



COUNTRY REPORT

Legal and Technical Assessment
of the Management of Obsolete
Pesticides

Republic of Moldova



Food and Agriculture Organisation
of the United Nations



International HCH & Pesticides Association



Country Report

Legal and technical assessment of the management of
obsolete pesticides Republic of Moldova

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The European Union and the Food and Agriculture Organization of the United Nations (FAO) have invested € 7 million to assist countries in Central Asia and Eastern Europe to foster an environment of cooperation and capacity development to eliminate the risks from obsolete pesticides and Persistent Organic Pollutants (POPs) and to develop a more sustainable agriculture in the future. This report was prepared by the International HCH and Pesticides Association (IHPA) under a contract from FAO to assess the need for, and legal and technical capacity for, the sound management of hazardous waste in the country and to develop a “road map” for achieving self-sufficiency in sound hazardous waste management in the region.

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Data, Annexes and Working Document

All original data and Annexes are available in a separate document: 'Working Document, Legal and Technical Assessment of the Management of Obsolete Pesticides, Republic of Moldova'

Annexes:

- Annex 1: Terms of Reference for IHPA for coordination of a Disposal Study for Obsolete Pesticides in the Former Soviet Union
- Annex 2: Data on stockpiles (updated excel file) as original report
- Annex 3: Polychlorinated Biphenyls – Danger for public health and Environment: Assessment of the national inventory of PCBs in the Republic of Moldova (publication)
- Annex 4: Original Country Summary Sheet and report
- Annex 5. Questionnaires for submission of information on New POPs in accordance with SC-4/19 of the Stockholm Convention (one no date submission and one dated 4 June 2010)
- Annex 6. Priorities for 2010-2015-2020
- Annex 7 Overview official volumes of disposal at Vulcanesti Landfill 1978, 1982, 1986, 1987 (Russian language)

The Working Document can be found in the library of IHPA at <http://www.iHPA.info/resources/library>

Foreword

By Minister of Environment of Moldova

On behalf of the Ministry of Environment of the Republic of Moldova we would like to inform you, that we approve the reports, developed within the regional project by the national consultants in partnership with the Sustainable POPs Management Office and Pollution Prevention and Waste Management Division:

- Technical assessment of the management of obsolete pesticides and POPs waste and soil contamination in the Republic of MOLDOVA within the framework of a Disposal Study for Obsolete Pesticides in the Former Soviet Union, and
- Legal assessment of the pesticides waste management in the Republic of Moldova.

Both reports reflect the current situation, were updated, taking into consideration the ongoing projects and activities for the elimination of obsolete pesticides, legal and institutional changes in the domain and in the country. At the same time we would like to stress the importance of the work you are implementing in Moldova and region and are looking forward for the efficient elimination of the obsolete pesticides from the Pascani warehouse, planned within your project.



Whishing you success in your work and looking forward for our continuous collaboration!

Sincerely yours,

Valentina TAPIS,
Minister of Environment



Acknowledgement

IHPA would like to thank herewith both main authors Ms. Iordanca-Rodica Iordanov, international legal expert responsible for Part I - Assessment of the legal framework for pesticides waste management in the Republic of Moldova and Mr. Andrei Isac, the national waste management consultant who was responsible for Part II - Technical assessment of the management of obsolete pesticides and POPs waste and soil contamination in the Republic of Moldova, for their strong engagement and commitment to achieve these reports.

IHPA likes to thank Ms. Valentina Tapis, Minister of Environment of the Republic of Moldova, Ms. Svetlana Bolocan, Head of Waste Management and Pollution Prevention Division, Mr. Sergiu Ghetiu, Deputy minister of Agriculture and Food Industry, Ms. Liudmila Marduhaeva, Senior Consultant, National Focal Point for the Stockholm Convention (till 2014), the Sustainable POPs Management Office of the Ministry of Environment, Mr. Valentin Plesca, Manager and Mr. Ion Barbarasa, Ms. Tamara Roznerita, Head of Division, Ministry of Agriculture and Food Industry, NGO EcoContact, Mr. Valentin Rosca and Ms Irina Punga for continuously supporting the authors.



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List of acronyms

ADR	International Carriage of Dangerous Goods by Road	PCB	Polychlorinated biphenyl
ASM	Academy of Sciences of Moldova	POP	Persistent Organic Pollutant
BAT	Best Available Techniques	PRTR	Pollutant Release and Transfer Register
BEP	Best Available Practices	PSMS	Pesticide Stock Management System (FAO)
CIS	Commonwealth of Independent States	RID	International Transport of Dangerous Goods by Rail (Reglement concernant le transport international ferroviaire des marchandises Dangereuses)
CZ	Czech Republic	SAICM	Strategic Approach to International Chemicals Management
DOT	US Department of Transport (DOT) classification of dangerous material	UNDP	United Nations Development Programme
DPPWM	Division on Pollution Prevention and Wastes Management	UNEP	United Nations Environment Programme
EA	Environmental Assessment	UNITAR	United Nations Institute for Training and Research
EEC	European Economic Community	USSR	Union of Soviet Socialist Republics
EECCA	Eastern Europe, Caucasus and Central Asia	WB	World Bank
ECOS	Center for Environmental Studies	WTO	World Trade Organisation
EIA	Environmental Impact Assessment		
EMP	Environmental Management Plan		
EMTK	Environmental Management Tool Kit for Obsolete Pesticides (FAO)		
EC	European Community		
EPPO	Environmental Pollution Prevention Office		
EU	European Union		
FAO	Food and Agriculture Organization of the United Nations		
GEF	Global Environment Facility		
GHS	Globally Harmonized System of Classification and Labelling of Chemicals		
IATA	International Air Transport Association		
IHPA	International HCH & Pesticides Association		
IMDG	International Maritime Dangerous Goods Code		
MAFI	Ministry of Agriculture and Food Industry		
MoD	Ministry of Defence		
MoE	Ministry of Environment		
MKT	Milieukontakt International		
NATO	North Atlantic Treaty Organization		
NATO PfP	NATO's Partnership for Peace programme		
NCC	National Coordinating Committee		
NAFS	National Agency for Food Safety		
NEF	National Environmental Fund		
NFP	National Focal Point		
NGO	Non-Governmental Organization		
NIP	National Implementation Plan		
OP	Obsolete pesticide		
OSCE	Organization for Security and Co-operation Europe		



Introduction

Within the EC / FAO project GCP/RER/040/EC “Improving capacities to eliminate and prevent recurrence of obsolete pesticides as a model for tackling unused hazardous chemicals in the Former Soviet Union” the International HCH & Pesticides Association (IHPA) has been tasked to develop capacity for management of hazardous wastes through the example of OPs and POPs pesticides. There is an estimated 200,000 tonnes of these materials known to be affecting the countries of the Former Soviet Union. Much of the previous work on disposal of waste from the countries has looked to export thousands of tonnes of pesticide stockpiles to high temperature incinerators operated commercially in EC member states. Whilst this strategy meets all international environmental compliance requirements it is prohibitively expensive. The vast distances involved for transport of waste from Central Asian Countries to facilities in Europe makes the option of finding a local solution appealing based on both risk management and cost considerations. Moreover, the huge volumes of hazardous waste generated in the region increases the need for local destruction hazardous waste capacity. Based on the national Legal and Technical assessment reports of the management of OPs that were produced in 2014, the “Road Map to Establishing Environmental Sound Management of POPs Pesticides and other Hazardous Waste in the EECCA region”, was published at the end of 2015



The Disposal Study involved (see Terms of Reference in Annex 1 of the Working document) the following activities:

- Review of existing policy framework for the management and elimination (including inventory, assessment and transport) of POPs and OPs in line with the requirements of the respective EU Directives/Stockholm Convention;
- Conduct benchmarking of current POPs management (including (temporary) storage and destruction) against international best practice on BAT/BEP as set out by the Basel / Stockholm Convention working groups; highlight and describe best ongoing practices in the country;
- Review of existing and planned treatment options for POPs pesticides, OPs and related hazardous wastes, contaminated containers and contaminated land;
- Assess potential treatment facilities such as existing modern cement kilns, as well as planned and/or implemented pilot plant investigations which can develop in the next years to important market players;
- Assess the Russian-Belarus-Kazakhstan customs union and its implications for hazardous waste in and through Russia, including an assessment of 1) experiences over the last years practical implementation and of 2) alternative transport routes from the republics avoiding Russian territory. This was completed with due reference to the requirements of the Basel Convention;
- Assess access (by road, train or water) to treatment options and economics of transport of waste across the region to treatment facilities/alternative storage facilities; and,
- Review existing POPs data (OPs and PCBs) as far as available, and make efforts to collect, if possible, total hazardous waste stream data as set out in national profiles such as the UNITAR chemicals profile. This was collated for the country in order to assess the potential need for future investment per country/region. Provide estimates of the scale of investments (in terms of tonnes of POPs for disposal) and a rough estimation of their national distribution, tonnes of other OPs, distribution and quantities of contaminated land and contaminated containers;
- Assess status of recycling options for empty containers or already planned or ongoing programs and initiatives;
- Prepare country summary sheets on findings and identify the gaps in information;
- Compile report of study findings, including recommendations for filling the information gaps.

Expected Outputs based on the Terms of Reference:

- i. Summary report of existing policy framework for the elimination and management of POPs and OPs (12);
- ii. Analysis of barriers (technical, legal, economic) to the development of national and regional waste management capacity;
- iii. Report on opportunities for introduction of new technologies (thermal and non-thermal) e.g specific stockpiles (DDT and HCH waste);
- iv. Summary report of existing and potential treatment facilities, pilot plant facilities and empty container recycling facilities/initiatives (12 countries);
- v. Report on POPs waste in relation to total hazardous waste market and approaches for Investment plan for POPs destruction for the region;
- vi. Presentation of the draft report to the SC meeting in February 2015, finalization of the report incorporating received comments.



Part I of the study on the assessment of the legal framework for pesticides waste management is structured into five main sections:

I. General background information (Participation in international treaties)

The introduction includes general information about international cooperation and the state's participation in international treaties in the waste management field. The purpose of this section is to identify and clarify the state's position in the field of waste management at an international level.

II. Regulatory framework on waste management

The first chapter is about the political and legal framework that determines the policies or strategies at the national/federal level aimed at the prevention of waste generation and minimization of risks associated with wastes. Also this section provides a general overview of all national laws and regulations that govern hazardous waste management.

The second chapter on specific laws and regulations that govern waste management is focused on the determination of all laws regarding waste management across different sectors such as: import/export, landfill of waste, incineration, shipment of waste and general waste management.

The third chapter on "Institution(s) involved in waste management (focus on pesticides)" studies the relevant institutions that are involved in waste management, and their obligations and responsibilities, in order to identify the competent organizations that are responsible for waste management planning.

III. Analysis of existing national waste management legislation

This section is dedicated to an analysis of existing national waste management legislation that reflects the legal framework regarding the different activities of waste management such as:

- Register of pesticides waste and general classification of waste
- Licensing
- Trans-boundary movement, import/export rules
- Economic initiatives regarding transport
- Labelling requirements
- Packaging and containers
- Emergency procedures
- Disposal obligations
- Incineration
- Recording, monitoring, and reporting
- Offences and penalties
- Official controls and inspection
- Research and development

IV. Information supplementing legal analyses – from other experts includes three main topics:

- Pesticides manufacturing industry
- Management of OP Stocks – legal provisions regarding the conditions/methods for inventory/storage/disposal activities related to obsolete stocks.
- Methods used for treatment of pesticides wastes



V. Disposal, storage recycling and recovering facilities – practical information from other experts is composed of four topics:

- Disposal facilities
- Storage facilities
- Recycling facilities
- Recovery facilities

This section aims to identify the legal norms that apply to any disposal/storage/recycling/recovery facilities of pesticides waste.

Part II of the study, the national technical assessment (waste management report).

We realized that in order to fulfil the specific conditions on capacity building and benchmarking in each country, as specified in the terms of reference, an adequate analysis of the whole cycle on how to deal with OPs was required. This applies from the very beginning of the process, including who is responsible and who is involved in every step from finding the OPs to the final step of complete elimination. Having carefully worked this out, it was then necessary to design a clear and standardized structure that all national waste management consultants could simply follow in order to assess each step. It was also important to allow comparison between the assessments of each country and therefore it was decided to develop a standardized template for each report using a tabular format. For clarity and brevity the entries have been made as concise as possible.

The report has been built up in four main sections containing a large number of individual items that have been assessed, these being:

1. Benchmarking of current POPs management against international best practice

This section includes detailed information on each step of all actions necessary for elimination of OPs and POPs pesticides:

1. **Institutional arrangements** that include the responsibilities of the concerned organisations in the country.
2. **Inventory** with all national/regional inventory updates, data sources and existing inventories, first National Implementation Plan (NIP), recent NIP update

(specifically on new POPs), UNITAR Chemicals Profile, if existing, National Pesticides and/or POPs Inventory, FAO PSMS Inventory and other information.

3. **Environmental Assessment** consistent with national requirements, and also with International experience often implemented by the UN and other agencies. This includes the capacity of the government and private sector to develop such an Environmental Assessment, as well as the FAO stages in Environmental Assessment (EA) and Environmental Management Plans (EMP) experiences from the FAO Toolkit EMTK v 3.
4. **Inventory and Environmental Assessment Management** including vital questions on the inventory and the assessment, and if the organisational capacity is in place to complete the task. For example if the relevant organisation is in place and also operational, and if so whether all managers and coordinators are in place and operational, as well as if all field teams are established and operational. Also if all Inventory data management people are in place and operational, whether the National/Regional Inventory is being updated or not, a National Pesticides and/or POPs Inventory has been established, and if a contaminated sites register exists or not.
5. **Safeguarding:** defining what has been implemented at national and international level such as under the FAO projects.
6. **Storage and transport** includes all items on packaging, containerization, storage and transportation with assessment of transport regulations, driver regulations, existence of storage regulations and available storage capacity, and Incident and accident reporting.
7. **Disposal**, assessing the national, international and FAO experience to date, including reporting on the technologies that have been selected, the process on transboundary transport under the Basel Convention and the national transport within the country, disposal capacities in the country, quality and standards applied (national/international), and current ownership of facilities.
8. **Containers assessing** the national and international experience, the FAO supported plans, amounts and type of empty containers and/or packaging materials, and the use of collection centres for empty containers

2. General overview of POPs and other hazardous waste data

This section has been set up around the following six categories:

- A. Agricultural chemical waste that includes OP waste, POPs pesticides waste and new pesticides waste such as counterfeit pesticides, waste empty containers, and contaminated sites. These contaminated sites consist of burial sites or polygons (landfills) which often contain huge volumes of waste, storage sites, and sites which are still in use;
- B. Industrial chemicals,
- C. By-products,
- D. Petroleum wastes,
- E. Inorganic wastes,
- F. Health care high risk waste.

This effectively means the majority of hazardous waste has been listed. It has also to be mentioned that many of the required data are either preliminary or missing as many countries are in a first stage of such an assessment. Often quantities are listed but not verified in the field. The data also change rapidly as new inventory and assessment activities such as the current NIP updates are planned, so the data can be seen as a “snapshots” of the situation and are likely to be updated again in the near future.

3. Existing and planned treatment options for POPs pesticides, OPs and related hazardous wastes, and contaminated land

This section assesses existing and potential destruction plants, planned facilities and planned and/or implemented pilot plants, as well as existing and/or planned empty container (plastic and/or steel) recycling facilities or initiatives in the country. Data that need to be entered are: type of plant or technology, address/location, contact person (name/contact details) and a brief summary of the technical data, with treatment capacity, types hazardous waste permitted for treatment, permit information, and date of permit. However, it should be noted that there are only a very few plants available in most of the countries.

4. Transportation logistics

This section includes five main issues:

- 1. The assessment of various transport alternatives from main stockpile locations to the existing and or planned treatment facilities including cost estimates;
- 2. Assessment of possible storage networks: waste transfer stations e.g. at main railway stations or at existing landfills (polygons) or waste handling stations;
- 3. Assessment of transport capacity;
- 4. Reference to the requirements of the Basel Convention and previous experience of international export Implications of custom facilities; and
- 5. A brief description of the cases that should be reported.

Due to its clearly defined structure the report is very easy to update periodically, for the use of the national authorities and donors that are interested to support further actions on the elimination of OPs and POPs in the future.

The main report is available in both English and Russian, and all country reports will be accessible in the library of IHPA at <http://www.iHPA.info/resources/library/>

John Vijgen
Director
International HCH & Pesticides Association



Summary

for the Republic of Moldova

It should be noted that the conclusions and recommendations in this report have been made on the basis of the information available in 2014. Additionally, this legal and technical assessment of the management of OPs report was followed by a second report: "Road Map for the Development of Hazardous Waste Management in the EECCA Countries". During the work on the last report the country's conclusions and recommendations have been intensively discussed with the national authorities and national consultant, leading to final summaries of legal and waste management issues, which are then specifically addressed for each country in the Road Map report.



Part I. Assessment of the legal framework for pesticides waste management in the Republic of Moldova

Major findings

The Republic of Moldova has been a member of WTO since 26 July 2001.

In this connection, it is also relevant that the Republic of Moldova adhered to the Basel Convention on 10/03/1998; signed the Stockholm Convention on 23/05/2001 and ratified it on 07/04/2004; and adhered to Rotterdam Convention on 25/11/2004, and ratified it on 27/01/2005;

- Waste management is one of the important issues facing Moldova in environmental activities. Waste management in the Republic of Moldova remains a difficult and still unresolved issue. Although environmental protection is regulated by a considerable number of legislative and normative legal aspects, the control of waste management leaves much to be desired, requiring both legal and institutional restructuring and the creation of an integrated system of recycling and recovery of waste.
- The Law No. 1347-XIII of 09/10/1997 on production and household wastes in Art. 1 offers a general definition of waste - substances, materials, items, scrap materials from economic activities and household consumption, which have lost all, or part, the initial value of use, some of which are reusable after processing.
- Also in Law No 1347-XIII of 09/10/1997 on production and household wastes in Art. 20, par. (1), pt. d) it is forbidden to use incineration for waste of any origin.
- There is no national definition of hazardous waste used for the purpose of trans-boundary movements of waste in the Republic of Moldova. The definition from EU Directives is used.
- The current statistical system in waste management uses a different approach as compared to that of the European Union. Until now the collection and processing of information regarding the types and

quantities of waste is carried out according to the former USSR standards, without being connected to the European classification requirements.

Two separate classifications are applied (these now being obsolete having been abolished by Law no. 235) for waste and toxic waste. This contrasts with the EU which applies a single list of wastes, with hazardous wastes marked with an asterisk.

- Data on hazardous waste do not include information about normally included categories, for example oils, used tyres, waste electrical and electronic equipment;
- There are no data on volumes of recycled waste;
- Toxic waste definitions do not include all categories of toxic waste;
- Not all enterprises report their toxic waste generation;
- Data on historical hazardous wastes are very unreliable;
- There are very little relevant analyses about the impact of hazardous wastes on health, soil, water or air quality, and economic activity.

The national waste inventory and reporting system was established during the 2002-2004 activities of the Strategic Plan for the Basel Convention Implementation.



The institutions involved in waste management (including pesticides waste) in the Republic of Moldova are:

1. The Parliament of the Republic of Moldova
2. The Government of the Republic of Moldova
3. The Ministry of Environment
4. The Ministry of Health
5. The Ministry of Agriculture and Food Industry
6. The Ministry of Transport and Roads Infrastructure
7. National Agency for Food Safety
8. State Environmental Inspectorate
9. Service of Civil Protection and Exceptional Situations of the Ministry of Interior
10. Licensing Chamber
11. Local public authorities

Part II. Technical assessment of the management of OPs and POPs waste and soil contamination in the Republic of Moldova

- **Identify the gaps in information (for all 5 sections):**
No final data on national PCBs inventory (volumes of contaminated oil and equipment). All other data is available.

- **Analysis of barriers (technical, economic) to the development of national and regional waste management capacity:**

Waste incineration is not allowed by law. It is the main politically debated environmental issue – the Environmental Commission in Parliament is against waste incineration.

- **Analysis of opportunities (technical, economic) for the development of national and regional waste management capacity:**

An elimination alternatives assessment (2005-2007) indicated the economic and environmental justification of temporary storage and transportation of POPs, OPs and toxic wastes for elimination outside the country, using donor support and local funds.

- **Other findings that need to be addressed:**

Mobilization of donor funds, technical capacities, methodological support and local resources (as co-funding) and a focus on polluted sites remediation.



Suggestions and recommendations for future activities

- Taking into account the aspirations of the Republic of Moldova for accession to the European Community, it would be desirable to ensure a better implementation of the acquis communautaire in the field of waste management in general and specifically for pesticides and hazardous waste at the national level.
- The institutional framework which defines who is responsible for the issues addressed in this report would benefit from revision. It is recommended to examine the possibility of creating a department/centre that would be directly responsible for chemicals management, including toxic waste and OPs.
- Revision of the legislation and adoption of a specific law on pesticides and hazardous wastes is recommended. At present obsolete legislation on wastes and harmful products is applied in the country.
- Clear benefits would come from adopting a new law on environment protection that could establish new principles and standards for environmental management. This would underpin specific legislation applied to pesticides management and ensure a better context for dealing with issues arising from POPs and OPs, as well as creating an “understanding” between the agricultural sector, which is focused on economic growth, and those concerned with environmental protection
- Mobilization of donor funds, technical capacities, methodological support and local resources (as co-funding) and a focus on polluted sites remediation
- Regarding the progress under Stockholm convention, the following specific recommendations can be made:
 - Collection, storage and transport for elimination out of the country of the remaining amount of obsolete pesticides during 2015 (on-going projects)
 - Ensure environmental security of the Pesticides Chismichioi landfill, with a program for monitoring and elimination of OP abroad as soon as funds will be available
 - Update NIP with a Program/Plan for remediation of contaminated land, remediation of the most polluted sites as pilot projects (with destruction of warehouses and temporary safe storage in cofferdams applying rayon/regional approach)
 - Carry out an information and awareness campaign for the population on contaminated sites and POPs issues, involving local public authorities and NGOs





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