



POPs NEWSLETTER

No 27, FEBRUARY 2015

PREPARED ON BEHALF OF IHPA

Editor: Prof. Dr. Md. Mahbubar Rahman, Professor, Department of Entomology, and Vice - Chancellor, Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU), Gazipur, Bangladesh, drmahbubarr@gmail.com

Co-Editors:

- *Prof. Dr. Joao PM Torres, Biophysics Institute – UFRJ – Brazil, Rio de Janeiro, Brazil, mjptorres@biof.ufrj.br*
- *Dr. Gulchohra Aliyeva, UNEP-ECORES National Committee, Azerbaijan g.aliyeva1@gmail.com*
- *Dr. Michael Bittner, RECETOX, Masaryk, University Kamenice 3, Brno, CZ62500 Czech Republic, bittner@recetox.muni.cz*
- *Dr. Jiri. Novak, RECETOX, Masaryk, University Kamenice 3, Brno, CZ62500 Czech Republic, novakj@recetox.muni.cz*
- *Ondrej Mikes, MSc., RECETOX, Masaryk, University Kamenice 3, Brno, CZ62500 Czech Republic, mikes@recetox.muni.cz*
- *Ms. Khatuna Akhalaia, Milieukontakt International, Georgia, khatunaakhalaia1@yahoo.com*
- *Yeneneh T. Belayneh, PhD., USAID/OFDA, USA, ybelayneh@ofda.gov*
- *Roland Weber, PhD, POPs Environmental Consulting, Ulmenstrasse 3, 73035 Göppingen, Germany, roland.weber10@web10 or roland.weber10@googlemail.com*

The aim of this newsletter is to disseminate information in a cost-effective way on the Development taking place in the area of POPs as implicated in the Stockholm Convention and other pollutants 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 bioremediation, 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) at <http://www.ihpa.info/resources/newsletter/>.

CONTENTS:

1.	In memoriam Branko Druzina 1950 – 2014	3
2.	The European project DISCOVERED LIFE announces that Zaragoza will host the 13th International HCH & Pesticides Forum from 3-6 November 2015.	4
3.	“Baltic Action for Reduction of Pollution of the Baltic Sea from Priority Hazardous Substances, BaltActHaz” Dr. Ott Roots	6
4.	The legacy of POPs production in Brazil: 30 years later Carvalho, DP; Malm O and Torres, JPM	8
5.	Amazon deforestation with Agent Orange: 30 years later and no lessons learned Rocha DAM, Pereira-Netto, A and Torres JPM.	9
6.	Public Conferences on Integrated Waste Management in Quba and Khachmaz regions, and Surakhani district of Baku (Azerbaijan). Sadig Hasanov	10
7.	Workshop and seminar on Integrated Waste Management organized at Batumi State University (Georgia)	11
8.	Meeting report: The 7th International Passive Sampling Workshop and Symposium (IPSW2014) Christopher Harman and Tomas Ocelka	12
9.	Global Chemicals and Waste Information Platform Roland Weber, Mihaela Claudia Păun	14
10.	Other contemporary waste to manage in EECCA countries – BATTERIES Mihaela Claudia Păun, Roland Weber	15
11.	The 12th International HCH and Pesticides Forum in Kiev/Ukraine Conference Report John Vijgen, Roland Weber, Mihaela Claudia Păun	15
12.	Regional Projects on sustainable Consumption and Production Dr Roland Weber	16

13.	The effect of stress on pregnant women living in pesticide polluted area on the placental barrier failure R.M. Toichuev, T.R. Payzildaev	17
14.	Remediation of soils contaminated with organochlorine pesticides in the environment of Osh Province of southern Kyrgyzstan R.M. Toichuev, J.A. Madykova, T.R. Payzildaev	19
15.	Project “Technical assistance for implementation of the Persistent Organic Pollutants Regulation” Project summary Prof. RNDr. Ivan Holoubek, CSc.	22
16.	Summary report TMF Training seminar: “Improving the safety of industrial tailings management facilities based on the example of Ukrainian facilities”, 4-7 of November 2014, Ivano-Frankisk, Ukraine Gerd Winkelmann-Oei, Irina Nikolaieva, John Vijgen	27

1. In memoriam Branko Druzina 1950 – 2014

We are saddened by the news that our Board member Branko Druzina had passed away on August 11, 2014. Dr Druzina was a member of IHPA Board over a period of 12 years. During this period Branko contributed to the objectives of IHPA with a high level of loyalty and commitment. We will remember him as a warm personality with a good sense of humour.

Dr Druzina was an Associate Professor in Chemistry and Chemical Technology at the University of Ljubljana. He authored a large number of articles on waste management and hazardous material management. Besides, his broad expertise was acknowledged by his membership of national and international organizations and committees. He was a Consultant in Environmental Health at the Institute of Public Health of the Republic of Slovenia, a Member of the editorial board of the journal "Chemistry in school", Editor of the journal "Waste management", External Consultant for the *ECE* (Economic Commission for Europe), *Industry and Technology Division*, a National Representative of the *NATO/CCMS – Committee on the Challenges of Modern Society*, to name the few.

In 2007, together with the Slovenian Authorities, Dr Druzina organised the workshop of NATO/CCMS Pilot project on Prevention and Remediation Issues in Selected Industrial Sectors, held in Ljubljana, Slovenia on June 17-22, 2007. This event was, due to his immense efforts, a great success!

Over many years and from various roles, Branko has made important contributions to our conferences on obsolete pesticides: as Board member, as member of the scientific committee, as chairman of sessions and as lector.

We are grateful to Branko for his contributions to the development of science, education, public and youth engagement, and IHPA community will keep warm and valuable remembrances.

Bram de Borst, Chairman of the Board

John Vijgen, Director



Board Meeting in Ljubljana, May 2008, organized by Branko. Left to right: Stanislaw Stobiecki, Branko Druzina, John Vijgen and Bram de Borst

[back](#)

2. The European project DISCOVERED LIFE announces that Zaragoza will host the 13th International HCH & Pesticides Forum from 3-6 November 2015.

This has been disclosed in its first biannual newsletter, an information document which is intended to inform citizens and experts on the progress in research to reduce the DNAPL pollution in the Bailin aquifer.

The LIFE project will demonstrate in situ a chemical technique called ISCO. To do this, the technicians assigned have already defined the initial conditions of the area and the characteristics of the testing recirculation cell to implement the ISCO pilot test.

Zaragoza, from the 3rd to the 6 November 2015, will host the 13th International HCH & Pesticides Forum, which bring together hundreds of experts in the field of POPs. This has been disclosed in the first biannual newsletter of the European project DISCOVERED LIFE, an information document to citizens and experts who gives evidence of progress in research to reduce pollution caused by lindane in the Bailin bedrock, near the Pyrenees.

Zaragoza will be the meeting place for hundreds of researchers, experts, environmentalists and representatives from countries affected by polluting processes, among other groups.

The purpose of this meeting will facilitate the exchange of related problems arising from the manufacture of pesticides and promote international cooperation in finding solutions experiences.

The site to implement the ISCO pilot test is already selected

The NEWSLETTER also discloses the location of the ISCO pilot test. It is a small area located downstream from lindane waste landfill that is representative of site conditions that meets the appropriate parameters to measure the effectiveness of ISCO. The decontamination technique involves the injection into the subsurface of an oxidizing chemical to transform existing pollutants into less harmful chemicals.

Once the pilot test is done, the feasibility, effectiveness, modifications and transferability of ISCO technique will be assessed. The extrapolation of its application to the rest of the affected aquifer and also to other areas with similar problems will be evaluated.

The project is coordinated by the General Directorate of Environmental Quality and with the participation of the public company SARGA and the International HCH & Pesticides Association (IHPA) based in the Netherlands.

The total cost of the project is 1.12 million Euros. It is financed on a 49.97% by the LIFE + Programme of the European Union and the rest by DISCOVERED LIFE partners. Works began in January 2014 and will be finished in June 2017.

Communication channels with citizens

It is expected that DISCOVERED LIFE newsletter will be considered as one of the official communication channels of the project, which will provide information on Project progress and raise awareness activities.

The first bulletin, published in November, includes general information about the project, who works in it, what steps are being taken and the goals achieved. Everything is explained in a close tone, considering that one of the main purposes of LIFE is to bring people the problem of lindane and the possible solutions to be applied.

In the frame of the dissemination actions, several information sessions, an open day and a project presentation to stakeholders have been carried out. Moreover informative materials (posters) are already available in the headquarters of the Government of Aragon in Zaragoza and in the office of Alto Gállego Region.

Shortly, the booklet on “Lethal Obsolete Pesticides: A ticking time bomb and why we have to act now” will be available in Spanish.

Further a 3 minute teaser will be soon available on the DISCOVERED and IHPA website and on IHPA Facebook

Click here to access the NEWSLETTER:

<http://www.lifediscovered.es/newsletter.html>

The first announcement of the 13th Forum will be distributed in the next days an will be made available on www.hchforum.com and on the DISCOVERED website

**START 2015 WITH A REAL GOOD ACTION
SUPPORT ONE PERSON TO JOIN THE
13th FORUM
AND DONATE NOW**

<http://www.ihpa.info/support-ihpa/>

[back](#)

3. “Baltic Action for Reduction of Pollution of the Baltic Sea from Priority Hazardous Substances, BaltActHaz”

Dr. Ott Roots¹²

¹Estonian Environmental Research Institute, under Estonian Environment Research Centre, Marja 4D, 10617 Tallinn, Estonia (e-mail:ott.roots@klab.ee Director of the institute/Leading Research Scientist).

²University of Tartu, Estonian Marine Institute (senior scientist – hazardous substances)(ott.roots@ut.ee)

LIFE + BaltActHaz project, aimed to carry out in-depth survey on the occurrence of selected WFD, HELCOM priority substances and nationally important pollutants in the environment. 130 hazardous substances from 12 substances groups were investigated. The contents of various substances, like alkylphenols and their ethoxylates, organotin compounds, phthalates, polybrominated biphenyls, diphenylethers and polybrominated organic compounds, short- and medium-chain chlorinated paraffins, perfluoro-

compounds, some pesticides and sodium tripolyphosphate, had never been determined in Estonia before. Higher concentrations were detected in the north-eastern Estonia.

Upon choosing the mouths of rivers, the fact that hazardous substances are carried to the Baltic Sea from the whole catchment area was taken into account. Special attention was paid to rivers where valuable fish live, etc. The contents of hazardous substances and their groups determined from the rivers, remained below the limits of quantifications of used analysis methods in most cases and did not exceed the applicable environmental quality standards. The contents of only a few phthalates, e.g. diisobutylphthalate, di(2-ethylhexyl)phthalate and dimethylphthalate, exceeded the limit of quantification but they remained below the quality standard. However, high contents of monobasic phenols were determined in the water samples taken from the rivers Kohtla, Vasalemma, Narva and Keila. Mono- and dibutyltin was found from the rivers Narva, Keila and Kasari. A high content of benzene was measured in the water of rivers Kunda and Pühajõe. The contents of hazardous substances and their groups measured from the bottom sediment of rivers remained below the limits of quantification of the used analysis methods in most cases. However, amounts of heavy metals, like nickel, chromium, zinc and copper were determined in the sediments of the river Narva, and high contents of 2,5-dimethylresorcin was found in the sediments of the river Keila, the river Narva and the river Pühajõe (Roots, Nõmmsalu, 2011).

From the water of coastal regions of monobasic phenols and organotin compounds were found. In the water samples taken from the Sillamäe coastal region the content of monobasic phenols was high. In the water samples effluents taken from the ports and shipbuilding companies high contents of organotin compounds were found. Out of new substances, amounts of organotin compounds, alkylphenols and their ethoxylates and phthalates were found from various sample matrixes. Sewage sludge was the most polluted by them. In addition, the content of some heavy metals, mono- and dibasic phenols in the surface water/waste water and sewage sludge/bottom sediments can still reach the delicate levels in the Estonian oil shale region in particular (Roots, 2008; Roots, Nõmmsalu, 2011; Dydutyte et al., 2011; Roots, Roose, 2013).

The occurrence of some hazardous substances in surface waters that had never been identified in Estonia needs to be checked in supplementary investigations. If their occurrence in surface waters is validated, then these substances must be added to the state monitoring program (Roots, Leisk, 2011).

Reference

Dydutyte, Z., Buselyte, J., Stanče, L., Poikane, R., Kadike, S., Nõmmsalu, H., Kislenco, K., Roots, O. 2011. Report. Investigation of sources of hazardous substances in Lithuania, Latvia and Estonia. Baltic Environmental Forum Estonia, 2011, 48p

Roots, O.2008. Proposal for selection of national priority hazardous substances for Estonian surface water bodies. *Ecological Chemistry*, St. Petersburg University and Thesa, 2008, v. 17, No.1, 22-34 (ISSN 0869-3498).

Roots, O., Nõmmsalu, H. 2011. Report on hazardous substances screening in the aquatic environment in Estonia (Ed. M.Viisimaa), Tallinn, In Print, 97 pp. (ISBN 978-9949-9218-2-9).

Roots, O., Leisk, Ü. 2012. Proposals for the Estonian State Monitoring Programme. BaltActHaz Project, Eesti Keskkonnauuringute Keskus OÜ, Tallinn, 25p.

Roots, O., A. Roose, A., 2013. Hazardous substances in the aquatic environment of Estonia. *Chemosphere* 93, 196-200.

[back](#)

4. The legacy of POPs production in Brazil: 30 years later

**Carvalho, DP; Malm O and Torres, JPM
Rio de Janeiro Federal University/Brazil**

The Estuary of Santos and São Vicente, during the 80s, was a non-regular deposit target of industrial waste containing heavy metals and persistent organic pollutants, making it an example of environmental degradation. (CETESB, 2001; Luiz-Silva *et al* , 2002; Smith *et al*, 2005; Oliveira *et al*, 2007). After 30 years, consumption of fruit and milk produced in the contaminated areas of the estuary and the water consumption from natural sources proved to be risk factors for the presence of liver disease indicating the existence, to the present day, exposure routes of these residents to contaminants. (Carvalho, 2011). To identify these possible routes of exposure, hair samples from residents and chicken eggs, created in the backyards of the houses of the districts of the region were collected in 2009. The analysis of chicken eggs showed, even below the values maximum allowed in the European Union, the WHO and FAO, the presence of hexa-chloro-benzene (HCB); hexa-chloro-cyclohexane (HCHs), specially lindane (g-HCH); endosulfan; dichloro-diphenyl-trichloroethane (DDT) and its metabolites. The hair samples showed, again at low concentrations, the presence of heptachlor; endosulfan; hexa-chloro-cyclohexane (HCHs); hexa-chloro-benzene (HCB) and most of the dichloro-diphenyl-trichloro-ethane metabolites (DDTs). These results illustrate that there are two possible routes of exposure at the high contaminated areas with persistent organic pollutants for the residents of the Estuary of Santos and São Vicente: ingestion and inhalation.

Braga AL, Pereira LA, Geraldo LP, *et al.*, Estudo Epidemiológico na População Residente na Baixada Santista – Estuário de Santos: Avaliação de Indicadores de Efeito e de Exposição a Contaminantes Ambientais. 2009. Relatório Técnico Final. Acessado em 20 out 2011. Disponível em:

www.unisantos.br/upload/menu3niveis_1280350424329_relatorio_final_estuario_completo.pdf.

Carvalho DFP. Estudo epidemiológico na população residente na Baixada Santista – Estuário de Santos: avaliação de indicadores de efeito e de exposição a contaminantes ambientais com enfoque em doenças hepáticas [tese]. São Paulo: Universidade de São Paulo; 2011.

Companhia de Tecnologia de Saneamento Ambiental (CETESB). *Sistema Estuarino de Santos e São Vicente*. São Paulo. 2001. Acessado em 02 Maio 2008. Disponível em:

<http://www.cetesb.sp.gov.br/Agua/praias/publicacoes.asp>.

Luiz-Silva W, Matos RHR, Kristosch GC. Geoquímica e Índice de Geoacumulação de Mercúrio em Sedimentos de Superfície do Estuário de Santos – Cubatão (SP). *Química Nova*. 2002; 25:753-56.

Oliveira MLJ, Vidal-Torrado P, Otero XL, Ferreira JR. Mercúrio Total em Solo de Manguezais da Baixada Santista e Ilha do Cardoso, Estado de São Paulo. *Química Nova*. 2007; 30:519-24.

Siqueira GW, Braga ES, Pereira SFP, Silva E. Distribuição do mercúrio em sedimentos de fundo no Estuário de Santos SP/ Brasil. *Rev Escola Minas*. 2005; 58(4): 309-16.

[back](#)

5. Amazon deforestation with Agent Orange: 30 years later and no lessons learned

Rocha DAM, Pereira-Netto, A and Torres JPM.

Fluminense Federal University and Rio de Janeiro Federal University/Brazil

The infamous dictatorship in Brazil produced not only missing people and mixed human right abuses. Looking back to the Agent Orange use in Tucuruí Dam (Para State), one can realize how human life and nature conservation always poses less value than multinational profits. Up to 50 people died, hundreds of abortions were confirmed and thousands of animals, both domestically risen and wild ones were killed in 1982 after the use of huge amounts of chloro-phenoxic acetic defoliants and PCP in the vicinity of the dam and along the 800 km pathway for the electricity from the hydro electrical power plant transmission to Belem (Para State) and to Sao Luis (Maranhao State). The subsidized energy was mainly needed for the production of Aluminum Factories that were simultaneously created by Japanese and British Companies. Although the presence of highly toxic dioxins and furans in this products were never officially admitted, there are huge amount of legal documents that support that this version of Ranch Hand Operation really occurred. Today, most of our transgenic soybean plantation that usually rely on glifosate seems to need more herbicides than expected and this is making the 2,4-D/2,4,5-T sales in Brazil to sky rocket. No lessons learned.

Pinheiro S. 1989. Tucuruí: O Agente Laranja em uma Republica de Bananas. Ed. Sulinas, Porto Alegre (Brasil).

[back](#)

6. Public Conferences on Integrated Waste Management in Quba and Khachmaz regions, and Surakhani district of Baku (Azerbaijan).

Sadig Hasanov, Project Coordinator, Waste Management and recycling technologies, Baku, Azerbaijan

Tel:+994506343621

E-mail: h_sadiq@mail.ru, ecolifengo@yahoo.com

In June-October 2014 the non-government organization “Ecolife” has implemented the project of “Waste Management and recycling technologies” with financial assistance of Support Foundation for NGOs under the President of Azerbaijan Republic. The project consisted of a workshop discussing international experience in the field of waste management, and conferences in regional centres of Quba and Khachmaz, and Surakhani district of Baku, covering a number of related issues. The major aim was to draw public attention to the issue of waste management and new technologies available in this field. More than 100 participants attended the conference.

The conferences were supported by the municipalities of regional centres of Quba and Khachmaz, and Surakhani district to promote activities for collection of paper, plastic and glass waste for recycling purposes. Youth organisations were involved into the activities through awareness raising seminars.

The project emphasized the importance of collaboration of municipalities and youth groups for introduction of integrated waste management practices at the local level.

The conferences covered such topics as classification of waste, concept of Integrated waste management, waste collection systems, waste separation, recycling, landfills and their types, international standards of landfill arrangement, comparison of landfills developed based on international standards, among others.

At the end of the conferences the floor was open for discussion of the following topics:

- The current system of waste management (collection, transportation, disposal) in the regional centres
- The practice of waste separation and recycling in the target regions

The project was welcomed with great interest. The international experience of solid waste management was discussed and proposed for introduction in Baku and other parts of Azerbaijan.

[back](#)

7. Workshop and seminar on Integrated Waste Management organized at Batumi State University (Georgia)

On November 14, 2014, a public Lecture on Integrated Waste Management was organized in Batumi State University after the name of **Shota** Rustaveli, Batumi, Adjara region. The Public Lecture was organized in the framework of the USAID funded Program *Waste Management Technologies in Regions (WMTR)*. The Program is implemented through the CityLinks program by the International City/County Management Association (ICMA) and its local partner, CENN.

A contest on waste management related issues was organized before the lecture to draw public's attention to the event and the issue of waste management. About 15 people participated in the contest and winners were awarded with green bags to use as alternatives to plastic bags.

Along with the contest, the Batumi State University has initiated recycling project for paper, plastic and glass waste to promote recycling practiced in the region.

WMTR Program team welcomed participation of local authorities and youth in introduction of integrated waste management practices at the local level.

The workshop covered the following topics: classification of waste, the concept of Integrated waste management, the concept of the 4Rs, waste collection systems, waste separation, recycling, landfills and their types, international standards of landfill arrangement, comparison of Gregorian landfills with landfills developed based on international standards.

At the end of the lecture a discussion on the following topics was opened:

- The current system of waste management (collection, transportation, disposal) in the region
- The practice of waste separation and recycling in the region

The programme team presented to the audience the schedule of forthcoming events such as competitions and grants dedicated to integrated waste management topic.

Approximately 40 people participated in the Workshop and the Seminar.

For additional information please contact:

Waste Management Technologies in Regions (WMTR)
2, Orpiri str., Tbilisi, Georgia
T.: +995 32 2 43 45 22/23/24

[back](#)

8. Meeting report: The 7th International Passive Sampling Workshop and Symposium (IPSW2014)

Christopher Harman and Tomas Ocelka

Norwegian Institute for Water Research (NIVA), Gaustadalleen 21, Oslo, Norway

E&H Services Inc. Žitná 1633/47 Prague 1, Nové Město 120 00, Czech Republic

Introduction

The application of passive sampling to the measurement of contaminants in the environment, including pesticides, continues to grow. This is due to the advantages which passive sampling methods offer over traditional bottle sampling (or “spot sampling”), which include time integrated measurements, lower detection limits, sampling a biologically relevant fraction, and various practical advantages. A range of passive sampling devices is described in the literature, suitable for a wide range of contaminants. For hydrophobic compounds such as persistent organic pollutants and legacy pesticides, Semipermeable Membrane Devices (SPMDs), Low Density Polyethylene (LDPE) and Silicone Rubber (SR) samplers are widely used. For newer, more polar, pesticide formulations, the Polar Organic Chemical Integrative Sampler (POCIS), and the “Chemcatcher” are available.

Meeting Summary

In recent years the International Passive Workshop and Symposium (IPSW), has provided a forum for academics, environmental managers and regulators, students and consultants to exchange ideas and experiences regarding the development and use of passive samplers. From the first meeting in the Czech Republic in 2002, the latest workshop (the 7th in the series) was held as a special affiliated activity to the Annual SETAC North America meeting, in Vancouver. This year, as is the case with previous years, presentations addressing environmental applications of passive samplers dominated, but nevertheless covered a wide range of applications which included; a local study describing the use of LDPE to determine the source of PAH at a diamond mine; the long term use of passive sampling in routine monitoring from the Czech Republic and community health studies in wastewater. Subsequently a representative from the US EPA described two studies using passive sampling as one line of evidence for environmental management. Three talks covered more developmental aspects, which covered a summary of results from the POCIS sampler by the USGS, a method to correct for exposure flow effects between exposures (from NIOZ), and a calibration study for a novel polar sampler. Posters presented covered topics such as using samplers to determine contaminant concentrations in toxicological fish studies; Non-target screening for pesticides in Bosnia and Herzegovina; and using SPMDs and caged mussels to measure hydrophobic contaminants in the Californian marine environment.

Following presentations there were concise discussions which formed the workshop part. These centered mainly on the use and development of the polar passive samplers, where several research challenges remain before truly quantitative results can be obtained. These challenges include the lack of an overall uptake model based on the properties of target compounds, and the lack of an exposure correction model, both in contrast to hydrophobic samplers.

Invitation to IPSW 2015

The 8th International Passive Sampling Workshop and Symposium will be held in Baku, Azerbaijan in the second half of September or mid-October, the exact date will be announced soon. The main topic of the symposium will be passive sampling techniques and their use in environmental applications. Azerbaijan is a country located on the cross-roads of Europe and Asia on the shore of the Caspian Sea. A country with history of oil and gas development as well as agricultural activities, it strives to become a regional leader promoting international cooperation in the field of environmental science and education. Organisation of the IPSW in Azerbaijan will help us to open new destinations and reach remote areas, where passive sampling can be successfully introduced. The symposium will include practical training (Workshop), and demonstration of passive sampling application in the Caspian Sea and inflowing river.

E&H Services

E&H Services is a growing environmental laboratory located in the Moravian-Silesian Region in Czech Republic. We offer special services focused on passive sampling technology and globally accredited diagnostics of SPMDs, POCIS, DGTs, including the manufacturing using uniquely accredited procedures. Our laboratory provides analysis of a wide range of contaminants such as nonpolar organics (PCDDs), PCDFs), PCBs), PAHs), OCPs and PBDEs), polar or semipolar organics (pesticides - herbicides, insecticides, fungicides or numerous pharmaceuticals such as hormones, antibiotics, analgesics) and metals (Al, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Mo, Cd, Sb, hg, Pb) and we render assistance with the data interpretation. Close cooperation with other foreign laboratories, years of experience with numerous project managements for well known clients and professional staff guarantee high-quality service.

NIVA

The Norwegian Institute for Water Research (NIVA) is Norway's leading institute for basic and applied research on marine and freshwaters. The institute's research comprises a wide array of environmental, climatic and resource-related fields. NIVA's world-class expertise is multidisciplinary with a broad scientific scope. We combine research, monitoring, evaluation, problem-solving and advisory services at international, national and local levels.

NIVAs broad scope of scientific competence, research expertise and long-term environmental data series are important to Norwegian business and

industry, public administration on municipal, regional and national levels; and our initiatives help promote Norway's interests in international fora.

NIVA employees have professional backgrounds in a broad spectrum of disciplines including chemistry, biology, limnology, geology, hydrology, environmental technology, ecotoxicology, oceanography, geography, resource management and environmental economics.

Innovation and business development are a strategic growth sector for NIVA with the revenue from such innovation funding research and contributing to the creation of value in society.

[back](#)

9. Global Chemicals and Waste Information Platform

Roland Weber, Mihaela Claudia Păun

On behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), the Project on Chemical Safety of the GIZ launched the Global Chemicals and Waste Information Platform as an informational platform to provide both an overview and more detailed information about the Chemical Management, international Chemical Conventions and all the new tendencies in the field of Chemicals and Waste. The aim is to facilitate the knowledge flow, communication, co-ordination and the valorisation of synergies.

As the various stakeholders in the chemical field come from different contexts like the international chemicals conventions and SAICM, international organisations, governmental agencies, non-governmental organisation, chemical industry associations and private units, this website is designed to give anyone involved in the field one single point of reference and keep people with an interest in the topic up-to-date. The platform also serves as a knowledge stock for the 17 years of experience by the GIZ convention project Chemical Safety.

The platform structure is user-friendly and covers topics like chemicals management, chemicals in products, hazardous wastes and chemicals and health. Moreover, the platform gives references on chemicals databases and training materials in the field of chemicals and waste management, existent worldwide.

Among others, in April 2014 the case study “Management and disposal of Obsolete Pesticide Stock. Case Studies: Romania and the Republic of Moldova” was published via the Global Chemicals and Waste Information Platform.

Within this case study the authors gave an insight on the management of obsolete pesticide stock, as well as on the best practices and lesson learnt from those two countries. This paper revealed that Romania and the Republic of Moldova have demonstrated that the management of obsolete pesticides stocks is feasible if an integrated approach involving relevant stakeholders

can be established with an appropriate set of priorities and coordinated activities. Furthermore, in the implementation phase in both these countries, preventive measures were put in place to avoid re-occurrence of obsolete pesticides.

[back](#)

10. Other contemporary waste to manage in EECCA countries – BATTERIES

Mihaela Claudia Păun, Roland Weber

The heavy metal life cycle of batteries represent a major hazard to human health and the environment. Effective laws and regulations are urgently needed to reduce the current levels of harm. Without appropriate controls and technology the recycling of batteries often severely damages the health of recycling workers those living close by as well as polluting the land in the vicinity of recycling sites and smelters.

The case study “Battery Management – Selected Country Case Studies” published in July 2014 via the Global Chemicals and Waste Information Platform launched by GIZ, gives some country examples (Germany, Japan, Taiwan, China and Senegal) on development of mandatory policies and regulations related to manufacture and the establishment of recycling targets and the development of a framework for funding collection schemes as instruments in controlling of the material flow of batteries in order to address the environmental pollution associated with battery use and treatment.

[back](#)

11. The 12th International HCH and Pesticides Forum in Kiev/Ukraine Conference Report

John Vijgen, Roland Weber, Mihaela Claudia Păun

In March 2014 the IHPA Newsletter presented an in-depth report on the 12th International HCH and Pesticides Forum proceedings, successfully held in Kiev from 6-8 November 2013, which brought together more than 220 scientists, policymakers, non-governmental and international organisations representatives, industry and students from more than 30 countries to progress the obsolete pesticides and hazardous chemical waste challenge in EECCA countries.

The conference report including summary and outcomes of the 12th International HCH and Pesticides Forum, held in Kiev in 2013, have now also been published for the special issue of the Environmental Science and Pollution Research.

[back](#)

12. Regional Projects on sustainable Consumption and Production

Dr Roland Weber

The EU is financing regional projects on sustainable consumption and production in Asia (<http://www.switch-asia.eu/>) and in the Mediterranean region - SWITCH-Med project for.

<http://www.switchmed.eu/en>

Within the Switch-Med project we have developed the toolkit for policy makers for Sustainable Consumption and Production which might also be interesting for you and colleagues

<http://www.switchmed.eu/en/documents/policy/switch-med-scp-policy-toolkit.pdf>

We have organized together with Switch-Med team a session on "Sustainable production and use" on alternatives to POPs chemicals

<http://www.switchmed.eu/en/news/discover-sustainable-alternatives-to-toxic-chemicals> at this years global POPs conference (www.dioxin2014.org)

Here we presented with the Chinese Basel/Stockholm Regional Centre the publication on "POPs in articles and phase-out opportunities". Recommend to have a look to Part III, Part IV and Part V in the on-line version (not officially launched yet - but alpha version on-line):

<http://poppub.bcrc.cn/>

The publication is a living document and will be updated - best practice case studies from your countries are welcome.

A recommended reading:

In December 2014, Ban Ki Moon launched "The Road to Dignity by 2030: Ending Poverty, Transforming All Lives and Protecting the Planet " for the post 2015 Sustainable Development Goals.

The first sentence of the report might be an inspiration for next year:

"The year 2015 offers a unique opportunity for leaders and people to end poverty, transform the world to better meet human needs and the necessities of economic transformation, while protecting our environment, ensuring peace and realizing human rights."

http://sustainabledevelopment.un.org/content/documents/5527SR_advance%20unedited_final.pdf

[back](#)

13. THE EFFECT OF STRESS ON PREGNANT WOMEN LIVING IN PESTICIDE-POLLUTED AREA ON PLACENTAL BARRIER FAILURE

R.M. Toichuev, T.R. Payzildaev

Institute of Medical Problems, South Branch,

National Academy of Sciences of the Kyrgyz Republic, Osh

Abstract: Organochlorine pesticides (OCPs) at concentrations over 0.1 mg / kg passes through the placental barrier of pregnant women regardless stress factors. In combination of stress factors placental barrier becomes permeable to organochlorine pesticides. DDT and Aldrine are regarded the most dangerous organochlorine pesticides. High concentrations of OCPs were detected in women living near the former pesticide warehouses, agro-airstrips. These sites must be included in risk group.

Key-words: pregnant, woman, placenta, organochlorine pesticides, neuro-stress factor.

The objective of the paper is to detect the impact of nerve factor on permeability of organochlorine pesticides through the placental barrier.

Materials and methods. To detect placental barrier failures placenta, organs collected from stillborn children and blood samples were screened for OCPs - HCH, DDT, DDE, DDD, Aldrin and Dieldrin.

A total of 44 women placenta samples were subjected to examination. OCPs were detected in 2 placenta samples collected from stillborn children and 42 blood samples collected from new-born children. All the examined were allocated into 5 groups. Group I (OCPs concentrations > 0.1 mg / kg) consisted of 4 (9.09%). Of them, 2 were still born cases. Group II (OCPs concentrations ranged from 0.01 to 0.099 mg / kg) comprised of 8. Group III (OCPs concentrations ranged from 0.001 to 0.0099 mg / kg) – 20. Group IV (OCPs concentrations - 0.00099-0.0001 mg / kg) and Group V (OCPs concentrations - 0.00001-0.000099 mg / kg) consisted of 8 and 4 still born cases, respectively.

Results: Of the total OCPs detected in placenta samples, HCH were detected in 31 out of the 44; the highest concentration level was 0.998 mg / kg. DDT was detected in 1 still born child, DDE - in 37 cases, with concentration of 1.897 mg / kg, Aldrin was detected in 1 still born child. DDD and Dieldrin were not detected in any of samples screened. High levels of total OCPs in placenta were detected in 2 still born children - 2.24 and 2.27 mg / kg, respectively. The highest concentration of OCPs in placenta was found in placenta samples collected from women living near the pesticides warehouses transferred to private sector.

In Group I (4 cases accounting for 9.09% of all cases with OCPs in placenta) concentration ranged from 0.1 to 2.27 mg / kg. Of them, 2 were still born children.

Three of 4 women had neuro-stress factor (NSF). OCPs were detected in all cases of this group. Of them, 2 still born children showed OCPs concentrations in the liver and adipose tissue 1.5-2 times lower as compared to the levels detected in placenta. When NSF was not revealed, concentration of OCPs in blood was two orders of magnitude lower. Still, placental barrier performs its protective function regardless of the state of pregnant women.

Group II, NSF was observed in 6 of the 8 (18.18%) women with OCPs concentrations in placenta ranged from 0.01 to 0.099 mg / kg, OCPs were detected in blood of 5 new born children, but the concentration level was 1.5-2.0 orders of magnitude lower than in placenta. OCPs were not detected in two without NSF.

Group III, NSF was observed in 13 of the 20 (45.45%) with OCPs concentrations in placenta ranged from 0.001 to 0.0099 mg / kg. OCPs were detected in 4 (30.76%) and in 1 (14.2%) of the 7 without NSF.

Group IV, NSF was observed in 5 of the 8 (18.18%) patients with OCPs concentrations in placenta ranged from 0.0001 to 0.00099 mg / kg. OCPs were detected in 1 (20.0%) case.

Group V, NSF was observed in 2 of the 4 (9.09%) patients with OCPs concentration in placenta ranged from 0.00001 to 0.000099 mg / kg. OCPs were not detected either in patients with and w/o NSF.

Thus, the highest number of the placental barrier failures is observed in Group of pregnant women who have neuro-stress factor and high concentration of OCPs > 0.1 mg / kg. Women living near the former pesticide warehouses and burial sites are suggested to be included in risk group. Women admitted from cotton and tobacco-growing areas should be screened for OCPs. In case of NSF and high OCPs concentrations in placenta, preventive treatment with antioxidants, stimulators and sorbents should be performed on pregnant women and children.

References:

1. Arshavskii I.A., Surovtseva Z.F., Nemez M.G. The permeability of placental barrier in normal pregnancy and its pathology / Histo-hematic barriers / AMS USSR. M., 1961 – p. 293-306.
2. Easmon C.S.F., Hastings M.C., Clare A.J. et al. Nosocomial transmission of Group 13 streptococci.- Br. Med. J. 1981, 283, p. 459-461.
3. Fedorova M.F., Kalashnikova E.P. Placenta and its role in pregnancy. M., Medicine, 1986, 256, p. 227.

4. Toichuev R.M. The impact of pesticides on the state of placental barrier in pregnant women. Proceedings of the VI Russian Congress "Modern technologies in pediatrics and pediatric surgery" (in Russian) Moscow, Russia, 23-25 October 2007, p. 208-209.

5. Каракостов П. Пасивно пуцение сред бременните тени и отражението му върху телото и рѣста новороденното и детею-Акущер. Гинек. , 1985 №2, 28-31 (in Bulgarian).

[back](#)

14. Remediation of soils contaminated with organochlorine pesticides in the environment of Osh Province of southern Kyrgyzstan

R.M. Toichuev, J.A. Madykova, T.R. Payzildaev

Institute of Medical Problems, South Branch of the National Academy of Sciences of the Kyrgyz Republic, Osh, Kyrgyzstan

Abstract: An effective method of soil remediation of organochlorine pesticides (OCPs) by using spring irrigation method and cultivation of red carrots and onion **in the environment** of southern Kyrgyzstan.

Keywords: soil, organochlorine pesticides, remediation, concentration, watering, water, red carrots, onion.

The objective: to develop optimal, appropriate methods for the remediation of soil polluted by organochlorine pesticides (OCPs) **in the environment** of southern Kyrgyzstan.

Materials and methods: Soil samples collected from the areas located near the former cotton and tobacco fields were subjected to analysis. Water samples collected from the river (3 samples), channels (3 samples), irrigation ditches (3 samples), from the middle parts of the fields (3 samples) and from the garden (3 samples) were also analyzed. Three samples from the fields were collected during the rain periods in spring and autumn, when the arable soil becomes hard. To study the elimination of OCPs from soils carrots (red and yellow) and onion grown in the same places were analyzed, as the highest concentration of OCPs in northern Kyrgyzstan was detected in red carrots and in southern Kyrgyzstan in onion as well.

Residual concentrations of HCH and its isomers, DDT, DDE, DDD, Aldrin and Dieldrin in water, soil, carrots and onion were measured by gas-liquid chromatography.

Mechanical methods - "washing" and cultivation of red carrots and onion have been suggested and developed for remediation of the soil from trace amounts of OCPs.

Results: Areas sown to cotton and tobacco occupies 0.65% of the entire territory of the Osh Province. 81.57% of the total population of Osh Province (1,166,000) lives in cotton and tobacco-growing areas. During the Soviet era, cotton and tobacco areas occupied over 50,000 hectares of the total of 107,692 ha of irrigated area. After the transfer of land to private sector in 2004, these areas were decreased to 19,222 hectares. In 2014, these areas occupy for about 10,000 hectares. The rest of the cotton and tobacco fields were used for cultivation of vegetables, melons and legumes, thereby increasing the chances for OCPs to get into the human body. Soil remediation is therefore the first priority for both agrarians and scientists. OCPs were not detected in any of the 9 water samples collected from the river, irrigation ditches and from the upper part of the garden from the former cotton fields. At the same time, analysis of 5 samples collected from the middle part of the garden at depth of 30 cm showed the presence of OCPs. DDT concentrations ranged from 0.02 to 0.097 mg / kg, 3 samples DDE in 3 samples - from 0.02 to 0.06 mg / kg, HCH - 0.003 to 0.0089 mg / kg. OCPs were detected in all 5 samples collected from the lower part of the garden. Concentrations of pesticides in this area were 2-5 times higher than in middle part of the garden. OCPs were detected in 4 water samples collected from the middle part of the garden during the spring irrigation. Total concentrations of DDT, DDE and HCH ranged from 0.01 to 0.06 mg / l of water. OCPs were detected in all 5 samples collected from the lower part of the garden with total concentrations ranged from 0.098 to 0.03 mg / l of water. In autumn, small amounts of OCPs were detected in red carrots and onion grown in the same area in the upper part of the garden. Concentrations of OCPs detected in carrots and onion grown in the middle part of the garden were 4-5 times higher than in the soil. The highest OCPs concentrations were detected in the lower part of the garden which corresponds to the data of the above authors [3].

Thus, spring irrigation method and cultivation of red carrots and onion can be suggested for remediation of soil from OCPs traces **in the environment** of southern Kyrgyzstan. Small amounts of OCPs were detected in irrigation water samples in autumn period that can be attributed to soil layer hardening which prevents remediation from persistent organic pollutants.

References:

1. Begmatova D.Sh., Niyazova V.A, Toichuev R.M. The structure of co-morbidities and complications during pregnancy in women living in cotton-growing area. Central Asian Medical Journal, Vol. XVI, Suppl.3, Osh, 2010. p.128-130.
2. Paizova Z.M., Toichuev R.M. Factors influencing the development of breast cancer in women living in rural areas of southern Kyrgyzstan. Proceedings of the VIII Congress of oncologists and radiologists from the CIS countries. September 16-18, 2014, Kazan (Tatarstan). p. 300-301.

3. Spynu E.I., Antonovich E.A., Vrochinsky K.K., Molozhanova L.G., Stefansky S., Atabaev Sh.T. Hygienic value of accumulation and circulation of persistent pesticides. Hygiene and toxicology of pesticides, Proceedings of Scientific Session of the Academy of Medical Sciences of the USSR (24-26 August 1967, Chisinau), M "Medicine". 1970. - p. 212-218.

4. Toichuev R.M., Argynbaeva A.T. Prevention and correction of intestinal dysbiosis in cotton growers who contact with pesticides. Methodical. Recom. Osh, 2012. – p. 28.

5. Toichuev R.M., Joldoshev S.T., Argynbaeva A.T. The effect of organochlorine pesticides (OCPs) on the incidence of hepatitis in children. Proceedings of the V Russian Congress "Modern technologies in pediatrics and pediatric surgery." - M . Overlay Publishing Company, 2006, p. 74.

6. Toichuev R.M. Contamination of vegetables and melons by pesticides in southern Kyrgyzstan. "KazNU Journal". 1/1 (40). 2014 Almaty, 9-10 April 2014 – p.119-123.

7. Toichuev R.M., Mamatazimova R.T., Akmatov J., Azhimamatova R.M., Zheentaeva I., Muratov A., Kambarova A., Abdykaparova A., Bazarova L. The effect of organochlorine pesticides on the development of perinatal encephalopathy. Proceedings of the V Russian Congress "Modern technologies in pediatrics and pediatric surgery." -M .: Overlay Publishing Company, 2006, p. 246.

8. Toichuev R.M. Medical and environmental problems in southern Kyrgyzstan. Central Asian Medical Journal, 3rd National Congress on Respiratory Diseases 19-21 April 2007, Osh, Kyrgyzstan, Vol. 13, Annex 1, 2007. p. 22-25.

9. Khan S.U. 1980: Pesticides in soil environment. Elsevier Scientific Publishing Company, Amsterdam. 1980.

10. Kohnen R., Haider K-si, Jagnow G., 1975: Environ. Qual., Safety Suppl. III.

11. Payzildaev T.R., Toichuev R.M. Pollution of vegetables by organochlorine pesticides and the possibility of using vegetables for soil remediation. The World Congress on CBRNE Science and Consequence Management. 1-5 June 2014. Tbilisi, Georgia.

12. Toichuev R.M. Organochlorine pesticides (OCPs) in the Southern Kyrgyzstan. Problem and possible solutions. Central European journal occupational and environmental medicine. Vol. 14, No. 1. Romania, Cluj-Napoca, 19-22 October 2008. p.105.

13. Toichuev R.M., Payzildaev T.R. The problems of pesticides in southern Kyrgyzstan. World Congress on CBRNE Science and Consequence Management. 1-5 June 2014. Tbilisi, Georgia.

[back](#)

15. Project “Technical assistance for implementation of the Persistent Organic Pollutants Regulation”

Project summary

Prof. RNDr. Ivan Holoubek, CSc.

Project proposal has been prepared by the NIRAS IC-led consortium in response to the invitation to tender from the Central Finance and Contracts Unit in Turkey, concerning the project “Technical assistance for implementation of the Persistent Organic Pollutants Regulation” - EuropeAid/132428/D/SER/TR. The NIRAS IC-led consortium consists of NIRAS IC (Poland), IP Consult (Germany), Finish Environmental Institute (Finland), RICARDO-AEA (UK), AMEC Environment & Infrastructure (UK), The Institute for Ecology of Industrial Areas (Poland) and Rast Muhendislik Hizmetleri Ltd. (Turkey).

The overall objective of the project is to protect human health and environment from adverse effects of persistent organic pollutants and their waste by prohibiting, phasing out and eliminating release of them in line with EU Persistent Organic Pollutants Regulation by the of 2028.

Purpose of the project is to establish the necessary capacity for effective implementation of EU Persistent Organic Pollutants Regulation in Turkey at national and regional level taking into account social and economic impacts.

At the end of the assignment the project will have achieved the following results:

- The institutional and capacity for the implementation of POPs Regulation defined and strengthened
- The knowledge and understanding of national POPs problems enhanced amongst non-governmental organizations, industry, and the public at large and awareness increased at many levels of the importance and values of the POPs issues and problems.

The partners of the Consortium have been carefully selected to fully meet the requirements of this project, combining their extensive experience in environmental sector and in specific, in implementation of POPs Regulation as well as experience from Turkey and the region.

The unique feature of project approach is the **integration of planning and scheduling of all participatory activities such as training courses, workshops and study tours**. Another unique approach comes from team experience from similar projects in different countries and also from the current experience in the country and including two international key experts what will have a crucial importance to assign an experience and qualified local expert to support the liaison with the MoEU and other stakeholders.

Country specific approach

The establishment of the framework conditions and necessary capacities for effective implementation of EU POPs Regulation in Turkey including strengthening the technical capacity requires a country-specific approach: there are no turnkey solutions that can be imported from other countries, which means that progress often needs to be achieved within the existing (or partly modified) institutional and legal frameworks.

For this reason, we strongly believe that the best approach is to put together a balanced team of international experts who will work together with the national experts. They will prepare an original solution tailored specifically to the administrative structures and procedures of government decision-making and policy implementation in Turkey.

In formulating recommendations, it will make considerable use of **best practice examples** by taking acknowledged successes from EU Member States and intelligently and sensitively transforming them to meet the particular situation and structures in Turkey. There will be a strong focus on the dissemination of experience available from this international cooperation. Emphasis will be given to securing **lasting improvements (sustainability)** by improving the tools, the instructions and the technical understanding and knowledge of the project beneficiaries and other target groups. This focus will be achieved through the proposed workshops and seminars and through a process of continuous dialogue with the beneficiaries and other stakeholders.

The development and implementation of operational tools, such as handbooks, manuals and especially “training for trainers” material, serve the purpose of providing instruments that are directly applicable in daily work routines as part of the capacity building process. Certainly, it is important that the project develops tools built upon strategic goals, working routines and skills already partially available at the Beneficiaries. However, strategic goals, working routines and skills will be further enhanced in the wake of the development and implementation of the operational tools and capacity building, because the Beneficiaries participate actively in the process.

Defining and strengthening the institutional and technical capacity for the implementation of the POPs Regulation

This Activity Set objective will be focused on defined and strengthened the institutional and technical capacity for the effective implementation of the POPs Regulation EC 850/2004. The main purpose of this Regulation is to enable the European Community to ratify the Stockholm Convention and the UNECE Aarhus Protocol. The Regulation also deals with stockpiles of redundant substances.

In **2010 Turkey has developed its National Implementation Plan (NIP) of POPs which is now updated based on the new POPs under SC**. The NIP sets out how the Stockholm Convention obligations will be implemented in Turkey and outlines the next steps to be taken to save disposal, reduce production and use the POPs substance. Above mentioned activity confirm

that currently Turkey has achieved the stage of POPs issues advancement that would be called “**the basic institutional and technical capacity level**”.

Applying the **Regulation (EC) No 850/2004** provides an opportunity for the creation of a transparent system for controlling and eliminating POPs substances, which is both inclusive and participatory.

Creation of that system can only happen when national and local-level institutions have clear mandates, effective and coordinated structures, skilled staff and sufficient financial resources. To achieve the above mentioned indispensable values the special attention will be focused on:

- The advancement of the MoEU, MoH and MoFAL and other line ministries or relevant institutions capacities in terms of institutional structures, management tools, and human resources for fulfilling project's conditions and indicators, and for taking a proactive role in the management of the POPs issues in the country;
- The reinforcement of the MoEU, MoH , MoFAL and other line ministries or relevant institutions structure through the provision of management tools and procedures which will enable an effective policy development, monitoring, reporting and enforcement, as well as the provisions of evaluation systems and strengthening the flow of information in accordance to POPs Stockholm Convention and POPs EC 850/2004 Regulation requirements;
- The strengthening of the MoEU, MoH and MoFAL and other line ministries or relevant institutions capacities in terms of information management and awareness raising campaign including the dissemination of information about issues concern Stockholm Convention and POPs EC 850/2004 Regulation, POPs danger for human and POPs environmental damage.

Methods

In accordance to ToR requirements the idea is to strengthen the capacity of POPs Beneficiary and stakeholders in legal, institutional and technical matters throughout the implementation of the following measures:

- development the training needs assessment,
- implementation the “POPs training of trainers” programme,
- organisation the Project events: explanatory seminar; project out-puts dissemination seminars, project conference disseminating information about project purpose, activities, out-puts and achieved projects results,
- organization the study-visits for Beneficiary and major project stakeholders staff,
- raising the public awareness concerning pose of the hazards and POPs for the human health and to the environment by publication and dissemination the POPs brochure and handbooks and POPs web site preparation.

POPs public awareness will be arranged under two activities: (1) dissemination the information about project purpose, activities and results by organizing Project seminars and conference meeting, (2) education activities covering preparation and publication project handbooks and by project website development.

Main activities

Organization of one-day explanatory seminar will be organized in Ankara at which information about the POPs project, its scope as well early findings including the overall project activities, work schedule and expected project outputs will be presented and discussed with the project partners, representatives of the stakeholders, media and other organizations.

Training of trainers - is the key concern in building and strengthening the capacity of beneficiary POPs related ministerial staff (target group are staff of the: MoEU, MoFAL, MoH and other Ministries and institutions agreed in the Inception Phase) for competent POPs issues accomplishment and increase the institutional and technical capacity to suitable implementation and maintenance the POPs Regulations.

This training of trainers programme is dedicated to POPs related ministerial staff as training participants. The main objective is to ensure that training group members will deliver to representative of industry, competent authorities, and NGO's the competence knowledge, steps and procedures required by the POPs Regulation EC No 850/2004, reporting under Stockholm Convention and POPs Protocol, application the BAT and BEP solutions to eliminate and reduce releases of POPs, tasks of National Implementation Plan for POPs, inventory procedures, etc.

This training programme also will develop and improve the members of training groups knowledge concern guidelines and guidance for effective implementation of the control provisions of the Stockholm Convention and Convention requirements. In a frame the training programme the training manuals and guidelines will be delivered to all participants.

All **training materials** shall be **available on the Project website** where they shall be available for consultation and for downloads.

- Training 1: Legal instruments for the implementation of the POPs Regulation EC No 850/2004 and prioritization for national priorities and objectives.
- Training 2: BAT and BEP Guidelines concern POPs.
- Training 3: National Implementation Plan preparation
- Training 4: POPs monitoring, remediation of contaminated sites, evaluation of the effectiveness of the Regulation
- Training 5: Reporting under Stockholm Convention and POPs Protocol
- Training 6: Standard Toolkit for POPs inventory procedures & preparation

- Training 7: Regulatory Impact Assessment and social, economic and environment impacts of the POPs Regulation No 850/2004
- Training 8: Sectoral Impact Assessment methodology

Organization of one day dissemination seminars for the industrial sector, local authorities and NGO's

Organization of study visits to the EU Member States

- **Study visit 1 - POPs monitoring activities** - for public servant, representatives of scientific and technical research institutions and universities and NGOs representative involved in monitoring processes and activities and monitoring reporting.
- **Study visit 2 - Implementation of BAT/BEP requirements** - for representatives of Ministry and authorized institutions, industry representative, scientific and technical research institutions and universities and NGOs representative.

Preparation, publication and dissemination of the project brochure - will be prepared in Turkish and English version. The brochure will cover all Project activity, project outputs, publication, main of training materials, project people etc. The project brochure will be disseminated among previously identified relevant institutions, NGO's and other entities.

Preparation of the project website

Organization of Project Final Conference The project closure should anchor the progress made and lessons learned for the future responsibilities of the beneficiary countries.

Updating the National Implementation Plan

- **Workshop** to determine the Current Status for the Implementation of the EC Regulation on POPs in Turkey
- **Workshop** to determine National Priorities and Objective Settings

Update National Implementation Plan (NIP)

Preparation of Regulatory Impact Assessment and Sectoral Impact Assessment

- **Preparation of the SIA** - the SIA describes the qualitative impacts that the Regulations will have upon Society as a whole and the various stakeholders (Consumers, Administration, Industry, Trade, etc.)
- **Preparation of the RIA** - The RIA is a systematic policy tool used to examine and measure the likely benefits, costs and effects of new or

existing regulation. It identifies and assesses the issues at stake and the objectives pursued. It identifies the main options for achieving the objective and analyses their likely impacts in the economic, environmental and social fields. It outlines advantages and disadvantages of each option and examines possible synergies and trade-offs.

[back](#)

16. Summary report TMF Training seminar: “Improving the safety of industrial tailings management facilities based on the example of Ukrainian facilities”, 4-7 of November 2014, , Ivano-Frankisk, Ukraine

Gerd Winkelmann-Oei, Irina Nikolaieva, John Vijgen

Introduction

From 4-7 of November 2014, the second field training together with the 3rd Steering Committee have been successfully held.

The seminar was officially opened by Mr. Volodmyr Semko, First Deputy Head of the Ivano-Frankisk region state administration, who welcomed the participants in the region and also pointed out the problems existing at the Kalush Tailing Management Facility.

Objective of the seminar

Based on the UNECE safety guidelines and good practices for tailings management facilities the idea was to develop a user-friendly TMF checklist combined with a catalogue of measures to facilitate the implementation of the UNECE safety guidelines. Objective of the seminar was to test the so-called TMF Checklists on its applicability in the field.

The TMF Checklist consists of four groups of questions called “Tailing Risk Index (TRI)”, “Basic Check”, “Detailed Check”, and “Check of Abandoned Sites”.

Applied by different users from the international to national and regional levels one should be able to classify the risk of TMFs with increasing specificity.

By concrete investigations at individual TMFS, the Checklist questions are leading to select one or more appropriate measures, which are directly available in a Measure Catalogue.

On the other hand the TRI and Basic Check can be used by International and national organisations to set up preliminary ranking lists of TMFs, which

could be assessed and specified clearer by State competent authorities to find out the priority actions to reduce the overall risk of specific TMFs. Also the detailed Check, and Check of Abandoned Sites can be used by TMF operators to draw up specific investment plans to raise the overall safety of their TMFs.

The seminar comprised of theoretical part of the training during the first day refreshing the applied Check List Method and the acquaintance with the TMF to be visited. Brief information about enterprise history and technology applied for the potassium production including the information about the TMF was provided by the representatives of the Oriana enterprise. The second day dealt with the practical part that included a visual inspection of the famous Kalush TMF-site.

The site consists of three individual TMFs and the so-called Dombrovskiy open-cast mine, where the developed TMF Checklist forms have been filled in by three working groups consisting of Ukrainian inspectors and representatives of Ministries and regional authorities, TMF-owners and international experts from Armenia, Georgia, Romania, Sweden, the ICPDR and the World Bank. After the site visits, the working groups evaluated the applicability of the checklists in order to assess the level of danger and priority of measures to be taken. The results of the group work were presented at the 3rd day of the seminar.

The second seminar was a follow-up of the first one held in Lviv in May this year, where the first field test has been implemented with the Basic Check and Detailed Check. Thereafter the TMF Checklist has been adapted with the comments of national and international experts. New and of specific interest was that the latest version of the checklist includes now a quick check that can be done at national or regional level in each country. This quick check enables the country to verify in a simple manner the potentially most dangerous TMFs. The introduction of the Tailings Hazard Index (THI) will assist the authorities with a simple management tool to easily prioritize those TMF sites that need further investigations and make plans for further actions, where necessary. The checklist includes a catalogue of short-medium and long-term measures that can be applied depending on the economic possibilities of the TMF owners. As the Kalush TMFs are not in use anymore, the Check of Abandoned Sites has also been made during the field test. At the Steering Committee held on the fourth day, all comments on were discussed so that the Checklist can be finalized at the beginning of next year. All participants confirmed considerable progress in the quality of the checklist and its practicability for Ukraine and for the UNECE countries. The prioritization of sites with the Tailings Hazard Index (THI) will also be evaluated with the help of a database of more than 150 Ukrainian TMF sites.

The final international workshop will be held on 19 and 20 May 2015 in Kiev. For participation please contact:

Gerd Winkelmann, Email: gerhard.winkelmann-oei@uba.de



One workgroup during assessment of TMFs



Other working group preparing assessment at Dombrovskiy open pit



Ukrainian experts explaining geology of TMF area



Industrial area below TMF-1



Group photo of the participants

The Kalush TMF-site

The Kalush location is of specific importance as in the beginning of February 2010 former President Yuschenko announced town of Kalush and few villages of Kalush District of Ivano-Frankivs'ka Oblast as the "Zone of Environmental Emergency Situation". As the result the State plan for immediate response on this situation was created and approved by the Cabinet of Ministers, however, apart from the elimination of more than 30,000 tons of HCB (Hexachlorobenzene) in the last years, no concrete measures have yet been taken to reduce the existing dangers. The present threats of increasing levels of salinity due to the infiltration of groundwater from the open-cast mine into the rivers Sivka and Lymnitsa, flowing into the Dniester as well as for the drinking water in Ivano-Frankisk town are still existing and can increase if rainfall occurs in the spring of each year. The Dniester is the source of drinking water for more than 10 million inhabitants in Western Ukraine and Moldova.

About the TMF Project

United Nations Economic Commission For Europe (UNECE) had already started a joint activity between the "Industrial Accident"- and "Water"-Convention to develop tools for improving the safety of TMF as they resulted as key problems for environmental safety in the whole UNECE region. Supported and guided by the Umweltbundesamt, this activity resulted in 2008/9 in safety guidelines and good practices for tailings management facilities . The safety guidelines were agreed by all UNECE countries and include both recommendations to UNECE countries and authorities on the necessary legal basis for issuing permits for the safe operation of tailings management facilities as well as recommendations to operator on the safe design of tailings management facilities. UNECE called on the governments of UNECE countries and on TMF operators to include the safety guidelines in the national regulations and technical standards and to apply them.

The failure of tailings management facilities (TMF) is a major problem worldwide that regularly leads to severe disasters. To address this problem, the United Nations Economic Commission for Europe (UNECE) developed in 2009 "Safety Guidelines and Good Practices. Therefore, the UNECE called on the governments of UNECE countries to incorporate the safety guidelines into their national regulations and technical standards and to apply them. However the implementation has been problematic because the safety standards have been set out only in general terms. It is specifically for this reason that the Federal Agency for the Environment of Germany has taken in 2013 the initiative to set up the project "Improving the safety of tailings management facilities based on the example of Ukrainian facilities" to overcome these problems by permanently reducing the risk posed by these

facilities. The project has an important pilot demonstration and transfer function: the experience of the project can be used in all UNECE member countries and the methodology is also supposed to become a manual for environmental experts, inspecting bodies and local authorities to assess the environmental safety of TMFs in their pre-construction and construction stages, operation and management, closure and rehabilitation.

The TMF project has already been reported in the No 25, September 2013.

For more information about the project please visit website www.tmf-ukraine.org .

[back](#)