.

IHPA on its behalf congratulates UNIDO on its excellent contribution to sustainable industrial development in poor countries to reduce poverty and wish the New Director General all success in his endeavour to take UNIDO to higher echelons of helping least developed countries especially in Africa.

Ms. Tcheknavorian having discussions with Mr. Yumkella, UNIDO Director General.

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4. 2006 International Conference on Neem (Azadirachta indica), Kunming, Yunnan, China

The 2006 International Conference was organized in a grand manner sponsored by UNIDO and the People's Government of Yunnan Province China at Kunming, Yunnan from Nov 11-15 2006. It was attended by more than 100 participants from Asia, Africa, Australia, Canada and Africa. The Conference dealt with various advances made in the use of neem based products and how they can help rural areas in countries where neem could grow and their environmental benefits.

One of the themes of the conference was 'can neem based pesticide could replace some of the POPs pesticides'. Prof. Hong Chuan Yi of Nantong Pesticide Formulation Centre (NPFC) mentioned that in China: four kinds of POP's pesticides are still production and use in China. There are two DDT plants (as raw material to produce Dicofol to kill mites), one BHC plant nine Chlordane and Mirex plants. The total DDT output is 3236 MT in 2005 (including export 450MT) mainly as raw material to produce Dicofol. Twenty three factories produced Dicofol 1518.3 MT in 2005 as a miticide or acaricide used for cotton, fruit etc. 5-7% occupied in miticide area. The NPFC is seriously looking into neem pesticides as miticide to replace dicofol which uses DDT as an intermediate. An Indian paper by Dr. Dhua and Dr. Ramdev also mentioned about neem being a possible alternative for some POPs pesticides.

China over the last ten years has created neem plantations in certain dry areas of Yunnan province and has already started producing neem based products including the pesticide Azadirachtin. Those who are not familiar with neem, it is called wonder tree and originate from India and Burma. For thousands of years it has been used as folklore medicine and in the 1970s the pure active ingredient was isolated. Prof. David Morgen of Keele University, UK, told the POPs Newsletter editor that he isolated Azadirachtin A in a pure form as early as 1968 and screened it for biological activity at ICI (UK), Jealott's Hill Research Centre. The good insecticidal activity, apart from antifeedant activity of the chemical, warranted ICI taking a provisional patent. According to Professor Morgen, ICI, for some reason at that time, did not pursue it for commercial purposes. However, the 2006 International Conference on Neem was very promising and bullish about the future for neem products. Two papers presented the excellent wound healing

properties and control of diabetics as very encouraging. The UNIDO Programme officer Ms. Grace Ohayo-Mitoko (she is also in charge of many UNIDO POPs projects in India and Africa) strongly advocated South-South cooperation from India and China to help African countries to benefit from neem.

The editor with Prof. Lai Yongqi nick named 'father of neem in China'. Behind is the neem plantation he created.

The editor with UNIDO project manager, Ms. Grace Ohayo Mitoko who advocated South-South cooperation on neem.

Prof. Hong who pioneered international cooperation on pesticides in China during the '80s and the'90s with his wife in the neem conference.

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5. IHPA and Milieukontakt Oost-Europa (MK) comments to EU Commission on its working paper "Community Implementation Plan for the Stockholm Convention on POPs".

According to IHPA and MK the 20 actions in the Implementation Plan are not sufficient to achieve the intended progress. Within one generation. They made four additional items under Input/quantification, two under remediation side, two under quality management level. They also mention about IHPA/MK experience in Romania where 2300 tons of POPs waste have been successfully eliminated.

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6. New Chief at GEF

The Council of GEF appointed Mrs. Monique Barbut, a French National to a three year term as its Chief Executive officer and Chairman. She is from UNEP, Div. Of Technology, Industry, and Economics and will succeed Mr. Leonard Good who retired in July 2006. IHPA newsletter wishes her a very successful tenure with GEF.

A short write-up on GEF.

The Global Environment Facility (GEF) is an international financial mechanism with 176 member countries that addresses global environmental issues. GEF grants support projects on developing countries in the areas of biodiversity, climate change, international waters, land degradation, the ozone layer, and POPs. It has three implementing agencies UNDP, UNEP and the World Bank. Since its inception in 1991, GEF has helped developing countries and countries with economics in transition to the tune of $6.2 billion in grants which has leveraged $20 billion for over 1,800 projects in 140 countries and more than 60,00 small grants of up to $50,000 each directly to nongovernmental organisations and community organisations. In 1999, the GRF Council expanded opportunities for seven organisations to contribute to the implementation of GEF projects. These are known as Executing Agencies. They are:

i. The Africa Development Bank
ii. The Asia Development Bank
iii. The European Bank for Reconstruction and Development
iv. The Inter r American Development bank
v. The international Fund for Agricultural Development
vi. FAO
vii. UNIDO

For more information look under **www.thegef.org**

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7. 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs (Dioxin 2006)

Report by Dr. Roland Weber, POPs |environment Consulting, Germany, <roland.weber10@web.de>

A well attended conference on “Halogenated Environmental Organic Pollutants and POPs” is held each year in either Europe, North America or Asia.

As the name “Dioxin 2006” indicates, the conference focused in former years mainly on chlorinated Dioxins. The first conference of this series was held in 1980 just 4 years after the Seveso Dioxin accident (1976) with the aim to bring together scientists doing research on different aspects of chlorinated dioxins and related compounds. As the years passed by the topics of the conference became broader and in 1998 the Conference changed the name to “International Symposium on Halogenated Environmental Organic Pollutants and POPs”. Meanwhile, the conference can be seen as the largest symposium on persistent organic pollutants. More on the history of the “Dioxin Conferences” can be found at www.dioxin20xx.org.

This year the 26th International POPs Symposium was held in Oslo/Norway (21.- 25. August). The symposium brought together 903 participants from 40 countries to spend five days with a broad scientific program presenting 653 short papers (254 oral presentations and the remaining as posters). The papers were categorised in 36 session topic areas covering a wide range of POPs (chlorinated, brominated and fluorinated compounds) research aspects (e.g. analytical aspects, body burdens, environmental levels, risk assessment, time trends, toxicity, etc. - for an overview you might check the program summary**[1]**). All short papers are published as Volume 68 of Organohalogen Compounds and can be viewed and downloaded for free at www.dioxin2006.org**[2]**,**[3]**.

Pesticides (including HCH), is still a minor topic in this symposium (but watch this space!) as can be seen by comparing the numbers of papers having “Pesticide” 2,3 included as one of the key words (ca. 46/653) or “HCH”2,3 (12/653). However, since the conference was historically mainly concerned with dioxins, and pesticides only considered marginally (mainly when dioxin was a significant impurity), this represents a significant and positive change in the conference’s scope. The history of dioxin is closely related to the production, application and destruction/recycling of chlorinated pesticides**[4]** and there has been a continuous trend towards including more pesticide issues in this conference. A similar trend can be observed with respect to brominated and fluorinated POPs – most notably with brominated flame-retardants. Today both of these compound classes have several dedicated sessions in the conference program reflecting the importance of the two substance groups to global POPs contamination**[5]**. These trends and changes show that this former (chlorinated) Dioxin Conference is in the process of transformation to a real “POPs Symposium”.

But what was actually presented and concluded, the reader might ask me? There is no short answer to this (except perhaps “lots!”). I would recommend that you take some time and scan through the 653 short papers with the keywords of your interests using the abstract finder2, 3 – and then download and read some of the free papers!

But within this limited article space I would like to mention some highlights (reflecting, of course, my personal point of view): One key important aspect for many of the participants is the personal contact to the global POPs research community, the exchange of results, opinions, perspectives and the establishment of a global POPs network. For you as IHPA newsletter reader (and me as IHPA ambassador), probably the most important presentation was on “Legacy of Lindane and Technical HCH Production” in which John Vijgn summarised facts and conclusions of the IHPA’s “Main Report on the Global Overview of Residue Management, Formulation and Disposal of HCH”**[6]**, **[7]**. In a second oral presentation we additionally presented the “Contemporary Relevance of Dioxin and Dioxin-Like Compound Contaminations in Residues from Recycling of HCH Waste”**[8]** drawing attention to the fact that several HCH producers have recycled HCH waste isomers to trichlorobenzene (resulting in one of the highest PCDD/PCDF contaminated residues in history) and further products including 2,4,5-T (also highly contaminated with PCDD/PCDF and responsible for a significant share of total dioxin contamination of the globe). In this presentation we highlighted that in India - the country with the last operating HCH productions worldwide**[9]**, **[10]** - the HCH waste is still thermally decomposed to trichlorobenzene and the wastes dumped in the vicinity of the factories**[9]**, **[10]** a practice which calls for immediate action**[8]**.

Both papers were presented in the session “Contaminated sites – cases, remediation, risk and policy” and completed the picture drawn by the other presentations on POPs contaminated megasites, namely that the global contamination with dioxins and dioxin-like chemicals (like for the other POPs) is closely related to the chlorine industry and the production of chlorine and chlorinated organics and their application**[11]**. Furthermore, the session presentations highlighted that these legacies from the past remain of high contemporary and future relevance and that attention needs to be drawn to tackle this problem of global dimensions, calling for a concerted action of all international stakeholders to work jointly towards sustainable solutions and remediation.

Maybe the most relevant session of the conference in respect to the development of a global network on POPs research and to establish a relationship of the scientific community and relevant political decissions on POPs and other chemicals was an open meeting session on "Managing risks of global POPs contamination: Do we need an Intergovernmental Panel on Chemical Pollution as a new global framework?"

The purpose of the session was to discuss the proposal to establish an International Panel on Chemical Pollution (IPCP) in analogy to the Intergovernmental Panel on Climate Change. The main task of the IPCP would be to provide scientific support for decision makers dealing with various aspects of chemical pollution and also to create awareness for the issues of chemical pollution. Six speakers presented their viewpoints at the meeting and expressed their interest in the IPCP initiative. A summary of the open meeting in Oslo has been published in Environmental Science and Pollution Research 13 (2006), 432-434 (**http://dx.doi.org/10.1065/espr2006.09.347**). Further information about the IPCP initiative is available from **http://www.sust-chem.ethz.ch/news/IPCP.html** For the Dioxin Conference in Tokyo in 2007, it is planned to discuss the organizational structure and a list of priority tasks for the IPCP. It is also planned to present the IPCP idea on the 8th IHPA Conference in Moldova**[12]** and at the SETAC Europe meeting in May 2007 in Porto.

People interested in the IPCP initiative can contact Martin Scheringer at scheringer@chem.ethz.ch.

Another highlight of the conference this year was the Panel Debate. This was an interesting change to the usual format of the conference and replaced the (often rather dull) conference review – an event which has perhaps historically presented an excuse for a shopping trip or early flight home. For those who stayed to watch the impossibility of summarising hundreds of papers in a short session has been a source of controversy – with delight from those few whose papers were mentioned and frustration from those passed over. This year the final day of the conference was spiced up with a lively panel debate on the “Present and future challenges of POPs”. The panel debate was (extremely well) organized by Ake Bergman who took great trouble to ‘warm up’ the

participants with enthusiastic taster sessions at lunchtime in advance of the main event. The debate panel represented a broad range of stakeholders and included representatives from UNEP, the research community, regulatory bodies and NGOs including IPEN and IHPA with our not so secret weapon - John Vijgen.

Sadly the industry had been less willing to rise to the challenge and in the end only a member representing the fluorine industry took part. The organisers had tried hard, but without success, to persuade a member of the World Chlorine Council or EuroChlor to participate. While the World Chlorine Council "*could not find*" an appropriate member, EuroChlor answered that *"the chlorine industry doesn't feel it is the most appropriate for this discussion which is now focusing more on polybrominated and fluorinated chemicals"* .

This was unfortunate as much of the discussion inevitably focussed on the past, present and future risks and legacies of chlorinated organics and dioxins. Their failure to attend undoubtedly left many of the delegates with the impression that they were not prepared to answer for their legacy of chlorinated POPs contamination.
Any members of the audience hoping to quietly catch up on their sleep after the disco and party session of the previous evening were rapidly awakened by John's lively introduction! In the course of the debate IHPA and IPEN complemented each others contributions very well and together managed to ground the conference in the reality and scale of the problems faced around the world with both legacy and new POPs. Over $ 3 billion on dioxin research alone (IPEN) and it was argued that this is not a replicable level of expenditure for other chemicals of concern. Many researchers seemed particularly pleased to hear NGOs advocate stronger and more timely links between science and policy - and the lessons that have to be learned from the mistakes of the past.

Having watched the debate few delegates are likely to have disagreed with the premise that the only sensible way to proceed in these circumstances is to adopt a more precautionary approach to the use of chemicals and that resources should be directed more effectively towards the clean up of legacy chemicals. Members of the audience were enthusiastic in their reception of these ideas and proposed that NGOs should be encouraged to participate more actively in future Dioxin conferences by making reduced fees etc available.

Next year the 27th International Symposium on Halogenated Environmental Organic Pollutants and POPs (www.dioxin2007.org) will be hosted by Japan in Tokyo (2.-7.September 2007) and will bring together researcher from around the world. However it needs to be stressed that participation from Africa, South America and to some extent East Europe and Central Asia was rare up to now and many countries were still not represented in 2006. This situation needs to be addressed as the POPs problem is a global issue and POPs stockpiles in Central Asia and Africa are amongst the most serious and unresolved POPs problems today. Knowledge needs to be transferred to these regions so that the Stockholm and related Conventions can progress. One problem in this respect are the high costs (travel, lodging and conference fees) making it difficult for members from developing country to afford participation. A truly global POPs Conference will only be one where such challenges are solved to allow full participation of researchers, regulators and NGOs from these countries. In the last conference the question on the financial problem was raised within the organizing committee and the extent to which this issue will be resolved could shape the future progress and relevance of this conference.
So perhaps some of the interested IHPA newsletter readers might consider representing their country and bringing their problems and concerns to future conferences in order that these regions and their chemical and environmental problems can be adequately addressed and discussed in the global research community? This would be one positive step towards their solution.

[1] http://www.dioxin2006.org/files/Program%20at%20a%20glance.pdf

[2] To access and select abstracts on **www.dioxin2006.org** click "short papers" - then select the first link there - then on the page opening press at right side "enter". Next you come to the search page where you can enter key words, session titles or authors. If you select an abstract then a small page opens where you need to click again on the abstract number that the short paper finally appears and can be downloaded. Things can be so easy.

[3] Soon the short papers are accessible at **http://www.x-cd.com/dioxin06/index.html**. Also on the web page www.dioxin20xx.org the abstracts of other POPs/Dioxin Conferences can be viewed and it is planned that all abstracts from the last 20 years will be accessible in future.

[4] The strong historic link between chlorinated Pesticides and Dioxin we have described in presentations at the 8th International HCH and Pesticides Forum, 26-28 May 2005, Sofia, Bulgaria "PCDD/PCDF CONTAMINATION FROM HISTORICAL PESTICIDE USE AND PRODUCTION – A CASE STUDY USING DATA FROM JAPAN AND GERMANY" (Proceedings p. 75-80) and the contemporary and future challenge in respect to pestecide destruction in "RELEVANCE OF PCDD/PCDF FORMATION FOR THE EVALUATION OF POPs/PESTICIDE DESTRUCTION TECHNOLOGIES – CURRENT STATUS AND ASSESSMENT GAPS" (Proceedings p. 124 -129) http://www.ihpa.info/library_8thForumBook.php

[5] Also the Stockholm Convention Reviewing Committee proposed recently the first brominated (PentaBDE, PBB) and fluorinated (PFOS and precursors) POPs to be included in the Stockholm Convention POPs list.
http://www.pops.int/documents/meetings/poprc_2/meeting_docs.htm

[6] http://www.ewindows.eu.org/Agriculture/Agreports/obsolete_pesticides/lindane_production.pdf.

[7] The full report was submitted early this year to the Stockholm Convention Secretariate to support the POPs reviewing committee on decision making on nomination of Lindane and other HCH isomers as POPs and are now also proposed by the reviewing committee. http://www.pops.int/documents/meetings/poprc_2/meeting_docs.htm

[8] Due to the high PCDD/PCDF contamination of the residues from the HCH decomposition to TriCBz a chemical plant was closed down in Hamburg in 1984.

[9] Anonymous, Gross violation, *Down to Earth*, February 15, 2005:36-38. http://www.downtoearth.org.in/section.asp?sec_id=4&foldername=20050215

[10] CAPE (COMMUNITY ACTION FOR PESTICIDE ELIMINATION), *Lindane's dirty secret: Indian facilities dump toxic waste*. http://www.panna.org/campaigns/docsLindane/lindaneDirtySecret.pdf

[11] While the contemporary scientific discussion regarding PCDD/PCDF sources focuses mainly on thermal emissions (e.g. waste incineration, sinter plants, secondary metal production etc.).

[12] http://www.hchforum.com/index.php

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8. Linkage of POPS to Diabete

(Submitted by Dr. T. Muir through Dr. S. Khetan)

Environmental Health News **www.environmentalhealthnews.org** features a study reporting a strong dose-response relationship between serum concentrations of several POPs and diabetes. The authors note the limitations of this cross-sectional study (they discuss the possibility of reverse causation, for example) but nonetheless conclude that a causal relationship between POPs exposure and diabetes is highly plausible.

Of interest, the increasing odds of diabetes with higher serum levels of POPs was most marked in participants who are obese--i.e. subjects who had both high levels of POPs (> 90%'ile) AND BMI greater than 30 kg/m2 had a 50 fold higher odds of diabetes compared to the one subject with BMI >30 and undetectable POPs level, and compared to 11 fold higher odds in the subjects with BMI >30 and POPs in the 25-50%'ile.

In participants with BMI < 25, the odds ratio was 16 in those with the highest POPs levels (when compared to those with low BMI and low POPs)

This interaction between BMI and POPs exposure is striking. A variety of plausible biologic mechanisms could explain it. But it suggests that any diabetes risk associated with POPs is much more significant in people who are overweight. Even though POPs levels in the general population are lower than in previous years, today's population is significantly more overweight and lower levels of POPs remain highly significant.

Data gathered by the US CDC reveal strong associations between exposures to persistent contaminants and risk of type 2 diabetes. In a sample of 2,016 Americans, diabetes risk rose significantly with exposure to five of 6 studied contaminants (a PCB, two dioxins and three pesticides). Using an index reflecting simultaneous exposure to the mix of contaminants, the study found that people in the highest exposure category were almost 38 times more likely to have diabetes than those in the lowest.
A strong dose-response relation between serum concentrations of persistent organic pollutants and diabetes: results from the National Health and Examination Survey 1999-2002.

OBJECTIVE: Low-level exposure to some persistent organic pollutants (POPs) has recently become a focus because of their possible link with the risk of diabetes. RESEARCH DESIGN AND METHODS: Cross-sectional associations of the serum concentrations of POPs with diabetes prevalence were investigated in 2,016 adult participants in the National Health and Nutrition Examination Survey 1999-2002. Six POPs (2,2',4,4',5,5'-hexachlorobiphenyl, 1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin, 1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin, oxychlordane, p,p'-dichlorodiphenyltrichloroethane, and trans-nonachlor) were selected, because they were detectable in >or=80% of participants. RESULTS: Compared with subjects with serum concentrations below the limit of detection, after adjustment for age, sex, race and ethnicity, poverty income ratio, BMI, and waist circumference, diabetes prevalence was strongly positively associated with lipid-adjusted serum concentrations of all six POPs. When the participants were classified according to the sum of category numbers of the six POPs, adjusted odds ratios were 1.0, 14.0, 14.7, 38.3, and 37.7 (P for trend < 0.001). The association was consistent in stratified analyses and stronger in younger participants, Mexican Americans, and obese individuals. CONCLUSIONS: There were striking dose-response relations between serum concentrations of six selected POPs and the prevalence of diabetes. The strong graded association could offer a compelling challenge to future epidemiologic and toxicological research.

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9. Pesticide is linked to Parkinson's

(Che.&ind., 18 , p8, 18 Sept.2006)

Researchers at Emory Uni. Georgia and Georgia inst. Of Technology, USA found that levels of pesticides Dieldrin were three times higher in the brains of 14 people with Parkinson's disease than in 12 people without disease. It appears the more you are exposed to pesticides such as Dieldrin the greater your risk of developing the disease earlier in life. In USA alone 50,000 people are newly diagnosed with Parkinson's disease. According to researchers incidence of Parkinson's will decrease over the next several decades because people are being exposed to much lower levels of pesticides including POPs.

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10. IHPA participates in the 2nd International Conference on Environmental Research and Assessment, Bucharest, 5th to 8th of October, 2006

University of Bucharest – Centre for Environmental Research and Impact Studies, with support from the Romanian Academy***,*** organised between **5th** to **8th of October 2006** ***"2nd International Conference on Environmental Research and Assessment" (ICERA 2006).***

Researchers from more than 15 countries participated in the conference, presenting 36 oral presentations, 20 posters and 4 plenary lecturers, debating the most important environmental issues of a major concern. The debates had a profound interdisciplinary character, the participants having different training subjects – chemists, geographers, biologists, physicians etc.

From the main topics under debate within ICERA 2006 we mention – global climate changes – past present and future, environmental risk assessment in old Slovak mining regions, urban soils geochemistry in Estonia, anthropogenic impact reglected through dendroarchaeological monitoring in Israel, environmental management and restoration on the Eastern coast of South-Africa, traffic-generated pollution in India, biodiversity conservation in the Lower Prut Floodplain, methods for the treatment of contaminated waters and several other aspects. The CD-ROM also includes a presentation of International HCH and Pesticides Association (IHPA).

Marius Matache, Senior Researcher, University of Bucharest

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11. The 9th International Forum of IHPA Forum at Chisinau, Moldova

The next International Forum of IHPA will be hosted by Moldova from 20-22, September 2007. We are publishing a letter from the Director of IHPA inviting participants to make it yet again a successful Forum.

"Dear Friends,
I would like to inform you that next year the 9TH INTERNATIONAL HCH AND PESTICIDES FORUM is going to be organized by the Moldova Ministry of Ecology and Natural Resources on 20-22 September 2007, Chisinau.
In this respect we are pleased to invite you to participate in the 9th International HCH and Pesticide Forum. Details about the 9th International HCH and Pesticide Forum could be finding on ***http://www.ihpa.info*** *and* ***www.moldovapops.md***
With best regards,
John Vijgen, Director, IHPA

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12. REACH (Registration, Evaluation and Authorisation of Chemicals)

We have been covering REACH in many of ours issues. The ratification of REACH in 2007 will provide the biggest shake-up in the European chemical industry. This will replace almost 40 EU directives on chemical control.

As it is beyond the newsletter to cover this topic readers are asked to look at Che.&Ind. Issue 16 dt. 21 August 2006 p. 30.

Already REACH is getting the interest of business community to create new business. On Nov. 1 2006 The Society for Chemical Industry UK , the Health and Safety Section, arranged a one day joint Conference in London.

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13. European Parliament's activities on obsolete pesticides, Wieslaw Kuc fighting to get obsolete pesticides on the international political agenda

Since 2001, Members of the European Parliament have been active to support that actions are taken
Read more...

Mr. Wieslaw Kuc, a Polish Member of the European Parliament has now made large efforts to prove international society that it is now or never to eliminate obsolete pesticides in Central, Eastern Europe, Caucasus and Central Asia. From 30th of April to 4th of May 2007, an exhibition "Danger Obsolete Pesticides" will be held at the EU Parliament. Also are negotiations with the various EU government going on to bring the exhibition to other other capitals in Europe in in North America.
Read more...

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14. Greetings from the Editors.

Another year passing by and time to relax, take stock and plan for the New Year.
Do not forget to register to participate in the **9th IHPA Forum in Moldova**.
We wish the readers Seasons Greetings and a very happy and prosperous New Year.

IHPA likes to thank Editor Bala Sugavanam, and Co-editors Ivan Holoubek and Sushil Khetan for all their common efforts to realize the editions of the POPs Newsletter in the year 2006.

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