

POPs NEWSLETTER

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PREPARED ON BEHALF OF IHPA

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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/>.

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Photos by Ramin Mazur, Chisinau. Originally published in German, translation into English*



1. PRESS RELEASE

HISTORIC AGREEMENT ENDS 15 YEAR DEADLOCK OVER BANNING NORTH – SOUTH MOVEMENTS OF HAZARDOUS WASTE

INTERNATIONAL CONFERENCE ADOPTS A PACKAGE OF STRATEGIC DECISIONS ON WASTE AVOIDANCE AND MANAGEMENT IN THE 21ST CENTURY

Secretariat of the Basel Convention

Geneva (25 October 2011) – Representatives of 118 members of the Basel Convention, the global treaty on waste management, have reached a historic agreement unblocking an amendment that will ban the export of hazardous wastes from OECD to non-OECD countries, known as the Ban Amendment.

The groundbreaking decision, containing a set of measures aimed at strengthening international control of transboundary movements of hazardous wastes, was adopted on 21 October, the closing day of the 10th meeting of the Parties to the Convention (COP10), in Cartagena de Indias, Colombia. The ground for the breakthrough was prepared by the Country Led Initiative (CLI) to Improve the Effectiveness of the Basel Convention, initiated by the Governments of Indonesia and Switzerland at the last Conference in 2008. The effort was supported by the Government of Colombia, host of the Conference. The so-called CLI decision allows the Ban Amendment to come into force for those countries who wish to adhere to it, but also moves forward in establishing a regime for countries who wish to trade in waste to ensure the minimization of health and environmental impacts, ensuring adequate social and labour conditions and creating new economic opportunities. It clarifies the interpretation of Article 17(5) of the Convention, setting the bar for entry into force of the Ban Amendment. The amendment will enter force once an additional 17 parties ratify it.

“The results of the Cartagena conference offer a concrete example of how transformative environmental action can serve to reduce poverty and promote a healthy environment and social equity, advancing the promise of a green, sustainable economy which will be the focus of the Rio+20 conference next year,” said UN Under-Secretary General and UNEP Executive Director Achim Steiner. “All too often UN negotiations can be characterized by frustration and stalemate. The Cartagena meeting provides an antidote to such perceptions and bodes well for the next round of discussions on the way forwards towards an ambitious mercury treaty that reconvene at UNEP headquarters in Nairobi next week,” he added.

“In Cartagena, we have demonstrated that multilateralism works,” said Paula Caballero, the Colombian Ministry of Foreign Affairs officer who served as President of COP10. “The striking progress made in Cartagena demonstrates how by working together Governments can find common ground on issues that have confounded agreement for well over a decade. Cartagena has given to the global community a model for achieving sustainable development in the field of waste management,” said Jim Willis, Executive Secretary of the Basel, Rotterdam and Stockholm Conventions.

The agreement on the Ban Amendment capped a week of negotiations between the Conference's 700 participants. In addition to the CLI decision, the Conference in Cartagena also adopted Strategic Framework for the implementation of the Convention over the years 2012-2021, which sets out a vision, guiding principles, strategic objectives, means of implementation, and indicators of achievements. The Strategic Framework aims at strengthening the environmentally sound management of such wastes as a contribution to promoting human health, sustainable livelihoods, and eradicating poverty. Technical Guidelines were adopted on co-processing of hazardous wastes in cement kilns, environmentally sound management of mercury wastes, and environmentally sound management of used tyres, and further work was mandated on additional guidelines. More than 25 separate decisions on matters as wide-ranging as compliance, financial assistance, private- public partnerships, and the role of the Regional Centres for Training and Technology. The Parties also adopted the Cartagena Declaration on prevention and minimization of hazardous wastes. The declaration complements the Strategic Framework in determining the work under the Convention in years to come. It reaffirms that the Basel Convention is the primary global legal instrument for guiding the environmentally sound management of hazardous and other wastes and their disposal, including efforts to prevent and minimize their generation, and efficiently and safely manage those that cannot be avoided. A key provision of the declaration recommends that the United Nations Conference on Sustainable Development (Rio+20) "should consider prevention, minimization and recovery of wastes as a key contribution to advancing the three pillars of sustainable development through environmentally and socially sound economic development, poverty reduction, and protection of human health and livelihoods." The declaration also calls for the creation of a global methodology for accurate measurement of national waste generation. This would provide a means of gauging national efforts to make progress in waste prevention. The Cartagena meeting was the last of three related conferences of the Parties to the major chemicals and waste global treaties held in 2011. The parties to the Stockholm and Rotterdam conventions had met in April and June 2011, respectively. Decisions on synergies between the three conventions taken at the earlier meetings depended on the concurrent agreement of COP10. The Basel Convention's Parties adopted a substantially identical decision enhancing cooperation and coordination among the Basel, Rotterdam and Stockholm Conventions and agreed on joint activities in the synergies part of the 2012-2013 work programme.

The 10th meeting of the Conference to the Parties to the Basel Convention was held from 17–21 October 2011. The eleventh meeting of the Conference of the Parties will be held in Geneva, Switzerland, in 2013. Mr. Franz Perrez (Switzerland) was elected to serve as President of the eleventh meeting of the Conference of the Parties.

Note to editors:

The 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal is the most comprehensive global environmental treaty dealing with hazardous and other wastes. It has 178 members (Parties) and aims to protect human health and the environment against the adverse effects of the generation, management, transboundary movements and disposal of hazardous and other wastes.

The Basel Convention has two pillars. First, it regulates the transboundary movements of hazardous and other wastes. Second, the Convention obliges its Parties to ensure that such wastes are managed and disposed of in an environmentally sound manner. To this end, Parties are required to prevent or minimize the generation of wastes at source, to treat and

dispose of wastes as close as possible to their place of generation and to minimize the quantities that are moved across borders. Strong controls have to be applied from the generation of a hazardous waste to its storage, transport, treatment, reuse, recycling, recovery and final disposal.

The Conference of the Parties is the supreme decision-making organ of the Basel Convention. It meets every other year to discuss programmatic and budgetary issues for the next biennium.

The Ban Amendment was adopted in 1995. Entry into force of the amendment had been mired in a controversy over the number of ratifications by Parties needed to bring this about. In the intervening decade, the quantity of transboundary movements of hazardous wastes has increased. A growing share of the international trade in hazardous waste is believed to lie outside of the framework of environmentally sound management. Trade in hazardous waste has grown significantly between developing countries, a trend unforeseen when the Convention was adopted more than two decades ago. Such trade is not addressed by the Ban Amendment.

Recent years have seen efforts under the Basel Convention to develop a global strategy for environmentally sound waste management. In 2002, UNEP has established under the Basel Convention a partnership addressing the environmentally sound management of used and end of life mobile phones, the first of several strategic partnerships in different areas of waste management.

In 2008 an additional partnership—the Partnership for Action on Computing Equipment (PACE)—was launched on used and end-of-life computing equipments. In these partnerships government representatives work together with the manufacturers, recycling industry, academic institutions and public interest NGOs.

The Basel Convention has 14 Regional and Coordinating Centres, with one or more operating on every continent. The Centres develop and undertake regional projects, and deliver training and technology transfer for the implementation of the Convention under the direction of the Conference of the Parties and of the Secretariat of the Convention.

The Cartagena meeting was held under the theme “Prevention, minimization and recovery of wastes”. It marked only the second time the Conference of the Parties has been held in the Latin American and Caribbean region. The first meeting of the Conference of the Parties to the Basel Convention was held in Piriapolis, Uruguay, in 1992.

The United Nations General Assembly has declared 2011 to be the International Year of Chemistry.

For more information, please contact:

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Please also consult the web site of the Basel Convention: <http://www.basel.int/>

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2. “IHPA AMBASSADORS FOR LIFE”

John Vijgen

During the 11th International HCH and Pesticides Forum, IHPA Chair Bram de Borst handed over again a number of certificates to the new IHPA ambassadors before the closure of the Forum:

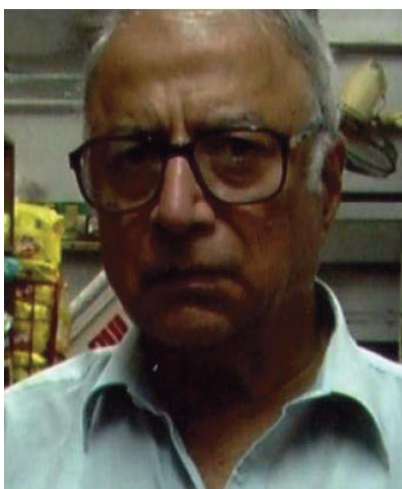
For the first time, IHPA has been issuing certificates for “Ambassadors for Life”. These special golden certificates reflect the long-term dedication and engagement of the following three IHPA ambassadors:



We want to express our highest gratitude to Dr. Tchecknavorian, who has been permanently fighting to get the obsolete pesticide issue on the international agenda and has engaged herself on the highest level to move the issue forward and worked many times in our resolution team during the past forums. Dr. Tchecknavorian has been a key person in the development of IHPA and she has with her personal strength and expert knowledge guided IHPA to a prominent position in the international community.

We want to express our highest gratitude to Prof. Emmanuel Heinisch, who has been one of the first scientists that wrote extensively about Chlorinated Pesticides production and has been presenting the issue for decade to the scientific society and worked on the global public and scientific awareness of the POPs pesticides

Dr. Tchecknavorian



We want to express our highest gratitude to Dr. Bala Sugavanam, who has been the engine for the last decade to edit and promote the POPs Newsletter. He has started the work from nothing and was able to create a group of several thousand newsletter readers. This growing reader group is and will be vital for the general public and for the specialists in the field of POPs. Dr. Sugavanam has this year handed over the editorship of the Newsletter to Prof. Dr. Md. Mahbubar Rahman, but is still active with his contributions to the Newsletter.

Dr. Sugavanam

IHPA New Ambassadors:

Further the following persons have been appointed and received the certificate of IHPA ambassador:

- Shahin M. Panahov, PhD, ECORES Information-Analytic Environmental Agency, Baku, Republic of Azerbaijan
- Arastun Hasanov, Ministry of Ecology and Natural Resources, Republic of Azerbaijan
- Rashad Allahverdiyev, Ministry of Ecology and Natural Resources, Republic of Azerbaijan
- Emin Garabaghli, Ministry of Ecology and Natural Resources, Republic of Azerbaijan
- Faizan Haider Khan, Department of Zoology, University of Lucknow, India
- Richard Thompson, Pesticide Risk Reduction Group, AGP, Food and Agriculture Organization of the United Nations, Rome, Italy
- Robert Bechtloff, Switzerland
- Ms. Veronica Terteza, Ministry of Agriculture, Moldova
- Moedio Tirtotaroen, Environmental Health & Safety Consultant, Suriname
- Margret Schlumpf, Green Tox, Switzerland
- Kazkan Orazalina, Republican State Enterprise "Kazakhskii Research institute of Ecology and Climate" of Environment Ministry, Kazakhstan
- Asil A. Nurzhanova, Institute of Plant Physiology, Genetics and Bioengineering, Almaty, Kazakhstan
- Russell Coban, United Kingdom
- Irma Tskvitinidze, Food safety, Veterinary and Plant Protection National Service, Georgia
- Mihaela Ciobanu, Ministry of Environment and Sustainable Development, Impact Assessment, Pollution Control and Air Protection General Directorate, Romania
- Daniela Lud, Tauw Germany
- Elena Karabach, Ministry of Agriculture Belarus
- Amina Beibitova, National Coordinator of UNDP/GEF. UNDP Kazakhstan, Astana. Kazakhstan
- Dr. Urs K. Wagner, ETI Environmental Technology Int. Ltd., Switzerland
- Prof. Maurice Jutz, University of applied science, Institute for Ecopreneurship (IEC), Switzerland
- Mikhail Malkov, Engineering Center for Environmental Security, Kiev, Ukraine
- Jesús Fernández Cascán, Dirección General de Calidad Ambiental y Cambio Climático, Sección de Autorizaciones, Gobierno de Aragon, Zaragoza, Spain
- Carlos Cacho Nerin, Jefe de Servicio de Control Ambiental, Dirección General de Calidad Ambiental y Cambio Climático, Gobierno de Aragon, Zaragoza, Spain
- Raquel Martinez Andrés, Jefe Dpto. Estudios y Proyectos, Area de Calidad Ambiental, Sodemasa, Zaragoza, Spain
- Sergio San Agustín, Departamento de Estudios y Proyectos, Sodemasa, Zaragoza, Spain
- Francisco Javier Jiménez Sánchez, Director Area de Calidad Ambiental, Sodemasa, Zaragoza, Spain
- Silvia Hernández Ugencio, Departamento de Estudios y Proyectos, Sodemasa, Zaragoza, Spain
- Miguel Ángel Arjol, Sodemasa, Zaragoza, Spain
- Volodymr Kuznietsov, Journalist, Ukraine

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3. PROF. DR. MD. MAHBUBAR RAHMAN, ON BEHALF OF POPS NEWSLETTER, IHPA INTERVIEW WITH H.ES MR. GHEORGHE SALARU, MINISTER OF ENVIRONMENT OF THE REPUBLIC OF MOLDOVA

POPs Newsletter: The aim of 11th International HCH and Pesticide Forum is to present and discuss the problems connected with a huge amount of obsolete pesticides in the South Caucasus and Central Asia region, Central Europe and EECCA Countries and many other countries all around the Globe, the inventories performed, the current amounts and their elimination, which had started successfully during the previous 9th and continued during the 10th Forums. This Forum is undertaken under the framework of the Stockholm Convention on Persistent Organic Pollutants (POPs) and other international agreements and directives. Special attention is given to solve the problems with obsolete pesticides in the South Caucasus and Central Asia region, areas where pesticides have long been produced and applied during Soviet era.

Under the above context, POPs Newsletter intends to report your views, and therefore, would like to ask you some relevant questions as follows:

1. *POPs Newsletter:* Sir! Would you please tell us the gravity of problems Moldova is facing due to OPs and POPs and their history of inheritance?

H. Es Mr. Gheorghe Salaru: The Republic of Moldova has never produced pesticides, including POP pesticides, but used widely these substances in agriculture. In the last decades of the past century Moldova served practically as a chemicalization experimental polygon for intensive agriculture. Between 1970 and 1985 the annual import of pesticides constituted 30-40 thousand tons, the total country land area being of 33,800 square km. These huge amounts of chemicals, not fully used during one agricultural season and irrationally managed, have been gathered every year forming significant stocks of obsolete pesticides. Some of these, about 4,000 tons (as is documented), were deposited in the 1975-1988 years at a special landfill, built in the South. Other stocks, which continued to be accumulated, were kept in farm storages in inappropriate conditions. The changes that occurred in the early 1990s in the ownership changes in agriculture further aggravated the situation. Former chemical warehouses entered in private property or remained of stray. Most of them have been demolished and construction materials used by people to built household or social facilities, which is absolutely unacceptable. As serious became the situation of pesticide waste, which kept in the open, were dispersed by wind and rain polluting the surrounding areas and increasing the risks to human health. By 2000 in Moldova there were approx. 1000 such sites, but the number of objects contaminated with pesticides was higher. Because of the lack of financial resources during the transition period it was very difficult to address and solve this problem by ourselves.

2. *POPs Newsletter:* Sir! The Forum has drawn a discussion about the national and regional strategies, action plans and financial resources for elimination of the obsolete pesticides – from discussion to action in Eastern Europe, South Caucasus and Central Asia. Sir! Could you please give us your and your government's position and views on all these aspects?

H. Es Mr. Gheorghe Salaru: The Central and Eastern Europe, Caucasus and Central Asia countries, like many countries in other regions have a heavy "chemical" legacy, although they differ in many ways by the degree of economic and social development. Now, however, is increasingly aware that the safe management of chemicals is one of the most important environmental and social problems. Environmental problems are more strongly placed on

the agenda at various international forums and serious measures are taken to solve them. In this respect I want to mention the importance of such international meetings, like the International HCH and Pesticides Forum, which regularly brings together experts from our countries, and is an excellent tool to address and discuss the existing problems, to exchange experience and to join efforts to address them, and to identify directions for future actions. The progresses already achieved by some countries in addressing these problems in the last decade are the result of such discussions and exchange of experience.

Moldova's position on environmental issues is reflected in the commitments made by our country's accession and ratification of 18 international conventions and other bilateral and multilateral environment agreements. These include those related to regulation of hazardous chemicals and, in particular, the persistent organic pollutants. Also, the actions taken in recent years and the progress of our country show the availability to practical solutions of these issues and to honor our commitments.

3. *POPs Newsletter*: Sir! POPs and obsolete pesticides demonstrate common nature and origin of problems to Moldova and its neighboring countries. Can Moldova and its neighboring countries formulate a coordinated regional program for addressing these problems?

H.Es Mr. Gheorghe Salaru: To develop, coordinate and implement a regional program to address the issues of POPs and obsolete pesticides is not so simple. Our countries and the scale of POPs problems in each country are still very different. Also, regarding the approach and their solution, we are at different stages. For example, Moldova doesn't have a developed chemical industry, as Ukraine or Belarus. Most chemicals we import. Respectively, we don't have wastes from chemical production. On the other hand, Moldova is a relatively small country in the region and the approach and solving of existing problem for us is comparatively simpler and requires less money. Similarly, our countries are currently at various stages of this process. The own financial resources that each country can spend for such purposes are different. These and other reasons make it difficult to approach and solve in common problems related to existing POPs and obsolete pesticides. But a permanent exchange of experience and close collaboration, for example by initiating and carrying out joint projects, would contribute substantially to the advancement of this process throughout the region.

4. *POPs Newsletter*: Sir! A certain success is that for the first time EU is planning to fund a project on Obsolete Pesticides for the 12 EECCA countries where about 7 Million Euros are allocated. What is your country's strategy to ensure that this small start will lead to a longterm and sustainable strategy to eliminate permanently these problems in the next decade in Moldova

H.Es Mr. Gheorghe Salaru: Of course, any initiative in this regard and technical and financial support are welcome. We just have to seriously consider the current needs of each country and that they would benefit from this project. For example, some countries now initiate the inventory of pesticides, others are in process of collection and storage, and our country has already passed this stage. Moldova's priorities are now completing the process of eliminating stocks of pesticides and remediation of contaminated sites. I think Moldova could participate in this project with its experience accumulated at all stages of management and destruction of stocks of POPs and pesticides, and may implement one or two demonstration projects to eliminate stocks of pesticides and remediation of contaminated sites.

5. *POPs Newsletter*: Sir! You are aware of the on-going activities related to OPs and POPs in Moldova? Are you satisfied with the activities undertaken in Moldova? Do you think these are sufficient to eliminate the OPs/POPs problems? Please tell us your alternative proposals, if any.

H.Es Mr. Gheorghe Salaru: Republic of Moldova registered some progress over the past 10 years in the sustainable management and disposal of persistent organic pollutants and other hazardous chemicals. The first actions started in 2003, following the adoption of a special decision of the Government on the stocks of obsolete pesticides from the former collective farms. By the end of 2008 over 3350 tons of waste of pesticides were collected, packaged and stored in 35 central district warehouses. In 2007 began the elimination of POPs stocks. About 1,300 tons of pesticides were evacuated and disposed of abroad. Also were dismantled, transported and disposed of 18,860 capacitors (934 tons), which contained polychlorinated biphenyls (PCBs). Thus, were removed over 2,200 tons of POP wastes.

Other two major works conducted at national level in recent years have consisted of inventory of areas contaminated with POPs and inventory dielectric oils containing PCBs in the energy sector. As a result, there were identified approx. 1,600 sites contaminated with POPs and taken on record about 30,000 units of power equipment. Database containing this information will serve administrative bodies at various levels as a starting point for developing and implementing measures on remediation of these objects.

The legal and regulatory framework in the field of management of POPs and other hazardous chemicals and wastes has been revised and improved under EU legislation and international agreements. After coordination and approval of new laws and regulations Moldova will have a modern legal framework in this field.

In recent years, a broad national information and awareness campaign on POPs at different levels has been carried out. Now the problems of persistent organic pollutants are known and addressed not only by specialists but also by administrative authorities at various levels and population.

Of course, during 10 years it is impossible to solve all POPs problems accumulated over decades. Among the most pressing issues that remain on the agenda, and are to be solved in the upcoming years is the elimination of 2,000 tons of pesticides that are still stored in warehouses, and 4,000 tons buried in a special landfill, the remediation of about 250 most dangerous sites contaminated with POP pesticides, development and implementation of plans on management and safe disposal of PCB contaminated equipment, implementation of new legal and regulatory framework in the field of POPs. The needs of the country to continue implementation of the Stockholm Convention for the next five years, according to the National Program for Sustainable Chemicals Management, approved in October 2010, is approximately US\$ 28 million.

The Government of the Republic of Moldova, in particular the Ministry of Environment, will continue to make significant efforts in achieving the goals in this area, and look forward to continued support from the international community. In addition, we consider the continuation and extension of cooperation with our partners in the country and our neighbors in the region as an important factor in achieving these common goals.

6. *POPs Newsletter*: Sir! In June last year the Republic of Moldova was strongly participating in the Mini-Hearing in the European Parliament. Your president Mr. Mihai Ghimpu, even wrote a strong letter to Mr. Barroso the President of the EU Commission requesting support. Did your government now follow-up this action in the negotiations with the EU Commission on the new Bilateral Agreement to obtain more financial support?

H.Es Mr. Gheorghe Salaru: The successes we talked about above are largely due to the external assistance. Funds allocated by the Government from the state budget and National Environmental Fund were substantially completed from the funds of international organizations, especially from the Global Environment Facility through the World Bank, the Canadian Government, NATO member countries, UNEP, the Dutch Government, the Government of the Czech Republic. The amount of funds used for solving these problems has reached about US\$ 15 million so far. We continue to rely on the support from the international community, particularly from the European Union, relations with which are lately at a new stage of development. Of course, our country has a lot of economic and social problems requiring urgent solutions and we feel strong support from Europe in this regard. I think that environmental issues will also become a priority in Moldova's cooperation with the European Union.

7. *POPs Newsletter*: Sir! Do you think the roles of Stockholm Convention and GEF are correctly directed to solving the POPs problems? How far the initiatives are effective?

H.Es Mr. Gheorghe Salaru: Certainly, the Stockholm Convention on Persistent Organic Pollutants has a key role in solving the worldwide POPs problems and the GEF mechanism is a very important support in achieving the objectives of the Convention. For Moldova the Stockholm Convention was a starting point in addressing the most acute environmental problems. Our country is among the first which ratify the Convention and approved the National Implementation Plan. Starting to solve problems related to POPs and obsolete pesticides with our own forces, we received further substantial support from the international community and, first, from the GEF through the World Bank. The results achieved in a series of projects implemented with the support of these organizations in recent years, placing Moldova on the top among the countries in the region and among the first in the world regarding the progress in reducing the impact of POPs and implementation of obligations assumed under the Stockholm Convention. On April 28, 2011, at the 5th Conference of the Parties of the Stockholm Convention, the Republic of Moldova's achievements were mentioned with two awards – the Grand Prix for the results achieved in implementing the provisions of the Stockholm Convention and Award of Excellence as a member of the PCB Elimination Network (PEN) for achievements in environmentally friendly management of polychlorinated biphenyls. Now we continue this cooperation and we hope that future results will be equally obvious.

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4. INTERVIEW OF MINISTER OF ECOLOGY & NATURAL RESOURCES OF THE REPUBLIC OF AZERBAIJAN H.E. HUSEYN BAGIROV AND THE EDITOR OF THE IHPA POPs NEWSLETTER, PROF. DR. MD. MAHBUBAR RAHMAN ABOUT HOW TO DEAL WITH THE PROBLEMS OF OBSOLETE PESTICIDES IN AZERBAIJAN AND THE 11TH INT. HCH AND PESTICIDES FORUM

H.Es Mr. Huseyn Bagirov addresses among other the following issues:

- Serious environmental legacy from Former Soviet Union
- Forum can help to share experiences to go quicker forward to achieve the goal to finalize elimination of obsolete pesticides problem in Azerbaijan in 8 – 10 years
- Financial problem in Azerbaijan is not so sharp as in other countries, but we need technical assistance, knowledge and share experiences

These and other issues about Azerbaijan and obsolete and POPs pesticides issues you can see on the video: <http://www.ihpa.info/resources/video/>

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5. STATEMENT AT THE CLOSING SESSION

The 11th International Forum of HCH and Pesticides

September 7-10, 2011

Qafqaz Riverside Hotel, Gabala, Republic of Azerbaijan

Gheorghe Salaru

Minister of Environment, Republic of Moldova

Dear Colleagues,

The negative impact on the environment and human health, caused by poor management and use of chemicals in various sectors of the economy in recent years, causes a globally growing concern.

The Central and Eastern Europe, Caucasus and Central Asia Countries make no exception in this regard. Although they are different from economic and social development, some are large and small, rich and poor, the chemicals are threatening all of us equally. Currently, is increasing the perception that the safe handling of chemicals is one of the most important environmental and social problems. Therefore, the environmental issues are placed more and more seriously on the agenda at various international forums, and serious steps are being taken to solve them.

In this regard, I want to note the great importance of such international meetings as HCH and Pesticides Forum, which periodically gathers specialists of our countries, and is an excellent tool for setting and discussing the existing problems, sharing experiences and connecting efforts to solve the problems, and determine further joint action.

On this occasion, I want to welcome the efforts of members of the International HCH and Pesticides Association, and its leader and mastermind John Vijgen, which already during the 11 such forums insistently seek solutions to problems of obsolete pesticides and other hazardous chemicals at various levels, from non-governmental organizations to European Parliament, and international funding organizations.

The position of the Republic of Moldova on environmental issues is reflected in the commitments undertaken by our country's accession and ratification of 18 international conventions and other bilateral and multilateral environmental agreements. These include those relating to management of hazardous chemicals and, in particular, of persistent organic pollutants.

Moldova has made over the last 10 years some progress in the sustainable management and elimination of POPs and other hazardous chemicals. In the period 2003-2008 on the basis of funds allocated from the state budget and the National Environmental Fund, and supported by NATO, over 3,350 tons of obsolete pesticides from 350 stores and 40 illegal burials were collected, packaged and stored in 35 central district warehouses. Of them, in 2006-2008 about 1,300 tons of OP were evacuated and destroyed abroad, with support of the Global Environment Facility and the World Bank, and co-financing from the Moldovan government. Also, were dismantled, transported and disposed of 18,860 capacitors (934 tons), containing polychlorinated biphenyls (PCBs). Thus, more than 2,200 tons of POPs wastes have been removed.

Two other major events held nationwide in the recent years have been related to the inventory of POPs-contaminated areas, and the inventory of PCB contaminated dielectric oils in the energy sector. As a result around 1,600 sites contaminated with POP pesticides have been identified and about 30,000 units of power equipment have been registered. Database containing this

information will serve the managing bodies of different levels as a starting point for developing and implementing measures of remediation of these objects.

The national legal and regulatory framework for the management of POPs and other hazardous chemicals and wastes has been revised and improved, based on EU legislation and international agreements. After coordination and approval of draft laws and regulations Moldova will have a modern legal framework in this area.

In recent years a large-scale national information and awareness campaign in the field of POPs at various levels was performed. Now the POPs issues are known and rised not only by specialists, but also by the authorities at various levels and the population.

The amount of funds used to address these issues to date, is about US\$15 million.

We consider, however, that this success is not only of our country but also of our development partners, without whose support the results achieved would have been impossible. In this connection I wish to express, on behalf of the Moldovan government and the Ministry of Environment, our sincere appreciation for the attention shown by the international community in addressing the environmental challenges our country is facing, as well as for support of the reform and capacity building in environmental protection. We thank the foreign and local companies and experts (some of them are present at this important event), who with their work and experience have made a significant contribution to these results.

Of course, during 10 years it is impossible solve all the POPs problems accumulated over decades. Among the most pressing issues that remain on the agenda, and are to be solved in the coming years is the elimination of 2,000 tons of pesticides that are still stored in warehouses, and 4,000 tons buried in a special landfill, the remediation of about 250 most dangerous sites contaminated with POP pesticides, development and implementation of plans on management and safe disposal of PCB contaminated equipment, implementation of new legal and regulatory framework in the field of POPs. The needs of the country to continue implementation of the Stockholm Convention for the next five years, according to the National Program for Sustainable Chemicals Management, approved in October 2010, is approximately US\$ 28 million.

The Government of the Republic of Moldova, in particular the Ministry of Environment will continue to make significant efforts in achieving the goals in this area, and look forward to continued support from the international community. In addition, we consider the continuation and extension of cooperation with our partners in the country and our neighbors in the region as an important factor in achieving these common goals.

In this connection, I want to note the efforts and hard work of organizers of the 11th Forum, which brought the most active and interested in solving the discussed here problems experts from different continents and to thank all the participants for very interesting and informative reports. On behalf of the Moldovan delegation I would like to express sincere gratitude to the Ministry of Environment and Natural Resources of Azerbaijan, to Mr. Minister Huseyn Bagirov and his team for invitation to participate in the Forum and for the wonderful welcome to the participants.

I am confident that in the future, we will also continue insistently to set and solve the problems still exist in this area, in order to eliminate definitively the impact of hazardous chemicals and wastes, and thus provide a clean and healthy environment, and experience of our countries will serve as a successful model of approaching and solving such problems.

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6. THE GABALA DECLARATION OF 11TH INTERNATIONAL HCH AND PESTICIDES FORUM, GABALA, REPUBLIC OF AZERBAIJAN 7 - 9 SEPTEMBER 2011

John Vijgen

The International HCH and Pesticides Forum is a bi-annual platform for discussion between stakeholders of all kind, working on awareness raising and implementation of projects related to POPs, obsolete pesticides and hazardous chemical waste. It acts as a catalyst in the exchange and sharing of information for the implementation of the Stockholm Convention and other chemicals-related multilateral environmental agreements, and the environmentally sound management of pesticides, pesticide waste and other chemicals, and has today developed into an important event for national as well as international decision-makers and stakeholders. On September 7 – 9th the 11th Forum on HCH and Obsolete Pesticides was held in Gabala, Republic of Azerbaijan. More than 120 experts from more than 40 countries of Europe, Asia and America participated.

The 11th Forum brought together governments, donors, UN agencies, IGOs, NGOs, academia and the private sector for further exchange of information and possible collaboration among countries, experts, institutions and donors. The Forum is initiated and enabled by the International HCH and Pesticides Association (IHPA) in order to follow up on the progress made since the 10th Forum in Brno, Czech Republic (2009).

The Forum was hosted by The International HCH & Pesticides Association (IHPA), the Ministry of Ecology & Natural Resources of the Republic of Azerbaijan and the Ministry of Agriculture of the Republic of Azerbaijan.

Read more: <http://www.hchforum.com/conclusions.php>

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7. GEF STAP ADVISORY DOCUMENT ON “SELECTION OF PERSISTENT ORGANIC POLLUTANT DISPOSAL TECHNOLOGY FOR GEF PROJECTS”

Prepared on the behalf of the Scientific and Technical Advisory Panel (STAP) of the Global Environment Facility (GEF) by Richard J. Cooke (Man-West Environmental Group Ltd.) and William F. Carroll

The GEF's Scientific and Technical Advisory Committee (STAP) released an important advisory document entitled “Selection of Persistent Organic Pollutant Disposal Technology for GEF Projects” at the 41st GEF Council Meeting in November 2011. This completed a process of preparation and peer review by independent experts and organizations including IHPA, as well as representatives of GEF Implementing Agencies and the Stockholm and Basel Convention Secretariats. It builds on the original 2004 STAP study on the selection of POPs disposal technologies for GEF-financed projects, utilizes experience gained since that time, and seeks to lay out guidance on the attributes that technologies should demonstrate when GEF funding is involved.

The document aims to provide a consistent overall framework for GEF funding of developing countries and CEITs working to destroy or irreversibly transform POPs stockpiles and wastes, as obliged under Article 6 of the Stockholm Convention. It also seeks to aid them in achieving the GEF's global environmental objectives measured in terms of POPs elimination, including obsolete pesticides. The document does not seek to duplicate or supersede published

technology evaluations and evolving guidance provided by the Basel Convention, Stockholm Convention, or other expert groups such as the IHPA; but updates various aspects and considerations related to disposal of POPs, including, *inter alia*: (i) developments in technology availability, (ii) cost-effectiveness, (iii) commercial maturity, and (iv) issues associated with their application in the context of GEF financing in developing countries and CEITs.

The document places the disposal step within the broader context of the POPs management process and sound chemicals management, and recognizes the practical constraints on maximizing global environmental benefits within the limitations imposed by availability of funding. In this regard, STAP concludes that destruction cannot be addressed in isolation, but instead, the application of POPs disposal technology should be viewed as one part of an overall POPs management process or system. This system includes steps taken in advance of the actual disposal to identify, capture, secure, and prepare POPs stockpiles and wastes for disposal, as well as post-destruction steps to manage emissions, by-products and residuals. It also underlines the need for technical and institutional capacity strengthening in this process.

Specific guidance is provided on accepted environmental performance requirements that chosen technologies should meet, particularly destruction efficiencies, process emissions, low POPs content in residuals, and application of BAT/BEP. In this area it is noted that, while such requirements should be consistent with those applied generally accepted in developed countries, developing countries and CEITs would not be required to exceed such performance requirements. It addresses applicable safeguards in terms of practice and procedures to assure environmentally sound management throughout the POPs management process; and the need to assess available support infrastructure and capacity in the technology selection process in developing countries and CEITs, such that a prudent balance between technological complexity and practical applicability vs. simplicity of operation is achieved. Finally, the work stresses the need to integrate commercial viability with technical feasibility and environmental performance in technology selection.

An overarching conclusion of the work is that the destruction or irreversible transformation of POPs in an environmentally sound manner is not generally limited by the availability of appropriate technology - there are a number of such technologies examples of which a number are listed in an annex to the document. Rather, it is limited by the practical ability to assemble and apply them--particularly in developing countries and CEIT's - in a manner that is efficacious, timely and economical.

The document also emphasizes the need to prioritize stockpiles and wastes based on volume, POPs content, and/or those presenting the greatest environmental and health risks. Recovering, isolating and storing POPs securely can often be the most cost-effective initial strategy for immediately mitigating risk consistent with the Conventions' objectives. This requires the physical capacity to identify, capture, transport and contain them, even if disposal cannot occur immediately. It also requires appropriate sustainable care and custody arrangements to ensure no release while materials are stored. Effective capture is also a prerequisite for any intermediate pre-treatment activity that may optimize and support the application of a disposal technology.

Similarly, in actually selecting destruction technology it needs to be recognized that the cost of environmentally sound disposal in developing countries and CEITs will in many cases greatly exceed available resources. Therefore, maximizing the volume of POPs destroyed,

and consequently the global environmental benefit achieved from GEF funding, will involve trade-offs in the technology selection process among unit disposal costs, destruction efficiencies, financial risk, application location, and implementation time required.

The advisory document is available on STAP's website to download at: http://www.unep.org/stap/Portals/61/pubs/POPs_Disposal_Final_low.pdf

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8. PAH IN FOOD ITEMS AND OTHER ENVIRONMENTAL MEDIA IN BRAZIL.

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Polycyclic aromatic hydrocarbons are a large group of chemical substances with a similar structure comprising two or more joined aromatic carbon rings. The PAHs vary both in their chemical characteristics and in their environmental sources and they are found in the environment both as gases and associated with particulate material. After absorption they may be altered in the body into substances that are able to damage the genetic material in cells and initiate the development of cancer, although individual PAHs differ in their capacity to damage cells in this way. The US-EPA designated 16 compounds of environmental interest, from this, 6 are known as possible or probable human carcinogens (Benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, dibenzo[ah]anthracene and indeno[1,2,3-cd]pyrene).

The main environmental effect of PAHs relates to their health effects, focusing on their carcinogenic properties. The toxic and carcinogenic potential together with the high stability of most PAHs have made them a special group of interest when searching for contaminant presence in many foods. This contamination can be a result from sorption from a contaminated environment or from different food preparation methods, especially in non-controlled and informal food processing, like street markets that burns wood or coal, a very common situation in several Latin American countries.

Vegetable oils can be contaminated via contamination of the raw material, when the plants receive the pollutants directly from the air, drying with smoke prior extraction or contamination from the solvents used in the extraction procedure (Pupin and Toledo, 1996). Although this facts were under special concern during the 60's and 70's in Europe and other developed countries, the attention is focused on the well known carcinogen benzo[a]pyrene, remarkable amounts of light PAH (3-4 rings) have been found in olive oils, a typical cold-pressed product. To avoid this contamination, several technological upgrades are available, like active carbon filtration or steam distillation processes. According to Toledo and Camargo (1998), the vast majority of corn oils from different brands that are produced and commercialized in Brazil, may have more than 1 ppm of benzo[a]pyrene.

Noll and Toledo (1997), working with smoked food samples (meat), found that the B[a]P levels are higher in home made products than in commercial ones, with results that can reach 6,1 ppm.

In few countries where there are specific food residue legislation, like Germany, the total content of light PAHs (< 3-4 rings) should not exceed 25 ppm, while the content of the heavier one (> 5 rings) has to stay below 5 ppm. In Brazil, according to Noll and co-workers (1996), sometimes the presence of PAHs in charcoal-broiled meat is above such limits, depending if it was cooked with or without the fat, what shows the importance of controlling the method of cooking in order to minimize the formation of carcinogenic compounds. The distance from the heat source is another very important issue when studying such residues in relation to barbecues (Noll and Figueiredo, 1997).

Sugar cane plantations are another well known source of PAHs in Brazil. This is because the traditional cultural practice includes the burning of the fields in order to harvest it more easily. This contamination could be detected in most of the yielded products, including the sugarcane spirit, the “cachaça” (Serra et al, 1995).

Torres and co-workers sampled and analyzed for PAHs bottom sediment samples from the Paraíba do Sul river watershed. The contamination found is moderate and is related to steelworks (Torres et al, 1999). Solid waste from different industrial origins contains at least one of the 16 EPA PAHs (Sissino et al, 2003).

PAHs: Industrialization and health issues

Generally speaking, some PAHs compounds are related to higher incidence of cancer in man. From its ubiquity, PAHs constitutes a potential menace over the health of a whole population, and those that live or work near a known source of PAHs are submitted to higher risks. The carcinogenic and mutagenic effects of the effluents of different industrial processes like coal and aluminium industries, refineries and petrochemicals are well documented (van Schooten et al, 1995, WHO, 1998).

PAH may reach the human body from several ways. Through the respiratory tract, like in the case of smokers (1-5 µg more PAHs per day than a non-smoker) (Van Rooij et al, 1994) via food (around 96% of the total intake), like when we eat a barbecue or a smoked fish. However, dermal exposure in some work incidents may represent up to 90% of the total intake.

The atmospheric contamination is influenced by different factors, including urbanization, the density of heavy vehicle traffic (diesel exhausts) and the type of industrialization of a given area. This pathway leads to a faster metabolism, indicating that the biotransformation of PAH is not only located in the liver and it involves different enzymatic pathways (Ishidate et al, 1980). Some of these routes may generate diol-epoxides that may bind to DNA molecules causing transcription errors. This phenomenon is known as activation and is related to the mutagenic properties of some of the 4-5 ringed PAHs. If there is a constant exposure to mixed sources, bioaccumulation may also occur.

One of the most industrialized towns of Brazil is Cubatao. In this city, suspicious of birth defects has elicited a study that wasn't able to distinguish this situation from any other town in the case of the observed cases of malformations. However, such perception and other problems related to benzene and organochlorine exposure helped to start a very important project to clean up the environment of Cubatao (Augusto e Novaes, 1999). Navy workers in Brazil may present a surplus in mortality numbers of some cancer types when compared to other population groups. The authors of the study suggest a variety of chemical exposure that does not include PAHs (Silva et al, 2000).

Aluminium production and anode baking is currently the largest single source of the emissions of the individual PAHs, with these activities in Brazil being concentrated near the ore sources (Bauxite: Al Mining and smelting at Para, Pernambuco and Maranhao States). Other sources are related to fossil fuel burning, road traffic and domestic wood combustion, this with particular importance in the countryside of Brazil. Wood treatment with creosote is considered a significant source of the lighter PAHs. Bitumen is a probable source of benzo[a]pyrene and other PAHs.

We are now starting a new project, where milk from cows grazed at different Brazilian sites, especially on mountainous regions, located near and far industrial areas of the country will be compared regarding it's levels of PAHs and other organic micropollutants.

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9. FAO TO STUDY ALTERNATIVES TO ENDOSULFAN PESTICIDE

Bala Sugavanam

The Persistent Organic Pollutants Review Committee of the Stockholm Convention has decided to invite the Food and Agriculture Organisation to undertake studies on integrated pest management alternatives to endosulfan. The Conference of Parties had requested the review committee to assess alternatives to endosulfan. It also invited governments, intergovernmental organisations, and non-governmental organisations to provide technical and financial resources to support the committee to employ a consultant to carry out the review of information and assessment of alternatives.

During the deliberations, India raised question on how to assess the alternatives, in the absence of complete information on the 84 suggested alternatives. The committee subsequently created a 'Friends of the Chair' group, led by Bettina Hitzfeld (Switzerland), to consider methodologies, prioritise alternatives, and offer options to address missing data. This group will also consider the preparatory work for the assessment of alternatives to DDT, the bulletin said.

The committee requested the Convention Secretariat to collect information from parties and observers to facilitate intercessional work and access to information on endosulfan alternatives and provide guidance to strengthen the capacity of countries to use alternatives.

Sharing the country's experience in eliminating endosulfan in coffee production, Colombia suggested the FAO coordinate an examination of such success stories. Argentina underscored the need to assess alternatives not only in light of their persistent organic pollutant (POP) characteristics but also to consider their socioeconomic effects. The Chair agreed that the committee could assess POP characteristics as well as other unwanted properties, but underscored that individual countries would have to assess the local suitability of alternatives, the bulletin said. (*Source The Hindu , Madras, Nov.2011.*)

Conflicting News on Malaria

Recently WHO came out with the good news that Malaria deaths fall nearly 40% worldwide in last decade. There has been a fall of nearly 40% in the number of deaths from malaria worldwide in the past decade, the World Health Organization says.

A new report said that one-third of the 108 countries where malaria was endemic were on course to eradicate the disease within 10 years.

- ⤴ Experts said if targets continued to be met, a further three million lives could be saved by 2015.
- ⤴ Malaria has been eradicated from three more countries since 2007.
- ⤴ The Roll Back Malaria Partnership aims to eliminate malaria in another eight to 10 countries by the end of 2015, including the entire WHO European Region.
- ⤴ The mosquito-borne disease is most prevalent in sub-Saharan Africa, where 85% of deaths occur. In 2009, 781,000 people died from malaria.
- ⤴ Robert Newman, director of the WHO's Global Malaria Programme, said "remarkable progress" had been made.

- ⤴ The WHO estimates that malaria causes significant economic losses, and can decrease gross domestic product (GDP) by as much as 1.3% in countries with high levels of transmission.
- ⤴ In the worst-affected countries, the disease accounts for: up to 40% of public health expenditures; 30% to 50% of inpatient hospital admissions; and up to 60% of outpatient health clinic visits.

While this news is very welcome, the news from South Asia is not encouraging.

- ⤴ The malaria situation in Madhya Pradesh, India has reached a critical level with the death toll consistently increasing every day and the opposition parties slamming the ruling BJP government for its failure to contain the epidemic like situation.
- ⤴ While the exact state wide death toll is not clear, tribal areas are largely bearing the brunt of the disease.
- ⤴ According to reports, 35 deaths have been reported from the tribal dominated, malnutrition-affected Sidhi district alone, which has emerged as the hub of the malaria epidemic during the last two weeks. Chief Minister Shivraj Singh Chauhan recently visited the affected villages and offered cash assistance of Rs. 10,000 each to the families of the deceased.

In another major meeting of The fourth Andhra Pradesh Science Congress 2011, jointly organised by the Andhra Pradesh Academy of Sciences and GITAM University Chief Scientist of Indian Institute of Chemical Technology's Biology Division U.S.N. Murthy said that 10 countries in the South-East Asia region were endemic to malaria and approximately 60 per cent of the total population in the region is at some risk of malaria, with 20 per cent at high risk.

India contributes around 76 per cent of total malaria cases from this region particularly. Malaria was a major public health concerns in the North Eastern States among which Arunachal Pradesh was considered as highly malaria endemic, Prof. Murthy said. He said that the recent IICT studies developed a model to assess malaria incidence with reference to climate change. He revealed that the current model of malaria Dr. S.K. Shankar from the National Institute of Mental Health and Neurosciences stressed the need for establishment of a brain bank for collection and distribution of standardised human brain tissue collected at autopsy. The geographic, ethnic and genetic differences exist in human biology and knowledge from the West could not be extrapolated to orientals and unique features needed to be identified. This was possible only by promoting, nurturing and contributing to the human brain bank as a National facility and optimally utilising the resources for research, Dr. Shankar said.

(Source : The Hindu, Madras. Nov. 2011.)

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10. STATUS FOR OBSOLETE PESTICIDES IN THE FORMER SOVIET UNION AREA – NOVEMBER 2011

John Vijgen, Neel Strøbæk, Grith Strøbæk, Stephan Robinson, Sandra Molenkamp

The GEF-FAO-EECCA project

The EECCA region is estimated to own about 50% of the total amount of obsolete pesticides on the globe¹. In order to deal with the sustainable solutions, structural approaches are needed. Such an approach has been implemented in the GEF-FAO financed Project Capacity building on Obsolete and POPs Pesticides in Eastern European, Caucasus and Central Asian (EECCA) countries (GCP/INT/062/GFF) which was the first regional project for 9 countries (Albania, Armenia, Azerbaijan, Belarus, Georgia, Mongolia, Republic of Moldova, Romania and The Former Yugoslav Republic of Macedonia).

Additionally, the EECCA-project has made considerable efforts to create awareness of the problems and the available solutions. It has attracted more stakeholders to be active in this field and in the region. Specific achievements have been several side-events at the Stockholm Convention COP-4 and COP-5 in 2009 and 2011. The 10th International HCH and Pesticides Forum was held on 7-10 September 2009 in Brno (Czech Republic) and the 11th Forum on 7-9 September 2011 in Gabala, Azerbaijan. The latter resulted with a declaration of the Minister of Natural Resources and Ecology of Azerbaijan to clean up the country within the next 8-10 years. At the 63rd session of the World Health Assembly, EECCA team members presented the threats by obsolete pesticides at a side event on 28 May 2010, organised in support of a resolution introduced by the Slovenian government and the SAICM on the improvement of health through the sound management of obsolete pesticides and other obsolete chemicals. The resolution was successfully passed on 21 May 2010, meaning that Ministries of Health will be in future strong partners in working with obsolete pesticides².

A specific highlight was the Mini-Hearing on Obsolete Pesticides in Eastern European Countries, the Caucasus and Central Asian Countries held on 29 June 2010 at the European Parliament in Brussels, where a large number of the problem-owning countries presented their problems and achievements to politicians and members of the EU Parliament.

Status for obsolete pesticides in the Countries as of October 2011:

The following information is compiled from presentation of the 11th Int. HCH and Pesticides Forum, questionnaires and interviews with individuals working with obsolete pesticides in their country and literature

¹ Reducing the Human and Environmental Risks of Obsolete Pesticides (2010), The International Bank for Reconstruction and Development / The World Bank; and Obsolete Pesticides, A ticking time bomb and why we have to act now, J. Vijgen, C. Egenhofer (April 2009)

² http://apps.who.int/gb/or/e/e_wha63r1.html, pages 53-59

Armenia: Armenia reports to have approximately 800 tonnes of obsolete pesticides, and currently public awareness risk assessment and inventories are developed at 30 sites in three regions (within the GEF/FAO EECCA project). In 2010, Armenia has experienced an emergency at the Nubarashen pesticides landfill, where illegal excavation of obsolete pesticides took place. A temporary cover has been established and a feasibility study is presently underway (funded by OSCE). A sustainable final solution for the Nubarashen landfill will most likely be financed with participation from GEF/UNDP.

Azerbaijan: Azerbaijan reports to have approximately 4,000 tonnes of obsolete pesticides. At the former Pesticides Landfill at Jangi, concrete cells for the disposal of obsolete pesticides have been reconstructed within the “complex plan of measures set for improvement of the environmental situation in Azerbaijan Republic, 2006-2010” which has been adopted by the Azerbaijan government. The landfill is now fenced and supplied with a security system under the supervision of the Ministry of Agriculture. At present public awareness, risk assessment and inventories are developed on three regions within the GEF-FAO-EECCA project co-financed by the University of Applied Sciences Northwestern Switzerland. In November 2011, in the Ganja area, a pilot project on repackaging, 65 tons at 4 different sites, has been implemented. At the same time a short assessment of the polydophen (DDT) site in Salyan, an emergency site located near Baku, has given reason for fast follow-up actions.

Belarus: The development of the NIP was supported by GEF/World Bank. The country reports 6,558 tonnes of obsolete pesticides and the inventory process is almost finalised through a combination of site inspections and review of available information. 105 tonnes of obsolete pesticides have been repackaged in Vibetsk region, including 25 tonnes as part of the repackaging training programme implemented by the GEF/FAO EECCA project. Further repackaging has been paid by national funds (World Bank loan in the waste sector) in the Grodno region, and 1,000 tonnes of obsolete pesticides from the Slonim burial site have been sent for final disposal to Germany (2011).

Georgia: The amount of obsolete pesticides in the country is reported to be 3,583 tonnes. An EC-twinning project is expected to start in December 2011, including establishment of a POPs database and implementation of a legislation framework. The inventory process is in progress. 200 tonnes have been inventoried and safeguarded in the Kakheti region (by Milieukontakt, 2008) and within a micro-support project in the framework of the GEF/FAO EECCA project (2011) a further 18 sites will be inventoried. Further repackaging is expected to take place in the planned GEF/UNEP DDT Programme (minimum 60 tonnes of (mainly) DDT), and disposal of 200 tonnes of POPs and approximately 600 tonnes of soil at the Ialguga landfill (financed by GEF/UNDP).

Kazakhstan: The estimated amount of obsolete pesticides is reported to be 10,000 tonnes. In 2009, the programme *Zhasyl Jady for 2010-2014* was adopted, after a request by the Ministry of Environment to FAO. The implementation of this action plan includes a detailed inventory of all types of persistent organic pollutants and obsolete pesticides, the creation of a space for temporary storage of polychlorinated biphenyls-containing equipment and POPs waste, and plans for clean-up of obsolete pesticides that have been stored and/or buried. The Ministry of Environmental Protection has submitted a request to FAO to participate in the *Programme for the environmentally sound management of pesticides in Turkey and Central Asian countries for 2012 – 2014*. Given the difficulties in transporting hazardous waste from Kazakhstan to Europe, it is now being considered to build a thermal treatment plant for hazardous waste, including obsolete pesticides.

Kyrgyzstan: Development of the NIP was supported by GEF/UNEP. Kyrgyzstan reports 3,000 tonnes of obsolete pesticides. An inventory project *Technical investigations of obsolete pesticides in Kyrgyz Republic* was funded by the World Bank and comprised among others inventories risk assessments (FAO method), which reveal that ten of 25 sites are high-priority sites with a total of 250 tonnes. The assessment also shows that an estimate of around 1,000 tonnes is exposed at the burial site Suzak A, and approx. 2,000 tonnes are still buried in the trenches (October 2009). Repackaging and storage have been completed in one (out of the seven) region. 100 tonnes of obsolete pesticides are located in a temporary collection centre in Osh. Kyrgyzstan is part of the *Management of prohibited and obsolete pesticides in Central Asia* Turkish funded FAO/IPM project (2011) and participates in the GEF/UNEP DDT project (2011-2015).

Moldova: Comprehensive risk assessments, inventory work and disposal actions have taken place, and today 1,949 tonnes of obsolete pesticides are stored in 23 regional Central Storages. 4,000 tonnes are still buried in the pesticides landfill at Cismichioi in the Southern part of the country. Assessment of 42 smaller landfill sites will be conducted in the framework of the GEF/FAO EECCA project (2011). The Ministry of Environment has mapped 1,604 potentially contaminated sites in order to identify the POPs polluted areas posing the highest environmental and health risks. A NATO/PfP-OSCE/ENVSEC project was implemented by the Ministry of Defence, in which 3,245 tonnes of obsolete pesticides were collected from 424 storages, repacked and stored in a safe manner in 37 regional Central Storages. 1.296 tonnes from these stocks (including 100 tonnes safeguarded in a project implemented by Milieukontakt in 2006) were sent for incineration abroad (GEF/WB project *Management and Disposal of Persistent Organic Pollutants stockpiles* Project), implemented by the Ministry of Environment (2007-2008). A NATO/PfP Trust Fund Project *Destruction of Pesticides and Dangerous chemicals in the Republic of Moldova – Phase III* plans to cover destruction of 1,269 tons of obsolete pesticides stored in 15 regional Central Storages during 2011-2012. The Czech Republic Agency for Development plans to finance a project for destruction of 200 tonnes of obsolete pesticides.

Russia: The implementation of the NIP is supported by GEF/UNEP and is now in its final stage. An inventory has been done according to Russian Federation standards and repackaging is in process, also according to Russian Federation standards. Approximately 1,500 illegal polygons have been identified, and it is estimated that the inventory has revealed 80% of the total number of sites and amounts. The country reports approximately 100,000 tonnes of obsolete pesticides. 6,500 tonnes of obsolete pesticides (2007) were repackaged and safeguarded as part of the Arctic Council Action Plan which aims at eliminating pollution around the Arctic region (ACAP).

Another volume of obsolete pesticides in Russia was reported in September 2011 with 77000 tons³

³Astana Ministerial Conference, Side event "Chemical safety for Green Growth, Attracting attention to providing chemical safety for green growth organized by UNDP/GEF Project «Management and placement of PCBs in Kyrgyzstan»/ IPEN, Eco-Accord, "Independent ecological expertise", presentation of Olga Speranskaya

Hot spots in Russia⁴: Production of chlorinated organic pesticides at production facilities of "Khimprom" Industrial Association in Ufa, Chapaevsk, Dzerzhinsk, Sumgait, Vurnary, Volgograd, Novocheboksarsk, Slavgorod, Moscow, Stchelkovo;

Chapaevsk: Dioxins were generated in Chapaevsk in the course of production of hexachlorane (*note: should be hexacyclochlorohexane*) (the production line was decommissioned in 1987). However, other studies show that dioxins may be generated by other production processes as well - e.g. in the course of production of hexachlorobenzene, sodium pentachlorophenolate, polychlorocamphene, hexachloroethane and some other chemicals. Besides that, large quantities of dioxins are contained in on-site production waste (waste of former production of hexachlorane (*note: should be hexacyclochlorohexane*), methylchlorophorm and vinylidene chloride). The waste stocks represent a secondary source of environmental pollution.

Dzerzhinsk: belongs to major centres of chemical industry in Russia. Similarly to Chapaevsk, in the period of the Second World War, Dzerzhinsk chemical plants produced chemical weapons, while in following decades these plants produced hexachlorane (*note: should be hexacyclochlorohexane*), hexachlorobenzene and many other chlorinated substances. These production processes are accompanied by releases of such highly toxic environmental pollutants as dioxins.

Chelyabinsk Oblast: In the period from 1994 to 1996, 12 thousand tons of banned and obsolete pesticides were illegally disposed off at the territory of the oblast. Overall, 114.65 tons of obsolete and banned pesticides (48 different brands) are stored now in storage facilities in 17 administrative districts. The problem of utilisation/burial of the pesticides becomes more and more acute, because of progressive deterioration of storage facilities (due to decentralisation, inadequate control of their owners, lack of money for repair works and lack of opportunities to transport the pesticides from the oblast for liquidation).

Tajikistan: The NIP (supported by GEF/UNEP) has stated privately owned burials sites and storages without state control to be priorities. Tajikistan reports 9,720 tonnes of obsolete pesticides plus about 256,500 m³ of soil contaminated by pesticides, including POPs. Tajikistan participates in the Turkish funded FAO/IPM project (2011). Within this project national wide inventories of obsolete pesticides will be conducted in late 2011, early 2012. The GEF/UNEP DDT project is also running, in which a minimum of 60 tonnes of (mainly) DDT will be safeguarded, as well as the World Bank project *Technical assistance together with Tajikistan, Uzbekistan, Kyrgyzstan, 2009 – 2011*. All inventory work uses FAO forms. A pilot project on obsolete pesticides disposal and remediation of sites (World Bank) was conducted in 2009-10 that included inventories in the region of Khatlon, where training and inventory has been implemented with FAO system.

Turkmenistan: is not party to the Stockholm Convention, and the information from the country is outdated. However, an amount of 1,671 tonnes of obsolete pesticides has previously been reported.

⁴HOT SPOTS IN RUSSIA, Presentation at IPEN events during INC7, Olga Speranskaya, Eco-Accord, Oleg Sergeev, Chapaevsk Medical Association, Dmitry Levashov, ECO-SPES

Ukraine: The NIP (supported by GEF/UNEP) is in the finalization phase. According to the latest estimation there are approximately 32,000 tonnes of obsolete pesticides, including 10,000 tons of HCB at Kalush site. In 2009-2010 around 2000 tons of obsolete pesticides have been exported and destroyed in Germany. In 2008 in a project implemented by Milieukontakt and Mama-86, FAO inventory has been implemented in the Kiev Oblast and about 100 tonnes have been repackaged. These obsolete pesticides have been included in transport and destruction via national funding. The largest site (obsolete pesticides are only part of the issue) is the mining complex area at Kalush with at present more than 20,000 tonnes of HCB left. At the end of 2010, already 8500 tons of HCB have been excavated, repackaged, transported by ship to the United Kingdom for final destruction. UAH 400,000,000 (approximately Euro 35,000,000) from the State Reserve Fund has been allocated for environmental management in the mining area.

Uzbekistan: is not party to the Stockholm Convention and negotiations with the Uzbek Government have taken place for the last two years. Even so, the following actions have already been taken: In 2009, a regional World Bank project with Tajikistan and Kyrgyzstan has been implemented, with special training session for employees at the governmental level regarding the inventory process and risk assessment for polygons. Inventory results have been included in the Government Statement on the Environment. National safeguarding measures have included fencing of 13 burial sites to prevent public access. Information on all polygons and central stores with estimated amounts of obsolete pesticides has been made available. Uzbekistan reports to have 17,718 tonnes of obsolete pesticides in their country.

The former Yugoslav Republic of Macedonia: The Stockholm Convention was ratified in 2004 and the National Implementation Plan on POPs reduction and Elimination was developed in the framework of the project: "Enabling activities to facilitate early action on the implementation of the Stockholm Convention on Persistent Organic Pollutants in the Republic of Macedonia". Pesticides projects that have been implemented:

2011: implementation of Public Awareness and inventory pilot project and handbook on Obsolete Pesticides and POPs Management is on-going, financed by the EECCA Project

2010-2011: Disposal of waste laboratory chemicals from the institute of public health of the republic of Macedonia, financed by SECO, Government of Norway Kingdom and the national government

2005-2010: Activities for finding solutions for remediation of HCH (Lindane) landfill of 35000 tons at OHIS site, Skopje, financed by Government of the Italian Republic, government of the Czech Republic

2005-2006: Elimination of hazardous chemicals (DDT, MeBr, CYCLON B), financed by SECO

Romania: ratified the Stockholm Convention in 2004 and finished the National Implementation Plan in 2006. The NIP was financial supported by GEF and implemented with technical assistance UNIDO. Romania participates in the EECCA capacity building project running from 2009 - 2011, which was agreed in 2006. Since 2007 Romania became a full member of the EU and will therefore in the future participate in EECCA-projects as corporation party.

The inventory process was done between in 2004 - 2006 in relation to the NIP. Currently the inventory is being updated in according to the decision of the confidence of the parties in the Stockholm Convention, which has adopted 9 new POPs. The inventory process follows international EMEP guidelines and the standardized toolkit for dioxin and furans from the Stockholm Convention.

Past, present and planned actions:

2004-2006: Phase-project on disposal of obsolete Pesticides' stocks in Romania, during this project over 2.600 tonnes OP's where disposed. And the OP's were incinerated abroad.

2007- 2010: Conducted another project after the: Disposal of PCB waste in Romania, funded by GEF to get implemented with UNIDO support. 3 million US dollars. Result of the project: Disposed 1.000 tonnes of PCP contaminated oil.

EECCA project of capacity building on obsolete pesticides. Approved in 2006, and started in 2009. Within this project we beneficiated workshop on awareness raising, it was a training workshop held in 2010 and also it was managed to organize one day workshop on awareness raising concerning HCH contaminated sites in Romania.

Launched together with UNIDO in 2009 the BAT/BEP forum for CEECCA- Region. This forum represents a platform for the countries in the region for dissemination and implementation BAT/BEP guidelines, which was approved by the confidence of the Parties. Romania is chair of the forum in 2009 - 2011.

HCH-waste in Turda (60 000 tons waste and soil): The EU PHARE project ongoing which includes preparing applications to the European Regional Development Fund (ERDF) for financing among others HCH Turda pilot project to rehabilitate this historically contaminated sites.

September 2011: Start awareness raising campaign on OP's and POP's contaminated sites funded by the EECCA project. Co-financed by the national budget.

IHPA will try to collect periodically new information in order to provide a regular EECCA overview. It would be of great help to provide us with new updates or remarks. Please get back to: john.vijgen@ihpa.info

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11. SILENT SNOW, A FILM BY JAN VAN DEN BERG AND PIPALUK KNUDSEN-OSTERMANN

Jan van den Berg, Director

Silent Snow is a documentary project investigating, together with the people who are affected the most, what turns out to be a structural pollution of the entire global environmental system.

The Silent Snow project aims to raise awareness of this problem and consists of both a short and a feature length documentary by Jan van den Berg, educational material for schools and a website where projects all over the world are highlighted, to inspire others.

"With breathtaking images of nature, Golden Calf winner Jan van den Berg emphasizes both the beauty and vulnerability of our world."

Movies that Matter festival, Den Haag, The Netherlands

The film

In the seemingly pure plains of the Arctic a group of experienced Inuit starts out on a dangerous dog-sledge expedition through their barren land. But while the global warming and disappearing icebergs are problems they can perceive directly, the pollution of their land remains a hard to imagine threat.

Interwoven with the polar expedition, Silent Snow follows a young Greenlandic woman (Pipaluk Knudsen-Ostermann) on her journey all around the world to find the local causes of the contamination that is quietly poisoning her people. In three different continents she meets the people behind the sources of pollution and discovers the heartbreaking dilemmas that lie at the heart of it. For example in Africa, where some people are looking for alternatives for DDT, however its grey poisonous clouds are a cheap way of saving millions of lives in malaria prevention. The disastrous health issues that result on the long term are conveniently put aside.

"Many thanks for this important work!", Kathryn Gilje, Pesticide Action Network, New York

Pipaluk Knudsen-Ostermann : "Our life is threatened by dangerous pesticides. They travel up North by ocean currents and winds and have horrifying effects on people's health, causing all sorts of cancer and fertility problems. As a young woman who would like to have a child in the future, I was worried and wanted to make this film in order to search for answers and solutions. I met many brave people living a life influenced by man made threats but they fight and don't give up the dream of a better and healthier life".

Jan van den Berg: "The discrepancy between the magnificence of this seemingly untouched white land and the steady but invisible destruction of this area by developments elsewhere in the world is the essential drama I wished to capture. Together with Pipaluk, I wanted to find out why this is happening and understand the perspective's of the different people involved; the victims, and those who try to fight for solutions".

"Silent Snow is more than a beautifully photographed travelogue. It's a call to arms in the battle to save our planet."

Shirrel Rhoades, Solaris Hill, Key West, Florida

The film is traveling around the world and has been showed in Nairobi (world premiere), Azerbaijan, The Netherlands, Switzerland, Germany, Costa Rica, Panama, Belgium, Romania, Lithuania and many other countries. For upcoming screenings and information on how to organize a screening, see the website: www.silentsnow.org

12. SOME INTERESTING NEWS, ARTICLES AND LINKS

Roland Weber; POPs Environmental Consulting

12.1 Short papers of the 31st POPs Conference now online with free access

This year's global POPs conference (31st International Symposium on Halogenated Persistent Organic Pollutants POPs'; www.Dioxin2011.org) was held from 21-25 August in Brussels/Belgium. It brought together approx. 1000 dedicated scientist working on chlorinated, brominated and fluorinated persistent compounds.

All abstracts of the POPs conference are online available

http://www.dioxin20xx.org/ohc_database_search.htm

The webpage have a easy to use search function with key words or author and year of conferences (2011 - for this year's Conference in Brussels; but the open access to conference proceedings goes back to 1990).

12.2 Permanent People's Tribunal Session on Agrochemical Transnational Corporations

On December 3 to 6, 2011, a Permanent People's Tribunal (PPT) convened to indict Agrochemical Transnationals Corporations (TNCs) for gross violations of human rights. As an international opinion tribunal, the PPT aim to gather farmers, agricultural workers, Indigenous Peoples, fisherfolk, women, children, scientists, consumers, and activists from all over the world to bear witness to the crimes of the six largest agrochemical TNCs. The PPT highlight that throughout the years, these TNCs have caused the death and illnesses of innocents, irreversible environmental damage, wilful destruction of livelihoods, and increasing loss of people's control over food and agriculture. It states that the PPT is a valiant endeavour to stop the impunity with which agrochemical TNCs commit crimes against the people, and to create an effective system of corporate accountability.

The PPT on Agrochemical TNCs is organised by Pesticide Action Network International, a global network of more than 600 organisations in over 90 countries which has been working to eliminate the use of pesticides and other hazardous technologies.

The summary of the cases to be brought against agrochemical TNCs are described here:

<http://www.agricorporateaccountability.net/en/page/general/20>

A petition can be signed to show support for this landmark quest for justice.

<http://www.agricorporateaccountability.net/en/page/general/17>

12.3 Stockholm Convention POPs Review Committee assesses hazards of two industrial chemicals nominated for elimination and agrees to prepare guidance on alternatives to pesticide endosulfan.

(From Stockholm Convention Webpage; <http://chm.pops.int/>):

The seventh meeting of the Persistent Organic Pollutants Review Committee was held from 10 - 14 October 2011 in Geneva, Switzerland. The Committee adopted more than a dozen separate decisions, including one recommending that the chemical hexabromocyclododecane (HBCD) be listed under the Convention.

HBCD is a flame retardant used mainly in polystyrene. It is also used in textile coatings and in high impact polystyrene for electrical and electronic equipment. HBCD was proposed by Norway for listing under the Convention as a chemical slated for elimination from the global marketplace.

“With this week’s decisions, the POPs Review Committee has again cleared the high bar set by Governments for rigorous scientific review of chemicals proposed for action and advanced the global agenda of eliminating the world’s most dangerous toxic chemicals,” said Jim Willis, Executive Secretary of the Basel, Rotterdam and Stockholm Conventions.

Meeting for the seventh time, the committee of 31 scientific experts initiated risk profiles of two industrial chemicals newly proposed for elimination under the global chemicals treaty. The committee found evidence that chlorinated naphthalenes and hexachlorobutadiene are persistent organic pollutants, which bio-accumulate in organisms (i.e. increases in concentration up the food chain), are transported over long distances from their sources, and are toxic to the environment and human health.

Chlorinated naphthalenes (CNs) were used for decades for wood preservation, as additive to paints and engine oils, and for cable insulation and in capacitors. Until the 1970s, CNs were high volume chemicals. CNs are also formed unintentionally in a wide range of chemical and thermal processes together with polychlorinated dioxins and furans.

Hexachlorobutadiene (HCB) was a widely used fumigant used to control pests and as an industrial solvent. HCB also occurs as a by-product during production of other chlorinated solvents.

The Committee agreed to continue its assessment of a third chemical, pentachlorophenol (PCP), which is an organochlorine compound used as a pesticide and a disinfectant.

All three chemicals were proposed by the European Union for consideration for listing under the Convention.

The Committee also agreed to prepare guidance on alternatives to the pesticide endosulfan, expanding its work into a new area recently mandated by the Parties to the Convention. Endosulfan, which is commonly used to control agricultural pests, was added to the Convention’s list of 22 POPs at the fifth meeting of the Conference of the Parties in April 2011.

In addition, the Committee agreed to evaluate the POPs characteristics of the chemical alternatives to DDT. DDT is widely used in tropical and sub-tropical countries to control mosquitoes which serve as a vector for the deadly malaria parasites.

For More Information on POPRC activities please contact:

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12.4 Stockholm Convention Secretariat Webinar Seminars – please try out

(From Stockholm Convention Webpage; <http://chm.pops.int/>)

To complement its face-to-face training activities, the Secretariat of the Stockholm Convention is hosting a series of webinars that focus on key issues relevant to the implementation of the Convention.

Through tailored information and knowledge exchange, the POPs Webinars allow for an interactive dialogue between the Secretariat and the government officials involved in the implementation and enforcement of the Convention. By doing so, the Secretariat aims at supporting Parties in addressing some of the challenges they may face when implementing the Convention. The POPs Webinars series offers an opportunity to reach out to a wider network of stakeholders engaged in Convention matters and to the general public.

<http://chm.pops.int/Convention/Meetings/Webinars/tabid/1529/language/en-US/Default.aspx>

12.5 Review article on “POPs and landfills – past & future challenges” with free access to full paper.

The Review article on “Persistent Organic Pollutants and Landfills – A Review of Past Experiences and Future Challenges” by Weber R, Watson A, Forter M, Oliaei F in *Waste Manag Res*, 29(1), 107-121 (2011) which was introduced in the last IHPA Newsletter got now free access granted by SAGE publisher:

<http://wmr.sagepub.com/content/29/1/107.full.pdf>

12.6 Additions to EU REACH candidate list of substances of very high concern⁵

Another 20 substances are to be added to the REACH candidate list of substances of very high concern following a meeting of member state representatives in December 2011. The additions include the first substance nominated for its endocrine disrupting properties, 4-tert-octylphenol.

The European Chemicals Agency (ECHA) consulted on the additions in the autumn. Eight of these substances will be automatically added to the candidate list. Concerns posed by the other 12 chemicals were discussed by a committee last week.

The committee, made up of member state experts, paid attention to octylphenol, which was nominated by Germany, because it wanted to be clear that it meets the "equivalent concern" criteria used to justify the addition of endocrine disruptors to the list. Octylphenol is used in the manufacture of paints, adhesives and tyres.

Substances on the candidate list are subject to extra rules on information disclosure. They may also be added to the annex 14 authorization list in future.

⁵ http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

The new additions will bring the number of substances on REACH's candidate list to 73 – still some way from the European Commission's target of 136 by the end of 2012. Member states are due to propose further additions early next year.

In addition to the official REACH candidate list the Chemical Secretariat and the European Trade Union Confederation (ETUC) have developed lists of substances they consider of high concern:

- SIN List from Chemical Secretariat (<http://www.chemsec.org/>)
<http://www.sinlist.org/>
(Including 22 endocrine disrupting substances)
- List of European Trade Union Confederation (ETUC)
<http://www.etuc.org/a/7479>
- And current REACH candidate list
http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Further reading

http://echa.europa.eu/web/guest/view-article/-/journal_content/e62ab2f9-090b-4677-817b-a16bc7094fb9

<http://echa.europa.eu/web/guest/draft-recommendation-of-priority-substances-for-inclusion-in-the-list-of-substances-subject-to-authorisation>

<http://echa.europa.eu/web/guest/restrictions-under-consideration>

12.7 Film “Submission” (<http://www.underkastelsen.se/>)

The film “Submission” is a documentary by Stefan Jarl featuring Eva Röse and 23 professors. In this impressive and informative film a wide range of leading scientists (from the United States, the UK, Canada, Germany, Switzerland, Spain, Finland, Denmark and Sweden) give statements on their opinion on the relevance of the 10000ds of industrial chemicals we are exposed every day and the several hundred of industrial chemicals which are already detected in our blood.

The film director Stefan Jarl about his motivation to make this movie:

“Thirty years ago I began shooting a documentary, which came to be called Nature’s Revenge (Naturens hämnd). It was about how humans manipulate nature and how nature strikes back. Since that day I have been continuously collecting material for a new film on the same theme; however, much more than a “Nature’s Revenge, part 2”

Submission is a documentary about the ‘chemical society’ – the society we have been building since the Second World War. Back then, humans used 1 million tonnes of chemicals per year; the figure today is 500 million tonnes. The chemical industry is the fastest-growing industry in the world. The film is about the 100,000 chemicals we use every day, what they’re used for and what they do to us and our health. And I don’t mean food additives – I’m talking about chemicals we are exposed to in our daily environments: softeners (phthalates), flame retardants (PBDE), surfactants (PFOS, PFOA) and so on.

Professor Åke Bergman at Stockholm University is my guide throughout the film, analysing the chemicals in my blood and explaining what they are. It turns out I'm carrying several hundred foreign chemicals. I can't hide my shock.

After discovering the huge number of chemicals in my blood, I turn to my friend Eva Röse and ask if she would like to test her blood as well. She's 35 years younger than me; surely she couldn't have picked up as many chemicals as I have? Eva is pregnant at the time and has her baby while the film is being made.

Consulting a wide range of scientists from the United States, the UK, Canada, Germany, Switzerland, Spain, Finland, Denmark and Sweden, I seek answers: What problems can these chemicals cause? These are some of the world's foremost experts, and they explain what we currently know about effects and risks, the cocktail effect, hormone disruptors and the vulnerability of unborn children.

As I considered the format for my film, I thought of Claude Lanzmann's documentary Shoah, which is based solely on interviews. I decided to put my faith in the close-up, the candid testimony of the human face. Rather than travelling to developing nations and bringing home terrifying images, I chose a different path.

But why the title, Submission?

Over the years I have grown to realise how willing we humans are to submit to others' terms. It's a holdover from our earliest childhood. And commercial interests in society are quick to make use of it. This interests me from a philosophical viewpoint. Just as Nature's Revenge showed that Mother Nature doesn't take kindly to manipulation and strikes back at us, I now understand that humankind is prepared to submit to whatever consequences our manipulations of nature throw our way.

The American musician Adam Wiltzie from the band Stars of the Lid made the music. He calls the film "a horror movie for the 21st century".

I am aware that this popular science essay film asks a lot of the audience, but Like most of my other documentaries, Submission is, at the core, about what kind of society we want to live in.

This is the most important film I've ever made.

Ever. "

Stefan Jarl

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13. EECCA AND SWISS FUNDED PUBLIC AWARENESS AND INVENTORY ACTIVITIES IN AZERBAIJAN: ROLE OF YOUTH ENVIRONMENTAL VOLUNTEERING

Gulchohra Aliyeva, Shahin Panahov

UNEP-ECORES National Committee, Baku, Azerbaijan

Nowadays, the volunteering activity is gaining an equal appreciation in the society, what stimulates motivation of youth to join environmental initiatives. The pursuit of personal development coupled with sense of altruism generate durable rewards such as acquisition of new skills and knowledge through the practical work, development of personal network and social interactions in the course of the projects. This helps them to shape future interests and career perspectives. The successful development of the environmental projects makes volunteering activity a way of leisure and social communication. The engagement of youth into promotion of environmental awareness in Azerbaijan is one of the crucial factors of the development of society, and better understanding of people of environmental phenomena in rapidly growing new independent country.

In July 2011, UNEP-ECORES NatCom, jointly with International Resources Complex (IRC) of the University of Languages of Azerbaijan, State Phytosanitary Control Service (SPCS) of the Ministry of Agriculture of Azerbaijan, and the Lancaster Environment Centre of Lancaster University (UK), have received grant for implementation of awareness raising activities and detailed inventory of obsolete pesticide stocks in Azerbaijan within UN FAO/GEF regional project “*Capacity Building on Obsolete and POPs Pesticides in EECCA countries*” (EECCA project) and Tox-Care in Central Asia project of the Northwest University of Applied Sciences and Arts.

The project envisaged organization of the public awareness activities in the regional centres of Azerbaijan through collaboration with local authorities and population, development of the network of stakeholders for pesticide action in the rural areas, publication of information material, launching youth awareness campaigns, and the detailed inventory of obsolete stocks in the country for inclusion to the Pesticide Stock Management System (PSMS) developed by UN FAO.

One of the main features of these projects has become involvement of youth volunteers, student of Baku State University, into the pesticide awareness activities in Azerbaijan, including Secretariat activities and organization of the 11th International HCH and Pesticide Forum on 7-9 September 2011. UNEP-Ecores NatCom, a non-government environmental organization based in Baku, has a record of recruiting young and talented students to various environmental projects since 1994, and promoting better integration of youth into environmental activities and dissemination of environmental information. Our volunteers have comprised a wonderful team of talented and skilled members, handling various environmental activities with great enthusiasm.



Nigar Babayeva, 19 (3rd from the left), an undergraduate student of Baku State University, doing her major in World Economy. She has successfully participated in the youth projects of NATO in Azerbaijan, and a participant of the first group in Azerbaijan on cheerleading. Nigar's hobbies are rhythmic gymnastics and dancing. She is a winner of national dances contest in Turkey, Eskisheher, in 2007. Nigar had internship at World Bank's Baku office for three months. She has attended environmental volunteering and project fundraising trainings organised by UNEP-ECORES NatCom for 4 months. Nigar organised meetings with other youth NGOs in Azerbaijan and summer beach campaigns for protection of Caspian Seal (*Phoca Caspica*) which are at the verge of distinction due to the POPs and oil pollution in the Caspian Sea. Her presentation during the 11th International HCH and Pesticide Forum has driven lots of attention from international experts. Nigar is working on the project to develop youth activism for protection of Caspian Seal from POPs pollution.

Read more: <http://www.hchforum.com/gallery.php>

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14. TOT ORGANIZED BY PRRG OF UN-FAO, ROME, AT IARTC, IZMIR, TURKEY

Richard Thompson and Steven Byrde, FAO

A Training of Trainers (TOT) organized by the Pesticide Risk Reduction Group (PRRG)/Obsolete Pesticides Group (OP-Group) of AGPM of the Food and Agriculture Organization (FAO) of the United Nations (UN), Rome, Italy was held during 28 November to 09 December at the International Agricultural Research and Training Center (IARTC/UTAEM), Izmir, Turkey. The participants were selected through open advertisement in the FAO website followed by the standard evaluation process. A total of 21 participants comprising 1 Bangladeshi, 2 Egyptians, 2 Indians, 2 Iranians, 1 Jordanian, 5 Lebanese, 7 Pakistanis and 1 Turkish attended the TOT. The TOT was inaugurated by Dr Dilek Kahraman, Director of IARTC and was addressed by Richard Thompson, Technical Officer, PRRG of FAO.

The first part of the TOT, which took place in the first week, was primarily conducted by Jacques Dufrenne, of CIS Consultants, an expert in participative adult training. Mr Dufrenne covered the principles and modus operandi of training while the second part held in the following week was conducted by Richard Thompson (FAO Technical Officer) and Steven Byrde, Waste Management and Environmental Consultant, FAO covering technical aspects. Richard Thompson initiated the technical training with an overview of FAO's paradigm for Sustainable Crop Production Intensification "Save and Grow", which guides policy makers on smallholder agricultural practices that will enable the world to feed itself sustainably through the increase in population to the estimated 9 billion in 2050. The technical training continued with linkages between the principles of Save and Grow and sustainable pest management and pesticides management. The training covered the different components of a typical pesticide risk reduction project:

- Elimination of legacy obsolete pesticides:
- Strengthening pesticide management:
- Strengthened sustainable pest management
- Communications

It included an overview of total process from inventory to disposal including inventory planning process, inventory implementation covering safe working part viz., safe working, toxicity, Personal Protective Equipment, Task Based Risk Assessment, etc., and information gathering (Site/Store information) viz., PSMS forms, site & store info, site & store plans, GPS, Environmental Risk Assessments and Pesticides Stock Management Systems (PSMS), material information, prevention of obsolete pesticides, sustainable pest management, while practicing the principles of training imparted in the first week. The technical sessions included key aspects of all the above mentioned topics as well as their practical demonstration and exercises including simulation exercises of inventory taking (PPE/3-stage decontamination) and a visit to a Pesticides Cooperative in the Menemen town for practical application of the techniques learnt by the trainees under the supervision of Richard and Steven. FAO's Pesticide Stock Management System (PSMS) was practiced by the trainees, who have been provided the password of the on-line PSMS to enable them practicing the PSMS at home upon return.

A post TOT evaluation of the participants was carried-out based on the evaluation of their competence in training and technical knowledge.. The certificates were distributed to the participants by Richard in presence of the Director, UTAEM Dr Dilek Kahraman and Steven in a closing ceremony.



Steven is demonstrating a team for doing inventory practice in the Tarkim Cooperative Pesticides Store at Menemen, Izmir, Turkey



View of participants, IARTC Director & Coordinators, and Richard and Steven of FAO



View of handing over and receiving Certificate to Carole Najjar of Lebanon, the leading participant.



View of handing over and receiving Certificate to Mahbubar Rahman of Bangladesh, who has vibrantly inspired the other participants with his commitment to eliminate the obsolete pesticides from Bangladesh.

15. KALUSH, UKRAINE

COGNAC AND HEXACHLOROBENZENE

Susan Boos, Konjak und Hexachlorbenzol - in WOZ Die Wochenzeitung, Zürich, Nr. 33, 18. August 2011. Photos by Ramin Mazur, Chisinau. Originally published in German, translation into English

Next year, Ukraine is the spotlight, because half of the European Football Championship will take place there. A journey through a young state, which has to manage a difficult heritage.



Still not quite finished: Europe's largest pumped storage power plant stands south of Nowodnistrowsk.

Lviv, in mid-July, Sunday

High up on the tower of the City Hall one has a beautiful view over Lviv. Down the streets female tourists are strolling. The city has made it. The old buildings are freshly painted. But one can also see into the courtyards, decaying.

In Lviv the Ukrajina stadium was converted for 85 million Euros, because in it the European football championship games will be played next year. Oleg Listopad says, football is the last thing that interests him. He holds the European Championship to be unnecessary; stadiums and hotels are being built, which nobody needs afterwards.

Oleg has worked in the Greenpeace office in Kiev during the early nineties. After a few months he no longer got along with the new bosses who came from nowhere and suddenly dominated the environmental organization. Oleg left. Little later the office was closed, "because of poor management" as Oleg put it discreetly. He does not tell details, but someone had run away with the cash - and since then, Greenpeace no longer has an office in Ukraine. Oleg turned to be an environment journalist and these days he helps organizing a press tour on the Dniester River for the ENVSEC organization. ENVSEC stands for

"Environment and Security", and is supported by the UN Organizations, but also by the Organization for Security and Cooperation in Europe (OSCE). The aim of ENVSEC is to address environmental problems before they lead to political conflicts. For this the Dniester is the right place, because millions of people in Ukraine and Moldova are dependent on its water. And in its catchment area, there are some ugly problems. Therefore, ENVSEC has invited twenty journalists to spend a few days on the stream.



Old chemical factory in Kalush: Highly poisonous hexachlorobenzene threatens to the groundwater



The hydroelectric plant of Nowodnistrowsk:
For the construction works 250000 peoples had to be resettled.

Next year, the media will be compelled to describe the country because of the European Football Championship. During three weeks one will get to know where Kharkov lies and how the Ukrainian currency is called. In the early nineties, when I first was there, the money was laying on the street. And in the truest sense of the word: The wind blew small printed slips through the streets. On them were threes, fives or fifties, emblazoned next to the St. Michael Monastery of Kiev, with its distinctive dome. My friends said that these were the coupons and not worth anything. I picked them up anyway; these gray, green or pink pieces of paper. Officially the currency was named karbovanets, but no one called them that way, they all spoke only of coupons. That was just as well, since the official designation had something unpleasant: The karbovanets had in fact made it once before; shortly after the October Revolution it was for a short time the first currency in the Ukrainian People's Republic. But when the Nazis occupied the Ukraine in 1942, they brought it back. But nobody speaks about it over here; anyway, no one ever speaks of the Second World War and of how so many Ukrainians collaborated with the Nazis. It is as if there would be no history. And this way - after Ukraine became independent in 1991 - the karbovanets could be revived untroubled. But soon the currency crumbled, it had a wicked hyperinflation. In the mid-nineties, you got hundreds of thousands of coupons, if you changed a few dollars.

At that time the windows were still dusty, and throughout Kiev, there was only one small supermarket, which sold western food. It was a gray time one likes to forget. Today the streets are colorful and cheerful.

Oleg Listopad is still not happy. He doesn't wish the old days to come back, but he also sees what Ukraine has lost. In the old days, he says, while we were sitting in one of the many Lviv restaurants, till products that came onto the market had been checked by government laboratories. The cans looked bleak, but they contained, what was written on it: Fish with tomato sauce in the fish cans, condensed milk in the condensed milk cans.

With Viktor Yushchenko in power, everything changed, says Oleg. Yushchenko was the hero of the Orange Revolution. In the winter of 2004 thousands of people went on the streets for him when the communist Viktor Yanukovich disputed his election victory. The Orange Revolution triumphed. But that was long ago, and now one can hardly find someone who speaks well about Yushchenko. Yushchenko was the head of the Ukrainian central bank and had closely worked together with the International Monetary Fund (IMF). He is considered the one who got the inflation under control. He introduced the hryvnia instead of karbovanets and sat through a tough IMF-shock therapy. The wages of state employees and pensions shrank at a great pace, and often were paid no wages at all for months. Many state-owned companies went down. But the hryvnia remained reasonably stable.

During the Orange Revolution nobody wanted to hear what Yushchenko stood for. Neither was anyone familiar with the IMF. There was a spirit of optimism. The people believed they could make a difference. Today things have sobered up. Even though hundreds still demonstrate for Julia Tymoshenko, who is currently on trial in Kiev. It is a political process, probably also unfair.

But still, people outside of Kiev show little concern. They used to admire the former comrade of Yushchenko, but the glory is gone. People have understood that Tymoshenko is best at defending her own interests.

Opinions on the new president Viktor Yanukovich, a communist and friend of the Kremlin, are even less favourable. He is regarded as a potential dictator who is already harassing the

media today. All this would still be bearable, if at least everyday things were working. Oleg says that Yushehenko had done everything the IMF requested. And the request included to privatize as many companies and institutions as possible. So Yushehenko also privatized food control. In the process he abolished the national laboratories, but failed to ensure that private laboratories perform this task. "Horrible stuff is on the market today. The foods contain substances that you should never eat. "While what's inside is indicated on the packaging, it's in millimetre-sized letters. Oleg's always takes a magnifying glass with him, to read what is really included in the can. The so-called condensed milk contains palm oil, he says, "and something normally used as wall paint, -This is needed to make the stuff, which no longer has anything to do with milk, at least look white.

Oleg looks tired. He says that twenty years ago he believed everything would turn for the better, although it would take some time. But it turned out differently; even those things that used to work before, is going wrong today. If food-safety inspectors warn to check a restaurant, they must announce their visit ten days on beforehand. That is incredible, but it is the law."

Monday, Kalush

The group is complete. We are less than twenty journalists, mostly from the area between Lviv and Odessa. In Ukraine, every city has its own newspapers, not yet replaced by the Internet, because even now only few can afford an internet connection.

The bus lurches to Kalush, the road is riddled with deep holes, and nothing has changed in the last twenty years.

Kalush is ninety kilometers south of Lviv, in the catchment area of the Dniester. Already for one year, the city is officially marked "ecological disaster area" as fifty percent of the most hazardous wastes, in Ukraine are stored here. Kalush is as much recommendable as a residential area as the contaminated areas of Chernobyl in northern Ukraine. They are also considered an ecological disaster area.

Once the industry prospered in Kalush but then the Soviet Union broke apart, the chemical plants were shut down, and the potash mine ceased its operations. That's roughly what we know when we enter the city with its population of 70,000.

The bus stops in front of a large office building which marks in large letters, "Karpatnaftochim" and "Lukoil" above the entrance door. Inside, all of us receive a blue and red jacket, an orange helmet and an olive-green cloth bag, which contains an oxygen mask. The bag looks like a prop from a Soviet film. The Lukoil-people hand out a note in with safety instructions. It is in Ukrainian, but the icons are clear: No smoking! Make no fire! No photos! No cell phones! Do not eat!

The Russian oil company 'Lukoil founded Karpatnaftochim several years ago together with the Ukrainian state.

In one factory, chlorine is produced; it smells like a swimming pool all over the place. Chlorine likes to react with oxygen, becomes gaseous, corrosive to the lungs and can be deadly in higher concentrations, hence the gas masks and safety regulations.

We are led through the plant; everything seems new, big white tanks, small steel containers, lots of shiny metal, rust nowhere. On the walls are slogans. “Our most important asset- our people!”, “New projects- new perspectives” or “We support the reforms of the president!”. What reforms are meant cannot not be learned.

Next door a new factory was opened a few months ago, which uses the chlorine and produces polyvinyl chloride (PVC). The German company Uhde has built this plant as a turnkey project. Fresh PVC trickles like flour in large bags, plastic for all sorts of things.

On the other side of the street, industrial equipment rusts away. There is no comment from the Lukoil people about this, like they had nothing to do with it.

Later on, four directors gather in the conference room for a press conference. They manage to talk for forty minutes and to say nothing. The journalists sit there quietly fighting against sleep. By the end one of the young journalists asks, whether it is correct that the sewage water of the plant could not be reused for the production, because it was too dirty and, therefore, was discharged in the river. The Lukoil-men say that it is so, but they would be complying with statutory requirements.

How big is the turnover, then? Silence. Finally, a Lukoil-man somewhat annoyed answered that they would produce 300,000 tons per year of PVC, hence we could figure out ourselves how big the turnover is. The question on how big the profit is, no one dares to ask nevertheless, for Ukrainian circumstances, these facilities are gems.

The grim legacy of Kalush can be seen a few hundred meters away. Standing in front of it, it looks like a cosy forest. During nearly three decades, the old chemical plants, rotting away next to the new Lukoli plant, have been dumping here hexachlorobenzene (HCB) waste. Previously, the pesticide was used to protect crops from fungal diseases. However, it is highly toxic, carcinogenic, and therefore banned in many countries for a long time already.

The Dniester



Approximately 11 000 tonnes of HCB were buried in barrels. The barrels are rusted through in some cases; the poison threatens to contaminate the groundwater. Last year a group of experts of the UN and the European Commission have examined the landfill. In many places outside the landfill they found HCB concentrations that exceed the permissible limit more than one hundred times.



Like the old times: Washing day, south of Kalush.

That's not all: Not far from that site lies the disused salt and potash mine of Kalush. Potassium from here has been used for fertilizer production until to the millennium. Then the mine was abandoned overnight and everything left as it was. Wind, rain and sun slowly eroded the buildings. Behind the mine a hill rises which is actually a dam. Above are the "tailings", the finely grained mining wastes from that time mixed with highly concentrated salt water. We stand around; take photographs of the peaceful lake that does not seem dangerous. If the dam breaks, the salt water will pour over the land like a flash flood, contaminating the soil and groundwater with salt. The brackish water would also get into the Dniester and kill all the fish. Millions of people would no longer have access to drinking water. There are two such salt lakes, of which the dams may burst. In many places thick layers of salt, white as snow, have accumulated on the embankments. This is caused by leaks in the dam wall where liquid can escape.

A year ago, the government has provided almost fifty million dollar for the rehabilitation of Kalush. Several tons of HCB were shipped to the UK for disposal, where they were burned in a special oven. Otherwise, nothing has happened, says Mikhail Dowbintschuk, former MP in the town of Kalush: "But the money is gone." Does he say? He can prove everything, he has everything in writing.

Even if that is so, it will change nothing for the impending disaster. Dowbintschuk nods, just as it always has.

Tuesday and Wednesday, on the Dniester

Two days on the River. The Dniester River south of Kalush is still not very wide and deep, but infinitely silent and peaceful. We are travelling with three inflatable boats. A journey backs in time. Sleepy villages sit along the banks. Two days and no bridge that cross the Dniester. If people want to go to the other side, they cross over with their little wooden boats. Cows are cooling off in the water. Evan Rusew, a biologist from Odessa, who accompanied us, knows every bird standing on the shore or flying over our heads. Storks, gray herons, white herons, and more storks.

Children swim between the cows. Women squat by the river and wash clothes. The water is greenish, cloudy, but mostly because of the storms that were passing by in the distance.

The decline of industry has been good for the river. Today it is much cleaner than it was twenty years ago, and you can safely swim in it.

We set up our tents on the shore. On the other side of the river, a black stork is stalking along the shore. It is rare and shy, avoids people, in contrast to the white stork, who happily lives with them.

Slowly it gets dark. We talk about everything under the sun and the fact that in Ukraine more churches are being built than schools.

Someone makes fun of President Yanukovich, who recently bought a helicopter, while the people of Kiev were always so upset about the fact that every morning the road to the presidential office was blocked for forty minutes. Now he has his helicopter and can fly to work.

"Have you seen the golden swans, the taps in Yanukovich's residence?" someone interjects: "That way the Communists are living today!" Everyone laughs, brandy is poured, stories are told, the crickets are chirping.

Someone comes to speak to the French pair that got recently stranded in Uzhgorod at the Ukraine's western border. They could not have children; therefore they hired a Ukrainian surrogate mother who delivered them a child. In this country this is a normal, legitimate business. The price lists are available on the internet. A child with all the business around it will cost about 10,000 €. The only problem is that surrogacy is banned in France. The French embassy refused to issue documents for the child. When the couple wanted to smuggle the baby across the border, the whole matter blew up. Now they are trapped, cannot adopt the child, cannot return to France, the money is flowing away, they speak no English and no Russian.

Someone says, France is behaving inhumanely. But no, it is inhuman to impose purchased pregnancies on women. But they needed money to raise the children of their own. A heated discussion ensues. Actually, a paradoxical discussion, because Ukraine is gradually depopulating. When the country became independent, it had a population of 51 million people, today there are still 46 million left. Many people are emigrating, but also because the birth rate and life expectancy have greatly diminished. In places like the Donetsk life expectancy for men is 53 years. Officially, it's 62 for men, 74 for women - in Switzerland, we live twenty years longer.

Thursday, Nowodnistrowsk

A city of building blocks, multi-storey housing blocks built in the seventies, for the men and women who at the time were building the large dam on the Dniester – a gigantic building structure; the lake is now almost 200 km long, and caused 250,000 people to be displaced.

In the morning we drive to Dnistrowska GES, the Dniester river 800 megawatts power plant, which is housed in the dam itself. We are welcomed with a sumptuous breakfast - rice, stew, salad. In this country we would call it a sumptuous lunch. But in the Ukraine one says: Eat in the morning like with a king, lunch like with a friend and in the evening like with an enemy.

The people of the power plant show us the command room, everything new, everything newly renovated. The plant has operated since 1983 and one can be proud of it. They say

the dam was primarily built to regulate the river and protect the public from terrible floods. Three years ago was the last big flood, with 6000 cubic meters per second. Maximum 2000 cubic meters could pass through the turbines, the rest burst via additional pipes through the dam. The people below the dam panicked and feared their villages would be flooded. The floods are getting worse and coming more frequently. It may have to do with climate change, but most likely also with the large-scale deforestation in the Carpathians.

The plant belongs to the state and supplies Moldova and Ukraine with energy. Ukraine is suffering from a chronic energy problem; power is constantly short in supply. In winter the power in many cities is regulated according to plan: On one evening the right side of the street has light, the next evening the other side of the street. Fifty percent of the electricity comes from old thermal power plants, a quarter from nuclear power plants. The entire power plant infrastructure is outdated and endless energy is dissipated. Would the country's energy efficiency be increased to the level of Poland, it could save a third of the energy.

Another press conference: This time the men are younger, worldlier and fashionably dressed. They are members of the power plant management and environmental authorities. The first questions: What happens if the reservoir is full, full the sediment, which the Dniester constantly accumulates?

The responsible engineer pulls out a map that explains where the mud is deposited, and says, it would be filled to the brim only after 180 years. The river has been dammed for 30 years, so it has another 150 years to go. That's a long time and yet an inconvenient fact: Even hydropower is not really sustainable. On a global average, the reservoir basins are filled by one percent per year. You can hardly clean them, so after a hundred years, most reservoir will be full.

Ivan Rusew, the biologist from Odessa, logs in. He has been waiting eagerly for this meeting. He has already written some articles against the power plant, also this spring, because it threatens the Dniester delta. The wetlands at the mouth of the stream are 500 kilometres south, but if no water leaves at Nowodnistrowsk, they'll dry out without fail. Ivan Rusew says, this spring has been particularly large dry areas. Many birds that nest there in spring are being threatened. Why they had so little water drained from the reservoir, Ivan wants to know. He gets going, raises one question after the other. The men at the head of the podium remain calm. They would understand his problem, but could not do much. There was soon to be a new regulation.

Ivan insisted, speaking of the rare birds that are threatened with extinction, just because here above one wanted the water to make money. The managers say they are seeing it too. They did what they sound friendly and nice just like modern PR-trained managers.

But the hydro power plant is not the only problem: A few miles south of the power plant, the Soviets had started the construction of the then largest pumped storage power plant in the world and its construction is still ongoing. The plants is expected to finally yield an output of 2000 megawatts; in China and the U.S. there are now even larger ones, but in Europe it will remain the largest pumped storage power plant. After the collapse of the USSR the construction site was lost in the twilight. Only a few years ago, the state energy company Ukrhydroenergo, which also operates the hydroelectric power plant, decided to finish the construction.

We drive up the hill, where the dam of the upper pump basin is located and the turbines are being installed. The construction site looks bizarre, high-tech devices next to rusted metal

reinforcements. Large cranes are standing around; the holes for the gigantic turbines are ready. Eventually, there should be seven turbines. Each will cost three million hryvnia, which equals to about 300,000 Swiss francs. Overall, the whole nine billion hryvnia facility costs almost one billion Swiss francs.

A few meters further up, the view opens over the large artificial reservoirs, which are still largely dry. In the back of one reservoir they started to cover the ground with black tarp to seal the underground. In 2013 the plant starts its operation. With cheap off-peak power, the artificial lake up on the mountain will be filled with Dniester water and during daytime, when demand is large and the electricity price is high, the water will be allowed to pass through the turbines.

Ivan Rusew says, the pumped storage plant would exacerbate the situation in the Delta, with even less water released in dry periods. Ivan is in his mid fifties, the Delta and the birds are his life. Back in the early nineties he already fought against the construction of a highway through the wetlands, it has started lawsuits, has lost and started over again. He's one of those quiet, educated scientists, of which there are many in Ukraine. They do not make headlines, but they make the country lovable.

Just like the "Femen", who every now and then put the Ukraine in experiment with the protests. They are protesting against prostitution and sexism, and corrupt politicians. When the Femen act out, everybody is watching because they are beautiful, young, slim and blonde haired women - and especially, because they protest topless. In the West some people might consider such protests weird, but in Ukraine it looks cheerful, cheeky and subversive, because it causes embarrassment to the police when they have to arrest these women with their banners - and everybody watching. Only recently they have been protesting against the fact that students are being thrown out of their dormitories in order to reconstruct their houses for European Football Championship. And this will not have been the last protest action.

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