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COUNTRY REPORT

Legal and Technical Assessment of the Management of Obsolete Pesticides

The Kyrgyz Republic

Food and Agriculture Organisation of the United Nations

IHPA
International HCH & Pesticides Association

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Country Report

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

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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.

Content

Data, Annexes and Working Document

All original data and Annexes are available in a seperate document: Working Document, Legal and Technical Assessment of the Management of Obsolete Pesticides, of the Kyrgyz Republic.

Annexes:

Annex 1: Terms of Reference for IHPA for coordination of a Disposal Study for Obsolete Pesticides in the Former Soviet Union

Annex 2: Overview of information collected on Kyrgyz Cement kilns

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

Foreword

For the Government of Kyrgyz Republic the issue of obsolete and POPs pesticides, is one of the highest priorities on our environmental and agricultural agenda.
The Department of Chemicalization and Plant Protection of the Ministry of Agriculture and Melioration in cooperation with the State Agency on Environment Protection and Forestry under the Government of the Kyrgyz Republic have been working intensively to improve the situation.

Within the support of FAO Central Asia project we have been finalizing the complete inventory of obsolete pesticides in the country. We are planning to recollect and transport obsolete pesticides from the sites where the highest risks occurred and to safeguard in a warehouse, where the materials will be waiting to be finally destroyed depending on the possibilities of exporting them. At the same time sufficient people have been trained and are available for future inventory works

Along with old warehouses there are of the former pesticides burial sites which cause concern for the Government. In one of the locations temporary measures on risk reduction have been taken together with the local authority and population, but in fact on the long-term, there is a real need for permanent solutions at these locations.

For implementing these tasks, it is necessary to know and understand where we are standing today with the present capacities in the country and the region, but also our gaps and our needs for the future. Therefore, I welcome the publication of the Legal and Technical assessment of the management of obsolete pesticides of Kyrgyzstan as an outcome of the regional study "Assessment of Capacity for Environmentally Sound Disposal of POPs and Obsolete Pesticides Wastes", executed by the International HCH and Pesticides Association in the context of the EU supported FAO Project "Improving capacities to eliminate and prevent recurrence of obsolete pesticides as a model for tackling unused hazardous chemicals in the former Soviet Union".
I think the report will be interesting for all stakeholders Ministries, donors, civil society as it gives a real overview of the problem.
I like to thank all involved parties for the excellent cooperation and for the support of this study.
Yours

Taalaibek Aidaraliev
Minister of Agriculture and Melioration of Kyrgyz Republic

Acknowledgement

IHPA would like to thank herewith both main authors Ms. Nadejda Prigoda, national legal expert responsible for Part I. The assessment of the legal framework on the Pesticides Waste Management in the Kyrgyz Republic and Ms. Tatiana Volkova, 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 Kyrgyz Republic , for their strong engagement and commitment to achieve these reports.

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List of acronyms

ADR	International Carriage of Dangerous Goods by Road
BAT	Best Available Techniques
BEP	Best Available Practices
DDT	Dichlorodiphenyltrichloroethane
EA	Environmental Assessment
EECCA	Eastern Europe, Caucasus and Central Asia
EIA	Environmental Impact Assessment
EC	European Community
EMP	Environmental Management Plans
EMTK	Environmental Management Tool Kit for Obsolete Pesticides (FAO)
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environment Facility
GEF-SGP	GEF Small Grants Programme
HCB	Hexachlorobenzene
HCH	Hexachlorocyclohexane
HELVETAS	Swiss Intercooperation
IATA	International Air Transport Association
ICCO	Interchurch Organisation for Development Co-operation
IHPA	International HCH & Pesticides Association
IMDG	International Maritime Dangerous Goods Code
MKT	Milieukontakt International
NAS	National Academy of Sciences
NGO	Non-Governmental Organization
NIP	National Implementation Plan
OP	Obsolete pesticide
PCB	Polychlorinated biphenyl
POP	Persistent Organic Pollutant
PRTR	Pollutant Release and Transfer Register
PSMS	Pesticide Stock Management System (FAO)
RID	International Transport of Dangerous Goods by Rail (Reglement concernant le transport international ferroviaire des marchandises Dangereuses)
RKHTI	Rotary kiln high temperature incineration
SAEPF	State Agency for Environmental Protection and Forestry
SAICM	Strategic Approach to International Chemicals Management
SECO	Swiss State Secretariat for Economic Affairs
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNITAR	United Nations Institute for Training and Research
USSR	Union of Soviet Socialist Republics
WB	World Bank
WHO	World Health Organization
WTO	World Trade Organisation

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 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 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, 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/

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Summary
for the Kyrgyz Republic

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

Part I. The assessment of the legal framework on the pesticides waste management in the Kyrgyz Republic

Major Findings

The Kyrgyz Republic adheres to the international treaties that are directly related to waste management: Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and their Disposal, Stockholm Convention on Persistent Organic Pollutants and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. However, the translation of the obligations under these conventions into the national legislation is poor. As an example, there is no legislation regulating transboundary shipment of hazardous (pesticides) waste.

In the Kyrgyz Republic several governmental institutions are involved in management of pesticides:

- Ministry of Agriculture and Melioration;
- Ministry of Emergency Situations;
- Ministry of Health;
- Ministry of Economy;
- Ministry of Transport and Communications
- Ministry of Finance

Local authorities have received the powers to control the activities of enterprises and other organizations for the implementation of legislation e.g. on environmental protection, land use and natural resources. Pesticide waste is not defined and as a consequence responsibilities are not defined.

The problem of responsibilities scattered over different Ministries and levels of government is found in most fields of waste management in the Kyrgyz Republic. In consequence, the actual waste legislation is more a patchwork of pieces of outdated legislation than a set of concerted effective instruments.

There are no national statistics on production and (transboundary) movements of (hazardous) waste. A National Report for the Basel Convention (2010) records exports for 3.5 million tons and imports for 400 tons. At the same time, there is illegal cross-border trade of hazardous wastes reported (obsolete pesticides, PCB transformers, contaminated scrap metal, electronic waste and other).

Part II. Technical assessment of the management of obsolete pesticides and POPs waste and soil contamination in the Kyrgyz Republic in the framework of a Disposal study for obsolete pesticides in the former Soviet Union

- **Identify the gaps in information (for all 5 sections):** Information about quantities is incomplete, there is no systematic collection of data, and statistic data are not available. Due to lack of enforcement capacity there is no clear overview of illegal practices and the effects thereof on human health, wildlife and environmental quality.

- **Analysis of barriers (technical, economic) to the development of national and regional waste management capacity:** The political attention for the problems of (hazardous) waste management in the Kyrgyz Republic is low. In Kyrgyzstan there are no specialized waste management companies and no plants for destruction of hazardous waste, including OPs. The most applied waste handling is uncontrolled landfilling.

- **Analysis of opportunities (technical, economic) to the development of national and regional waste management capacity:**
  The use of a well-prepared communication strategy can create short-term gains, as well in the field of safe handling of pesticides as in the proper management of (hazardous) waste. Such campaigns can improve the awareness of combined improvements in the field of public health, food safety, environmental quality, sustainable development and economic growth and the necessary understanding for the introduction of cost charging and investment programs.

- **Other findings that need to be addressed:**
  There is reporting that indicates import and use of substandard pesticides and agrochemicals, lack of systematic control and insufficient laboratory capacity to combat these illegal practices. This calls for a life cycle analysis for pesticide applications and introduction of practices for sustainable agriculture.

Suggestions and recommendations
for future activities

With the reported substantial annual arisings of five million tonnes of hazardous waste, there is an obvious need for an in depth analysis of all waste streams in all aspects. In the redesign of the legal framework for environmentally sound (hazardous) waste management, the Kyrgyz Republic can make optimal use of the existing frameworks (as e.g. EU waste regulations) and the experiences of other countries in the region.

In this modernization of the waste legislation, the Government of the Kyrgyz Republic is recommended to take the obligations of the international conventions as a starting point. Special attention should be spent to the implementation of the Basel convention, dealing with the transboundary movement of hazardous waste.

As the redesign and implementation of the legal framework will take a time span of more than five years, it is worth to assess whether quick wins can be gained by extended use of existing legal instruments (as better use of the Law on Licensing). The parallel introduction of more severe enforcement, penalties and fines can also be helpful to get waste producers but also other stakeholders involved in the process of redefinition of the legal framework.

Once the transboundary transport of waste is under control, the quantification of the in-country waste production can be improved. It is recommended to use for such inventories modern tools that can be used in the future for as well statistical analysis as to generate information for communication with waste producers, the public and the waste sector. This information will also show its value in the future planning regarding reduction, prevention and destruction.

The government is recommended to define on the short term the principles of environmental management and to start active communication and promotion of these principles to the public.

Government initiated projects as the construction, with the help of EBRD, of a modern and adequate controlled landfill in the Bishkek region and the project for assessment of the application of cement kilns in the destruction of hazardous waste are excellent opportunities to explain the new waste principles and policies of the Kyrgyz Republic to all stakeholders and the public.

Regarding the progress under Stockholm convention, the following specific recommendations can be made:

- Start the design and construction of a central storage for obsolete pesticides and develop in parallel the planning for storage, transport and final elimination abroad of all OPs and POPs.
- Complete the inventory of old stocks of OPs, polygons and the related soil remediation and take all measures necessary to bring all sites on the right level of information (using FAO guidelines as PSMS and EMTK)
- Develop plans for the short term repackaging of OPs, followed by transportation to the central storage and the immediate safeguarding of the stock sites.

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