COUNTRY REPORT

Legal and Technical Assessment of the Management of Obsolete Pesticides

Republic of Kazakhstan

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 Republic of Kazakhstan

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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 separate document: 'Working Document, Legal and Technical Assessment of the Management of Obsolete Pesticides, Republic of Kazakhstan

Annexes:

Annex 1: Terms of Reference for IHPA for Coordination of a Disposal Study for Obsolete Pesticides in the Former Soviet Union
Annex 2: Custom Union Acts
Annex 3: Impact of obsolete pesticides
Annex 4: Waste and Chemical Issues in Kazakhstan

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

Foreword

Solving problems of obsolete pesticides and POPs for the Republic of Kazakhstan is one of the priorities in the field of environmental protection and public health.
With the support of FAO South-Kazakhstan region has made inventory of former places of pesticide storages. Conducting such an inventory is necessary for other regions of Kazakhstan.

With the support of the International HCH and Pesticide Association performed study ”Assessment of Capacity for Environmentally Sound Disposal of POPs and Obsolete Pesticides Wastes” in the context of the joint EU/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”. It gives recommendations for the improvement of the existing legislation, as well as a phased plan of action for the creation of environmentally sound management of POPs pesticides and other hazardous wastes.
I believe that this action plan will be in interest of to all concerned ministries and departments, decision-makers and specialists in the sphere of environmental protection and many other interested parties.
We express our gratitude to the participants of this study for the productive cooperation and support.
Sincerely,

Sergei Klimentovich Tsoi,
Deputy General Director of JSC “Zhasyl Damu”
Ministry of Energy of the Republic of Kazakhstan

Acknowledgement

IHPA would like to thank herewith both main authors Ms. Aigerim Daumenova, the national legal expert responsible for Part I - Assessment of the legal framework on the Pesticides Waste Management in the Republic of Kazakhstan, and Ms. Zulfira Zikrina, 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 Kazakhstan for their strong engagement and commitment to realize 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
CPCMRA	Centre of physical-chemical methods of research and analysis
CIS	Commonwealth of Independent States
DDT	Dichlorodiphenyltrichloroethane
DOT	US Department of Transport (DOT) classification of dangerous material
EA	Environmental Assessment
EC	European Community
EC RK	Environmental Code of the Republic of Kazakhstan
EDS	Electronic Digital Signature
EECCA	Eastern Europe, Caucasus and Central Asia
EIA	Environmental Impact Assessment
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
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
HCH	Hexachlorocyclohexane
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IHPA	International HCH & Pesticides Association
IMDG	International Maritime Dangerous Goods Code
MoA	Ministry of Agriculture
MoE	Ministry of Energy
MEc	Ministry of Economy
MKT	Milieukontakt International
NCC	National Coordinating Committee
NFP	National Focal Point
NIP	National Implementation Plan under Stockholm Convention
OP	Obsolete pesticide
OSCE	Organization for Security and Co-operation in Europe
PCB	Polychlorinated biphenyl
pcs	Pieces
PCDD	Polychlorinated dibenzo-p-dioxins
PCDF	Polychlorinated dibenzofurans
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)
RK	Republic of Kazakhstan
SAICM	Strategic Approach to International Chemicals Management
TMF	Technogenic mineral formation
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNITAR	United Nations Institute for Training and Research
USR	Unified system of registers of environmental protection of Kazakhstan
USSR	Union of Soviet Socialist Republics
WB	World Bank
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 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 Kazakhstan

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. The assessment of the legal framework for pesticides waste management in the Republic of Azerbaijan

Major Findings

The Republic of Kazakhstan adheres to the three International treaties directly related to waste management: the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the 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.

The Ministry of Energy of the Republic of Kazakhstan is Focal Point for all three conventions. The Ministry of Energy is since the 2014 reorganization of the Government the responsible authority for environment including waste management. The ministry is responsible for a Strategic Plan, drafted by the former Ministry of Environment of the Republic of Kazakhstan for 2010-2014 (hereinafter – Strategic Plan) and approved by the Government of the Republic of Kazakhstan on February 25, 2010 under number 127O.

One of the main objectives of the Strategic Plan is to continue to conduct inventory of tailings management facilities. Another problem for the country included in this plan is to address persistent organic pollutants (hereinafter - POPs), obsolete pesticides and contaminated areas. Moreover, Kazakhstan is obliged to submit annual reports on three conventions governing the management of hazardous chemicals and wastes: Basel, Stockholm and Rotterdam.

The Environmental Code of the Republic of Kazakhstan contains (Chapter 42) the legal provisions for waste management including hazardous waste regulations. The definition of hazardous waste is generic: Hazardous waste - waste that contain harmful chemicals that are hazardous properties (toxic, explosive, radioactive, fire hazard, high reactivity) and may be of immediate or potential danger to the environment and human health alone or when in contact with other substances. Tables with levels of concentrations of chemical components are not defined. In the same way the definition of Hazardous chemicals - substances with properties that may have a direct or potential harmful effect on human health and the environment is not unique. Pesticide waste is included in the definition of hazardous waste.

For pesticides management different specific laws apply, dealing with agriculture, food safety, plant protection, plant quarantine and protected natural territories. Human health protection is ruled by the code 'On people's health and the health care system'. There is specific legislation regarding safety of chemical products.

For the management of hazardous waste in the territory of the Republic of Kazakhstan no special permit/license is required. However, it is necessary to obtain permission for emissions into the environment as a part of which standards for waste disposal are specified, as well as in the case of activities on the transport of hazardous waste a license for the transportation hazardous waste is required. The license for the transportation of dangerous goods is issued by the Ministry of Transport and Communications of the Republic of Kazakhstan.

Regarding the transportation of the hazardous wastes the authorized body in the field of environmental matters issues the authorization for the transboundary movement of waste through the territory of the Republic of Kazakhstan. The legislation of the Republic of Kazakhstan settles the incineration of hazardous wastes. In order to fulfil it in a compulsory way a permit for emissions into the environment has to be obtained, as a part of which specifies standards for waste disposal. Permits are defined and issued by the Ministry of Energy.
Although Kazakhstan is party to the international treaties and refers in the design of legislation to international instruments in the field of hazardous waste, the complex structure of the legislation in combination with generic definitions does not guarantee the proper implementation of the relevant convention tools.

In the Republic of Kazakhstan, several governmental institutions are involved in the management of pesticides waste:
Ministry of Agriculture of the Republic of Kazakhstan
Ministry of Energy of the Republic of Kazakhstan
Ministry of Health of the Republic of Kazakhstan

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

- **Identify the gaps in information (for all 5 sections):**
  - There is a need for a detailed inventory of POPs including PCB, OP, contaminated sites and soils
  - There is a need to establish a center for hazardous waste
  - The collection and analysis of information about accidents has to be improved

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

1. No strong legislation and control at the governmental and local levels, resulting at the same time in lack of motivation at enterprises to improve their waste management practices
2. Not sufficient examination of good practices demonstrating the advantages of management and elimination of hazardous waste
3. Due to cost savings at national level, resources are limited both at national and local level. This sets also restrictions for the co-financing of international projects with the risk that developments will slow down or even stop
4. The Steering Committee for POPs/hazardous waste should receive the powers and means for more permanent actions, as the actual interventions are too much ad hoc
5. There is a lack of coordination and information exchange between Ministries, Agencies and private Companies

- **Analysis of opportunities (technical, economic) to the development of national and regional waste management capacity**
  - Harmonization of the environmental Code with European directives, implementation of Green economy Concept and municipal waste management program
  - Large experience of cooperation with EU, WB, UNDP

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

None

Suggestions and recommendations
for future activities

In light of the above mentioned findings, it can be recommended for Kazakhstan to:

- Strengthen measures to implement international conventions on the national level.
- To adopt severe punishment for illegal handling of hazardous waste.
- Strengthen the emphasis on the cooperation between public authorities on hazardous waste.
- Strengthen the information content and availability of information on hazardous waste management at all levels of users of public services.
- Make planning of management activities in the field of hazardous waste in a much larger number of government programs.
- To improve the national legislation regarding the import of finished pesticides, which would provide a pre-payment of salvage process (Extended Producer Responsibility).
- Strengthen the responsibility for environmental pollution for the producers of hazardous waste, and for the companies involved in their disposal. In this way, through information campaigns the knowledge about the harmful effects of exposure to hazardous waste to the environment and humans can be increased. This in turn will help to strengthen the responsibility of producers of hazardous waste towards the people of Kazakhstan.
- Regarding the progress under Stockholm convention, the following specific recommendations can be made: after having given the mandate on obsolete pesticides waste to the Zhasyl Damu, under the Ministry of Energy, it is recommended to enable the Zhasyl Damu to fulfil the obligations of the Stockholm Convention to:
  - Employ sufficient capacity to implements the necessary activities and adequate budget in order to start implementation of nationwide inventories to assess the real extent of the OPs problem as a basis for the necessary actions plans on securing and monitoring sites with high risks
  - Update NIP with an Plan of actions
  - Carry out an information and awareness campaign for the population on POPs stockpiles, contaminated sites and POPs issues such as information on the available destruction and treatment methods, involving local public authorities and NGOs

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