

# Disposal of obsolete pesticides in Central and Eastern Europe

## Transfer of Danish experiences

**Mikala Klint**

Danish Environmental Protection Agency  
Strandgade 29, DK 1401 Copenhagen K, Denmark  
Phone: +4532660100 Fax: +4532660479, Email: mkl@mst.dk

### Introduction

During the recent ten years, pesticides as a common group of hazardous chemicals have attracted much attention in Western Europe due to their potential negative impact on groundwater and environment in general as well as toxicity to human. Some years after the gaining of independence of the Central and Eastern European countries, it became obvious that obsolete pesticides made up a serious threat to the environment in respective countries. Obsolete pesticides are the old and out-dated pesticides. The splitting up of cooperatives (kolkhoz), giving new ownership of land and property, has resulted in a situation of the handling and storing of obsolete pesticides quite diffuse and not transparent.

Several studies on obsolete pesticides in Central Eastern Europe have - during the 1990's - revealed that the actual storage facilities of obsolete pesticides are insufficient and very often have caused a severe threat to the environment and to human exposure. The studies typically describe the situation on a specific geographic scale (nation-wide, regional etc.). The results from these studies further reflect diverse management of obsolete pesticides among the Central and Eastern European countries. Storage facilities often range from simple holes in the ground to open sheds in the fields. Very often containers have been damaged, the labelling unreadable or gone off. Proper buildings, thus equipped in order to fulfil requirements similar to e.g. EU-regulations, have seldom been observed.

### Danish support to hazardous waste management

Danish support to hazardous waste management in Eastern Europe was initiated in the early 1990's. For example, DANCEE initiated preparatory work for the implementation of environmentally sound and sustainable management of hazardous waste in the three Baltic Republics. The studies enabled local responsible authorities to obtain an insight in European practices as well as using guidelines within hazardous waste management.

Field visit to European hazardous waste facilities (e.g. handling, transport and treatment facilities), knowledge of EU-practice and intentions along with appointment of local responsible authorities, enabled the countries to gain their own perception of the hazardous waste problem. Furthermore, recognition of the problem has encouraged the authorities to initiate their own national plans for hazardous waste handling and in particularly management of obsolete pesticides. Nevertheless, there are still a few CEE-countries who today have made a full status review on obsolete pesticides, and just another few have proper storage facilities. Strategies and action plans for handling of hazardous waste are most often in an early stage, if existing at all.

### Danish Cooperation for Environment in Eastern Europe

The Danish Cooperation for Environment in Eastern Europe (DANCEE) was established in 1993 and, subsequently, the strategy for environmental activities in Eastern Europe was drawn up and has since then been the basis for environmental assistance in this region. The DANCEE programme is administered by the Danish Environmental Protection Agency (DEPA) under the Ministry of Environment and Energy.

In the year of 2000, approximately 500 million DKK (68 million EURO) was available for all Central and Eastern European (CEE) countries under the DANCEE programme for activities administered by DEPA.

The overall objective of Danish environmental support is

- to contribute as much as possible towards protecting environment and nature in CEE countries and to limit pollution, regionally as well as globally.
- to promote the transfer of environmental knowledge and environmental protection technology from Denmark to CEE countries.
- to contribute towards political and economic development in an environmentally friendly manner; specifically supporting democratic and market based economic development thus protecting the environment as much as possible.

International conventions on waste regulate transboundary movements of hazardous waste, i.e. the Basel Convention. In Western European countries several incinerators for disposing obsolete pesticides are available, and these facilities could be taken into consideration when looking for methods for destruction of obsolete pesticides. Another method, which has been suggested, is that the obsolete pesticides should be returned to the manufacturer, "the so-called return to sender principle". When discussing the options for the CEEC countries, this method is most likely not feasible as most of the obsolete pesticides originate from the former Soviet Union.

## **Danish support on obsolete pesticides**

Since the mid 1990's, there has been focus on obsolete pesticides (OP's) due to their characteristics as hazardous chemicals disposed in various uncontrolled facilities possessing an immediate human health risk. Also, this group of pesticides poses a problem, since ownership is not recognised. As part of the Danish strategy on hazardous waste, obsolete pesticides were seen as a separate opportunity for financial support on pilot testing of set-up collection, transport and storage systems.

### **DANCEE criteria**

Danish Environmental Protection Agency describes a number of standard project evaluation criteria in the new publication Project Cycle Management Manual, 1999. These criteria serve as a basis for tendered projects and pipeline development and are always used when reviewing project applications

In brief, the criteria are:

- the project must be a priority for the beneficiary.
- priority is given to projects, which belong to the country's environmental strategy and environmental project/programme portfolio, and to projects in geographic areas with serious environmental problems or areas of ecological value.
- funding will be co-ordinated with other donors and funding sources.
- the extent of pollution reduction will be evaluated, and higher priority will be given to projects, which significantly improve the environment.
- savings in consumption of resources, energy and water will be taken into consideration, as will any economic benefit from environmental interventions.
- higher priority will be given to projects, which can be fully completed.
- projects with high levels of co-financing will have higher priority than projects financed only by DANCEE priority.
- priority will be given to projects which, in the course of implementation, enable dissemination of Danish environmental know-how or technology or demonstration of financial and technological appropriate solutions for environmental protection.

## **Danish - Central Eastern Europe Cooperation**

The immediate need to reduce the health and environmental threat posed by obsolete pesticides kick-started a number of feasibility projects followed by implementation projects in the Baltic States and in Poland. The implementation projects have included erection of secured storage facilities for hazardous chemicals as well as proper inventories of pesticides and analyses of various final disposal techniques, either nationally or regionally. For example, a secured landfill and laboratory facility were established in Vaivare, Estonia. In Dobeles, Latvia, a secured storage facility was established, as well. Furthermore, inventories and examples of pesticide remediation have been proposed in Lithuania. In Poland, the vast amount of OP's has been mapped, and different options for disposals are now being considered.

Recently, a semi-mobile incinerator was tested in Denmark before being shipped to Latvia, where incineration of more than 2,000 tonnes of obsolete pesticides was to be initiated. The project titles are listed in the table below:

<b>Title</b>	<b>Danish funding (USD)</b>
Hazardous Waste Management Systems in Estonia	1,369,300
Incinerator for Hazardous Waste in Latvia	952,650
Action Plan for Unused Pesticides in Lithuania	387,560
Integrated Programme of Hazardous Waste Management in the South Region, Poland	813,900
Management and Disposal of Accumulated Obsolete Pesticides in Belarus	1,156,060
Elimination of Risks related to Stockpiles Obsolete Pesticides in Ukraine	1,361,500

In the NIS countries, Danish support on obsolete pesticides was initiated in Belarus in 1996. More than 6,000 tonnes of obsolete pesticide products stored in more than 2000 different types of facilities were mapped. An ongoing project is supporting a pilot incineration test. The pilot incineration will take place in a new cement kiln in the oblast of Grodno. In 1998, the project was enlarged in order to include recognised NGO and public participation, as well, since a general frightened attitude was observed towards the pilot test incineration. Still, Belarus has to decide on final elimination technology. Recently, however, the Ministry of Natural Resources and Environmental Protection in Belarus decided to put priority into the preparation of a hazardous waste management plan.

Ukraine has inventoried more than 14,500 tonnes of obsolete pesticides products placed in more than 5,000 different stores. Denmark is strongly supporting the elaboration of a national action plan, which is hopefully leading to initiation of scheduled preparatory activities supporting further steps towards final elimination of obsolete pesticides. The preparatory activities include test incineration in various facilities, both by national and international technologies. Elaboration of a rehabilitation programme for secured central storages will be initiated as interim facilities for the collection of the OP products.

## **Review on obsolete pesticides**

An overview of the management of obsolete pesticides in CEEC is needed for DEPA in order to continue the financial support. Therefore, in June 2000, DANCEE initiated a review study, "Review on Obsolete Pesticides in Eastern and Central Europe". The main objectives of the study are to propose recommendations and strategies for reduction of risks from obsolete pesticides based on a survey on management of obsolete pesticides in the CEE-countries. The study contains an initial phase and a field mission phase.

The initial phase consists of following four elements:

- Review of background literature on obsolete pesticides,
- Outline of state of the art procedures for already carried out obsolete pesticide activities (mapping/inventory, import/export, disposal techniques available, public participation, NGO involvement) in six CEE-countries, viz: Ukraine, Belarus, Poland, Estonia, Latvia and Lithuania,
- Review of other international approaches from key role players,
- Field mission to selected countries.

The aim of the field mission is to review how and why present approaches to obsolete pesticides projects have been successful, misleading, insufficient or adequate. Based on the field mission findings mainly gained from central authorities, stakeholders and NGOs, the review project will draw up recommendations for future project approaches on obsolete pesticides under the DANCEE programme. They will cover countries, which have just recognised obsolete pesticides as a problem to countries just stepping towards capital investment into final elimination techniques (e.g. purchasing of incineration equipment).

## NGO involvement

Public awareness on proper handling and destruction of obsolete pesticides has risen during recent years, and NGOs are very active in influencing the official policy in this field. It has become widely accepted that the increasing general awareness, handling of public concern by providing full access to the necessary information and actively involving the public (including NGOs) in decision processes, forms the key parameter of successful implementation of critical projects, plans and policies. The public's access to information and possibility of participation is also considered a "human right", it being illustrated by the outcome of the Aarhus Conference (The Aarhus Convention) in 1998.

The handling, storage and disposal of hazardous waste including obsolete pesticides are a typical example of a critical public issue. This means a major obstacle to the intention of implementation of overall plans, policies - and even to a specific project - if not handled carefully from the beginning. Therefore, the five mentioned projects will be reviewed with the aim of identifying to what extent public participation and NGO involvement originally were planned or later included in the projects. Also, the perception of NGOs regarding their role is discussed. The review project itself also includes an NGO component where the Danish consultant will cooperate with an NGO, experienced within the field of OP. The NGO will also contribute to future elimination techniques for OPs.

## Closing remarks

The abovementioned activities, mainly financed by DANCEE Programme together with other donors as well as a nationally financing have contributed positively to the present obsolete pesticides status, specifically in the Baltic republics. Some elements of the projects have been duplicated in other CEE-countries. The scheduled final elimination project in Latvia could end up as a major break-through for further development of elimination activities towards stockpiled pesticides in the CEE-countries as well as abroad (e.g. Asia, Africa). As we have learned, not many financing contributors are present for supporting obsolete pesticides initiative in the region, although the amount of stockpiled pesticides for the five countries, which will be reviewed, exceeds the amount of obsolete pesticides anticipated for the entire African continent. Future support within this field of obsolete pesticides should be strengthened by a much better cooperation between the donor organisations and the financing organisations.

## References and homepages

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